Using This Bulletin

This bulletin is intended primarily to provide users with Penn State academic information.

To browse the site, use the buttons across the top of the home page. For specific searches, use the search engines on the upper right of the home page or the Site Index (last button in the row across the top of the page).

For course descriptions, click the "University Course Descriptions" button (first on on the left on the home page) or use the Course Description Fast Path search engine on the upper right of the home page.

In the bulletin, the word *Program* refers to an academic program (majors, minors, and special programs). Search for academic program information by program category (associate or baccalaureate: two-year, four or more years), campus, or college with the buttons and links on the home page, or search for specifics with the site search engines.

The University-wide General Education requirements are explained under that heading on the home page.

Links to offices that may be useful to users are under the "Additional Resources" heading on the home page.

At the upper right edge of the home page, you may access searches for Penn State individual and department directories, link to the Penn State home page, or access another Web browser.

The site follows conventional navigation practices, so once in secondary pages, users should be able to click through to find what they want.

ACADEMIC AUTHORITY

The University Faculty Senate has responsibility for and authority over all academic information contained in the Undergraduate Bulletin.

REGULATIONS SUBJECT TO CHANGE

Each step of the educational process, from admission through graduation, requires continuing review and appropriate approval by University officials. The University, therefore, reserves the right to change the requirements and regulations contained in this bulletin and to determine whether a student has satisfactorily met its requirements for admission or graduation, and to reject any applicant for any reason the University determines to be material to the applicant's qualifications to pursue higher education.

Inventions and Patents

Patentable discoveries made by University faculty, staff, and graduate students that involve the use of University funds or facilities are the property of the University. Both undergraduate and graduate students fall within the University staff category whenever they are employed in connection with institutional research projects. Patents, with the inventors sharing in the royalties, are administered in the public interest by The Penn State Research Foundation, a nonprofit organization made up of faculty, alumni, industry representatives, and members of the University Board of Trustees. Royalty income is shared between inventor, the organizational unit, and The Penn State Research Foundation. The Penn State Research Foundation's share is used to foster the advancement of technology transfer and research at the University.

History

For information, see www.psu.edu/ur/about/history.html (Opens New Window)

Authority over Academic Information

The University Faculty Senate has responsibility for and authority over all academic information contained in the Undergraduate Bulletin.

University Phone Numbers

To telephone the administrative headquarters of the University at the University Park campus, dial (or ask the operator for) area code 814 and the desired number. If you do not know the number, call 814-865-4700, Penn State Call Center information. For telephone numbers of other Penn State locations, see Penn State Undergraduate Campuses (Opens New Window). Frequently used University Park campus numbers are:

Undergraduate Admissions: 814-865-5471
Graduate Enrollment Services: 814-865-1795
Registrar's Office: 814-865-6357

Penn State encourages qualified persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation or have questions about the physical access provided, please contact the Office for Disability Services, 814-863-1807, in advance of your participation or visit.

STATEMENT OF NONDISCRIMINATION

University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. The Pennsylvania State University does not discriminate against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, gender identity, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 328 Boucke Building, University Park PA 16802-2801; tel. 814-865-4700/V, 814-863-1150/TTY.

Board of Trustees

Control of Penn State is vested in a Board of Trustees of thirty-two members. Members ex officio are the Governor of the Commonwealth; the President of the University; the state Secretary of Education; the state Secretary of Agriculture; and the state Secretary of Conservation and Natural Resources. Terms of the other trustees are three years. Six trustees are appointed by the governor, nine are elected by the alumni, six by delegates from county agricultural societies, and six by the board representing business and industry.

For information, including a trustee membership list, see: www.psu.edu/trustees. (Opens New Window)

University Administration

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the Dean of the Schreyer Honors College; the Senior Vice President for Health Affairs and Dean of the College of Medicine; the Dean of The Dickinson School of Law; the Dean of the School of Information Sciences and Technology; all Campus Chancellors; the Vice President for Commonwealth Campuses; the Dean of the University Libraries; the Vice President for Research and Dean of the Graduate School; the Vice Provost for Academic Affairs; the Vice Provost for Educational Equity; the Vice Provost for Information Technology; the Vice President and Dean for Undergraduate Education; the Vice President for Outreach; the Executive Vice President and Provost.

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The Senior Vice President for Finance and Business/Treasurer (Chair); the Corporate Controller; the University Budget Officer; the Associate Treasurer/Director for Financial Management; the Associate Vice President for Finance and Business, Controller, College of Medicine, Penn State Milton S. Hershey Medical Center; the Associate Vice Presidents for Auxiliary Services, Business Services, Finance and Business, Finance and Business Commonwealth Operations, Human Resources, and Physical Plant; the Director of University Police; the Financial Officer; the Administrative Assistants; and the Administrative Fellow.

EMERITI

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Last updated 03/31/10

Mission of the University

See www.psu.edu/ur/about/mission.html/. (Opens New Window)

Options for Undergraduate Study

The undergraduate degree programs of the University provide students with opportunities to increase their knowledge and understanding of the world and to grow in their individual skills and capabilities for learning, analyzing, creating, communicating, and forming good judgments. All undergraduate degree programs and courses offered by the colleges and other degree-granting units of the University are under the academic sponsorship of a faculty committed to scholarship and are implemented under the academic policies and student rules established by the University Faculty Senate. They are intended to be flexible in accommodating students interested in learning, whether through traditional or nontraditional offerings, while enrolled on either a part-time or a full-time basis. The degree programs and courses of the colleges and other degree-granting units are offered through resident or distance education. Credit courses are available to degree candidates on University campuses as well as through off-campus credit-granting activities such as internships, practicums, field trips, and foreign studies, as well as via continuing and distance education mechanisms, such as the World Campus. Students not formally admitted to degree candidacy (including provisional and nondegree students) may participate in resident offerings as time and space permit, as well as in continuing and distance education.

University Outreach

Penn State extends the intellectual expertise and resources of the University through teaching, research, and service to address the social, civic, economic, and environmental issues and opportunities of the Commonwealth, nation, and world.

Working closely with its colleges, the University delivers outreach programs and services to support the needs of people throughout Pennsylvania and beyond at convenient times and accessible locations.

For information, see www.outreach.psu.edu (Opens New Window).

Research

Research--in addition to teaching and public service--is a primary mission of the University. A strong research program strengthens both undergraduate and graduate education by building the body of knowledge and experience on which both are based.

For undergraduate instruction, research brings to the classroom enthusiasm, practical experience, and up-to-date laboratory equipment, as well as opportunities for honors thesis topics and participation in research programs. For graduate programs, research furnishes thesis topics, stipend and tuition support, and experienced faculty to train students as the next generation of researchers. Penn State's national academic reputation depends greatly on research publications and other scholarly activities of the faculty, whose combined teaching, research, and public service efforts are the hallmarks of a major university.

INVENTIONS AND PATENTS---Patentable discoveries made by University faculty, staff, and graduate students that involve the use of University funds or facilities are the property of the University. Both undergraduate and graduate students fall within the University staff category whenever they are employed in connection with institutional research projects. Patents, with the inventors sharing in the royalties, are administered in the public interest by The Penn State Research Foundation, a nonprofit organization made up of faculty, alumni, industry representatives, and members of the University Board of Trustees. Royalty income is shared between inventor, the organizational unit, and The Penn State Research Foundation. The Penn State Research Foundation's share is used to foster the advancement of technology transfer and research at the University.

For information, see www.research.psu.edu/ (Opens New Window)

For information specific to inventions and patents, see www.research.psu.edu/ipo/patents/ (Opens New Window)

Colleges and Other Degree-Granting Units

The following University units offer undergraduate majors leading to baccalaureate and associate degrees: Abington College; Altoona College; College of Agricultural Sciences; College of Arts and Architecture; Penn State Erie, The Behrend College; Berks College; Smeal College of Business; Capital College (Penn State Harrisburg); College of Communications; College of Earth and Mineral Sciences; College of Education; College of Engineering; College of Health and Human Development; College of Information Sciences and Technology; College of the Liberal Arts; Eberly College of Science; and University College (which comprises several Penn State campuses). The Pennsylvania College of Technology in Williamsport provides an alternative educational setting in which students may enroll in selected degree programs.

Students who do not want to enroll immediately in one of the colleges or other degree-granting units may enroll in the Division of Undergraduate Studies, typically for one year or slightly more.

Majors leading to baccalaureate degrees are described in this bulletin under buttons for the colleges and other degree-granting units. Information is also accessible on the Internet through www.psu.edu/ (the Penn State home page)(Opens New Window)

College of Medicine

For information, see http://www.hmc.psu.edu/college (Opens New Window)

Division of Undergraduate Studies (DUS)

The Division of Undergraduate Studies is an academic unit of the University that offers advising programs at the University Park campus and all other undergraduate locations.

For information, see www.psu.edu/dus/ (Opens New Window)

Schreyer Honors College

For information, see www.scholars.psu.edu/ (Opens New Window)

University Faculty Senate

For information, see www.psu.edu/ufs/ (Opens New Window)

The University Libraries

The University Libraries constitute a major resource for students and researchers in all fields of study. The Libraries, ranked 13th nationally by the Association of Research Libraries, contain more than 4.9 million volumes, 5.2 million microforms, 58,459 serial subscriptions, plus more than 420 databases and 13,700 e-journals—most with full text.

The University Libraries include a central facility and five other libraries at University Park campus, plus libraries at 23 Penn State locations throughout the state, including the Dickinson School of Law and the Milton S. Hershey Center and the Penn State affiliated Pennsylvania College of Technology. At University Park, the Arts and Humanities, Business, Education and Behavioral Sciences, Social Sciences, Maps, Life Sciences, Special Collections, and News and Microforms libraries are maintained in Pattee Library and Paterno Library. Other Libraries at University Park include the Architecture and Landscape Architecture, Earth and Mineral Sciences, Engineering, Law, and Physical and Mathematical Sciences libraries.

In addition Pattee Library houses Course Reserves Services, the Extended Hours Study Area, and Library Services for Persons with Disabilities. The Special Collections Library in Paterno Library includes Historical Collections and Labor Archives, Rare Books and Manuscripts, and the Penn State University Archives.

Among special collections of national importance are those on Arnold Bennett, Kenneth Burke, Jean Giraudoux, John O’Hara, Vance Packard, Joseph Priestley, Conrad Richter; the Allison-Shelley collection of Anglo-Americana-Germanica; and materials on Utopian literature and on Australia. The Historical Collections and Labor Archives contain a wide variety of documentary sources, including the papers of Pennsylvania leaders and businesses and records of labor unions. The most notable of these documents are those of Richard Schweiker, William Scranton, the United Steelworkers of America, and the United Mine Workers of America. The Penn State University Archives house an extensive collection of materials about the University and the surrounding community.

Faculty members may recommend books and other library material purchases by contacting the Libraries directly at www.libraries.psu.edu/answers/buybook.htm or through the faculty member in their department who serves as the library representative. Libraries subject specialists are listed on the Web at http://apps.libra
http://apps.libraries.psu.edu/selectors/links.cfm(Opens New Window) . Faculty at locations other than University Park can also contact their head librarian.

Access to holdings is obtained through The CAT, a computerized catalog, part of the Library Information Access System (LIAS), available on the Web at www.libraries.psu.edu. LIAS is a dynamic, integrated information system that provides electronic access to a great variety of materials in many subject areas.

The Libraries maintain a comprehensive program of general and specialized reference and instructional services. The Libraries' faculty teach credit courses as part of the Library Studies Program and offer a variety of topical seminars. Introductory sessions, offered by the Libraries' Instructional Programs, are scheduled on a regular basis to familiarize faculty, students, and other library users with LIAS. Class sessions designed for specific courses can be arranged in the library to help students learn how to find, use, and evaluate relevant books, articles, Web sites, and other information resources. Assistance is available to help design assignments that use library resources to enhance student research skills and critical thinking. Library instruction rooms (hands-on labs or traditional classrooms) can be reserved for on-site instruction in the use of library resources. For information, go to: www.libraries.psu.edu/instruction/ (Opens New Window)

Penn State holds membership in the Association of Research Libraries, the Research Libraries Group, the Consortium for Institutional Cooperation, and the Online Computer Library Center (OCLC). Participation in these organizations provides faculty and students with access to the collections of more than 2,500 libraries across the United States and internationally, including major research libraries. It is the largest research library in Pennsylvania and one of four resource libraries that provide service and collections to all other libraries and citizens of the Commonwealth.

The publication, Guide to the University Libraries, offers additional information on services and programs and is available at Libraries service desks and by calling (814) 863-4240. More information is also available at www.libraries.psu.edu. Students and others are encouraged to attend the annual Libraries Open House, held each fall semester.

Media and Technology Support Services (MediaTech), http://www.medianet.libraries.psu.edu/htbin/wwform/175/wwk770 (Opens New Window)

Services include:

- Consultation for purchase of technology or audiovisual equipment: 814-863-0665
- Equipment scheduling: 814-865-5400, 26 Willard Building; e-mail to mtsseq@p mtsseq@psulias.psu.edu
- Preview facilities: Special Services Building, 151 Standing Stone Lane (NOTE: this facility is moving to Wagner Annex, Curtin Rd. Check Web for updates.) and 26 Willard Building
- Program scheduling: University Park, 814-863-3202; other locations, 814-865-6314; e-mail to mtssmed@psulias.psu.edu
- MediaTech Repair and Installation Services: 814-863-4389

Dial Access On-Line provides audio-streamed lectures of selected classes, 24 hours, 7 days a week, for student and faculty review at http://tips.libraries.psu.edu/dialaccess (Opens New Window) . With a Penn State access account, lectures of selected courses can be reviewed from any computer, including computers in the ITS labs via the Web. A Web browser, the latest version of the free RealAudio software, and a sound card are needed. For more information, call 814-863-8144.

Another important service of MediaTech is the MediaTech Info Line. This audio information service includes current weather forecasts as provided by the Campus Weather Service, the University Calendar of Events, information on town and campus movies, JOBS—Penn State's employment information service, open house schedules for the Department of Astronomy, and construction barriers on or around the University Park campus. This service may be accessed from any touch-tone telephone at 814-863-1234.

For more information about services available from MediaTech, e-mail to mtssmed@psulias.psu.edu or visit www.libraries.psu.edu/mtss (Opens New Window)

Penn State Undergraduate Campuses

For information, see www.psu.edu/ur/cmpcoll.html (Opens New Window)

Pennsylvania College of Technology

For information, see www.pct.edu (Opens New Window)

Graduate School

For information, see http://www.gradsch.psu.edu (Opens New Window).

The Dickinson School of Law

For information, see http://www.dsl.psu.edu (Opens New Window)

Statement of Basic Academic Admission Policies

Admission to University credit courses or degree candidacy at The Pennsylvania State University is governed by policies established by the University Faculty Senate. Although specific applications of these policies may vary from year to year, from location to location, and from program to program, all University admissions are governed by the following general policies:

1. As an institution of higher education, The Pennsylvania State University is committed to making post-high school education available to all who possess a high school diploma or its equivalent without regard to personal characteristics not related to ability, performance, or qualifications. The Pennsylvania State University does not discriminate against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status.
2. The primary responsibility of the University is to residents of the Commonwealth of Pennsylvania. Consequently, within limits expressed from time to time by the Board of Trustees of the University, preference shall be given to Pennsylvania residents in the various admissions processes.
3. In order to meet the variety of goals and objectives of the population, the spectrum of offerings is designed to enable persons with a variety of objectives--both degree and nondegree--to receive a higher education. Although access to educational opportunities of the University is open to all, courses offered for credit are available to those holding a high school diploma or its equivalent. Policies governing admission to degree candidacy are established by the University Faculty Senate (with delegation of policies governing admissions to graduate programs to the Graduate Faculty of the University) under a general policy of offering admission to those whose past academic performance indicates a reasonable probability of success.
4. Undergraduate students are admitted to either baccalaureate degree candidacy or associate degree candidacy. To be admitted to degree candidacy, the individual must present an academic performance record that indicates a reasonable probability of his or her success in his or her chosen program. In the case of freshman admission to undergraduate degree candidacy, performance is measured through the high school record and standardized test results. In the case of advanced standing admission, performance is measured either through success in nondegree programs and courses of the University or by success at some other institution of higher education.
5. Within the space available in particular programs and at particular locations, admission shall be offered preferentially to those whose performance record indicates the highest probability of success in the chosen program--with this process continuing until all available spaces are filled. Although exceptions to this policy may be made from time to time (for example, recipients of scholarships with restricting qualifications), these exceptions may be made

only for applicants who meet at least the minimum admission and entrance requirements.

6. If a college or school requires restrictions on its baccalaureate admissions, the priorities or targets established must include provisions to consider qualified students in each of these groups:
    - **Admissions Group I**—Freshman Admissions: Applicants who hold a high school diploma or equivalent, who present fewer than 18 semester credits of baccalaureate work (from Penn State or another regionally accredited institution), who meet minimum college or school entrance requirements, and who meet minimum college or school admission standards.
    - **Admissions Group II**—The Pennsylvania State University Advanced Standing Admissions: Applicants who (1) request baccalaureate degree re-enrollment, presenting 18 or more semester credits; (2) request a change from Penn State associate degree to baccalaureate degree status, presenting 18 or more applicable semester credits; (3) request a change from Penn State provisional degree to baccalaureate degree status, presenting 18 or more applicable semester credits; or (4) request a change from Penn State nondegree to baccalaureate degree status, presenting 18 or more applicable semester credits. In all advanced standing admissions at Penn State, the student must have a grade-point average of at least 2.00 and must meet the minimum entrance and advanced standing requirements of the college or school. However, a Penn State student who has had an interruption in enrollment of no fewer than four calendar years and whose cumulative grade-point average is less than 2.00 may petition for re-enrollment with academic renewal in accordance with Senate Policy 57-00.
    - **Admissions Group III**—Other Advanced Standing Admissions: Applicants who have not been students at Penn State and request baccalaureate degree status at Penn State, presenting 18 or more applicable semester credits from a regionally accredited institution. In all advanced standing admissions, it is understood that the applicant must have a cumulative grade-point average of 2.00 as computed at Penn State and meet the minimum entrance and advanced standing requirements of the college or school. However, a student who has not met the entrance requirements or achieved a cumulative grade-point average of 2.00 (on a 4.00 scale) for all graded courses taken at all institutions previously attended, and who has had a four-calendar-year absence from the institution(s), may apply to enroll in credit courses as a provisional student in accordance with Senate Policy 10-00. An applicant who has had an absence from the institution(s) of fewer than four calendar years, and who has not met the entrance requirements or has achieved a cumulative grade-point average of less than 2.00, may apply to enroll in credit courses as a nondegree student in accordance with Senate Policy 14-00.
    - Within these three groups, no special consideration will be given to any group; applicants will be admitted to the college or school on the basis of academic competition (e.g., SAT I scores, grade-point averages, grades

in required courses in the college or other degree-granting unit, and other evidence predictive of baccalaureate degree performance where available, valid, and reliable).

7. To ensure a proper educational mix of students and to further broaden the educational opportunities offered by the University, the University Faculty Senate and the University administration from time to time may authorize various specialized programs. These programs may permit applicants who do not meet the basic qualifications for admission to degree candidacy to be admitted to such candidacy. These programs may also permit, in selected situations, exceptional students who have not earned a high school diploma or its equivalent to enroll in University credit courses. Such specialized programs may include up to 10 percent of the total admissions group for the University in any one year and up to the maximum of 15 percent of the admissions to any geographic location of the University.
8. Within this general policy, the colleges and school of the University, with the concurrence of the University Faculty Senate, may impose certain educational background requirements (Carnegie Units) that must be completed by an individual before being admitted to degree candidacy.

Minimum Requirements for Admission to Degree Candidacy

To be eligible for admission consideration to the University as a degree candidate, either as a beginning student or as a student with advanced standing, an applicant must meet the following minimum requirements:

1. Graduation from an accredited secondary school.
2. Completion of the required units of preparatory work as indicated under the heading of Minimum Secondary School Units Required for Admission Consideration.

A secondary school diploma issued by the Pennsylvania Department of Education, or appropriate authority in another state, may be accepted as equivalent to graduation from an accredited secondary school and as equivalent to the minimum secondary school units required for admission, as indicated under the Minimum Secondary School Units Required for Admission Consideration heading, with the exception of math and foreign language.

The University accepts the definition of a secondary school unit as established by the Carnegie Foundation. A unit represents a year of work in a subject in a preparatory school or secondary school, provided that the work done in that subject is approximately one-fourth of the total amount of work regularly required in a year in the school.

The University reserves the right to deny admission to any applicant for admission for any reason the University determines to be material to the applicant's qualifications to pursue higher education.

Admission to degree candidacy is specified in terms of enrollment in a college or school of the University or in the Division of Undergraduate Studies. Entrance to a major is a subsequent step that normally occurs near the end of the second year of study. Both for admission to a college or school and for entrance to a major, a student must satisfy the requirements of the University, of the particular college or school, and of the major area. In special circumstances, the University may need to further restrict admissions to a college or school and entrance to majors because of space limitations.

Minimum Secondary School Units Required for Admission Consideration

Baccalaureate and Associate Degree Programs

See the minimum number of secondary school units required for admission consideration to a **baccalaureate degree program** here.

See the minimum number of secondary school units required for admission consideration to an **associate degree program** can be found here.

First-Year Admission

An applicant for admission as a beginning student in the first-year class must meet the minimum requirements for admission (Opens New Window) to degree candidacy prior to the time of matriculation. All offers of admission are conditional until these requirements have been met.

Each applicant is evaluated on the basis of the high school record and results of the Scholastic Assessment Test (SAT) or American College Test (ACT). This evaluation produces an evaluation index. Admission decisions are made on the basis of a review of the applicant's evaluation index in relation to the requested area of enrollment (academic program), space availability, the quality of the credentials presented by other applicants, and such other academically relevant information deemed appropriate by the Undergraduate Admissions Office and approved by the Senate Committee on Admission, Records, Scheduling, and Student Aid.

When openings at the requested location or in the requested program of the University are filled, qualified applicants will be offered admission to their alternate choice of program or location or notified of campuses where openings still exist.

COLLEGE ENTRANCE TESTS--Applicants for first-year admission to the University are required to submit scores of the Scholastic Assessment Test (SAT) of the College Entrance Examination Board or the American College Test (ACT). SAT or ACT results of the junior-year testing periods are recommened. Exceptions to the requirement for scholastic assessment test scores will be granted to adult learners who have been out of high school for five or more years or are veterans with four or more years of service. Exceptions to the required courses completed also may be granted. Adults may be requested to submit a statement of personal goals or to participate in an interview.

SELECTION OF THE AREA OF ENROLLMENT--It is necessary for an applicant to indicate one of the academic units of the University in which he or she wants to study. If an applicant is undecided about the choice of an academic unit, he or she may seek enrollment in the Division of Undergraduate Studies.

CHANGING THE AREA OF ENROLLMENT--An applicant who has been admitted to an academic college or unit of the University may not change to another without satisfying entrance requirements of the college or other academic unit of the University to which he or she wants to transfer.

PREVIOUS ATTENDANCE AT ANOTHER COLLEGE--An applicant must state on his or her application whether he or she has ever attended any other college or university. Failure to indicate, at the time of application, previous registration at another college or university may result in refusal or cancellation of admission. An applicant who has attempted fewer than 18 semester credits at another regionally accredited college or university will be considered as a first-year applicant. An applicant who has attempted 18 or more semester credits at another regionally accredited college or university subsequent to high school graduation will be evaluated as an advanced standing applicant.

OBTAINING AN APPLICATION -- The application for admission is available on the Web. **Web applications are preferred**. A paper application can be obtained as a PDF on the Web site or by writing to the Undergraduate Admissions Office, The Pennsylvania State University, 201 Shields Building, University Park, PA 16802-1294 (telephone: 814 865-5471), or by contacting an admissions officer at any University undergraduate campus.

Advanced Standing (Transfer) Admission

An applicant who has attended any regionally accredited college or institution on the college level and attempted 18 or more semester credits subsequent to high school graduation may be considered for admission with advanced standing. Attendance at any other institution must be reported at the time of application. Failure to indicate, at the time of application, previous registration at another college or university may result in refusal or cancellation of admission.

An applicant for admission with advanced standing must meet the minimum secondary school requirements(Opens New Window) for admission to degree candidacy prior to the time of matriculation. Advanced standing applicants are considered for admission on the basis of the applicant's requested academic program, space availability, and the academic quality of their work at the previously attended institution(s). A minimum cumulative grade-point average of at least 2.00 (C) out of 4.00, as computed for Penn State students, is required, although certain areas of study may have additional requirements. In addition, an applicant must be in good academic and nonacademic standing. A student who has not met the entrance requirements or achieved a cumulative grade-point average of 2.00 (on a 4.00 scale) for all graded courses taken at all institutions previously attended, and who has had a four-calendar-year absence from the institution(s), may apply to enroll in credit courses as a provisional student in accordance with Senate Policy 10-00. A student who has had an absence from the institution(s) of fewer than four calendar years, and who has not met the entrance requirements or has achieved a grade-point average of less than 2.00, may apply to enroll in credit courses as a nondegree student in accordance with Senate Policy 14-00.

Advanced standing credits may be awarded for college-level work taken at regionally accredited institutions provided the course grade earned is equivalent to a grade of A, B, or C at this University and the credits are useful to the student's program of study. An academic adviser determines which of the transferable credits are applicable to the program of study at Penn State. Credits are transferred, but grades and grade-point average are not. Advanced standing students enter the University without an average and their average begins with the completion of their first semester of study at Penn State.

Under certain circumstances, the University may need to restrict advanced standing admissions to a particular college or school because of space limitations.

Entrance to a major is an additional step beyond admission to a college or school. It involves additional academic requirements and may be subject to additional restrictions because of space limitations.

APPLICATION PROCEDURE — The application for admission is available on the Web. (Opens New Window) **Web applications are required for advanced standing**

applicants.

In all cases where work has been taken at other institutions, an official transcript from each place of attendance must be submitted directly to the Undergraduate Admissions Office by the registrar of the institution attended. An applicant currently attending another institution also must provide a schedule of courses in progress or to be completed before enrollment at Penn State, including course name, number, description, and number of credits. The applicant's secondary school record must be submitted directly to the Undergraduate Admissions Office by the secondary school. The Undergraduate Admissions Office may require the applicant to send a catalog showing the courses that he or she has taken at the college previously attended. All credentials become part of the permanent records of the University.

ENTRANCE TO A MAJOR — An advanced standing degree candidate may be admitted to a college or school of the University. To be eligible for entrance to a major, a student must meet the entrance-to-major requirements of the University, of the college or school, and of the program area. Under certain circumstances, further restrictions or exceptions on entrance to majors may be required because of space limitations. Students are expected to work with advisers and to utilize current information about entrance requirements and restrictions when exploring academic program alternatives and making program and course selections.

CHANGING THE AREA OF ENROLLMENT — An applicant who has been admitted to an academic college, school, or major of the University may not change to another without satisfying entrance requirements of the college/school and major to which he or she wants to transfer.

Provisional Students (Degree Seeking)

An applicant seeking to pursue a degree program and holding a high school diploma or its equivalent but without the criteria required for admission as a degree candidate may enroll at the University as a provisional student. A provisional student may enroll in credit courses if the following criteria are met:

1. The student is making satisfactory progress toward admission as a degree candidate. Progress is satisfactory if a student has completed 18 credits with a minimum cumulative grade-point average of 2.00 (on a 4.00 scale). If a student has completed 18 credits with less than a 2.00, then he or she is given a warning. A student who has completed 27 credits with a cumulative grade-point average of less than 2.00 will not be permitted to enroll as a provisional student in any subsequent semester, unless the student has earned more than a 2.0 grade-point average in the most recently completed semester. No student, regardless of cumulative grade-point average, who has completed 36 credits will be permitted to enroll as a provisional student in any subsequent semester.
2. There is space available after degree candidates have been accommodated.
3. The student has not been dropped for unsatisfactory scholarship from any college or university previously attended. If a provisional applicant attended another college or university and attempted 18 or more semester credits within the last four calendar years, the applicant must have at least a 2.0 (on a 4.0 scale) cumulative collegiate average. However, if it has been four or more calendar years since the applicant attended the other college or university and the cumulative grade-point average is less than 2.0, the applicant is eligible for provisional admission consideration.
4. The student has not been dismissed or suspended for nonacademic reasons from any college or university. An applicant not in good standing at another accredited college or university for disciplinary reasons must consult with the director of the Office of Judicial Affairs for admissions clearance.

NOTE: An applicant holding a baccalaureate degree or higher is not eligible to enroll as a provisional student. The applicant is referred to the graduate nondegree program.

OBTAINING AN APPLICATION--The application for admission is available on the Web. (Opens New Window) **Web applications are preferred**. A paper application can be obtained by writing to the Undergraduate Admissions Office, The Pennsylvania State University, 201 Shields Building, University Park, PA 16802-1294 (telephone: 814-865-5471), or by contacting an admissions officer at any University campus.

ADMISSION OF PROVISIONAL STUDENT AS A DEGREE CANDIDATE--A provisional student may apply for admission as a baccalaureate degree candidate with advanced standing to a college or school of the University, or to the Division of Undergraduate Studies, upon completion of at least 18 credits with at least a 2.00 cumulative grade-point average. All these credits must be earned at this

University. To be eligible for admission, the provisional student must meet the academic requirements of the University and the college or school that are in effect at the time of application. An applicant who has completed at least the equivalent of two years of baccalaureate degree work before applying for admission as a baccalaureate degree candidate must have the approval of either the dean of the college or school of the University in which enrollment is desired or of the director of the Division of Undergraduate Studies if the student wants to enroll in that division. Under certain circumstances, the University may need to restrict admissions to degree candidacy in a particular college or school because of space limitations. Entrance to a major is an additional step beyond admission to a college or school and further limitations may apply. Provisional students should work with their advisers and utilize current information about college or school and major program academic requirements and restrictions in planning their programs of study toward admission to degree candidacy. After a student is admitted as a degree candidate, the dean of the college or school of enrollment decides which credits earned as a provisional student may be used to fulfill the degree requirements.

Nondegree Students

Any person having received a high school diploma or its equivalent may be permitted to enroll in credit courses (either for credit or audit) at the University. Some of these persons will be classified as nondegree students. A nondegree student who has not been dropped from degree or provisional status by this university or any other college or university for unsatisfactory scholarship will be listed as a nondegree regular student and may enroll in any number of credits not to exceed the typical credit load of a full-time student per semester if criteria 1, 2, and 3 (on the following list) are met.

A nondegree student who has been dropped from degree or provisional status by this university or any other college or university because of unsatisfactory scholarship will be listed as a nondegree conditional student and may enroll in a maximum of 12 credits per semester if criteria 1, 2, 3, and 4 (on the following list) are met.

1. The student has completed the prerequisite for the courses to be scheduled or has obtained permission from the instructor to schedule the course.
2. Space is available after degree candidates and provisional students have been accommodated.
3. The student has not been dismissed or suspended for nonacademic reasons from any college or university. An applicant not in good standing at another college or university for disciplinary reasons must consult the director of the Office of Judicial Affairs for admission clearance.
4. The student has obtained academic advising/counseling from an adviser/counselor designated by the academic unit to which admission, or reinstatement and re-enrollment, is desired.

NOTE: A student must be admitted, or reinstated and re-enrolled, as a degree candidate to apply the credits earned as a nondegree student toward fulfilling the requirements for a degree. The dean of the college or school of enrollment shall decide which credits may be used to fulfill the degree requirements.

OBTAINING AN APPLICATION--A nondegree application can be obtained by contacting the Office of the University Registrar, The Pennsylvania State University, 112 Shields Building, University Park, PA 16802-1292 (telephone: 814-865-6357), or by contacting the Registrar's office at any University location. The form is also available at www.registrar.psu.edu (Opens New Window) on the Web.

ADMISSION OF NONDEGREE STUDENT AS A DEGREE CANDIDATE--A nondegree student may apply for admission as a baccalaureate degree candidate with advanced standing to a college or school of the University, or to the Division of Undergraduate Studies, upon completion of at least 18 credits earned at this University with at least a 2.00 cumulative grade-point average. An applicant who has completed at least the equivalent of two years of baccalaureate degree work before applying for admission as a baccalaureate degree candidate must have the approval of either the dean of the college or school in which enrollment is desired or of the director of the Division of Undergraduate Studies if the student wants to enroll in that division. To be eligible for degree admission, the nondegree student must meet the academic requirements of the University and the college or school in effect at the time of application. Entrance to a major is an additional step beyond admission. Under certain circumstances, the University may need to restrict admissions to degree candidacy or entrance to particular majors because of space limitations. After a student is admitted as a degree candidate, the dean of the college or school of enrollment decides which credits earned as a nondegree student may be used to fulfill degree requirements.

Re-enrollment

A student who was once admitted and enrolled as a degree candidate and wants to resume study is required to apply for re-enrollment consideration under the conditions specified in Faculty Senate Policy 58-00.

To resume degree candidacy, go to the Office of the University Registrar's Web site, www.registrar.psu.edu (Opens New Window) , print off and fill out the Re-enrollment form, and submit it to the campus to which you want to enroll. An application for re-enrollment can also be obtained by writing to the Office of the University Registrar, The Pennsylvania State University, 112 Shields Building, University Park, PA 16802-1292; 814-865-6357, or by contacting the Registrar's Office at any University location. It is recommdended that applications be submitted to the Office of the University Registrar at least one month before registration.

Reinstatement

A student who has been dropped from the University because of unsatisfactory scholarship or who has been dismissed from the University for nonacademic reasons is required to be reinstated in order to resume degree candidacy. To initiate a reinstatement request, go to the Office of the Registrar's Web site, www.registrar.psu.edu (Opens New Window) , print and fill out the Reinstatement form and Submit it to the campus to which you plan to enroll, or the Office of the University Registrar, The Pennsylvania State University, 112 Shields Building, University Park, PA 16802-1292.

Leave of Absence

A student who is a candidate for an associate or baccalaureate degree may typically apply for a leave of absence for a period not to exceed one year. Under special circumstances, a leave of absence may be approved for a maximum of two years. A student who fulfills the conditions of an approved leave of absence may register upon return without applying for re-enrollment. Once submitted, the leave-time periods are not permitted to be altered. A student is permitted to advance register for the semester in which he or she is returning. An application for leave of absence and additional information can be obtained from the student's college of enrollment and is processed at the college dean's office. The form is also available at www.registrar.psu.edu (Opens New Window) on the Web.

A student who wants to interrupt study at the University to study at another institution during a semester other than the summer may request a leave of absence for this purpose. It is not necessary to obtain a leave of absence if the period of study at another institution will be limited to the summer and the student returns for the fall semester. A student planning to study elsewhere should consult with his or her academic adviser to determine the applicability of such work to the program of study. In addition, the student should contact the Undergraduate Admissions Office to determine if transfer credit is possible. The student should be cognizant of the University regulations on residence requirements and of any special requirements of the particular major. When courses are completed at another institution and an evaluation for possible transfer credit is desired, an official transcript must be submitted directly to the Undergraduate Admissions Office by the registrar of the other institution. An evaluation fee of $10 is required.

Environmental Emphasis Programs

The University offers a wide range of opportunities in undergraduate programs with environmental emphasis. Programs with an emphasis on the natural world include:

- Agriculture (various fields)
- Biology (various fields)
- Earth Sciences
- Environmental Engineering
- Environmental Systems Engineering
- Geography
- Geosciences
- Meteorology

Programs stressing human use of and impact on the natural world are offered individually or jointly by various colleges. Descriptions of individual programs and related courses emphasizing study in environmental areas can be found under these listings:

College of Agricultural Sciences

- Agricultural and Extension Education, Environmental Science option
- Agroecosystems Science
- Environmental and Renewable Resource Economics
- Environmental Resource Management
- Environmental Soil Science
- Forest Science
- Landscape Contracting
- Wildlife and Fisheries Science

Penn State Altoona

- Environmental Studies

College of Arts and Architecture

School of Architecture and Landscape Architecture:

- Architecture
- Landscape Architecture

College of Earth and Mineral Sciences

- Climatology

- Earth Sciences
- Earth Systems
- Energy, Environmental, and Mineral Economics
- Environmental Systems Engineering
- Geography
- Geosciences
- Industrial Health and Safety
- Materials Science and Engineering
- Mining Engineering
- Petroleum and Natural Gas Engineering
- Watersheds and Water Resources

College of Education

- Environmental Education Teacher Certificate (contact 228 Chambers Building, University Park campus)

College of Engineering

- Aerospace Engineering
- Agricultural and Biological Engineering
- Architectural Engineering–Environmental Option
- Chemical Engineering
- Civil and Environmental Engineering
- Electrical Engineering
- Engineering Science
- Industrial and Manufacturing Engineering
- Mechanical and Nuclear Engineering
- Science, Technology, and Society

College of Health and Human Development

- Recreation and Park Management

Intercollege Undergraduate Programs

- Environmental Inquiry
- Marine Sciences

International Programs

For information about the University Office of Global Programs, see www.international.psu.edu (Opens New Window) .

Intercollege Undergraduate Programs

Intercollege undergraduate programs draw on the resources of faculty and courses from several colleges and academic units within the University. Descriptions of these programs can be found under Intercollege Programs in this bulletin.

Reserve Officers' Training Corps

A student may select Reserve Officers' Training in the Army, Navy, Marine Corps, or Air Force. Subject to the specific requirements of the service chosen, the student selects courses in military, naval, or air science. University credit is given for these courses. In accordance with academic rules, a minimum of 6 credits earned in ROTC courses apply toward graduation requirements in any baccalaureate program. Additional ROTC credits may be applied toward graduation according to the policy of the college or degree-granting unit in which the candidate is enrolled. In many programs, the category to which ROTC credit may be applied is clearly stated. In programs where the category is not predetermined, the student's adviser and the student decide which credits the ROTC credits will replace. There is no military service obligation during the first year of the program regardless of scholarship status. Sophomore students have no obligation unless they are on a military scholarship.

Concurrent and Sequential Majors

At the baccalaureate or associate degree level, students may be approved for admission to more than one major under the Concurrent Majors program or the Sequential Majors program. A Concurrent Majors program is one in which students take courses to concurrently meet the requirements of at least two majors, with graduation for all majors in the program occurring during the same semester. A Sequential Majors program is one in which a student has graduated and then re-enrolls for another major.

Any student requesting more than one major program shall, for each major, meet the same acceptance standards and graduation requirements as met by all other students. Colleges and departments may identify and should publish any combintations of majors that would not be approved for more than one major program. In general, an undergraduate student may not combine a general major with a departmental major within the same college.

See Senate Legislation 60-00, 60-10, 60-20.

Teacher Education Programs

For current information about teacher certification for teacher education programs, see teacher certification (Opens New Window) .

Washington Program

For information, see http://comm.psu.edu/current/washington-program.

Penn State Learning

For information, see pennstatelearning.psu.edu

Adult Learner Services, Center for

For information, see http://www.outreach.psu.edu/adult-learners.

Information Technology Services

Information Technology Services (ITS) ensures that faculty, students, and staff have the information technology tools and infrastructure necessary to carry out the University's mission. ITS is working to achieve five broad goals: help faculty improve the way education is delivered; provide students with resources to enrich their educational experience; create and sustain an environment that enables leading-edge research; help to improve productivity; and establish the information technology infrastructure necessay to maintain Penn State's prominence in integrating high-quality programs in teaching, research, and outreach. For additional information, see **its.psu.edu** on the Web.

Judicial Affairs

For information, see http://www.sa.psu.edu/ja (Opens New Window).

Multicultural Resource Center

For information, see http://www.equity.psu.edu/mrc (Opens New Window).

Paul Robeson Cultural Center

For information, see http://www.sa.psu.edu/prcc (Opens New Window).

Residence Life

For information, see http://www.sa.psu.edu/rl (Opens New Window).

Student and Family Services

For information, see http://www.sa.psu.edu/sd/sfs (Opens New Window).

Student Organizations

For information, see: http://www.clubs.psu.edu

Unions and Student Activities

For information, see http://www.sa.psu.edu/usa (Opens New Window).

Veterans Programs, Office of

For information, see http://www.equity.psu.edu/veterans (Opens New Window).

Women in the Sciences and Engineering (WISE) Institute

For information, see [http://www.equity.psu.edu/wise (Opens New Window)](http://www.equity.psu.edu/wise).

Athletics and Recreation

For information, see http://www.psu.edu/ur/athrec.html (Opens New Window).

Women Students, Center for

For information, see http://www.sa.psu.edu/cws (Opens New Window).

University Registrar, Office of

For information, see http://www.registrar.psu.edu/ (Opens New Window).

Programs and Services for Students

Under the Programs and Services for Students link is a representative list of centers, offices, and programs that are available to assist students with a variety of services. This list is based on past inquiries from bulletin users. For resources that may not be listed here, check the Penn State home page: http://www.psu.edu.

Career Services

For information, see http://www.sa.psu.edu/career (Opens New Window).

Counseling and Psychological Services, Center for (CAPS)

For information, see http://www.sa.psu.edu/caps (Opens New Window).

Disability Services, Office for

For information, see http://www.equity.psu.edu/ods (Opens New Window).

Ethics and Religious Affairs, Center for

For information, see http://www.sa.psu.edu/cera (Opens New Window).

Fraternity and Sorority Life

For information, see http://www.sa.psu.edu/greeks (Opens New Window).

Health Services, University

For information, see http://www.sa.psu.edu/uhs (Opens New Window).

Honor and Professional Societies

For a list of academic/professional and honor societies, see http://www.sa.psu.edu/
http://www.sa.psu.edu/usa/studentactivities/search.asp (Opens New Window).

Estimated Tuition, Room, Board, and Other Charges

All tuition information is accessible at http://www.tuition.psu.edu (Opens New Window). Please go to that site for all information concerning tuition. For information concerning room and board and specific charges, see those items in the bulletin or go to http://www.bursar.psu.edu (Opens New Window) and click on the appropriate links.

Residency Classification for Tuition Purposes

PENNSYLVANIA CLASSIFICATION

A student shall be classified as a Pennsylvania resident for tuition purposes if that student has a Pennsylvania domicile and that student's presence in Pennsylvania is not primarily for educational purposes. Domicile is a person's existing and intended fixed, permanent, and principal place of residence. A student whose presence in the Commonwealth is primarily for educational purposes shall be presumed to be a non-Pennsylvania resident for tuition purposes. The following are considerations that may be used by the University in determining whether a student is a resident for tuition purposes:

1. A student under the age of 21 is presumed to have the domicile of his/her parent(s) or legal guardian(s), unless the student has maintained continuous residence in the Commonwealth for other than educational purposes for a period of at least 12 months immediately prior to his/her initial enrollment at The Pennsylvania State University, and, the student continues to maintain such separate residence.
2. A student who has resided in the Commonwealth for other than educational purposes for at least a period of 12 months immediately preceding his/her initial enrollment at The Pennsylvania State University is presumed to have a Pennsylvania domicile.
3. A student who has not resided continually in Pennsylvania for a period of 12 months immediately preceding his/her initial enrollment at The Pennsylvania State University is presumed to have a non-Pennsylvania domicile.
4. A student requesting to be classified as a Pennsylvania resident for tuition purposes must be a citizen of the United States or a permanent resident. Permanent residents must have received the I-551 stamp approving their permanent resident status. An individual in a nonimmigrant status with the INS is not eligible for classification as a Pennsylvania resident for tuition purposes. Other extraordinary circumstances, which may qualify a student as a Pennsylvania resident for tuition purposes, will be considered on a case-by-case basis.
5. A United States government employee or member of the armed forces who was a resident of Pennsylvania immediately preceding his/her entry into government service and who has continuously maintained Pennsylvania as his/her domicile will be presumed to have a Pennsylvania domicile. Military personnel and their dependents who are assigned to an active duty station in Pennsylvania and who reside in Pennsylvania shall be charged in-state tuition rates.
6. A student receiving a scholarship, guaranteed loan, grant, or other form of financial assistance dependent upon residence in a state other than Pennsylvania is not a Pennsylvania resident for tuition purposes.

RECLASSIFICATION AS PENNSYLVANIA RESIDENT

A student requesting reclassification as a Pennsylvania resident for tuition purposes must demonstrate by clear and convincing evidence that his/her domicile is in Pennsylvania, and that his/her presence in Pennsylvania is not primarily for educational purposes. Each request shall be decided individually on the basis of all facts submitted by the petitioner. Accordingly, it is not possible to list a specific combination of factors or set of circumstances which, if met, would ensure reclassification for tuition purposes.

RECLASSIFICATION PROCEDURE

1. A student may challenge his/her residence classification by filing a written petition with the person or committee designated to consider such challenges at the University. Such person or committee shall consider such petition and render a timely decision that shall constitute an exhaustion of administrative remedies.
2. Any reclassification resulting from a student's challenge or appeal shall be effective at the beginning of the semester or session during which the challenge or appeal was filed or at the beginning of the following semester or session. The decision as to which semester or session becomes the effective date shall rest with the person or committee rendering the decision on reclassification.
3. A student who changes his/her place of residence from Pennsylvania to another state is required to give prompt written notice of this change to the University and shall be considered for reclassification as a non-Pennsylvanian for tuition purposes effective with the date of such change.
4. A dependent resident student whose parent(s) or legal guardian(s) move outside of the Commonwealth may remain a Pennsylvania resident for tuition purposes if he/she continues to maintain a separate domicile within the Commonwealth.

NONRESIDENT STUDENT CLASSIFICATION

1. A student is initially classified as a nonresident based on information provided by the student when applying for admission to the University. The initial classification is made as follows:
    1. Undergraduate Student
        1. Penn State Harrisburg — Penn State Harrisburg Academic Services Officer
        2. All other locations — Undergraduate Admissions Office, The Pennsylvania State University,
           University Park, PA 16804-3000.
    2. Graduate Student
        1. Penn State Harrisburg — Penn State Harrisburg Academic Services

        Officer
        2. All other locations — Dean of the Graduate School
    3. Medical Student
        1. Office of Student Affairs, The Milton S. Hershey Medical Center
2. A student may challenge his/her residency classification by filing a written petition as follows:
    1. Undergraduate Student
        1. Penn State Harrisburg — Penn State Harrisburg Financial Officer
        2. All other locations — Residency Appeal Officer, University Park
    2. Graduate Student
        1. Penn State Harrisburg — Penn State Harrisburg Financial Officer
        2. All other locations — Residency Appeal Officer, University Park
    3. Medical Student
       Controller, The Milton S. Hershey Medical Center
3. The appropriate University official reviews the students petition and make's a decision.
4. D. The student may appeal that officer's residency decision to the University Appeals Committee on Residence Classification having representation from the Corporate Controller's Office, Undergraduate Admissions Office, and the Graduate School. The committee's decision on appeal shall be final.

PLEASE NOTE: A page of frequently asked questions concerning residency classification for tuition purposes can be found at http://www.bursar.psu.edu/faq.cf
http://www.bursar.psu.edu/faq.cfm (Opens New Window).

Insurance Protection

For information about student health insurance protection, See: www.sa.psu.edu/uhs/basics/insurance.cfm (Opens New Window).

Student Financial Aid

For information, see http://www.psu.edu/studentaid (Opens New Window).

Academic Year

Penn State's academic year follows an early semester calendar consisting of fall and spring semesters. Under the early semester plan, all fall semester activities, including examinations, are concluded prior to the midwinter holiday recess in December.

The academic year consists of class days and assessment/examination days. Registration, advising, and orientation periods prior to each semester vary in length, according to the requirements for the semester. Dates are shown in the academic calendar on the Registrar's Web site:http://www.registrar.psu.edu/academi http://www.registrar.psu.edu/academic_calendar/calendar_index.html(Opens New Window). Typical class periods are either fifty or seventy-five minutes long. The average student enrolls in 12 to 19 credits per semester.

SUMMER SESSIONS--In addition to the two semesters, two six-week summer sessions are offered each summer. Some classes are offered for different enrollment periods during these twelve weeks. The Summer Sessions offer a wide range of courses at all levels. The Summer Schedule of Courses is published by the Registrar's office; the most current information is found by accessing the Registrar's home page at: http://www.registrar.psu.edu (Opens New Window). Information regarding additional summer session activities can be found at http://w http://www.psu.edu/summersession (Opens New Window). The academic calendar can vary at campuses other than University Park. Check the campus Web site you're interested in for specific schedules.

Campuses

Penn State's twenty undergraduate campuses are geographically dispersed throughout the Commonwealth. Each campus offers its own combination of associate and baccalaureate degree programs, described under the links on this page: Penn State Abington; Penn State Altoona; Penn State Beaver; Penn State Berks; Penn State Delaware County; Penn State Erie, The Behrend College; Penn State Fayette, The Eberly Campus; Penn State Greater Allegheny; Penn State Harrisburg; Penn State Hazleton; Penn State Lehigh Valley; Penn State Mont Alto; Penn State New Kensington; Penn State Schuylkill; Penn State Shenango; Penn State University Park; Penn State Wilkes-Barre; Penn State Worthington Scranton; and Penn State York.

More information about the campuses, including student information and campus activities, can be accessed through the Penn State home page: http://www.psu.edu/.

Colleges and Other Degree-Granting Units

The following University units offer undergraduate majors leading to baccalaureate and associate degrees: Abington College; Altoona College; College of Agricultural Sciences; College of Arts and Architecture; Penn State Erie, The Behrend College; Berks College; Smeal College of Business; Capital College; College of Communications; College of Earth and Mineral Sciences; College of Education; College of Engineering; College of Health and Human Development; College of Information Sciences and Technology; College of the Liberal Arts; Eberly College of Science; University College (which comprises several Penn State campuses); and the School of Nursing. The Pennsylvania College of Technology in Williamsport provides an alternative educational setting in which students may enroll in selected degree programs.

Students who do not want to enroll immediately in one of the colleges or other degree-granting units may enroll in the Division of Undergraduate Studies, typically for one year or slightly more.

Majors leading to baccalaureate degrees are described in this bulletin under buttons for the colleges and other degree-granting units. Information is also accessible on the Internet through www.psu.edu (the Penn State home page).

Registration

Dates for advising, registration, and classes are given in the University calendar at ht http://registrar.psu.edu/academic_calendar/calendar_index.cfm (Opens New Window). Registration information for Continuing Education courses is available from the Continuing Education office at each campus or service area. Students with an active University Access Account register through eLion at http://elion.psu.edu (Opens New Window). Schedules at campuses other than University Park may vary. Check the Web site for the campus you're interested in for specific schedules.

Grading System

CREDITS--Credits are awarded on the semester-hour basis. The distribution of time between class activities and outside preparation varies from course to course; for the average student, however, at least forty hours of work per semester planned and arranged by the University faculty are required to gain 1 credit.

GRADING SYSTEM

- **A, A-** (EXCELLENT) Indicates exceptional achievement.
- **B+, B, B-, C+** (GOOD) Indicates extensive achievement.
- **C, D** (SATISFACTORY) Indicates acceptable achievement.
- **F** (FAILURE) Indicates inadequate achievement necessitating a repetition of the course to secure credit.

The grades of A, A-, B+, B, B-, C+, C, D, and F indicate a gradation in quality from Excellent to Failure and are assigned the following grade-point equivalents:

Grade	**Grade-Point Equivalent**
A	4.00
A -	3.67
B +	3.33
B	3.00
B -	2.67
C +	2.33
C	2.00
D	1.00
F	0

Grade points are determined by multiplying the grade-point equivalent of the grade earned by the number of credits for the subject, for example, ENGL 015 GWS, 3 credits, with a grade of A (grade-point equivalent 4.00) yields 12 grade points.

For further information, see: http://www.registrar.psu.edu/grades/grading_system.c
http://www.registrar.psu.edu/grades/grading_system.cfm

Policies and Rules

It is the responsibility of students to be familiar with the rules, regulations, and procedures of the University. Policies and Rules includes information on academic procedures, code of conduct, general University policies, privacy rights of students, and responsibilities for community living. Paper copies of Policies and Rules are available from the information desk in the HUB-Robeson Center and from each college dean's office at University Park campus and the Office of Student Affairs at other campuses. University policies are available oline at http://ww http://www.sa.psu.edu/ja/pdf/PoliciesRules.pdf.

For academic policies and rules, see http://www.senate.psu.edu/policies.

Requirements for Graduation

To graduate, a candidate must complete the course requirements for the candidate's major and:

1. earn at least a C (2.00) cumulative grade-point average for all courses taken at the University;
2. earn at least a C grade in each major course designated by the major as a C-required course.

Residence Required for Degree

Every candidate for a degree shall earn as a degree candidate at least 36 of the last 60 credits for a baccalaureate degree and at least 18 of the last 30 credits for an associate degree in courses offered by the University or in cooperative degree programs established by formal agreement and approved by the University Faculty Senate.

A candidate for a first baccalaureate degree shall earn the last 60 credits required for that degree within five calendar years. An extension of time shall be granted for intervening military service.

A course schedule, including courses offered by resident education or Continuing Education, is made by each student.

A typical credit load for a full-time student is defined to be from 12 to 19 credits per semester. Students are not permitted to advance register or register in the normal registration period for more than 19 credits. Students are permitted to add courses beyond this maximum 19 credits after consultation with the adviser during the first ten calendar days of the semester.

Planning a Degree Program

Primary responsibility for the successful completion of a degree program lies with the student. The key to meeting this responsibility is personal involvement in academic program planning. To plan a program of study that will best meet individual goals and interests, students must know the requirements and restrictions of the department, college or other degree-granting unit, and the University; know the sources of academic information; work closely with an adviser in examining programs and course requirements and alternatives; and consult the Undergraduate Degree Programs Bulletin.

The University comprises a family of campuses located throughout the Commonwealth (see http://www.psu.edu/ur/cmpcoll.htm (Opens New Window)). For most degree programs, a student may begin his or her studies at any one of the campuses. More than 160 baccalaureate majors, more than 25 associate degree majors, and more than 7,000 undergraduate courses are offered by the University. Clearly, each campus cannot offer every academic program or every course. As a result, admission to several academic programs is restricted, and students selecting these programs may be required to begin their studies at a specified campus. In other cases, admission to certain academic programs must be approved when a first-year student enters the University; transfer into these programs at a later point in a student's career is not possible. For these reasons, it is imperative that a student understand both program and course limitations at the campus of enrollment.

The many programs at Penn State allow varying degrees of flexibility. An early decision to pursue a highly structured program enables the student to complete the program in the optimum length of time by taking the required courses in a sequence that allows the smoothest progression from one level to the next. Even the most regulated programs, however, allow choices within given boundaries. Other programs allow a considerable range of choices in the completion of the requirements. Students should be aware of possible difficulties in transferring from a flexible program to a more highly structured program. Whether a program is highly structured or quite flexible, it is extremely important that the student understand program requirements when enrolling in the University.

Information concerning the University, its academic programs, course offerings, campuses, and academic organization is available from the following sources:

FIRST-YEAR TESTING, CONSULTING, AND ADVISING PROGRAM--First-year students entering Penn State are scheduled, through the Division of Undergraduate Studies, for a comprehensive testing and advising program that provides an overview of the academic opportunities and activities available to students. The First-Year Testing, Consulting, and Advising http://www.psu.edu/dus/ftcap.htm (Opens New Window)) program also provides individual educational planning interviews in which students may discuss their abilities and interests in terms of Penn State programs.

INFORMATION FOR NEW STUDENTS--The Office for Communication provides first-year students as well as advanced standing and change-of-assignment students at the University Park campus with comprehensive information regarding the essential academic and student development opportunities of the campus and the University in general beginning with a new student's acceptance to a campus and continuing through completion of his/her first semester.

Through programs offered in cooperation with the colleges' academic units and various student service operations, new students are introduced to the intellectual and scholarly expectations of the University, to the skills needed for advanced study and lifelong learning, and to the student development opportunities with academic merit. In addition, this office helps inform students of the required procedures for matriculation and offers a perspective on college life, including practical information about important dates, times, and locations (e.g., arrival day, first day of classes, course drop/add).

During arrival week each semester, new students receive instruction and advice about their courses of study, including help with registration and class schedule adjustments, and they participate in special activities.

ACADEMIC ADVISERS--Each student is assigned a primary academic adviser in his or her college, school, or the Division of Undergraduate Studies. Students can find their adviser's name and contacts information using the Adviser Information application on eLion (http://www.eLion.psu.edu (Opens New Window)). The adviser is available to help a student plan an academic program, schedule each semester's courses, and provide information about majors. The adviser will also refer a student to other appropriate sources of information.

ACADEMIC ADVISING CENTERS--Academic advising centers are located in every college at University Park and at all other Penn State undergraduate locations. Centers provide advising and information about academic programs. Lists of University Park centers and cetners at other locations are available online. University Park: http://www.psu.edu/dus/handbook/upinfo.html (Opens New Window); other locations: http://www.psu.edu/dus/handbook/cesinfo2.html (Opens New Window).

WEB SITES--Penn State's home page, http://www.psu.edu (Opens New Window), provides information on the University and each of its colleges.

SCHEDULE OF COURSES--Course offering and registration information is available on the Web at http://www.registrar.psu.edu (Opens New Window). The Schedule of Courses information is updated once each day and provides current information about the courses being offered at all Penn State campuses.

Academic Definitions

The following definitions, referring to degrees, majors, options, minors, and concurrent or sequential majors programs, have been adopted by the University Faculty Senate:

Associate Degree--Two-year majors that, with a few exceptions, provide concentrated instruction to prepare graduates for specialized occupational assignments.

Baccalaureate Degree--An award signifying a rank or level of educational attainment. Particular types of baccalaureate degrees identify educational programs having common objectives and requirements. Degree programs may provide academic, preprofessional, or professional experiences and preparation. Majors lead to a baccalaureate degree. Each student must select a major within a baccalaureate degree type. If options are offered within a major, a student selects one. The student may also elect to enroll in a minor to supplement the major. Alternatively, the student may seek to enroll in multiple majors within the same type of baccalaureate degree or to enroll in a simultaneous degree program. A baccalaureate program of study shall consist of no less than 120 credits. Students may elect to take courses beyond the minimum requirements of a degree program.

Major--A plan of study in a field of concentration within a type of baccalaureate degree. Colleges and other degree-granting units may have common requirements for all of their majors. Each major may have requirements identified in Prescribed, Additional, and Supporting categories of courses.

Option--A specialization within a major that should involve at least one-third of the course work credits required for the major, but need not be more than 18 credits. All options within a major must have in common at least one-fourth of the required course work credits in the major. A student can only be enrolled in an option within his/her own major.

Minor--A minor is defined as an academic program of at least 18 credits that supplements a major. A minor program may consist of course work in a single area or from several disciplines, with at least 6 but ordinarily not more than half of the credits at the 400 course level. Total requirements are to be specified and generally limited to 18 to 21 credits. Entrance to some minors may require the completion of a number of prerequisites, including courses, portfolios, auditions, or other forms of documentation that are not included in the total requirements for the minor. All courses for a minor require a grade of C or above.

Concurrent and Sequential Majors Programs--At the baccalaureate or associate degree level, students may be approved for admission to more than one major under the Concurrent Majors Program. A Concurrent Majors Program is one in which students take courses to concurrently meet the requirements of at least two majors, with graduation for all majors in the program occurring during the same semester. Concurrent majors must all be at the baccalaureate or associate degree level. Under the Sequential Majors Program, upon graduation from an associate or baccalaureate degree program, a student may apply for re-enrollment in another undergraduate degree program.

Baccalaureate Degrees Granted

Undergraduate majors offered at Penn State lead to one or more of the following baccalaureate degrees: Bachelor of Arts, Bachelor of Science, Bachelor of Architectural Engineering (five-year program), Bachelor of Architecture (five-year program), Bachelor of Design, Bachelor of Fine Arts, Bachelor of Humanities, Bachelor of Landscape Architecture (five-year program), Bachelor of Music, Bachelor of Musical Arts, and Bachelor of Philosophy. Not all degrees are offered at every location. Baccalaureate degrees offered at Penn State include both those that are designed to provide an academic (including preprofessional) experience and those that are specifically designed to provide professional preparation. To ensure excellence, all professionally oriented degree majors provide a strong academic base. The Bachelor of Arts degree (with a given major) is an academic degree; the Bachelor of Science degree (with a given major) and the bachelor's degree in any subject area (e.g., Bachelor of Architecture) are professional degrees. The Bachelor of Philosophy degree, described in the Intercollege Undergraduate Programs section of this bulletin, is planned individually and may be designed to serve either academic or professional purposes.

BACHELOR OF ARTS-- See Bachelor of Arts Degree Requirements (Opens New Window) .

BACHELOR OF HUMANITIES--Bachelor of Humanties degree majors are required to take 18 credits (referenced below). In addition, students are expected to complete credits required by their college and major.

PRESCRIBED COURSES: 6 credits
I HUM 300W(3) and I HUM 400(3)

SUPPORTING COURSES AND RELATED AREAS: 12 credits
Select 1 course each from four different major/program offerings:
A&A, AMSTD, ART H, C ART, C HIS, C MUS, CAMS, COMM, CMLIT, ENGL, ENLSH, HCOMM, HIST, LIT, MUSIC, PHIL, PHLOS, RL ST, SPCOM, THTRE, or courses from the School of Humanities (Penn State Harrisburg, the Capital College) approved list.

BACHELOR OF PHILOSOPHY--The Bachelor of Philosophy degree is the only one not offered through any college or school but rather on a University-wide basis. This degree allows students to plan their own programs, in conjunction with a faculty preceptor, within the framework of the academic program of the University. A description of this degree is found in the Intercollege Undergraduate Programs section of this bulletin.

WHAT IS GENERAL EDUCATION?

The inclusion of General Education in every degree program reflects Penn State's deep conviction that successful, satisfying lives require a wide range of skills and knowledge. These skills include the ability to reason logically and quantitatively and to communicate effectively; an understanding of the sciences that makes sense of the natural environment; a familiarity with the cultural movements that have shaped societies and their values; and an appreciation for the enduring arts that express, inspire, and continually change these values. General Education, in essence, augments and rounds out the specialized training students receive in their majors and aims to cultivate a knowledgeable, informed, literate human being.

Penn State's General Education program is designed to enable students to:

- acquire knowledge through critical information gathering, including reading and listening, computer-assisted searching, and scientific experimentation and observation;
- analyze and evaluate, where appropriate in a quantitative manner, the acquired knowledge;
- integrate knowledge from a variety of sources and fields;
- make critical judgments in a logical and rational manner;
- develop the skills to maintain health and understand the factors that impinge upon it;
- communicate effectively, both in writing and orally, and using the accepted methods for presentation, organization, and debate particular to their disciplines;
- seek and share knowledge, independently and in collaboration with others;
- gain understanding of international interdependence and cultural diversity and develop consideration for values, lifestyles, and traditions that may differ from their own;
- comprehend the role of aesthetic and creative activities expressing both imagination and experience.

Courses within the structure of General Education become an integral part of the overall educational experience. These courses may be relevant to a major or to an individual's interests. Students are encouraged to consider how a course might be useful to their current interests and goals. An important part of academic planning is working with an academic adviser not only to understand the role of General Education requirements, but also to make sure that course selections complement the academic requirements of a student's specific major.

Components of General Education

The *typical* baccalaureate Penn State academic program requires the completion of between 120 and 130 credits. The General Education requirements are common to all degree programs and compose about one-third of the course work (45 credits).

All students must also complete a writing-across-the-curriculum course as part of their degree program. For simplicity, those courses are included with the General Education program as described in this bulletin. The course selections are designed to provide students with a well-rounded academic experience within an integrated curriculum that allows for individual flexibility. The components of the program are:

- *Skills courses* that help develop quantitative and communication skills.
- Studies in the *Knowledge Domains of the Arts, Humanities, and the Sciences* (including the Health Sciences, Natural Sciences, and the Social and Behavioral Sciences) that provide a broad overview of the world in which we live.
- *First-Year Seminars* (FYS) that help introduce students to the scholarly community of the University.
- *Writing Intensive* courses of the "Writing Across the Curriculum" component that further enhance writing skills.
- *United States Cultures and International Cultures* that provide opportunities to increase understanding of the relationship between people of different cultures and widen international perspective.

General Education Requirement Descriptions

SKILLS

Writing / Speaking

Courses with the GWS designation satisfy this component.

It is the objective of these courses to teach students to communicate information clearly and set forth their beliefs persuasively both orally and in writing. In particular, it is expected that students become sufficiently proficient in writing, such that their expository prose meets the expectations of educated readers in both form and style.

Quantification

Courses with the GQ designation satisfy this component

The objective of the quantification courses is to teach the students to work with numbers so as to measure space, time, mass, forces, and probabilities; to reason quantitatively; and to apply basic mathematical processes to daily work and everyday living.

KNOWLEDGE DOMAINS

Health and Physical Activity

Courses with the GHA designation satisfy this component

Courses in the Health and Physical Activity area focus on the theory and practice of life span wellness and fitness activities, and on the knowledge, attitudes, habits, and skills needed to live well. The courses include such diverse topics as diet, exercise, stress management, the wise use of leisure time, alcohol consumption and drug use, sexual health awareness, and safety education. Courses may be knowledge-focused (about aspects of the biological, social, and behavioral aspects of healthful living) or practice-focused (emphasize attitudes, habits, and skills needed to engage in healthful living and can include traditional dance, exercise, and sport activity classes) or integrated in any manner.

Natural Sciences

Courses with the GN designation satisfy this component

The Natural Sciences reveal the order, diversity, and beauty of nature and in so doing enable students to develop a greater appreciation of the world around them. These courses help students to understand the nature of science through exposure to the broad divisions of science--physical science, biological science, earth science, and applied natural science. In these courses the students will be taught how to acquire scientific factual information, to use scientific methodology and to develop an appreciation of the natural world. Students should gain an understanding of how scientists reason and how they draw conclusions and think critically.

Arts

Courses with the GA designation satisfy this component

Courses taught in the area of the Arts are expected to help students understand and appreciate some of the more important creative works, traditions, literature, and history of the arts and architecture. General Education Arts courses aim to teach students to recognize the comprehensive role of arts and architecture as an expression of the cultural values of a society and the need to preserve these expressions for the benefit of future generations.

Through the courses in the Arts area, students should recognize aesthetic values as an integral part of society's essential need and gain lifelong benefits through the acquisition and appreciation of arts-related skills. Students should become conversant with the terminology, techniques, attitudes, ideas, and skills that the arts comprise so as to understand how humankind relates to the arts.

Humanities

Courses with the GH designation satisfy this component

Humanistic studies are divided into four categories:

1. (1)literature,
2. (2)history and culture,
3. (3)advanced language, and
4. (4)philosophy.

The study of the Humanities should develop competency in interpretive understanding of the human condition and of the values inherent in it. This interpretive understanding should evolve into the development of insights and a critical evaluation of the meaning of life, in its everyday details as well as in its historical and universal dimensions. Through this development students should acquire knowledge of and concern for the humanistic values that motivate and inform all humanistic studies.

Social and Behavioral Sciences

Courses with the GS designation satisfy this component

Social and Behavioral Sciences courses develop students' understanding of the diverse personal, interpersonal, and societal forces that shape people's lives and teach them how to approach these subjects through the concepts, principles, and methods of scientific inquiry. The general goal is a theoretical understanding of the interrelationships of the determinants of the organization of human behavior. These courses are expected to introduce students to the scientific analysis of:

1. (1) the forms, practices, and theories of politics;
2. (2) the nature and operation of economic analysis;
3. (3) the interrelationships of social institutions;
4. (4) the dynamics of individual and group behavior and change; and
5. (5) the processes and functions of human communication.

Through the application of the methodologies of the Social and Behavioral Sciences, students should develop an understanding of the multiple nature of causality in social settings. The Social and Behavioral Sciences require a comprehensive, integrative, empirical, and theoretical view of the social world.

Note: Some colleges or majors might require the completion of specific GWS, GQ, GHA, GN, GA, GH, and/or GS courses.

ADDITIONAL REQUIREMENTS

First-Year Seminar

Courses with the suffix S, T, or X or PSU abbreviation satisfy this requirement

The First-Year Seminars (FYS) are designed to engage students in learning, acquaint them with the learning tools and resources available at Penn State and orient them to the scholarly community from the outset of their undergraduate studies in a way that will bridge to later experiences in their chosen majors. In addition, the FYS facilitate students' adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life and introduce them to their responsibilities as members of the University community. The seminars are taught by full-time, regular Penn State faculty and, as the name implies, are conducted in small sections, thus providing opportunities for students to develop relationships with full-time faculty and other students in academic areas of interest to them.

Each baccalaureate student must complete at least 1 credit of the First-Year Seminar. Some colleges may, however, call for the completion of more than 1 credit of the FYS. Students will typically enroll in the FYS offered by the college in which they plan to graduate. If a student changes his/her college of enrollment, it is not necessary to retake the FYS offered by the new college.

Not all seminars are available at all Penn State campuses and some enrollment restrictions apply. Associate degree students are strongly encouraged to complete the FYS requirement even though they are not required to do so.

NOTE: Beginning with the 2009 summer session, the First-Year Seminar requirement will be replaced by First-Year Engagement requirements for each University Park academic college, each of the nineteen Commonwealth campuses, and the Division of Undergraduate Studies. Students at the University Park campus will be required to complete at least 1 credit of first-year seminar and meet any other first-year requirements specified by their home college. Students at the Commonwealth campuses will be required to complete the first-year experiences specified by their campus. First-year students entering Penn State in summer 2009 and thereafter should consult their enrollment home for these requirements.

United States Cultures

Courses with the US designation satisfy this requirement

A course that fulfills the United States Cultures requirement must strive to increase students' understanding of contemporary United States society. Such a course need not focus exclusively on the present and may concern a historical subject.

Courses with the United States Cultures designation will include two or more of the following components and will include those components in the graded evaluation of student performance:

1. Cultivate student knowledge of issues of social identity such as ethnicity, race, class, religion, gender, physical/mental disability, age, or sexual orientation;
2. Convey to students knowledge of different United States values, traditions, beliefs, and customs;
3. Increase student knowledge of the range of United States cultural achievements and human conditions through time;
4. Increase student knowledge of United States social identities not in isolation, but in relation to one another (for example, the interaction of race or gender with socioeconomic status).

International Cultures

Courses with the IL designation satisfy this requirement

A course that fulfills the International Cultures requirement must strive to increase student knowledge of the variety of international societies and may deal to some extent with U.S. culture in its international connections. It need not focus exclusively on the present and may, indeed, be a historical subject. Courses with the International Cultures designation will do two or more of the following:

1. Cultivate student knowledge of the similarities and differences among international cultures;
2. Convey to students knowledge of other nations' cultural values, traditions, beliefs, and customs;
3. Increase students' knowledge of the range of international cultural achievements and human conditions through time;

4. Increase students' knowledge of nations and cultures not in isolation, but in relation to one another.

Writing Across the Curriculum

Courses with the suffix W, M, X, or Y satisfy this requirement

Developing the skill to communicate by means of the written word is extremely important. Courses other than General Education English composition courses emphasize the ability of students to write. Colleges and/or departments have established "W" courses in specific programs. Students are required to complete at least 3 credits of writing-intensive courses offered within their major or college of enrollment.

Typically, "W" courses include writing assignments that relate clearly to the course objectives and serve as effective instruments for learning the subject matter of the course. In writing-intensive courses, assignments are designed to help students investigate the course subject matter, gain experience in interpreting data or the results of research, shape writing for a particular audience, or practice the type of writing associated with a given profession or discipline.

Opportunities for students to receive written feedback from the instructor and to apply the instructor's feedback to their future writing are built into the writing courses. A writing-intensive course may also include peer review of written work, tutorial assistance, instructor conferences, group writing projects, the use of writing or learning centers, teaching assistant feedback, and classroom discussions of assigned readings about writing.

Courses that are designed to develop the students' writing competence are identified by the suffix "W, M, X, or Y" in the Undergraduate Bulletin and the Schedule of Courses. Both baccalaureate and associate degree students complete 3 credits in this area.

Program Structure--Baccalaureate and Associate

The Baccalaureate Degree General Education Program

The baccalaureate degree General Education program consists of 45 credits that are distributed among two General Education components: (1) Skills (15 credits) and (2) Knowledge Domains (30 credits) in the Natural Sciences, Arts, Humanities, Social and Behavioral Sciences, and Health and Physical Activity. Every baccalaureate degree student also completes the First-Year Seminar, United States Cultures and International Cultures, and Writing Across the Curriculum requirements.

A restriction is placed on students in majors that are closely linked to the Knowledge Domains of Natural Sciences, Arts, Humanities, and Social and Behavioral Sciences to ensure that they participate in the full breadth of General Education. These students may not use a course in their academic major to satisfy one of the Knowledge Domains requirements. For example, an Economics major may not use an economics course to fulfill his/her social and behavioral sciences requirement. Also, students may not count courses cross-listed with courses in their major to fulfill one of the General Education Knowledge Domain, e.g., a Theatre major may not register for THEA 208 (GA;US;IL)/AAAS 208 (GA;US;IL) and have it count in the Arts requirement.

SKILLS (15 credits)

Writing/Speaking (9 credits)
Courses with the GWS designation satisfy this component.

Quantification (6 credits)
Courses with the GQ designation satisfy this component. (3-6 credits are selected from mathematics, applied mathematics, and statistics; 3 credits may be selected from computer science or symbolic logic.)

KNOWLEDGE DOMAINS (30 credits)

Health and Physical Activity (3 credits)
Courses with the GHA designation satisfy this component.

Natural Sciences (9 credits)
Courses with the GN designation satisfy this component.

Arts (6 credits)
Courses with the GA designation satisfy this component.

Humanities (6 credits)
Courses with the GH designation satisfy this component.

Social and Behavioral Sciences (6 credits)

Courses with the GS designation satisfy this component.

ADDITIONAL REQUIREMENTS

Baccalaureate degree students must complete one First-Year Seminar (S, T, or X suffix, or PSU abbreviation), 3 credits of United States Cultures (US) and 3 credits of International Cultures (IL), and 3 credits of Writing Across the Curriculum (W, M, X, and Y). These requirements may be completed by designated courses that also meet other degree or General Education requirements.

FLEXIBILITY OF THE BACCALAUREATE DEGREE GENERAL EDUCATION REQUIREMENTS

Penn State wants students to use General Education to experiment and explore, to take academic risks, to discover things they did not know before, and to learn to do things they have not done before. To that end, the General Education program extends the concept of flexibility to all aspects of the degree program.

Students may, with the permission of their adviser and dean's representative:

1. substitute a 200- to 499-level course in an area of General Education for a course found on the General Education list. For example, a student may take a 400-level course in history and use it to meet the General Education requirement satisfied by a comparable lower-level history course.
2. substitute a foreign language at the twelfth credit level of proficiency, as measured by the Penn State foreign language offerings, for 3 credits in any of the categories of General Education. Baccalaureate degree students may substitute study in a foreign/second language at the twelfth credit level of proficiency or higher for any three credits in any of the categories of general education only if those three credits are in language study beyond their degree requirements.*
3. substitute a third course in one of the Knowledge Domains areas of Arts, Humanities, or Social and Behavioral Sciences for a second course in one of the other areas. For example, a student might take 3 courses in the Arts, two courses in the Humanities, and only one course in the Social and Behavioral Sciences. This substitution is often referred to as the 9-6-3 sequence, representing the 9 credits, 6 credits, and 3 credits completed in place of the specified 6-6-6.*
4. meet the United States Cultures (US) and International Cultures (IL) requirement through completion of an experiential learning program or practicum (one-semester or year long) approved by their college dean's office. Approved Penn State Education Abroad Programs may be used to satisfy the International Cultures (IL) requirement.
5. meet the First-Year Seminar (FYS) requirement through completion of a FYS course offered by any unit of the University. Thus, a student who successfully completes a FYS course in one college, prior to transferring to another college, will not be required to complete another FYS. However, since there

are various modes of offering a FYS throughout the University, students transferring to a new college may find that a required course that is also a FYS must still be taken.

*Please note: The use of these two substitutions (No. 2 and No. 3 above), either alone or in combination, may not lead to the complete elimination of any area in the skills or knowledge domains categories in the student's General Education program.

* Three credits of United States Cultures (US) and International Cultures (IL), and 3 credits of Writing Across the Curriculum (W, M, X, and Y) may be designated courses that also meet other degree or General Education requirements.

The Associate Degree General Education Program

The associate degree General Education program consists of 21 credits that are distributed among two General Education components: (1) Skills\6 credits in courses that develop communicative and quantitative skills; and (2) Knowledge Domains\12 credits in the Natural Sciences, Arts, Humanities, and Social and Behavioral Sciences, with an additional 3 credits in any General Education area. Associate degree students have a 3-credit requirement and may choose either a United States Cultures (US) course or an International Cultures (IL) course, and must complete a 3-credit writing intensive course (W). While associate degree students are not required to complete a First-Year Seminar, they are encouraged to participate in such a seminar if the opportunity to do so exists.

A restriction is placed on students in majors that are closely linked to the Knowledge Domains areas of Natural Sciences, Arts, Humanities, and Social and Behavioral Sciences, in order to ensure that they participate in the full breadth of General Education. These students may not use a course in their academic major to satisfy one of the Knowledge Domains area requirements. For example, an Economics major may not use an economics course to fulfill his/her social and behavioral sciences requirement.

SKILLS (6 credits)

Writing/Speaking (3 credits)
Courses with the GWS designation satisfy this component.

Quantification (3 credits)
Courses with the GQ designation satisfy this component. (3 credits are selected from mathematics, applied mathematics, statistics, computer science, or symbolic logic)

KNOWLEDGE DOMAINS (12 credits)

Natural Sciences (3 credits)
Courses with the GN designation satisfy this component.

Arts (3 credits)
Courses with the GA designation satisfy this component.

Humanities (3 credits)
Courses with the GH designation satisfy this component.

Social and Behavioral Sciences (3 credits)
Courses with the GS designation satisfy this component.

SKILLS OR KNOWLEDGE DOMAINS (3 credits)

Any General Education course can be taken to satisfy these 3 credits.

ADDITIONAL REQUIREMENTS

Every associate degree student will also complete, as part of his or her additional associate degree requirements, 3 credits of United States Cultures (US) or 3 credits of International Cultures (IL) and 3 credits of Writing Across the Curriculum (M, W, Y, and X) requirements.

Flexibility of the Associate Degree General Education Requirements

The General Education program extends the concept of flexibility to all aspects of the degree program. Penn State wants students to use General Education as an opportunity to experiment and explore, to take academic risks, to discover things they did not know before, and to learn to do things they have not done before.

To these ends, students may, with the permission of their adviser and dean's representative:

1. substitute a 200- to 499-level course for an Arts, Humanities, Natural Sciences, or Social and Behavioral Sciences course found on the General Education list. For example, a student may take a 400-level course in history and use it to meet the General Education requirement satisfied by a comparable lower level history course.
2. meet the United States Cultures (US) and International Cultures (IL) requirement through completion of an experiential learning program or practicum (one-semester or year long) approved by their college dean's office. Approved Penn State Education Abroad Programs may be used to satisfy the International Cultures (IL) requirement.
3. Three credits of the required 21 credits of General Education courses are to be selected from any of the following General Education areas: Writing/Speaking, Quantification, Natural Sciences, Arts, Humanities, or Social and Behavioral Sciences.

General Education Course Designations

Courses that appear in this Bulletin with the following designations have been approved for General Education and for additional requirements.

General Education Skills Courses

- GQ--Quantification Courses
- GWS--Writing/Speaking Courses

General Education Knowledge Domains Courses

- GA--Arts Courses
- GH--Humanities Courses
- GHA--Health and Physical Activity Courses
- GN--Natural Sciences Courses
- GS--Social and Behavioral Sciences Courses

ADDITIONAL REQUIREMENTS

United States Cultures and International Cultures Courses

- IL--International Cultures Courses
- US--United States Cultures Courses
- US; IL--United States Cultures and International Cultures Courses
- U--United States Cultures and/or International Cultures and Honors
- Y-- United States Cultures and/or International Cultures and Writing Across the Curriculum

First-Year Seminar

- PSU--First-Year Seminar
- S--First-Year Seminar
- T--First-Year Seminar, Honors
- X--Writing Across the Curriculum in a First-Year Seminar

Writing Across the Curriculum

- M--Writing Across the Curriculum, Honors
- W--Writing Across the Curriculum
- X--Writing Across the Curriculum in a First-Year Seminar
- Y-- United States Cultures and/or International Cultures and Writing Across the Curriculum

Honors Course in Any Category

- H--Honors

THE BACCALAUREATE DEGREE GENERAL EDUCATION PROGRAM

The baccalaureate degree General Education program consists of 45 credits that are distributed among two General Education components:

1. (1) Skills (15 credits) and
2. (2) Knowledge Domains (30 credits) in the Natural Sciences, Arts, Humanities, Social and Behavioral Sciences, and Health and Physical Activity. Every baccalaureate degree student also completes the First-Year Seminar, United States Cultures and International Cultures, and Writing Across the Curriculum requirements.

A restriction is placed on students in majors that are closely linked to the Knowledge Domains of Natural Sciences, Arts, Humanities, and Social and Behavioral Sciences to ensure that they participate in the full breadth of General Education. These students may not use a course in their academic major to satisfy one of the Knowledge Domains requirements. For example, an Economics major may not use an economics course to fulfill his/her social and behavioral sciences requirement. Also, students may not count courses cross-listed with courses in their major to fulfill one of the General Education Knowledge Domain, e.g., a Theatre major may not register for THEA 208 (GA;US;IL) / AAAS 208 (GA;US;IL) and have it count in the Arts requirement.

BACCALAUREATE DEGREE REQUIREMENTS GENERAL EDUCATION

SKILLS	**credits**
Writing/Speaking (GWS)	9 credits
Quantification (GQ)	6 credits
total	15 credits

KNOWLEDGE DOMAINS	**credits**
Health and Physical Activity (GHA)	3 credits
Natural Sciences (GN)	9 credits
Arts (GA)	6 credits
Humanities (GH)	6 credits
Social and Behavioral Sciences (GS)	6 credits
total	30 credits

ADDITIONAL REQUIREMENTS	**credits**
First-Year Seminar (S, T, X or PSU)*	credits vary
United States Cultures (US)	3 credits**
International Cultures (IL)	3 credits**

Writing Across the Curriculum (W, M, X,Y)	3 credits**

*NOTE: Beginning with the 2009 summer session, the First-Year Seminar requirement will be replaced by First-Year Engagement requirements for each University Park academic college, each of the nineteen Commonwealth campuses, and the Division of Undergraduate Studies. Students at the University Park campus will be required to complete at least 1 credit of first-year seminar and meet any other first-year requirements specified by their home college. Students at the Commonwealth campuses will be required to complete the first-year experiences specified by their campus. First-year students entering Penn State in summer 2009 and thereafter should consult their enrollment home for these requirements.

**May be completed by designated courses that also meet other degree or General Education requirements.

Flexibility of the Baccalaureate Degree General Education Requirements

Penn State wants students to use General Education to experiment and explore, to take academic risks, to discover things they did not know before, and to learn to do things they have not done before. To that end, the General Education program extends the concept of flexibility to all aspects of the degree program.

Students may, with the permission of their adviser and dean's representative:

1. Substitute a 200- to 499-level course in an area of General Education for a course found on the General Education list. For example, a student may take a 400-level course in history and use it to meet the General Education requirement satisfied by a comparable lower- level history course.
2. Substitute a foreign language at the twelfth credit level of proficiency, as measured by the Penn State foreign language offerings, for 3 credits in any of the categories of General Education. Baccalaureate degree students may substitute study in a foreign/second language at the twelfth credit level of proficiency or higher for any three credits in any of the categories of general education only if those three credits are in language study beyond their degree requirements.*
3. Substitute a third course in one of the Knowledge Domains areas of Arts, Humanities, or Social and Behavioral Sciences for a second course in one of the other areas. For example, a student might take 3 courses in the Arts, two courses in the Humanities, and only one course in the Social and Behavioral Sciences. This substitution is often referred to as the 9-6-3 sequence, representing the 9 credits, 6 credits, and 3 credits completed in place of the specified 6-6-6.*
4. Meet the United States Cultures (US) and International Cultures (IL) requirement through completion of an experiential learning program or practicum (one-semester or year long) approved by their College Dean's

Office. Approved Penn State Education Abroad Programs may be used to satisfy the International Cultures (IL) requirement.

5. Meet the First-Year Seminar (FYS) requirement through completion of a FYS course offered by any unit of the University. Thus, a student who successfully completes a FYS course in one college, prior to transferring to another college, will not be required to complete another FYS. However, since there are various modes of offering a FYS throughout the University, students transferring to a new college may find that a required course that is also a FYS must still be taken.

*The use of these two substitutions (No. 2 and No. 3 above), either alone or in combination, may not lead to the complete elimination of any area in the skills or knowledge domains categories in the student's general education program.

THE ASSOCIATE DEGREE GENERAL EDUCATION PROGRAM

The associate degree General Education program consists of 21 credits that are distributed among two General Education components:

1. (1) Skills: 6 credits in courses that develop communicative and quantitative skills; and
2. (2) Knowledge Domains: 12 credits in the Natural Sciences, Arts, Humanities, and Social and Behavioral Sciences, with an additional 3 credits in any General Education area.

Associate degree students have a 3-credit requirement and may choose either a United States Cultures (US) course or an International Cultures (IL) course, and must complete a 3-credit writing intensive course (W). While associate degree students are not required to complete a First-Year Seminar, they are encouraged to participate in such a seminar if the opportunity to do so exists.

A restriction is placed on students in majors that are closely linked to the Knowledge Domains areas of Natural Sciences, Arts, Humanities, and Social and Behavioral Sciences, in order to ensure that they participate in the full breadth of General Education. These students may not use a course in their academic major to satisfy one of the Knowledge Domains area requirements. For example, an Economics major may not use an economics course to fulfill his/her social and behavioral sciences requirement.

ASSOCIATE DEGREE REQUIREMENTS GENERAL EDUCATION

SKILLS	**credits**
Writing/Speaking (GWS)	3 credits
Quantification (GQ)	3 credits
total	6 credits

KNOWLEDGE DOMAINS	**credits**
Natural Sciences (GN)	3 credits
Arts (GA)	3 credits
Humanities (GH)	3 credits
Social and Behavioral Sciences (GS)	3 credits
total	12 credits

SKILL OR KNOWLEDGE DOMAINS	**credits**
Any General Education course can be taken to satisfy these 3 credits	3 credits

ADDITIONAL REQUIREMENTS	credits
United States Cultures (US)	3 credits*
Writing Across the Curriculum (W, M, X,Y)	3 credits*
total	6 credits

* May be completed by designated courses that also meet other degree or General Education requirements.

Flexibility of the Associate Degree General Education Requirements

The General Education program extends the concept of flexibility to all aspects of the degree program. Penn State wants students to use General Education as an opportunity to experiment and explore, to take academic risks, to discover things they did not know before, and to learn to do things they have not done before.

To these ends, students may, with the permission of their adviser and dean's representative:

1. Substitute a 200- to 499-level course for an Arts, Humanities, Natural Sciences, or Social and Behavioral Sciences course found on the General Education list. For example, a student may take a 400-level course in history and use it to meet the General Education requirement satisfied by a comparable lower level history course.
2. Meet the United States Cultures (US) and International Cultures (IL) requirement through completion of an experiential learning program or practicum (one-semester or year long) approved by their college dean's Office. Approved Penn State Education Abroad Programs may be used to satisfy the International Cultures (IL) requirement.
3. Three credits of the required 21 credits of General Education courses are to be selected from any of the following General Education areas: Writing/Speaking, Quantification, Natural Sciences, Arts, Humanities, or Social and Behavioral Sciences.

Writing/Speaking

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

A S M 391 (B E 391) (GWS)
Contextual Integration of Communication Skills for the Technical Workplace (2) To develop corporate communication skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: Junior level standing in B E or A S M

A S M 392 (B E 392) (GWS)
Contextual Integration of Leadership Skills for the Technical Workplace (2) To develop corporate leadership skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: A S M 391 junior level standing in B E or A S M

B E 391 (A S M 391) (GWS)
Contextual Integration of Communication Skills for the Technical Workplace (2) To develop corporate communication skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: Junior level standing in B E or A S M

B E 392 (A S M 392) (GWS)
Contextual Integration of Leadership Skills for the Technical Workplace (2) To develop corporate leadership skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: B E 391 junior level standing in B E or A S M

CAS 100 (GWS)
Effective Speech (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.
Effective: Fall 2003

CAS 100A (GWS)
Effective Speech (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.
Effective: Fall 2003

CAS 100B (GWS)
Effective Speech (3) Principles of communication, implemented through group problem solving, with some attention to formal speaking and message evaluation.
Effective: Fall 2003

CAS 100C (GWS)
Effective Speech (3) Principles of communication, implemented through analysis and evaluation of messages, with some attention to formal speaking and group discussion.
Effective: Fall 2003

CAS 100H (GWS)
Effective Speech (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAS 100H (GWS)
Effective Speech (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CAS 100S (GWS)
Effective Speech (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.
Effective: Fall 2003

EM SC 100S (GWS)
Earth and Mineral Sciences First-Year Seminar (3) Writing, speaking, and critical thinking skills applied to topics of general interest in Environmental and Materials Science.
Effective: Spring 2001

ENGL 015 (GWS)
Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Fall 1991
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 015A (GWS;US)
Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Summer 2005
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 015H (GWS)
Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 015S (GWS)
Rhetoric and Composition (3) Instruction and practice in writing expository prose

that shows sensitivity to audience and purpose.
Effective: Summer 1999
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 030 (GWS)
Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Fall 1991

ENGL 030H (GWS)
Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 030S (GWS)
Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Spring 2003

ENGL 030T (GWS)
Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Spring 2003

ENGL 202A (GWS)
Effective Writing: Writing in the Social Sciences (3) Instruction in writing persuasive arguments about significant issues in the social sciences. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 or ENGL 030 ; fourth-semester standing

ENGL 202B (GWS)
Effective Writing: Writing in the Humanities (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 or ENGL 030 ; fourth-semester standing

ENGL 202C (GWS)
Effective Writing: Technical Writing (3) Writing for students in scientific and technical disciplines. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 or ENGL 030 ; fourth-semester standing

ENGL 202D (GWS)

Effective Writing: Business Writing (3) Writing reports and other common forms of business communication. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 or ENGL 030 ; fourth-semester standing

ENGL 202H (GWS)
Honors Writing in the Humanities (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030 ; fourth-semester standing

ENGL 202H (GWS)
Honors Writing in the Humanities (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: ENGL 015 or ENGL 030 ; fourth-semester standing

ESL 015 (GWS)
ESL/Composition for American Academic Communication II (3) For intermediate/advanced level non-native speakers of English to develop strategies for reading and writing American academic discourse.
Effective: Fall 2001
Prerequisite: a grade of C or higher required in ESL 004

L A 101H (GWS)
Honors Rhetoric and Civic Life (4) Within a liberal arts framework and with attention to public discourse-- speaking, writing, online communication, and visual presentation--this course instructs students in the arts, practices, and principles of rhetoric.
Effective: Fall 2009

Quantification

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

CMPSC 101 (GQ)
Introduction to C++ Programming (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.
Effective: Spring 2008
Prerequisite: 2 entrance units in mathematics

CMPSC 101S (GQ)
Introduction to C++ Programming (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 2 entrance units in mathematics

CMPSC 121 (GQ)
Introduction to Programming Techniques (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.
Effective: Summer 2008 Ending: Summer 2010
Prerequisite: 2 entrance units in mathematics

CMPSC 121 (GQ)
Introduction to Programming Techniques (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 or prerequisite or concurrent MATH 140

CMPSC 121H (GQ)
Introduction to Programming Techniques (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: MATH 110 or prerequisite or concurrent MATH 140

CMPSC 200 (GQ)
Programming for Engineers with MATLAB (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Spring 2008
Prerequisite: MATH 140

CMPSC 201 (GQ)
Programming for Engineers with C++ (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Spring 2008
Prerequisite: MATH 140

CMPSC 201S (GQ)
Programming for Engineers with C++ (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: MATH 140

CMPSC 202 (GQ)
Programming for Engineers with FORTRAN (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Spring 2008
Prerequisite: MATH 140

CMPSC 203 (GQ)
Introduction to Spreadsheets and Databases (4) Design, use, and programming of spreadsheets and data bases with applications from a range of disciplines.
Effective: Spring 2008
Prerequisite: 2 entrance units in mathematics

CRIMJ 260 (GQ)
Statistical Analysis for the Social Sciences (3) Methods of collection, presentation, and analysis of quantitative data in the social science; procedures, interpretation, and application.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 2 units of High School Algebra and CRIMJ 100 or permission of the program

EDPSY 101 (GQ)
Analysis and Interpretation of Statistical Data in Education (3) An introduction to quantitative methods in educational research emphasizing the interpretation of frequently encountered statistical procedures.
Effective: Summer 1990

MATH 017 (GQ)
Finite Mathematics (3) Introduction to logic, sets, probability.
Effective: Summer 1988
Prerequisite: 2 units of high school mathematics

MATH 018 (GQ)

Elementary Linear Algebra (3) Linear functions; systems of equations; matrices; linear programming.
Effective: Fall 1999
Prerequisite: 2 units of high school mathematics

MATH 021 (GQ)
College Algebra I (3) Quadratic equations; equations in quadratic form; word problems; graphing; algebraic fractions; negative and rational exponents; radicals.
Effective: Summer 2009
Prerequisite: MATH 004 or satisfactory performance on the mathematics FTCAP examination

MATH 022 (GQ)
College Algebra II and Analytic Geometry (3) Relations, functions, graphs; polynomial, rational functions, graphs; word problems; nonlinear inequalities; inverse functions; exponential, logarithmic functions; conic sections; simultaneous equations.
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination

MATH 026 (GQ)
Plane Trigonometry (3) Trigonometric functions; solutions of triangles; trigonometric equations; identities.
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination; l unit of geometry

MATH 030 (GQ)
Problem Solving (3) Concepts in problem solving; reducing new problems to old ones; techniques for attacking problems; building mathematical models.
Effective: Spring 1994

MATH 034 (GQ)
The Mathematics of Money (3) Simple interest, simple discount, compound interest, annuities, investments, retirement plans, taxes, credit cards, and mortgages.
Effective: Summer 2009
Prerequisite: one unit of algebra or MATH 004

MATH 035 (GQ)
General View of Mathematics (3) Survey of mathematical thought in logic, geometry, combinatorics, and chance.
Effective: Summer 1992

MATH 036 (GQ)
Insights Into Mathematics (3) Examples of mathematical applications in many areas including voting theory, fair division, apportionment, and Euler and Hamilton circuits.
Effective: Fall 2008
Prerequisite: one unit of algebra or MATH 004

MATH 040 GQ covers all the topics in MATH 004, 021 GQ, 022 GQ, and 026 GQ in one semester, MATH 041 GQ covers the same topics in trigonometry and analytic geometry as MATH 040 GQ. These courses are designed to prepare students for MATH 140 GQ. Students are placed in the appropriate course depending upon the results of the mathematics FTCAP examinations.

MATH 040 (GQ)
Algebra, Trigonometry, and Analytic Geometry (5) Concepts of algebra; equations; inequalities; functions; graphs; polynomial and rational functions; exponential and logarithmic functions; trigonometry; analytic geometry; complex numbers.
Effective: Summer 2009
Prerequisite: satisfactory performance on the mathematics FTCAP examination

MATH 041 (GQ)
Trigonometry and Analytic Geometry (3) Straight lines; circles; functions and graphs; graphs of polynomial and rational functions; exponential and logarithmic functions; trigonometry; conic sections.
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination

MATH 081 (GQ)
Technical Mathematics I (3) Algebraic expressions, equations, systems of equations, trigonometric functions, graphs, solution of triangles, vectors.
Effective: Summer 2009
Prerequisite: MATH 004 or satisfactory performance on the mathematics FTCAP examination

MATH 082 (GQ)
Technical Mathematics II (3) Exponents, radicals, complex numbers, theory of equations, inequalities, half angle and double angle formulas, inverse trigonometric functions, exponential, logarithm, conic sections.
Effective: Summer 1995
Prerequisite: MATH 081

MATH 083 (GQ)
Technical Calculus (4) Limits, derivatives of algebraic functions, implicit differentiation, related rates, applied extrema problems, curve sketching, integration, numerical integration, applications of integration, integration techniques, differential equations.
Effective: Summer 1995
Prerequisite: MATH 082

MATH 110 GQ and MATH 140 GQ, 141 GQ are two sequences that discuss differential and intergral calculus. They differ in the areas where calculus is applied. The MATH 110 GQ, 111 GQ sequence includes applications from business: the engineering sciences. A student who wants to change from one sequence to another should consult with the chair of the mathematics department.

MATH 110 (GQ)
Techniques of Calculus I (4) Functions, graphs, derivatives, integrals, techniques of differentiation and integration, exponentials, improper integrals, applications. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022 or satisfactory performance on the mathematics FTCAP examination

MATH 111 (GQ)
Techniques of Calculus II (2) Analytic geometry, partial differentiation, maxima and minima, differential equations.
Effective: Summer 1988
Prerequisite: MATH 110

MATH 140 (GQ)
Calculus With Analytic Geometry I (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, 140B, and 140H.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 140A (GQ)
Calculus, Analytic Geometry, Algebra, and Trigonometry (6) Review of algebra and trigonometry; analytic geometry; functions; limits; derivatives, differentials, applications; integrals, applications. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: satisfactory performance on the mathematics FTCAP examination

MATH 140B (GQ)
Calculus and Biology I (4) Functions, limits, analytic geometry; derivatives, differentials, applications from biology; integrals, applications from biology. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance on mathematics FTCAP examination

MATH 140E (GQ)
Calculus with Engineering Applications I (4) Functions; limits; analytic geometry; derivatives; differentials, applications; integrals, applications.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance in the mathematics FTCAP examination

MATH 140G (GQ)
Calculus with Earth and Mineral Sciences Applications I (4) Functions, limits, analytic geometry; derivatives, differentials, applications from the earth and mineral sciences; integrals, applications from the earth and mineral sciences.

Students may only take one course for credit from MATH 110, 140, 140A, 140B, 140E, and 140G.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 140H (GQ)
Honors Calculus with Analytic Geometry I (4) Honors course in functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, 140B, and 140H.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 140S (GQ)
Calculus With Analytic Geometry I (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 141 (GQ)
Calculus with Analytic Geometry II (4) Derivatives, integrals, applications; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, and 141H.
Effective: Spring 1996
Prerequisite: MATH 140 MATH 140A MATH 140B or MATH 140H

MATH 141B (GQ)
Calculus and Biology II (4) Derivatives, integrals, applications from biology; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141 and 141B.
Effective: Spring 1996
Prerequisite: MATH 140B

MATH 141E (GQ)
Calculus with Engineering Applications II (4) Integration, applications; sequences and series; parametric equations, application.
Effective: Fall 2001
Prerequisite: MATH 140 MATH 140A MATH 140B or MATH 140E

MATH 141G (GQ)
Calculus with Earth and Mineral Sciences Applications II (4) Derivatives, integrals, applications from the earth and mineral sciences; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, 141E, and 141G.
Effective: Summer 2005
Prerequisite: MATH 140 MATH 140A MATH 140B MATH 140E or MATH 140G

MATH 141H (GQ)
Honors Calculus with Analytic Geometry II (4) Honors course in derivatives, integrals, applications; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, and 141H.
Effective: Summer 2006
Prerequisite: MATH 140 MATH 140A MATH 140B or MATH 140H

MATH 200 (GQ)
Problem Solving in Mathematics (3) Fundamental concepts of arithmetic and geometry, including problem solving, number systems, and elementary number theory. For elementary and special education teacher certification candidates only. A student who has passed EDMTH 444 may not take MATH 200 for credit.
Effective: Summer 2009

MATH 220 (GQ)
Matrices (2-3) Systems of linear equations; matrix algebra; eigenvalues and eigenvectors; linear systems of differential equations.
Effective: Spring 2009
Prerequisite: MATH 110 MATH 140 or MATH 140H

MATH 220H (GQ)
Honors Matrices (2-3) Honors course in systems of linear equations; matrix algebra; eigenvalues and eigenvectors; linear systems of differential equations.
Effective: Spring 2009
Prerequisite: MATH 110 MATH 140 or MATH 140H

PHIL 012 (GQ)
Symbolic Logic (3) Formal logical structures of propositions and arguments; mechanical tests and proof techniques for logically necessary truth and deductive validity.
Effective: Fall 1998

PHIL 212 (GQ)
Symbolic Logic (3) The logic of propositions, relations, and quantification; the nature and properties of formal systems. Intended primarily for science-oriented students.
Effective: Summer 1988

PSYCH 200 (GQ)
Elementary Statistics in Psychology (4) Frequency distributions and graphs; measures of central tendency and variability; normal probability curve; elementary sampling and reliability; correlations; simple regression equations.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: PSYCH 100 ; MATH 021

SCM 200 (GQ)
Introduction to Statistics for Business (4) Introduction to business statistics including topics in probability theory, sampling, inference, quality assurance, regression, forecasting, and simulation.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MATH 018 MATH 110 or MATH 140

SCM 200 (GQ)
Introduction to Statistics for Business (4) Topics include descriptive statistics, probability distributions, statistical inference, regression and correlation, and forecasting.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 021 or higher or satisfactory score on the matematics FTCAP examination

SCM 200H (GQ)
Honors Introduction to Statistics for Business (4) Introduction to business statistics including topics in probability theory, sampling, inference, quality assurance, regression, forecasting, and simulation.
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: MATH 018 MATH 110 or MATH 140

SCM 200H (GQ)
Honors Introduction to Statistics for Business (4) Topics include descriptive statistics, probability distributions, statistical inference, regression and correlation, and forecasting.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

STAT 100 (GQ)
Statistical Concepts and Reasoning (3) Introduction to the art and science of decision making in the presence of uncertainty.
Effective: Summer 1988

STAT 100S (GQ)
Statistical Concepts and Reasoning (3) Introduction to the art and science of decision making in the presence of uncertainty.
Effective: Summer 1999

STAT 200 (GQ)
Elementary Statistics (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.
Effective: Summer 1988
Prerequisite: 2 units in algebra

STAT 200H (GQ)
Elementary Statistics (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 2 units in algebra

STAT 240 (GQ)
Introduction to Biometry (3) Statistical analysis, sampling, and experimentation in the agricultural sciences; data collection, descriptive statistics, statistical

inference, regression, one factor AOV, probability. Students may take only one course from STAT 200, 220, 240, 250 for credit.
Effective: Spring 2005
Prerequisite: 3 credits in mathematics

STAT 250 (GQ)
Introduction to Biostatistics (3) Statistical analysis and interpretation of data in the biological sciences; probability; distributions; statistical inference for one- and two-sample problems.
Effective: Spring 2001
Prerequisite: 3 credits in mathematics

STAT 301 (GQ)
Statistical Analysis I (3) Probability concepts; nature of statistical methods; elementary distribution and sampling theory; fundamental ideas relative to estimation and testing hypotheses.
Effective: Summer 1988
Prerequisite: 3 credits of calculus

Health and Physical Activity

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

BB H 048 (GHA)
Values and Health Behavior (1.5) Examination of issues that impact the social, emotional, and physical well-being of college students through a values and decision-making process.
Effective: Fall 2003

BB H 101 (GHA)
Introduction to Biobehavioral Health (3) Introduction to an interdisciplinary study of health, examining the interaction of biological processes and behavior on health.
Effective: Spring 2000

BB H 101H (GHA)
Introduction to Biobehavioral Health (3) Introduction to interdisciplinary study of health, examining the interaction of biological processes and behavior on health.
Effective: Summer 1998

BB H 119 (GHA)
Behavior, Health, and Disease (3) Principles of health promotion, disease prevention, and treatment of acute and chronic illness. This course is designed for non-BB H majors.
Effective: Spring 2002

BB H 143 (GHA)
Drugs, Behavior, and Health (3) Health aspects of use and abuse of licit and illicit drugs; related social problems and prevention. Designed for non-BB H majors.
Effective: Spring 2002

BB H 146 (GHA)
Introduction to Health and Human Sexuality (3) An examination of human sexuality as it relates to health.
Effective: Summer 2002

C E 254 (GHA;US)
Personal & Occupational Safety (3) Students will learn about principles of safety in work and personal settings.
Effective: Spring 2008

CSD 100 (GHA;US)
Preventing Vocal Abuse, Misuse, and Disorders (1.5) Principles of the voice mechanisms, preventing vocal abuse, and promoting vocal health across the life span.
Effective: Summer 2005

CSD 101 (GHA;US)

Preventing Hearing Loss (1.5) Assessment, intervention, and prevention of hearing loss caused by loud music and recreational and industrial noise.
Effective: Summer 2005

DANCE 270 (GHA)
Introduction to Bartenieff Fundamentals (3) Physical and theoretical approach to movement: facilitates efficiency, and expression through dynamic alignment, mobility, kinesthetic awareness; reduce physical injuries.
Effective: Spring 2003

FD SC 105 (S T S 105) (GHA)
Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Spring 2004

H P A 057 (GHA)
Consumer Choices in Health Care (3) Introduction to consumers' role in health-care decisions, including health benefits, physician and hospital choice, and end-of-life choices.
Effective: Spring 2004

KINES 001 (GHA)
Introduction to Outdoor Pursuits (1.5-3 per semester, maximum of 12) Introduction to selected outdoor pursuit activities, such as, but not limited to, rock climbing, cross country skiing, backpacking, hiking, orienteering.
Effective: Fall 2008

KINES 004 (GHA)
Principles of Fly Tying and Fly Fishing for Trout (1.5) A course designed to enhance student's knowledge, skill, and performance in fly tying and the sport of fly fishing for trout.
Effective: Fall 2001

KINES 006 (GHA)
Cycling (1.5) A course designed to give students an understanding of and the ability to establish an exercise program involving riding.
Effective: Summer 2003

KINES 008 (GHA)
Competition Casting (1.5) A course designed to enhance student's knowledge, skills, and performance in all forms of casting for sport fishing.
Effective: Fall 2001

KINES 010 (GHA)
Indoor Rock Climbing (1.5) A course designed to provide students with the basic skills, safety, and knowledge of rock climbing.
Effective: Summer 2003

KINES 010A (GHA)
Lead Rock Climbing (1.5) A course designed to provide students with skills, safety, and knowledge of lead rock climbing in a top rope environment.
Effective: Summer 2003

Prerequisite: KINES 010 or with permission of program

KINES 011 (GHA)
Basic Downhill Skiing (1) Students will gain a comprehensive understanding and basic level of proficiency in Downhill Skiing.
Effective: Summer 2004

KINES 011A (GHA)
Intermediate Downhill Skiing (1) Students will gain a comprehensive understanding and intermediate to advanced level of proficiency in Downhill Skiing.
Effective: Summer 2004

KINES 012 (GHA)
Snowboarding (1) Students will gain a comprehensive understanding and basic level of proficiency in Snowboarding.
Effective: Summer 2004

KINES 013 (GHA)
First Aid, Personal Safety, and CPR (1) A course designed to provide students with the opportunity for Red Cross certification in Community First Aid, Safety, and CPR.
Effective: Fall 2003

KINES 017 (GHA)
Ballroom Dance (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.
Effective: Summer 2003

KINES 017S (GHA)
Ballroom Dance (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.
Effective: Fall 2007

KINES 019 (GHA)
Jazz Dance (1.5) A course designed to teach the basic skills of jazz dance and develop a further appreciation of jazz dance.
Effective: Summer 2003

KINES 020 (GHA)
Modern Dance (1.5) A course designed to teach the basic skills of modern dance and to develop a further appreciation of modern dance.
Effective: Summer 2002

KINES 024 (GHA)
Introduction to Lifetime Sports (1.5) Students participate in lifetime sports such as archery, bowling, golf, and at least one racquet and/or winter sport.
Effective: Summer 2002

KINES 025 (GHA)
Introduction to Court Sports (1.5) A course designed to introduce students to various court sports such as tennis, racquetball, handball, squash, and/or

badminton.
Effective: Summer 1999

KINES 026 (GHA)
Archery/Indoor & Outdoor (1.5) Course designed to introduce students to Archery/Bowhunting.
Effective: Summer 2003

KINES 027 (GHA)
Badminton 1 (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.
Effective: Summer 2002

KINES 027S (GHA)
Badminton 1 (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 028 (GHA)
Fencing I (1.5) Kinesiology 028 is designed to give students knowledge of the rules, strategies and skills of the sport of Fencing.
Effective: Summer 2004

KINES 029 (GHA)
Golf I (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.
Effective: Summer 1999

KINES 029A (GHA)
Golf II (1.5) A course designed to provide a further understanding of and a more advanced proficiency in golf skills, rules and etiquette.
Effective: Summer 2004
Prerequisite: KINES 029 or equivalent

KINES 029S (GHA)
Golf I (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 041 (GHA)
Handball (1.5) A course designed to introduce students to a basic instructional course in the fundamentals of 4-wall handball.
Effective: Spring 2001

KINES 042 (GHA)
Ice Skating--Beginning (1.5) A course of instruction focused on the physical development and knowledge of basic ice skating skills.
Effective: Summer 2002

KINES 042A (GHA)
Ice Skating--Advanced Beginning (1.5) A course of instruction focused on the physical development and knowledge of basic ice skating skills.

Effective: Summer 2002
Prerequisite: KINES 042 or some experience with the activity

KINES 042B (GHA)
Ice Skating--Intermediate/Advanced (1.5) A course of instruction in basic figure skating: field moves, freestyle, choreography, pairs skating, and ice dance.
Effective: Summer 2002
Prerequisite: KINES 042 and/or KINES 042A or equivalent skating experience

KINES 043 (GHA)
Power Skating (1.5) A course of instruction in basic power skating specifically designed for ice hockey, applicable to other ice sports.
Effective: Summer 2002
Prerequisite: KINES 042 or KINES 042A or equivalent skating experience

KINES 044 (GHA)
Racquetball I (1-1.5) The course promotes health, fitness, and enjoyment of the game of racquetball.
Effective: Spring 2001

KINES 045 (GHA)
NAUI Basic Scuba (1.5) A course to introduce students to the fundamentals of Scuba diving.
Effective: Summer 2002
Prerequisite: meet NAUI standards and/or by permission of the instructor

KINES 046 (GHA)
Squash I (1-1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of squash.
Effective: Spring 2001

KINES 047 (GHA)
Beginning Swimming (1.5) A course designed to give students skills and knowledge necessary to be safe in shallow and deep water.
Effective: Summer 2002

KINES 047A (GHA)
Advanced Beginner Swimming (1.5) A course designed to give students skills and knowledge necessary to be safe in shallow and deep water.
Effective: Summer 2002
Prerequisite: students should be comfortable in shallow and deep water and be moderately proficient in front crawl elementary backstroke sidestroke and breaststroke

KINES 047B (GHA)
Intermediate Swimming (1.5) A course designed to teach students a variety of swimming strokes and increase their knowledge of fitness using aquatic activities.
Effective: Summer 2002
Prerequisite: KINES 047A or equivalent skills; students should be safe in deep water and have proficiency in the front crawl elementary backstroke sidestroke and breaststroke

KINES 048 (GHA)
Tennis I (1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of tennis.
Effective: Spring 2001

KINES 048A (GHA)
Tennis II (1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of tennis.
Effective: Summer 2004
Prerequisite: KINES 048 or for students who demonstrate reasonable consistency in depth and placement of ground strokes and the serve and who have not had instruction at Penn State.

KINES 054 (GHA)
Aikido (1.5) Students will gain a comprehensive understanding and basic level of proficiency in the Japanese Traditional martial art of Aikido.
Effective: Summer 2003

KINES 056 (GHA)
Introduction to Martial Arts (1.5) A course designed to give students an introduction to martial arts, and the use of martial arts for lifelong fitness.
Effective: Summer 2002

KINES 057 (GHA)
Personal Defense (1.5) A course designed to give students an understanding of and a proficiency in martial arts and self-defense.
Effective: Summer 2004

KINES 058 (GHA)
Judo I (1.5) Kinesiology 058 will help students develop stamina, confidence and discipline, and promote general fitness through the introduction to basic Judo.
Effective: Summer 2003

KINES 059 (GHA)
Introduction to Karate (1.5) A course designed to give students an understanding of and a proficiency in Karate.
Effective: Summer 2003

KINES 061 (GHA)
Fitness Theory and Practice (3) Students will learn about the science of fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.
Effective: Spring 2001

KINES 061S (GHA)
Fitness Theory and Practice (3) Students will learn about the science of fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.
Effective: Summer 2005

KINES 062 (GHA)
Introduction to Cardiovascular Activities (1.5) A course designed to give

students an introduction to various types of cardiovascular training.
Effective: Summer 2002

KINES 063 (GHA)
Aerobic Dance (1.5) A course designed to involve students in daily aerobic activity while teaching the fundamentals of overall health and well-being.
Effective: Summer 2002

KINES 065 (GHA)
Jogging (1.5) A course designed to give students an understanding of and the ability to establish an exercise program involving jogging.
Effective: Summer 2003

KINES 067 (GHA)
Physical Conditioning (1.5) A course designed to give students an experience with an understanding of vigorous physical training.
Effective: Spring 2001

KINES 067S (GHA)
Physical Conditioning (1.5) A course designed to give students an experience with an understanding of vigorous physical training.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 068 (GHA)
Strength Training (1.5) Designed to improve students' muscular strength/endurance, teaches students how to develop an effective personal strength/endurance training program for lifelong fitness.
Effective: Summer 2002

KINES 070 (GHA)
Swim Conditioning (1.5) A course designed to provide students an understanding of and proficiency in swimming conditioning.
Effective: Summer 2002
Prerequisite: KINES 047A

KINES 071 (GHA)
Triathlete Training (1.5) A course designed to give students a foundation for skills in cross-training: swimming, cycling, and running.
Effective: Summer 2003

KINES 072 (GHA)
Fitness Walking (1-1.5) A course designed to give students an understanding of and a proficiency in fitness walking.
Effective: Spring 2001

KINES 076 (GHA)
Introduction to Tai Chi Ch'uan (1.5) A course designed to introduce students to Tai Chi Ch'uan, a traditional Chinese system of personal cultivation and self-defense.
Effective: Summer 2004

KINES 077 (GHA)

Yoga 1 (1.5) A course designed to give students an understanding of and proficiency in yoga.
Effective: Summer 2002

KINES 077A (GHA)
Advanced Yoga (1.5) A course designed to expand on a student's fundamental understanding of and proficiency in yoga.
Effective: Summer 2003
Prerequisite: KINES 077

KINES 077S (GHA)
Yoga 1 (1.5) A course designed to give students an understanding of and proficiency in yoga.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 081 (GHA)
Wellness Theory (3) Focused on preparing and engaging students in the attitudes and behaviors that enhance quality of life and maximize personal potential.
Effective: Summer 2002

KINES 082 (GHA)
Action Methods for Stress Management (3) Achieving wellness by studying the effects of stressors on systems of the body and effectiveness of activity to relieve stress.
Effective: Summer 2002

KINES 083 (GHA)
Exercise for Stress Management (1.5) A course designed to identify the factors that contribute to student stress and develop strategies that will manage these factors. Students who receive credit for KINES 083 will not receive credit for KINES 082.
Effective: Summer 2002

KINES 084 (GHA)
Fitness for Life (1.5-2) A course designed to give students an understanding of the fundamental principles of physical fitness. Students who receive credit for KINES 084 shall not receive credit for either KINES 061 or 081.
Effective: Summer 1999

KINES 088 (GHA)
Varsity Sport Experience (2) A course designed to promote an active and healthful lifestyle through participation in a varsity sport sanctioned by Penn State.
Effective: Summer 2004

KINES 089 (GHA)
Student Wilderness Experience (3) Incoming student wilderness experience. Backpacking and one additional adventure: rock climbing, high ropes course/canoeing. One-day of community service.
Effective: Summer 2003

KINES 090 (GHA)

Introduction to Team Sports/Indoor (1-1.5) A course designed to introduce students to indoor team sports.
Effective: Spring 2001

KINES 090A (GHA)
Introduction to Team Sports/Indoor - Volleyball (1.5 per semester/maximum of 99) A course designed to introduce students to the team sport of volleyball.
Effective: Spring 2004

KINES 090B (GHA)
Introduction to Team Sports/Indoor - Basketball (1.5 per semester/maximum of 99) A course designed to introduce students to the team sport of basketball.
Effective: Spring 2004

KINES 090C (GHA)
Introduction to Team Sports/Indoor - Team Handball (1.5 per semester/maximum of 99) A course designed to introduce students to the sport of team handball.
Effective: Spring 2004

KINES 091A (GHA)
Introduction to Team Sports/Outdoor - Soccer (1.5 per semester) A course designed to introduce students to the outdoor team sport of Soccer.
Effective: Summer 2004

KINES 091B (GHA)
Introduction to Team Sports/Outdoor - Speedball (1.5 per semester) A course designed to introduce students to the outdoor team sport of Speedball.
Effective: Summer 2004

KINES 091C (GHA)
Introduction to Team Sports/Outdoor - Rugby (1.5 per semester) A course designed to introduce students to the outdoor team sport of Rugby.
Effective: Summer 2004

KINES 091D (GHA)
Introduction to Team Sports/Outdoor-Ultimate Frisbee (1.5 per semester) A course designed to introduce students to the outdoor team sport of Ultimate Frisbee.
Effective: Summer 2004

KINES 092 (GHA)
Adaptive Physical Education (1.5) A course designed to give students with medically defined disabilities an opportunity to maximize their physical potential through individualized programs.
Effective: Summer 2003

KINES 093 (GHA)
Masters Activity (Sport) (1.5 per semester/maximum of 12) A course that introduces students to movement subcultures by providing the knowledge, habits, and skills for activity across the lifespan.
Effective: Spring 2003

Prerequisite: successful completion of relevant activity course or permission of the instructor

KINES 096 (GHA)
Independent Study in Physical Activity (.5-3 per semester) This course is designed to meet the needs of students to expand Kinesiology experiences beyond the designed course curriculum.
Effective: Spring 2006

KINES 303 (GHA)
Emergency Care - First Aid/Safety/AED (3) Develop skills for First Responder Certification in CPR/AED, First Aid and Safety by American Red Cross or National Safety Council.
Effective: Fall 2003

NURS 203 (GHA)
First Aid and CPR (3) An introductory first aid course designed to provide the basic knowledge and skills to provide assistance to someone injured/ill.
Effective: Fall 2008

NUTR 100 (GHA)
Contemporary Nutrition Concerns (1.5) Interpretation of nutrition principles in relation to contemporary problems in selecting a diet to promote a healthy lifestyle. Students who have received credit for NUTR 151 or NUTR 251 may not schedule this course.
Effective: Spring 2004

NUTR 251 (GHA)
Introductory Principles of Nutrition (3) The nutrients: food sources and physiological functions as related to human growth and well-being throughout life; current nutrition issues. Students who have passed NUTR 151 may not schedule this course.
Effective: Spring 2004

S T S 105 (FD SC 105) (GHA)
Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Spring 2004

S T S 105S (GHA)
First-Year Seminar - Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Fall 2003

Natural Sciences

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

AAA S 105 (EARTH 105) (GN;IL)
Environments of Africa: Geology and Climate Change (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, natural resources.
Effective: Summer 2005

AERSP 055 (S T S 055) (GN)
Space Science and Technology (3) The science and technology of space exploration and exploitation; physical principles; research and development; history, space policy, and social implications.
Effective: Spring 1994

AGECO 121 (GN)
Plant Stress: It's Not Easy Being Green (3) The many hazards faced by plants and the dynamic ways that plants respond to these problems are examined.
Effective: Spring 2005

AGECO 122 (METEO 122) (GN)
Atmospheric Environment: Growing in the Wind (3) Dynamic effects of weather on ecosystems and habitation of Earth.
Effective: Summer 2006

AGECO 134 (R SOC 134) (GN)
Sustainable Agriculture Science and Policy (3) The science, socio-economics, and politics of managing food and fiber production systems. Sustainability implications of current practices and future options.
Effective: Spring 2007

AGECO 144 (GN)
Principles and Practices of Organic Agriculture (3) An introduction to the science, principles and practices of organic agricultural systems for food production.
Effective: Spring 2010

AN SC 300 (GN)
Integrated Animal Biology (3) An integrated study of the biology of domestic animal growth and the underlying cellular, endocrine and immune systems involved.
Effective: Spring 1998
Prerequisite: BIOL 011 and BIOL 012 or BIOL 110 ; at least third-semester standing

ANTH 021 (GN)
Introductory Biological Anthropology (3) The role of human biology and evolution in culture, society, and behavior.

Effective: Spring 2001

ANTH 022 (GN)
Humans as Primates (3) The biological basis of human behavior within the context of primate biology, behavior, and evolution.
Effective: Spring 2009

ASTRO 001 (GN)
Astronomical Universe (3) The development of modern understanding of the astronomical universe from planets and stars to galaxies and cosmology. Student who have passed ASTRO 005, ASTRO 006, or ASTRO 010 may not take this course for credit.
Effective: Fall 2009

ASTRO 001H (GN)
Astronomical Universe (3) The development of modern understanding of the astronomical universe from planets and stars to galaxies and cosmology. Students who have passed ASTRO 005, ASTRO 006, or ASTRO 010 may not take this course for credit.
Effective: Fall 2009

ASTRO 005 (GN)
The Sky and Planets (3) The development of our modern understanding of the visible sky and planetary systems. Students who have passed ASTRO 001 or ASTRO 010 may not take this course for credit.
Effective: Summer 2008
Prerequisite: Students who have passed ASTRO 001 or ASTRO 010 may not take this course.

ASTRO 006 (GN)
Stars, Galaxies, and the Universe (3) The development of our modern understanding of stars, galaxies, and the astronomical universe. Students who have passed ASTRO 001 or ASTRO 010 may not take this course for credit.
Effective: Summer 2008
Prerequisite: Students who have passed ASTRO 001 and ASTRO 010 may not take this course.

ASTRO 010 (GN)
Elementary Astronomy (2) Introductory survey of modern astronomy from planets and stars to galaxies and the universe. Students who have passed ASTRO 001, ASTRO 005, or ASTRO 006 may not take this course for credit. Students may not receive General Education credit for ASTRO 010 unless they also take ASTRO 011.
Effective: Fall 2009

ASTRO 011 (GN)
Elementary Astronomy Laboratory (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.
Effective: Fall 2004
Prerequisite: or concurrent: ASTRO 001 or ASTRO 010

ASTRO 011S (GN)
Elementary Astronomy Laboratory (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: or concurrent: ASTRO 001 or ASTRO 010

ASTRO 120 (GN)
The Big Bang Universe (3) Exploration of cosmology, birth, and ultimate fate of the universe; origin of galaxies, quasars, and dark matter. For non-science majors.
Effective: Spring 2002
Prerequisite: ASTRO 001 or ASTRO 010

ASTRO 130 (GN)
Black Holes in the Universe (3) The predicted properties of black holes and the astronomical evidence for their existence are investigated in the context of modern ideas about space, time, and gravity.
Effective: Spring 2004
Prerequisite: ASTRO 001 or ASTRO 010

ASTRO 140 (GN)
Life in the Universe (3) The problem of the existence of life beyond Earth is investigated, drawing from recent research in astronomy and other fields. For non-science majors.
Effective: Spring 2002
Prerequisite: ASTRO 001 or ASTRO 010

ASTRO 291 (GN)
Astronomical Methods and the Solar System (3) Physical processes and observational techniques in astronomical systems, characteristics of the sun, planets, and moons.
Effective: Spring 2002
Prerequisite: PHYS 211

ASTRO 292 (GN)
Astronomy of the Distant Universe (3) Observed properties and astrophysical understanding of stars, stellar evolution, galaxies, the large-scale universe, and cosmology.
Effective: Spring 2002
Prerequisite: ASTRO 291

ASTRO 320 (GN)
Observational Astronomy Laboratory (2) Basic observational astronomy techniques introduced through observational exercises, lab experiments, and lectures on relevant statistical techniques.
Effective: Spring 2008
Prerequisite: or concurrent: ASTRO 291

B M B 001 (GN)
Understanding the Bases of Human Disease (3) A broad survey of the molecular

and cellular factors that contribute to an understanding of selected human diseases.
Effective: Fall 2004

B M B 001S (GN)
Understanding the Bases of Human Disease (3) A broad survey of the molecular and cellular factors that provide an explanation for an understanding of human disease.
Effective: Spring 2001

BI SC 001 (GN)
Structure and Function of Organisms (3) An exploration of how cellular structures and processes contribute to life and how life displays unity even in its diversity. Students who have passed BIOL 027, 110, or 141 may not schedule this course.
Effective: Fall 2004

BI SC 002 (GN)
Genetics, Ecology, and Evolution (3) The study of how living organisms inherit their traits, how plants and animals evolved, and how they now interact. Students who have passed BIOL 033, 110, 220W, or 222 may not schedule this course.
Effective: Spring 2003

BI SC 003 (GN)
Environmental Science (3) Kinds of environments; past and present uses and abuses of natural resources; disposal of human wastes; prospects for the future. Students who have passed BIOL 220 or any other upper-level ecology course in biology may not schedule this course.
Effective: Fall 2003

BI SC 004 (GN)
Human Body: Form and Function (3) A general survey of structure and function--from conception, through growth and reproduction, to death. Students who have passed BIOL 129 and 141 may not schedule this course.
Effective: Spring 2002

BIOL 011 (GN)
Introductory Biology I (3) An introduction to fundamental biological topics (including cells, energy transduction, genetics, evolution, organismal structure/function, ecology) for non-majors biology-related fields.
Effective: Fall 2003

BIOL 012 (GN)
Introductory Biology II (1) Laboratory exercises demonstrating principles of biology.
Effective: Summer 1992
Prerequisite: or concurrent: BIOL 011

BIOL 110 (GN)
Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology.

Effective: Fall 2003

BIOL 110H (GN)
Honors Biology: Basic Concepts and Biodiversity (4) Honors study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Spring 2006

BIOL 110L (GN)
Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Summer 1994

BIOL 110P (GN)
Biology: Basic Concepts and Biodiversity A study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Summer 1994

BIOL 110S (GN)
Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.
Effective: Summer 1999

BIOL 110T (GN)
Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

BIOL 120A (GN;US;IL)
Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 120B (GN;US)
Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 120C (GN;IL)
Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 127 (GN)

Introduction to Plant Biology (3) Cellular structure and organization; physiological processes; classification; reproduction and development; relationship of plant groups. Students who have passed BIOL 240W may not schedule this course.
Effective: Spring 2008

BIOL 129 (GN)
Mammalian Anatomy (4) Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.
Effective: Fall 2003

BIOL 129L (GN)
Mammalian Anatomy (4) Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.
Effective: Fall 2003

BIOL 129P (GN)
Mammalian Anatomy Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.
Effective: Fall 1998

BIOL 133 (GN)
Genetics and Evolution of the Human Species (3) Human heredity and evolution, individual and social implications. The course is for non-majors; students who have passed BIOL 222, 230W, B M B 251 or any upper-division biology course may not schedule this course.
Effective: Spring 2008

BIOL 141 (GN)
Introductory Physiology (3) Explanation of the normal structure and function of the animal body, with special emphasis on human body systems. Students who have passed BIOL 472 may not schedule this course.
Effective: Fall 2003

BIOL 155 (GN)
Introduction to the Biology of Aging (3) Examination of human aging from a biological perspective. Population demographics, physiological and pathological changes, and healthy lifestyles are discussed. Students who have passed BIOL 409 may not schedule this course.
Effective: Spring 2008

BIOL 177 (GN)
Biology of Sex (3) Basic structure and function of the human reproductive system. Physiology of gametogenesis, fertilization, contraception, gestation, parturition, lactation, and sexual behavior.
Effective: Spring 2008

BIOL 220M (GN)
Honors Biology: Populations and Communities (4) Honors study of the major physical, chemical, and biological factors constituting environment and their dynamic interaction with organisms forming ecosystems.

Effective: Summer 2005
Prerequisite: BIOL 110

BIOL 220W (GN)
Biology: Populations and Communities (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.) BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement.
Effective: Fall 2004
Prerequisite: BIOL 110

BIOL 220X (GN)
Biology: Populations and Communities (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
Effective: Fall 2004
Prerequisite: BIOL 110

BIOL 230M (GN)
Honors Biology: Molecules and Cells (4) Honors study of cellular phenomena including molecular genetics and metabolic interactions.
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 230W (GN)
Biology: Molecules and Cells (4) A study of cellular phenomena including molecular genetics and metabolic interactions. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.) BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement.
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 240M (GN)
Honors Biology: Function and Development of Organisms (4) Honors study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 240W (GN)
Biology: Function and Development of Organisms (4) A study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.) BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement.
Effective: Summer 2007

Prerequisite: BIOL 110 CHEM 110

CHEM 001 (GN)
Molecular Science (3) Selected concepts and topics designed to give non-science majors an appreciation for how chemistry impacts everyday life. Students who have received credit for CHEM 003, 101, or 110 may not schedule this course.
Effective: Summer 2007

CHEM 003 (GN)
Molecular Science With Laboratory (3) Selected concepts and topics designed to give non-science majors an appreciation for how chemistry impacts everyday life. Students who have received credit for CHEM 001, 101, or 110 may not schedule this course.
Effective: Summer 2007

CHEM 101 (GN)
Introductory Chemistry (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110. Students may take only one course for General Education credit from CHEM 101 GN or CHEM 110 GN.
Effective: Fall 2009
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

CHEM 101S (GN)
Introductory Chemistry (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

CHEM 106 (GN)
Introductory and General Chemistry (5) Introductory chemistry and chemical principles for students who are required to take additional chemistry, e.g., CHEM 112, but are unprepared for CHEM 110. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Summer 2007
Prerequisite: satisfactory performance on the Math FTCAP test--i.e. placement beyond the level of MATH 022; or MATH 022 or MATH 041

CHEM 110 (GN)
Chemical Principles I (3) Basic concepts and quantitative relations. Students may take only one course for General Education credit from CHEM 110 or CHEM 101. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Students may take only one course for General Education credit from CHEM 101 GN or CHEM 110 GN.

Effective: Fall 2009
Prerequisite: satisfactory performance on the Chemistry and Math FTCAP tests--i.e. placement beyond the level of CHEM 101 and MATH 022; or CHEM 101 and MATH 022 or MATH 041

CHEM 110H (GN)
Chemical Principles I (3) Basic concepts and quantitative relations. Students may take only one course for General Education credit from CHEM 110 or CHEM 101. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: satisfactory performance on the Chemistry and Math FTCAP tests--i.e. placement beyond the level of CHEM 101 and MATH 022; or CHEM 101 and MATH 022 or MATH 041

CHEM 111 (GN)
Experimental Chemistry I (1) Introduction to quantitative experimentation in chemistry. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Summer 2007
Prerequisite: or concurrent: CHEM 110 or CHEM 106

CHEM 111S (GN)
Experimental Chemistry I (1) Introduction to quantitative experimentation in chemistry.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: or concurrent: CHEM 110 or CHEM 106

CHEM 112 (GN)
Chemical Principles II (3) Continuation of CHEM 110, including an introduction to the chemistry of the elements. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Spring 2009
Prerequisite: CHEM 110 or CHEM 106

CHEM 112H (GN)
Chemical Principles II (3) Continuation of CHEM 110, including an introduction to the chemistry of the elements. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: CHEM 110 or CHEM 106

CHEM 113 (GN)

Experimental Chemistry II (1) Continuation of CHEM 111, with emphasis on topics related to CHEM 112. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Summer 2007
Prerequisite: CHEM 111 . Prerequisite or concurrent: CHEM 112

CHEM 113B (GN)
Experimental Chemistry II--Bioscience (1) A continuation of CHEM 111 with emphasis on topics related to CHEM 112 in the context of bioscience. GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B).
Effective: Summer 2007
Prerequisite: CHEM 111 . Prerequisite or Concurrent: CHEM 112

CHEM 233 (ENGL 233) (GH;GN)
Chemistry and Literature (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature throughout history, and the relationship of science to society, culture, and values.
Effective: Summer 2007

E R M 210 (GN)
Environmental Factors and Their Effect on Your Food Supply (3) An exploration of how urban environmental problems influence our ability to obtain food and natural resources.
Effective: Spring 2000

EARTH 002 (GN)
The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution of the earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 002L (GN)
The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution of the earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 002P (GN)
The Earth System and Global Change (0) An interdisciplinary introduction to the processes, interactions and evolution evolution of earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 002S (GN)
The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution evolution of the earth's biosphere,

geosphere and hydrosphere.
Effective: Fall 2007

EARTH 100 (GN)
Environment Earth (3) Natural processes and their relationship to anthropogenic influences. General principles of global cycles and the role they play in natural hazards, global warming, ozone depletion, etc.
Effective: Fall 2004

EARTH 100H (GN)
Environment Earth (3) Natural processes and their relationship to anthropogenic influences. General principles of global cycles and the role they play in natural hazards, global warming, ozone depletion, etc.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

EARTH 101 (GN;US)
Natural Disasters: Hollywood vs. Reality (3) Analysis of the causes and consequences of natural disasters; comparison of popular media portrayal of disasters with perspective from scientific research.
Effective: Summer 2005

EARTH 103 (GN)
Earth in the Future: Predicting Climate Change and Its Impacts Over the Next Century (3) Climate predictions for the coming century are utilized to examine potential impacts on regions, sectors of society, and natural ecosystems.
Effective: Summer 2000

EARTH 105 (AAA S 105) (GN;IL)
Environments of Africa: Geology and Climate Change (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, and natural resources.
Effective: Summer 2005

EARTH 106 (GN)
The African Continent: Earthquakes, Tectonics and Geology (3) Study of earthquakes and seismic waves to learn about the geology and plate tectonics of the African continent.
Effective: Summer 2007

EARTH 111 (GN;US)
Water: Science and Society (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.
Effective: Summer 2006

EARTH 111U (GN;US)
Water: Science and Society (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

EARTH 150 (GN)
Dinosaur Extinctions and Other Controversies (3) Dinosaur extinctions and other major and controversial events in the history of life.

Effective: Spring 2004

EGEE 101 (MATSE 101) (GN)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

EGEE 101A (MATSE 101A) (GN;IL)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

EGEE 101H (GN)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Summer 2009

EGEE 102 (GN)
Energy Conservation for Environmental Protection (3) Exposure to energy efficiency in day-to-day life to save money and energy, and thereby protect the environment.
Effective: Spring 2000

EGEE 102H (GN)
Energy Conservation for Environmental Protection (3) Honors level exposure to energy efficiency in day to day life to save money and energy, and thereby protect the enviroment.
Effective: Summer 2008

EGEE 110 (GN)
Safety Science for the Rest of Your Life (3) Survey of applications and technologies associated with safety in our every day life with associated review of scientific principles and economic, social and political impacts.
Effective: Summer 2005

EGEE 210 (GN)
Technological Legacy of Pennsylvania Coal (3) Survey of coal technologies with a review of scientific principles and economic, social, and political impacts.
Effective: Summer 2005

EM SC 121 (GN)
Minerals and Modern Society (3) Production and use of mineral resources in modern society with an emphasis on the interrelationships and their effect on the Earth system.
Effective: Summer 1996

EM SC 150 (S T S 150) (GN;IL)
Out of the Fiery Furnace (3) A history of materials, energy and man, with emphasis on their interrelationships. For nontechnical students.

Effective: Spring 2006

ENGL 233 (CHEM 233) (GH;GN)
Chemistry and Literature (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature through history, and the relationship of science to society, culture, and values.
Effective: Spring 2006

ENT 202 (GN)
The Insect Connection (3) An introduction to the diversity of insects and the ways in which they interact with humans and impact our world.
Effective: Summer 1998

FRNSC 200 (GN)
Introduction to Crime Scene Investigation (3) This course offers an exploration of the science, management, and investigative techniques for the field of crime scene investigation.
Effective: Spring 2010

GEOG 010 (GN)
Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2006

GEOG 010H (GN)
Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

GEOG 010S (GN)
Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2006

GEOG 110 (GN)
Climates of the World (3) Introduction to climatology, including principal processes of the global climatic system and their variation over space and time.
Effective: Fall 2004

GEOG 111 (GN)
Biogeography and Global Ecology (3) Distribution of plants and animals on global, regional, and local scales; their causes and significance.
Effective: Fall 2007

GEOG 115 (GN)
Landforms of the World (3) Distribution of the world's landform features and mineral resources; their characteristics, causes, and significance. Practicum includes correlated field trips and laboratory studies.
Effective: Fall 2004

GEOSC 002 (GN)
Historical Geology (3) History of the earth and its life; fundamentals of evolution, correlation, and paleogeography; practicum includes field trips, study of geologic maps, geologic problems, and fossils, with emphasis on Appalachian geology. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.) This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Summer 1995

GEOSC 010 (GN)
Geology of the National Parks (3) Introduction to geology, geological change, and environmental hazards, as seen in the National Parks.
Effective: Fall 2003

GEOSC 020 (GN)
Planet Earth (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.) This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Fall 2003

GEOSC 020L (GN)
Planet Earth (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
Effective: Summer 1988

GEOSC 020P (GN)
Planet Earth (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
Effective: Summer 1988

GEOSC 021 (GN)
Earth and Life: Origin and Evolution (3) Introduction to the origin and evolution of life on Earth from the perspective of geologic time and the fossil record. This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Spring 2002

GEOSC 040 (GN)
The Sea Around Us (3) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.

Effective: Fall 2003

GEOSC 040L (GN)
The Sea Around Us (2) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.
Effective: Summer 2009

GEOSC 040P (GN)
The Sea Around Us (1) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.
Effective: Spring 2009

GEOSC 109H (GN)
Earthquakes and Society (3) Introduction to earthquakes and seismology, and their relationship to society, including monitoring for nuclear weapons and seismic hazards.
Effective: Spring 2007

GEOSC 110H (GN)
The Science of Gemstones (3) An exploration of the geological uses of gems and of the physical and chemical properties underlying their brilliance and color.
Effective: Summer 2002
Prerequisite: high school chemistry and trigonometry

GEOSC 111 (GN)
Forensic Geoscience (3) Covers fundamental geoscience concepts such as stratigraphy, mineral and soil identification, seismology, and geochemistry within the context of forensic investigation.
Effective: Spring 2008

HORT 101 (GN)
Horticultural Science (3) Introduction to horticulture with emphasis on plant domestication, morphology, classification, world food crops, commodities, gardens, propagation, and agrochemicals.
Effective: Spring 2002

HORT 150 (GN)
Plants in the Human Context (3) An introduction to the many fascinating and vital relationships between plants and human society.
Effective: Summer 2007

INART 050 (GN)
The Science of Music (3) Waves, physics of sound, hearing, musical scales, musical instruments, and room acoustics.
Effective: Summer 2004

MATSE 081 (GN;IL)
Materials in Today's World (3) A survey of the properties, manufacture, and uses of polymers, ceramics and metals in today's world with emphasis on modern developments and new materials.
Effective: Summer 2005

MATSE 091 (GN)
Polymers, Life and Society (3) An exploration of the science and use of polymer materials and their impact on society using a case study approach.
Effective: Summer 2005

MATSE 101 (EGEE 101) (GN)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

MATSE 101A (EGEE 101A) (GN;IL)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

MATSE 112 (GN)
Applied Materials Chemistry for Engineers (3) Chemistry of materials with emphasis on intermolecular forces between atoms, molecules, ions, and dense materials and inorganic and organic physical chemistry. In most majors, this course is not a substitute for CHEM 013 or CHEM 112.
Effective: Spring 2009
Prerequisite: CHEM 110

METEO 002 (GN)
Our Changing Atmosphere: Personal and Societal Consequences (3) A survey of meteorology emphasizing how the nature of our lives, individually/societally, depends upon atmospheric structure, quality, and processes.
Effective: Spring 2003

METEO 003 (GN)
Introductory Meteorology (3) Nontechnical treatment of fundamentals of modern meteorology and the effects of weather and climate. A student who took METEO 002 may take the laboratory part of this course for 1 credit only.
Effective: Spring 2003

METEO 004 (GN)
Weather and Risk (3) Non-technical introduction to the science and historical development of meteorology, and the role of weather forecasting as a tool for risk management by individuals, businesses, and societies.
Effective: Summer 2007

METEO 101 (GN)
Understanding Weather Forecasting (3) Fundamental principles of synoptic and physical meteorology, satellite and radar imagery, and data analysis in the setting of mid-latitude weather forecasting.
Effective: Fall 2001

METEO 122 (AGECO 122) (GN)
Atmospheric Environment: Growing in the Wind (3) Students will learn about the

effect of weather on plants, animals, and humans.
Effective: Summer 2006

MICRB 106 (GN)
Elementary Microbiology (3) Importance of microorganisms in health and disease, agriculture, and industry; descriptive course for students not planning advanced study in microbiology. The combination of MICRB 106 GN and 107 GN must be taken to receive General Education credit in biology. Students must take a combination of MICRB 106 GN and 107 GN to receive General Education credit in biology.
Effective: Spring 2002

MICRB 107 (GN)
Elementary Microbiology Laboratory (1) Selected techniques used to observe, identify and count bacteria; effects of chemical and physical agents on microorganisms. The combination of MICRB 106 GN and 107 GN must be taken to receive General Education credit in biology. Students must take a combination of MICRB 106 GN and 107 GN to receive General Education credit in biology.
Effective: Spring 2002
Prerequisite: or concurrent: MICRB 106

PHYS 001 (GN)
The Science of Physics (3) Historical development and significance of major concepts, with emphasis on the nature of physics and its role in modern life. (For students in non-mathematical fields.)
Effective: Fall 2004

PHYS 150 (GN)
Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Spring 2007
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent: MATH 021 MATH 081

PHYS 150L (GN)
Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Summer 1994

PHYS 150P (GN)
Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Summer 1994

PHYS 150S (GN)
Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent: MATH 021 MATH 081

PHYS 151 (GN)
Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2001
Prerequisite: PHYS 150

PHYS 151L (GN)
Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2001
Prerequisite: PHYS 150

PHYS 151S (GN)
Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: PHYS 150

PHYS 211 (GN)
General Physics: Mechanics (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Fall 1999

PHYS 211H (GN)
General Physics: Mechanics (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHYS 211L (GN)
General Physics: Mechanics (0-4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation. NOTE: UP offers for 0 credits; Altoona offers for 4 credits.
Effective: Fall 2000

PHYS 211R (GN)
General Physics: Mechanics (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Spring 1999

PHYS 212 (GN)
General Physics: Electricity and Magnetism (4) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Fall 1999
Prerequisite: MATH 140 PHYS 211

PHYS 212H (GN)
General Physics: Electricity and Magnetism (4) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: MATH 140 PHYS 211

PHYS 212L (GN)

General Physics: Electricity and Magnetism (0-4) Calculus-based study of the basic concepts of electricity and magnetism. NOTE: UP offers for 0 credits; Altoona offers for 4 credits.
Effective: Fall 2000
Prerequisite: MATH 140 PHYS 211

PHYS 212R (GN)
General Physics: Electricity and Magnetism (4) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Spring 2000
Prerequisite: MATH 140 PHYS 211

PHYS 213 (GN)
General Physics: Fluids and Thermal Physics (2) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.
Effective: Fall 1999
Prerequisite: MATH 140 PHYS 211

PHYS 213L (GN)
General Physics: Fluids and Thermal Physics (0) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.
Effective: Fall 1999
Prerequisite: MATH 140 PHYS 211

PHYS 213R (GN)
General Physics: Fluids and Thermal Physics (2) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.
Effective: Fall 1999
Prerequisite: MATH 140 PHYS 211

PHYS 214 (GN)
General Physics: Wave Motion and Quantum Physics (2) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.
Effective: Spring 2004
Prerequisite: MATH 141 PHYS 211 and PHYS 212

PHYS 214L (GN)
General Physics: Wave Motion and Quantum Physics (0) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.
Effective: Spring 2004
Prerequisite: MATH 141 PHYS 211 and PHYS 212

PHYS 214R (GN)
General Physics: Wave Motion and Quantum Physics (2) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.
Effective: Spring 2004
Prerequisite: MATH 141 PHYS 211 and PHYS 212

PHYS 250 (GN)
Introductory Physics I (4) Selected topics in mechanics, heat, and sound.
Effective: Fall 2002
Prerequisite: MATH 022 MATH 026 ; or MATH 040 ; or MATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 250L (GN)
Introductory Physics I (0-4) Selected topics in mechanics, heat, and sound.
Effective: Spring 2010
Prerequisite: MATH 022 MATH 026 ; or MATH 040 ; or MATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 250P (GN)
Introductory Physics I (0) Selected topics in mechanics, heat, and sound.
Effective: Fall 2002
Prerequisite: MATH 022 MATH 026 ; or MATH 040 ; or MATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 250R (GN)
Introductory Physics I (4) Selected topics in mechanics, heat, and sound.
Effective: Fall 2002
Prerequisite: MATH 022 MATH 026 ; or MATH 040 ; or MATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 251 (GN)
Introductory Physics II (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002
Prerequisite: PHYS 250

PHYS 251L (GN)
Introductory Physics II (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002 Ending: Summer 2010
Prerequisite: PHYS 250

PHYS 251L (GN)
Introductory Physics II (0-4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250

PHYS 251P (GN)
Introductory Physics II (0) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002
Prerequisite: PHYS 250

PHYS 251R (GN)
Introductory Physics II (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002
Prerequisite: PHYS 250

PHYS 251S (GN)
Introductory Physics II (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

Prerequisite: PHYS 250

PHYS 255 (GN)
Physics of Music and Speech (3) Descriptive study of vibration and sound waves, hearing and speech, musical instruments, physical bases of harmony and scales.
Effective: Summer 1995

PPATH 120 (GN)
The Fungal Jungle: A Mycological Safari From Truffles to Slime Molds (3) Students will learn about the world of fungi and the many ways it impacts their lives.
Effective: Spring 2007

PPATH 300 (GN)
Horticultural Crop Diseases (3) Diseases of horticultural crops are examined stressing their cause, diagnosis, control and national and international importance.
Effective: Spring 2008
Prerequisite: 3 credits in a biological science

R SOC 134 (AGECO 134) (GN)
Sustainable Agriculture Science and Policy (3) The science, socio-economics, and politics of managing food and fiber production systems. Sustainability implications of current practices and future options.
Effective: Spring 2007

S T S 055 (AERSP 055) (GN)
Space Science and Technology (3) The science and technology of space exploration and exploitation; physical principles; research and development; history, space policy, and social implications.
Effective: Spring 1994

S T S 150 (EM SC 150) (GN;IL)
Out of the Fiery Furnace (3) A history of materials, energy, and humans, with emphasis on their interrelationships. For nontechnical students.
Effective: Spring 2006

S T S 201 (GN)
Climate Change, Energy, and Biodiversity (3) Studies of global warming, energy options, and biodiversity; their interrelations as sciences and as societal issues.
Effective: Summer 1994

S T S 201H (GN)
Climate Change, Energy, and Biodiversity (3) Studies of global warming, energy options, and biodiversity; their interrelations as sciences and as societal issues.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SC 200 (GN)
Science in Our World: Certainty and Controversy (3) A science appreciation course, aimed at making non-scientists more informed consumers of science.
Effective: Summer 2010

SC 297B (GN)
Science in Our World: Certainty and Controversy (3) A science appreciation course, aimed at making non-scientists more informed consumers of science.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SOILS 071 (GN;IL)
Environmental Sustainability (3) An introduction to environmental science, exploring sustainable human- environment interactions with examples from environmental soil science.
Effective: Spring 2007

SOILS 101 (GN)
Introduction to Soils (3) A study of soil characteristics and their relationship to land use, plant growth, environmental quality, and society/culture.
Effective: Spring 2005 Ending: Fall 2010

SOILS 101 (GN)
Introductory Soil Science (3) A study of soil properties and processes and relationships to land use, plant growth, environmental quality, and society.
Effective: Spring 2011 Future: Spring 2011

VB SC 211 (GN)
The Immune System and Disease (3) Introduction to the immune system that emphasizes the immune response to infection and consequences of a defective immune response.
Effective: Fall 2007

W F S 209 (GN)
Wildlife and Fisheries Conservation (3) Survey of current and historical issues in wildlife and fisheries conservation; emphasis on vertebrate biodiversity, habitat management and protection, and populations.
Effective: Summer 2002
Prerequisite: BIOL 110 or BIOL 240W

Arts

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

A ED 211 (GA)
Interpreting Art Experience: Social and Behavioral Perspectives (3) Examination of psychological, cultural, aesthetic, philosophical and educational perspectives on creation and response to art in children, adolescents and adults.
Effective: Summer 2002

A ED 225 (GA;US)
Diversity, Pedagogy, and Visual Culture (3) Issues of diversity in art, education, visual culture, and pedagogy.
Effective: Summer 2005

A&A 100 (GA;IL)
Introduction to International Arts (3) An interdisciplinary, multicultural introduction to the arts of the world.
Effective: Summer 2005

AAA S 208 (THEA 208) (GA;US;IL)
Theatre Workshop in Diverse Cultures (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

AAA S 335 (ART H 335) (GA;IL)
African Art (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.
Effective: Summer 2005

AM ST 307 (ART H 307) (GA;US)
American Art (3) History of art in the English colonies and the United States from the seventeenth century to the present.
Effective: Spring 2008

ARCH 210 (GA)
Introduction to Architecture and Planning Theories (3) The course introduces architectural and urban theory by presenting and exploring key concepts through major texts from the Western tradition.
Effective: Spring 2009

ARCH 211 (GA)
Contemporary Design and Planning Theories II (3) Continuation of ARCH 210, with an in-depth analysis and study of significant and current environmental constructs and issues.
Effective: Summer 1995
Prerequisite: ARCH 210

ARCH 316 (GA)
Analysis of Human Settlements: Cities (3) Analysis of the interrelated factors which determined and shaped the various types of early cities through the nineteenth century.
Effective: Summer 1989

ART 001 (GA)
Introduction to the Visual Arts (3) Introduction to the media, elements, function, making, and meaning of visual arts today and in diverse historical and cultural contexts.
Effective: Spring 2004

ART 002 (GA)
Interactive Learning and Web-Design (3) Introduce students to research on-line, preparing verbal, visual and other elements for presentation of outcomes and posting them to the Internet.
Effective: Fall 2001

ART 003 (GA)
Visual Images on the Web (3) Introduce students to using visual images for communication on the World Wide Web.
Effective: Fall 2001

ART 010 (GA)
Introduction to Visual Studies (3) Introduction to visual studies; pictorial space and the principles of visual organization.
Effective: Fall 2004

ART 010S (GA)
Introduction to Visual Studies (3) Introduction to visual studies; pictorial space and the principles of visual organization.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ART 017 (GA)
Introduction to Metal Arts (3) Introduction for non-art majors to fundamental jewelry making and small-scale metalsmithing processes including fabrication, surface treatment, and finishing of metalwork.
Effective: Spring 2004

ART 020 (GA)
Introduction to Drawing (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.
Effective: Spring 2004

ART 020S (GA)
Introduction to Drawing (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ART 030 (GA)

Introduction to Sculpture (3) Introduction to sculpture for non-art majors consisting of lectures/basic studio work coordinated to cover broad range of processes.
Effective: Fall 2004

ART 040 (GA)
Introduction to Printmaking (3) Instruction and practice in elementary printmaking and papermaking processes.
Effective: Fall 2004

ART 050 (GA)
Introduction to Painting (3) Introductory experience in making of art through painting media; designed for non-majors seeking a general overview of studio practice.
Effective: Fall 2004

ART 080 (GA)
Introduction to Ceramics (3) Introduction to the concepts and techniques fundamental to the making of pottery and ceramic sculpture.
Effective: Spring 2004

ART 100 (GA)
Concepts and Creation in the Visual Arts (3) A study of the personal and cultural foundations of artistic creation and practice of creative production in the art studio.
Effective: Spring 2004

ART 101 (GA)
Introduction to Web Design (3) A beginning level course in Web Design, with emphasis on designing with standards to assure accessibility and effective communication.
Effective: Spring 2008

ART H 001S (GA)
First-Year Seminar (3) An introduction to the field of art history, through an examination of a selected issue in a seminar setting.
Effective: Fall 2000

ART H 100 (GA;IL)
Introduction to Art (3) An approach to the understanding of art through a critical analysis of selected works of architecture, painting, and sculpture. Students who have passed ART H 110 may not schedule this course.
Effective: Spring 2006

ART H 111 (GA;IL)
Ancient to Medieval Art (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.
Effective: Spring 2006

ART H 111U (GA;IL)
Ancient to Medieval Art (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine,

Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ART H 112 (GA;IL)
Renaissance to Modern Art (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.
Effective: Spring 2006

ART H 112U (GA;IL)
Renaissance to Modern Art (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ART H 120 (GA;IL)
Asian Art and Architecture (3) A selective overview of the art and architecture of India, Southeast Asia, China, Korea, and Japan.
Effective: Summer 2005

ART H 130 (GA;US;IL)
African, Oceanic, and Native American Art (3) A selective overview of the history of African, Oceanic, and Native American art.
Effective: Summer 2005

ART H 201 (GA;IL)
Ancient to Medieval Architecture (3) A survey of Prehistoric, Ancient Near Eastern Egyptian, Greek, Roman, Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic architecture.
Effective: Spring 2006

ART H 202 (GA;US;IL)
Renaissance to Modern Architecture (3) A survey of Renaissance, Baroque, Rococo, Romantic, Victorian, Modern, Post-Modern, and Contemporary architecture in Europe and America.
Effective: Spring 2006

ART H 225 (ENGL 225, WMNST 225) (GA;GH)
Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

ART H 301 (GA;IL)
Egyptian and Mesopotamian Art (3) Art of the Ancient Near East, including Egypt, Mesopotamia, and neighboring civilizations.
Effective: Spring 2006

ART H 302 (GA;IL)
Art of the Early Middle Ages (3) A survey of the art of Western Europe from the Early Christian era through the Ottonian Empire, c.300-1050 A.D.

Effective: Spring 2006

ART H 303 (GA;IL)
Italian Renaissance Art (3) The major arts in Italy from the thirteenth century A.D. through the Renaissance; emphasis on sculpture and painting.
Effective: Spring 2006

ART H 304 (GA;IL)
Southern Baroque Painting (3) Seventeenth-century painting in Italy, France, and Spain. Emphasis will be on Italy as the vanguard country.
Effective: Spring 2006 Ending: Summer 2010

ART H 304 (GA;IL)
Italian, Spanish, and Spanish Colonial Baroque Art and Architecture (3) A survey of painting, sculpture, and architecture in Italy, Spain, and the Spanish Americas from 1600-1750.
Effective: Fall 2010 Future: Fall 2010

ART H 305 (GA;IL)
European Art from 1780-1860 (3) A survey of painting and sculpture in Europe 1780-1860, from the origins of Neoclassicism through Romanticism and Realism.
Effective: Spring 2006

ART H 306 (GA;IL)
English Art (3) An introduction to the history of art in England by examining selected themes and issues.
Effective: Spring 2006

ART H 307 (AM ST 307) (GA;US)
American Art (3) History of art in the English colonies and the United States from the seventeenth century to the present.
Effective: Spring 2008

ART H 311 (GA;IL)
Greek and Roman Art (3) Greek and Roman art, with emphasis on painting and sculpture.
Effective: Spring 2006

ART H 312 (GA;IL)
Romanesque and Gothic Art (3) Survey of the architecture, sculpture, and painting of the Christian church in western Europe from 1000 to 1500.
Effective: Spring 2006

ART H 313 (GA;IL)
Northern Renaissance Art (3) Art in northern Europe in the fifteenth and sixteenth centuries, emphasizing painters such as Van Eyck, Durer, and Bruegel.
Effective: Spring 2006

ART H 314 (GA;IL)
Art in the Age of Rembrandt (3) Dutch and Flemish painting in the seventeenth century.
Effective: Spring 2006

ART H 315 (ASIA 315) (GA;IL)
Architecture and Art of South and Southeast Asia (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.
Effective: Summer 2010

ART H 320 (GA;IL)
Chinese Art (3) A general survey of the great periods of Chinese art from the Shang dynasty until the modern period.
Effective: Summer 2005

ART H 324 (GA;IL)
Rococo Art (3) Eighteenth-century art in western Europe, with emphasis on artists such as Watteau, Fragonard, Falconet, Le Gros, Tiepolo, Guardi, Neumann.
Effective: Spring 2006

ART H 325 (GA;IL)
Impressionism to Surrealism (3) A survey of European painting and sculpture from ca. 1850 to ca. 1940.
Effective: Spring 2006

ART H 330 (GA;IL)
Islamic Architecture and Art (3) Survey of the art and architecture of Islamic lands from the late seventh century until the eighteenth century.
Effective: Summer 2005

ART H 335 (AAA S 335) (GA;IL)
African Art (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.
Effective: Summer 2005

ART H 340 (GA;IL)
Japanese Art (3) This course will examine the art and architecture of Japan, its relationship to Chinese art, and its influence on European art.
Effective: Summer 2005

ASIA 315 (ART H 315) (GA;IL)
Architecture and Art of South and Southeast Asia (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.
Effective: Summer 2010

BRASS 100J (GA)
Trumpet: Secondary (1 per semester, maximum of 8) Individual instruction in trumpet one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 101J (GA)
French Horn: Secondary (1 per semester, maximum of 8) Individual instruction in French horn one-half hour per week. For students who qualify.

Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 102J (GA)
Trombone: Secondary (1 per semester, maximum of 8) Individual instruction in trombone one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 103J (GA)
Euphonium: Secondary (1 per semester, maximum of 8) Individual instruction in euphonium/baritone one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 104J (GA)
Tuba: Secondary (1 per semester, maximum of 8) Individual instruction in tuba one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 110J (GA)
Trumpet: Secondary (2 per semester, maximum of 16) Individual instruction in trumpet one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 111J (GA)
French Horn: Secondary (2 per semester, maximum of 16) Individual instruction in French horn one hour per week. For students who qualify.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 112J (GA)
Trombone: Secondary (2 per semester, maximum of 16) Individual instruction in trombone one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 113J (GA)
Euphonium: Secondary (2 per semester, maximum of 16) Individual instruction in euphonium/baritone one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 114J (GA)
Tuba: Secondary (2 per semester, maximum of 16) Individual instruction in tuba one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

COMM 150 (GA)

The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Spring 2007

COMM 150H (GA)
The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Spring 2007

COMM 150S (GA)
The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Fall 2005

COMM 250 (GA)
Film History and Theory (3) Exploration of film theory and criticism in the context of aesthetic, technological, and economic evolution of film history.
Effective: Spring 2004
Prerequisite: COMM 150

COMM 250H (GA)
Film History and Theory (3) Exploration of film theory and criticism in the context of aesthetic, technological, and economic evolution of film history.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: COMM 150

DANCE 100 (GA;US;IL)
Dance Appreciation (3) Explore dance as a vital, communicative and performing art, reflecting social values and cultural beliefs.
Effective: Fall 2007

DANCE 261 (GA)
Beginning Modern Dance I (1.5) Introduction to modern dance as an art form; development of dance technique and composition; teaching methods for improvisational skills.
Effective: Spring 2006

ENGL 050 (GA)
Introduction to Creative Writing (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.
Effective: Spring 2001

ENGL 050H (GA)
Introduction to Creative Writing (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 050H (GA)
Introduction to Creative Writing (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ENGL 225 (ART H 225, WMNST 225) (GA;GH)
Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

GD 100 (GA)
Introduction to Graphic Design (3) A beginning level graphic design course. Instruction touches on the practice, theories, history and processes of the graphic design industry.
Effective: Spring 2006

INART 001 (GA)
The Arts (3) Develop critical perception, knowledge, and judgments through an examination of the basic concepts common among the arts.
Effective: Spring 2006

INART 003 (GA)
Reception of the Arts (3) This course considers how art uses time, space, and causality to define culture and the human condition.
Effective: Spring 2004

INART 005 (GA)
Performing Arts (3) Introduction to music, dance, and theatre. Orientation to the aesthetics, theory, and practice of professional performance.
Effective: Spring 2004

INART 010 (GA)
The Popular Arts in America: Mass Media Arts (3) An introduction to the arts of the mass media with emphasis on how film, radio, television, and the print media influence and reflect society.
Effective: Spring 2004

INART 015 (GA)
The Popular Arts in America: Performing Arts (3) The development of the performing arts of American popular culture; emphasis on popular music, dance, theatre, and variety arts.
Effective: Spring 2004

INART 055 (GA)
History of Electroacoustic Music (3) A history of electroacoustic music as a consequence of developments in culture and technology from 1880 to present.
Effective: Spring 2004

INART 062 (GA;US;IL)
West African and African American Arts: from the 1960s to the present (3) An introduction to West African and African American Arts from the 1960s to the present.
Effective: Summer 2005

INART 100 (GA)
Seminar in Integrative Arts (3) A study of various arts with emphasis on

comparison, contrast, and other aspects of interrelation. Topics will change each semester.
Effective: Spring 2004

INART 100W (GA)
Seminar in Integrative Arts (3) A study of various arts with emphasis on comparison, contrast, and other aspects of interrelation. Topics will change each semester.
Effective: Spring 2004

INART 110 (GA)
The Dramatic Arts in the Mass Media (3) The place of television-radio-film drama in our culture; relationship with other art forms; standards of evaluation.
Effective: Spring 2004

INART 115 (GA)
The Popular Arts in America: Popular Music (3) An examination of the roots, development, and significance of popular music in our culture.
Effective: Spring 2004

INART 116 (GA;US)
The Popular Arts in America: The History of Rock and Roll-The 1950s (3) This course examines the roots, development, and significance of rock and roll music in its first decade.
Effective: Summer 2007

INART 200 (GA)
The Popular Arts in America: Elvis Presley - The King of Rock and Roll (3) The significance and influence of Elvis Presley as an artist and cultural force focusing on his recordings and major performances.
Effective: Spring 2007

INART 205 (GA)
Introducing the Beatles (3) The influence and achievement of the Beatles as artists focusing on their recordings and films as sociocultural artifacts.
Effective: Summer 2008

INART 210 (GA)
Integrative Approaches to Computer-Aided Music Composition (3) Interdisciplinary introduction to music composition using software to assist with notation; historical perspectives drawn from art, dance, theater, and literature.
Effective: Fall 2004
Prerequisite: MUSIC 008 or instructor permission

INART 258 (GA)
Fundamentals of MIDI and Digital Audio (3) Music Technology (Introduction to how musical information is stored and processed in computer systems.)
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 008 or concurrent enrollment in either MUSIC 131 or MUSIC 132

INART 258A (GA)

Fundamentals of Digital Audio (3) A thorough introduction to digital music production technologies, covering fundamentals of how digital musical information is stored, processed and transmitted.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 008 or concurrent enrollment in either MUSIC 131 or MUSIC 132

INART 258B (GA)
Fundamentals of Digital Audio (1) A general overview of music technologies current to music educators and performers.
Effective: Summer 2010

IST 130 (GA)
Emerging Technologies in Popular Culture (3) A survey course that explores emerging technologies used to produce and consume popular cultural artifacts.
Effective: Summer 2009

KEYBD 100J (GA)
Piano: Secondary (1 per semester, maximum of 8) Individual instruction in piano one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 101J (GA)
Organ: Secondary (1 per semester, maximum of 8) Individual instruction in pipe organ one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 102J (GA)
Harpsichord: Secondary (1 per semester, maximum of 8) Individual instruction in harpsichord one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 110J (GA)
Piano: Secondary (2 per semester, maximum of 16) Individual instruction in piano one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 111J (GA)
Organ: Secondary (2 per semester, maximum of 16) Individual instruction in pipe organ one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 112J (GA)
Harpsichord: Secondary (2 per semester, maximum of 16) Individual instruction in harpsichord one hour per week.
Effective: Fall 2004

Prerequisite: permission of instructor

LARCH 003 (GA)
The Natural and Historic Landscape (3) Man's changing attitudes toward urban and rural outdoor spaces and their aesthetic and cultural value. Students may take only one course for General Education credit from LARCH 003 GA or 060 GA.
Effective: Summer 1988

LARCH 060 (GA)
History of Landscape Architecture (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century. Students may take only one course for General Education credit from LARCH 003 GA or 060 GA.
Effective: Spring 2002 Ending: Summer 2010

LARCH 060 (GA;US;IL)
History of Design on the Land (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century. Students may take only one course for General Education credit from LARCH 003 GA or 060 GA.
Effective: Fall 2010 Future: Fall 2010

LARCH 065 (GA;US;IL)
Built Environment and Culture (3) Investigates the relationship between socio-cultural practices and the development and organization of contemporary built environments.
Effective: Summer 2005

MUSIC 004 (GA)
Film Music (3) An introductory examination of music's role in Hollywood narrative film from the classic era (1930s and 1940s) to the present.
Effective: Summer 2009

MUSIC 005 (GA)
An Introduction to Western Music (3) A general survey of art music in western society, highlighting important composers and stylistic developments.
Effective: Spring 2004

MUSIC 005H (GA)
An Introduction to Western Music (3) A general survey of art music in western society, highlighting important composers and stylistic developments.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

MUSIC 005S (GA)
An Introduction to Western Music (3) A general survey of art music in western society, highlighting important composers and stylistic developments.
Effective: Summer 2006

MUSIC 007 (GA;US)
Evolution of Jazz (3) Study of the origins and development of jazz as an art form.
Effective: Summer 2005

MUSIC 008 (GA)
Rudiments of Music (3) Introduction to the elements of music: notation, scales, meter, rhythm, intervals; basic chord structure.
Effective: Fall 2004

MUSIC 009 (GA;IL)
Introduction to World Musics (3) An overview of the music of India, China, Japan, Indonesia, Africa, and the Middle East.
Effective: Summer 2005

MUSIC 050 (GA)
Beginning Piano: Non-Music Major (1) Introduction to the keyboard, notation, chord progressions, transposition, improvisation, and simple accompanying techniques for the non-music major. An additional fee is required for this course.
Effective: Fall 2004

MUSIC 051 (GA)
Intermediate Class Piano: Non-Music Major (1) Instruction in harmonizing melodies, accompanying techniques, improvisation, and repertoire.
Effective: Fall 2004
Prerequisite: MUSIC 050 or placement audition

MUSIC 052 (GA)
Voice CLass: Non-Music Major (1) Group study emphasizing development of rudimentary skills and their recreational use in a range of popular and art music.
Effective: Fall 2004

MUSIC 053 (GA)
Class Voice Practicum (1) Voice study in group and individual formats, supervised by in-class lessons and discussions, enhanced by additional individual instruction with pedagogy students.
Effective: Fall 2004
Prerequisite: audition

MUSIC 054 (GA)
Beginning Class Guitar: Non-Music Major (1) Class instruction in guitar for non-music majors.
Effective: Fall 2004

MUSIC 077 (GA)
Philharmonic Orchestra (1 per semester/maximum of 8) Orchestra rehearsal and performance.
Effective: Fall 2004
Prerequisite: audition

MUSIC 078 (GA)
Symphonic Wind Ensemble (1 per semester/maximum of 8) Rehearsal and performance of wind repertoire and concert band literature.
Effective: Fall 2004
Prerequisite: audition

MUSIC 080 (GA)

Symphonic Band (1 per semester/maximum of 8) Rehearsal and performance of symphonic band literature. A select group using standard instrumentation.
Effective: Fall 2004
Prerequisite: audition

MUSIC 081 (GA)
Marching Blue Band (1 per semester/maximum of 4) Rehearsal and performance of appropriate music and maneuvers for football games and related events.
Effective: Fall 2004
Prerequisite: audition

MUSIC 082 (GA)
Concert Band (1 per semester/maximum of 8) Rehearsal and performance of concert band literature.
Effective: Fall 2004
Prerequisite: audition

MUSIC 083 (GA)
Campus Band (1 per semester/maximum of 8) Rehearsal and performance of concert band literature.
Effective: Spring 2002
Prerequisite: audition

MUSIC 084 (GA)
Jazz Ensemble (1 per semester/maximum of 8) Survey and performance of historic and contemporary big band styles.
Effective: Fall 2004
Prerequisite: audition

MUSIC 085 (GA)
Singing Lions (1 per semester/maximum of 8) Rehearsal and performance of popular music of all eras, including swing, jazz, and show choir styles.
Effective: Summer 1995
Prerequisite: placement audition

MUSIC 086 (GA)
Percussion Ensemble (1 per semester/maximum of 8) Study and performance of percussion chamber music in various instrumental combinations, focusing on the classical and contemporary repertoire.
Effective: Spring 2004
Prerequisite: audition

MUSIC 088 (GA)
Campus Choir (1 per semester/maximum of 8) Building skills needed for successful choral singing including vocal production, sight singing, ear training, and music fundamentals.
Effective: Fall 2001

MUSIC 089 (GA)
University Choir (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of 100-150 voices.

Effective: Spring 2004
Prerequisite: audition

MUSIC 090 (GA)
Glee Club (1 per semester/maximum of 8) Rehearsal and performance of music composed for male voices from the sixteenth to the twentieth centuries, including sacred and secular compositions.
Effective: Spring 2004
Prerequisite: audition

MUSIC 091 (GA)
Oriana Singers (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire for treble voices from the sixteenth to twentieth centuries, including sacred and secular compositions.
Effective: Spring 2004
Prerequisite: audition

MUSIC 092 (GA)
Chamber Music for Voices (1 per semester/maximum of 8) Select groups of singers performing choral chamber music.
Effective: Spring 2004
Prerequisite: audition

MUSIC 093 (GA;US;IL)
Essence of Joy (1 per semester, maximum of 8) Rehearsal and performance of choral repertoire from the African/American tradition.
Effective: Spring 2006
Prerequisite: audition

MUSIC 094 (GA)
Women's Chorale (1 per semester, maximum of 8) Rehearsal and performance of treble choral literature.
Effective: Spring 2004
Prerequisite: audition

MUSIC 103 (GA)
Concert Choir (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of approximately sixty voices.
Effective: Spring 2004
Prerequisite: audition

MUSIC 104 (GA)
Chamber Singers (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of approximately twenty-four voices.
Effective: Spring 2004
Prerequisite: audition

MUSIC 106 (GA)
Early Music Ensemble (1 per semester/maximum of 8) Ensemble for the

performance and study of Baroque or early music on instruments of the era.
Effective: Spring 2004
Prerequisite: audition

MUSIC 190 (GA)
Chamber Music for Strings (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily string instruments--string quartets, piano trios, clarinet quintets.
Effective: Spring 2004
Prerequisite: permission of instructor

MUSIC 191 (GA)
Chamber Music for Woodwinds (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily woodwind instruments--woodwind quintets and quartets.
Effective: Spring 2004
Prerequisite: permission of instructor

MUSIC 192 (GA)
Chamber Music for Brass (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily brass instruments--brass quartets and quintets.
Effective: Spring 2004
Prerequisite: permission of instructor

PERCN 100J (GA)
Percussion: Secondary (1 per semester, maximum of 8) Individual instruction in percussion one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

PERCN 110J (GA)
Percussion: Secondary (2 per semester, maximum of 16) Individual instruction in percussion one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

PHOTO 100 (GA)
Introduction to Photography (3) An introduction to the aesthetics, history, and science of photography including practical and critical approaches to the art of photography.
Effective: Spring 2006

STRNG 100J (GA)
Violin: Secondary (1 per semester, maximum of 8) Individual instruction in violin one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 101J (GA)
Viola: Secondary (1 per semester, maximum of 8) Individual instruction in viola

one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 102J (GA)
Violoncello: Secondary (1 per semester, maximum of 8) Individual instruction in violoncello one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 103J (GA)
Double Bass: Secondary (1 per semester, maximum of 8) Individual instruction in double bass one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 110J (GA)
Violin: Secondary (2 per semester, maximum of 16) Individual instruction in violin one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 111J (GA)
Viola: Secondary (2 per semester, maximum of 16) Individual instruction in viola one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 112J (GA)
Violoncello: Secondary (2 per semester, maximum of 16) Individual instruction in violoncello one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 113J (GA)
Double Bass: Secondary (2 per semester, maximum of 16) Individual instruction in double bass one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 114J (GA)
Guitar: Secondary (2 per semester, maximum of 16) Individual instruction in guitar one hour per week.
Effective: Summer 1995
Prerequisite: permission of instructor

THEA 080 (GA)
Pit Orchestra (1-3 per semester/maximum of 3) Rehearsal and performance of contemporary and historical musical theatre styles, including operetta and light opera.
Effective: Summer 2008

Prerequisite: audition

THEA 100 (GA;US;IL)
The Art of the Theatre (3) An experiential survey of all aspects of the living theatre, as presented by a resident company of theatre artists.
Effective: Spring 2006

THEA 102 (GA)
Fundamentals of Acting (3) Introduction to the art and craft of acting for non-theatre majors.
Effective: Fall 2003

THEA 102S (GA)
Fundamentals of Acting (3) Introduction to the art and craft of acting for non-theatre majors.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

THEA 105 (GA)
Introduction to Theatre (3) An introduction and overview of the history, craft, and art of the theatre to foster an informed appreciation of theatrical events. This course is an alternate to THEA 100.
Effective: Spring 2003

THEA 189 (GA)
Theatre Production Practicum (1 per semester/maximum of 6)* Supervised experience in theatre by crew participation in University theatre productions. For non-theatre students only.
Effective: Spring 2004

THEA 207 (GA;US)
Gender and Theatre (3) A study of theatre and drama literature as formed by issues of gender, race, and ethnic background.
Effective: Summer 2005

THEA 208 (AAA S 208) (GA;US;IL)
Workshop: Theatre in Diverse Cultures (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

THEA 208S (GA;US;IL)
Workshop: Theatre in Diverse Cultures (3) A performance-oriented class, which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

THEA 282 (GA)
Production Practicum (3--may repeat once for a total of 6) Introduction to all aspects of theatre production--analysis, design, construction, production, performance--for non-theatre majors.
Effective: Spring 2000

VOICE 100J (GA)
Voice: Secondary (1 per semester, maximum of 8) Individual instruction in voice one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

VOICE 110J (GA)
Voice: Secondary (2 per semester, maximum of 16) Individual instruction in voice one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

WMNST 225 (ENGL 225, ART H 225) (GA;GH)
Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

WWNDS 100J (GA)
Flute: Secondary (1 per semester, maximum of 8) Individual instruction in flute one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 101J (GA)
Oboe: Secondary (1 per semester, maximum of 8) Individual instruction in oboe one-half hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 102J (GA)
Clarinet: Secondary (1 per semester, maximum of 8) Individual instruction in clarinet one-half hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 103J (GA)
Bassoon: Secondary (1 per semester, maximum of 8) Individual instruction in bassoon one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 104J (GA)
Saxophone: Secondary (1 per semester, maximum of 8) Individual instruction in saxophone one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 110J (GA)
Flute: Secondary (2 per semester, maximum of 16) Individual instruction in flute one hour per week. For both music and non-music majors.

Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 111J (GA)
Oboe: Secondary (2 per semester, maximum of 16) Individual instruction in oboe one hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 112J (GA)
Clarinet: Secondary (2 per semester, maximum of 16) Individual instruction in clarinet one hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 113J (GA)
Bassoon: Secondary (2 per semester, maximum of 16) Individual instruction in bassoon one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 114J (GA)
Saxophone: Secondary (2 per semester, maximum of 16) Individual instruction in saxophone one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

Humanities

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

AAA S 083S (GH;US;IL)
First-Year Seminar in African and African American Studies (3) Cultural, philosophical, economic, political, and global dynamics of the Black experience in the United States and the Diaspora.
Effective: Summer 2005

AAA S 101 (WMNST 101) (GH;US)
The African American Woman (3) The sociological, historical, and political experiences of African American women, their roles and contributions to society.
Effective: Summer 2005

AAA S 102 (WMNST 102) (GH;IL)
Women of Color: Cross-Cultural Perspective (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.
Effective: Summer 2005

AAA S 145 (RL ST 145) (GH;US;IL)
African American Religion (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.
Effective: Summer 2005

AAA S 146 (RL ST 146) (GH;US)
The Life and Thought of Martin Luther King, Jr. (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.
Effective: Summer 2005

AAA S 147 (RL ST 147) (GH;US)
The Life and Thought of Malcolm X (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.
Effective: Summer 2005

AAA S 150 (GH;IL)
Africa in Cinema (3) The study of the image of Africa as seen in fiction and non-fictional feature length films, ethnographic and documentary films.
Effective: Spring 2006

AAA S 191 (HIST 191) (GH;IL)
Early African History (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.
Effective: Summer 2005

AAA S 192 (HIST 192) (GH;IL)

Modern African History (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.
Effective: Summer 2005

AAA S 210 (HIST 210) (GH;US)
Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) The course will explore the context and events that shaped African American life over the period 1896-1932.
Effective: Summer 2005
Prerequisite: AAA S 100 HIST 021

AAA S 211 (HIST 211) (GH;US;IL)
The Emergence and Evolution of the Black Diaspora in the Atlantic World (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 003 or HIST 020 or HIST 021 or HIST 152

AAA S 240 (HIST 240) (GH;US)
Harlem: History, Culture, and Politics, 1890-Present (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 152

AAA S 250 (HIST 250) (GH;IL)
Introduction to the Modern Caribbean (3) A survey course which, explores the historical evolution and emergency of the modern Caribbean.
Effective: Summer 2005

AAS 100 (GH;US)
Introduction to Asian American Studies (3) An introduction to the history, literature, and culture of Asian America.
Effective: Spring 2010

AG 160 (GH)
Introduction into Ethics and Issues in Agriculture (3) The course explores ethical theories, concepts of critical thinking, and major ethical issues related to American agriculture.
Effective: Summer 1999

AM ST 050 (GH)
The Literature and Lore of Mining (3) Experience and values of mining tradition: survey of the literature and lore, including field research.
Effective: Spring 2004

AM ST 083S (GH)
First-Year Seminar in American Studies (3) Critical approaches to the interdisciplinary study of American culture.
Effective: Summer 1999

AM ST 100 (GH;US)

Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 100U (GH;US)
Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: third-semester standing

AM ST 100Y (GH;US)
Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 103 (GH;US)
American Masculinities (3) Introduction to aspects of masculinities and manhood in America.
Effective: Summer 2008

AM ST 104 (WMNST 104) (GH;US)
Women and the American Experience (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.
Effective: Summer 2005

AM ST 105 (ENGL 105) (GH;US)
American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2008

AM ST 105U (GH;US)
American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

AM ST 140Y (RL ST 140Y) (GH;US)
Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

AM ST 196 (ENGL 196, AMSTD 196) (GH;US)
Introduction to American Folklore (3) A basic introduction to verbal and non-verbal folklore stressing the basic procedures of collection, classification, and analysis.
Effective: Summer 2005

AM ST 301 (GH)
American Civilization (3) An interdisciplinary overview of major themes, works,

and events, in American history and culture.
Effective: Fall 2007
Prerequisite: HIST 020 or HIST 021 or 3 credits in American Studies

APLNG 200 (GH;IL)
Introduction to Language, Culture, and Social Interaction (3) Introduction to the interrelationships among language, culture, and social interaction and their fundamental links to social identities and discourse communities.
Effective: Spring 2009

ARAB 110 (GH;IL)
Arab Language, Cultures, and Current Topics (3) Fourth-semester Modern Standard Arabic: study of cultures through authentic discourse, texts, film; development of reading, writing, listening, speaking skills.
Effective: Spring 2008
Prerequisite: ARAB 003 or permission of program

ART H 225 (ENGL 225, WMNST 225) (GA;GH)
Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

ASIA 004 (CMLIT 004) (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Future: Fall 2010

ASIA 100 (GH;IL)
What is Asia? (3-6 per semester/maximum of 6) An introduction to the history, literatures, politics, and cultures of Asia.
Effective: Fall 2009

C I 280 (GH)
Introduction to Teaching English to English Language Learners (3) Introductory English language teaching, and pedagogical strategies with English Language Learners.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: EDPSY 014

CAMS 001 (GH)
Greek and Roman Literature (3) Selected readings within a chronological and thematic context of significant and influential masterworks of Greece and Rome.
Effective: Spring 2004

CAMS 002 (GH;IL)
Literature of the Ancient Near East (3) Reading and study of literary works from the Ancient Near East, especially from Mesopotamia and Ancient Egypt.
Effective: Summer 2005

CAMS 004 (J ST 004, RL ST 004) (GH;US;IL)

Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.
Effective: Summer 2005

CAMS 005 (HIST 005) (GH;IL)
Ancient Mediterranean Civilizations (3) Survey of the history and cultures of ancient Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.
Effective: Spring 2008

CAMS 010 (GH;IL)
Mesopotamian Civilization (3) Cultural, technological, literary, political, and economic achievements of peoples who occupied the region of Mesopotamia (4,000-331 B.C.E.), in historical context.
Effective: Spring 2006

CAMS 012 (J ST 012, RL ST 012) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

CAMS 012U (J ST 012U, RL ST 012U) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAMS 015 (GH)
Wonders of the Ancient World (3) Overview of ancient world by focusing on the famed "Seven Wonders" and similar achievements from 3000 B.C.E.-1st Century C.E.
Effective: Spring 2003

CAMS 020 (GH)
Egyptian Civilization (3) The culture, history, literature, and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.
Effective: Fall 2005

CAMS 025 (GH;IL)
Greek Civilization (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.
Effective: Summer 2005

CAMS 025U (GH;IL)
Greek Civilization (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAMS 033 (GH;IL)
Roman Civilization (3) Origin of the Romans; sociopolitical development; food, homes, education, marriage, family life, amusements, private and public worship.
Effective: Summer 2005

CAMS 044 (RL ST 044) (GH;IL)
Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Summer 2005

CAMS 044U (GH;IL)
Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CAMS 045 (GH;IL)
Classical Mythology (3) Introduction to Greek and Roman divinities, heroes and heroines; survey of the major myths and their influence on Western culture.
Effective: Summer 2005

CAMS 050 (GH)
Words: Classical Sources of English Vocabulary (3) An introduction to English word forms stressing the most frequently occurring Latin and Greek elements and their derivatives.
Effective: Fall 2004

CAMS 070 (J ST 070, RL ST 070) (GH;IL)
Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

CAMS 083S (GH;IL)
First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Summer 2005

CAMS 083T (GH;IL)
First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAMS 090 (J ST 090, RL ST 090) (GH;IL)
Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

CAMS 100 (HIST 100) (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Spring 2006

CAMS 101 (HIST 101) (GH;IL)

The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

CAMS 102 (HIST 102, J ST 102, RL ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

CAMS 104 (HIST 104) (GH)
Ancient Egypt (3) The history and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.
Effective: Summer 2002

CAMS 105 (GH;IL)
History of the Ancient Near East (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.
Effective: Summer 2005

CAMS 105U (GH;IL)
History of the Ancient Near East (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CAMS 109Y (GH;IL)
Writing Systems of the World (3) Writing intensive overview of the world's writing systems throughout history.
Effective: Spring 2007

CAMS 110 (J ST 110, RL ST 110) (GH;US;IL)
Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

CAMS 111 (J ST 111, RL ST 111) (GH;IL)
Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

CAMS 120 (J ST 120, RL ST 120) (GH)
New Testament (3) Introduction to the history, literature, and religion of early Christianity in the Jewish-Hellenistic setting.
Effective: Spring 2004

CAMS 124 (J ST 124, RL ST 124) (GH;US;IL)
Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

CAMS 133 (J ST 133, RL ST 133) (GH)
Archaeology of the Levant and Ancient Israel (3) Archaeology of the Levant and

Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.
Effective: Spring 2004

CAMS 134 (J ST 134, RL ST 134) (GH;IL)
Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

CAMS 140 (GH;IL)
Classical Archaeology--Ancient Greece (3) Literary sources and material evidence for society; culture of the inhabitants of Greece in ancient times.
Effective: Summer 2005

CAMS 150 (GH;IL)
Classical Archaeology--Ancient Rome (3) Literary sources for the development of Roman civilization in relation to the relevant archaeological discoveries.
Effective: Summer 2005

CAMS 180 (HIST 180) (GH;IL)
Ancient Warfare (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.
Effective: Summer 2006

CAMS 200 (PHIL 200) (GH)
Ancient Philosophy (3) Examines the thought and influence of major Western thinkers from the pre-Socratics to the neo-Platonists, emphasizing Plato and Aristotle.
Effective: Fall 2003

CAMS 250U (GH;IL)
Honors Classics in Literature and Film (3) This honors course explores the Classical Tradition as it thrives in the literature of later epochs and film.
Effective: Summer 2010

CAS 084S (GH)
First-Year Seminar in Communication Arts and Sciences (3) Introduction to significant issues surrounding effective human communication; humanities emphasis.
Effective: Summer 2002

CAS 175 (GH)
Persuasion and Propaganda (3) An introductory examination of how symbols have been used to create belief and action in revolutionary, totalitarian, and democratic settings.
Effective: Spring 2003

CAS 201 (GH)
Rhetorical Theory (3) History and theory of public advocacy and civic discourse.
Effective: Spring 2003

CAS 201S (GH)

Rhetorical Theory (3) History and theory of public advocacy and civic discourse.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAS 206 (GH)
Mediation and Communication (3) Presentation of the history, theory, and practice of mediation as a means of resolving conflict through communication.
Effective: Fall 2007

CHEM 233 (ENGL 233) (GH;GN)
Chemistry and Literature (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature throughout history, and the relationship of science to society, culture, and values.
Effective: Summer 2007

CHNS 120 (GH;IL)
Introduction to Chinese Literature and Culture (3) Chinese cultural productions, classical through contemporary; literature and film; changing cultural settings in multiple Chinese-speaking locations. Taught in English.
Effective: Spring 2010

CHNS 121 (GH;IL)
Chinese Film and New Media (3) Survey of Chinese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

CMLIT 001 (GH;IL)
Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Spring 2005

CMLIT 001U (GH;IL)
Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 001U (GH;IL)
Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CMLIT 002 (GH;IL)
Introduction to Western Literatures Since the Renaissance (3) Introductory comparative survey of European and American literatures, post-Renaissance through Modern, considering genre, themes, cultural, and literary values.
Effective: Summer 2005

CMLIT 003 (GH;IL)
Introduction to African Literatures (3) Comparative analysis of drama, essay,

novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.
Effective: Summer 2005

CMLIT 003U (GH;IL)
Introduction to African Literatures (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 004 (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 004 (ASIA 004) (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Future: Fall 2010

CMLIT 004U (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 005 (GH;US;IL)
Introduction to Literatures of the Americas (3) Comparative interpretation of the oral and written literary traditions of North, Central, and South America.
Effective: Summer 2005

CMLIT 006 (PHIL 006) (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Spring 2006

CMLIT 010 (GH;IL)
The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010 (GH;IL)
World Literatures (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 010S (GH;IL)
The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to

modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010S (GH;IL)
World Literatures (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 011 (GH;IL)
The Hero in World Literature (3) The figure of the hero/heroine examined in world literature as a vehicle for expressing social and cultural values.
Effective: Summer 2005

CMLIT 012 (GH;IL)
Introduction to World Drama and Performance (3) The power, ethics, and excitement of drama and related forms of performance literature, presented in a global and comparative context.
Effective: Summer 2010

CMLIT 013 (GH;IL)
Virtual Worlds: Antiquity to the Present (3) Virtual worlds from anicent to postmodern, in a comparative and global context that includes literature, film, and online multiplayer games.
Effective: Summer 2010

CMLIT 083S (GH;IL)
First-Year Seminar in Comparative Literature (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Summer 2005

CMLIT 083T (GH;IL)
First-Year Seminar in Comparative Literature (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 100 (GH;IL)
Introduction to Comparative Literature (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 100 (GH;IL)
Reading Across Cultures (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.
Effective: Fall 2010 Future: Fall 2010

CMLIT 101 (GH;US;IL)
The Theme of Identity in World Literature: Race, Gender, and Other Issues of Diversity (3) Themes of gender and heritage, centrality and marginality, self and

other, as expressed in literary works from around the world.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 101 (GH;US;IL)
Race, Gender, and Identity in World Literature (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Fall 2010 Future: Fall 2010

CMLIT 101U (GH;US;IL)
Race, Gender, and Identity in World Literature (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 105 (GH;IL)
The Development of Literary Humor (3) Literary humor expressed as satire, comedy, and farce--from ancient times to the present--in an international and multicultural context.
Effective: Summer 2005

CMLIT 106 (GH;IL)
The Arthurian Legend (3) The growth and development of the legend of King Arthur, from medieval Europe to modern Japan.
Effective: Summer 2005

CMLIT 107 (GH;IL)
The Literature of Exploration: Extraordinary Voyages from Antiquity to the Future (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 107 (GH;IL)
Exploration, Travel, Migration, and Exile (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.
Effective: Spring 2011 Future: Spring 2011

CMLIT 108 (GH;IL)
Myths and Mythologies (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.
Effective: Summer 2005

CMLIT 108U (GH;IL)
Myths and Mythologies (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 109 (GH;US;IL)
Native American Myths, Legends, and Literatures (3) Myths, legends, and literatures of Native American cultures.
Effective: Spring 2006

CMLIT 110 (GH;US;IL)
Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 110 (J ST 131) (GH;US;IL)
Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Spring 2011 Future: Spring 2011

CMLIT 111 (GH;IL)
Introduction to Literatures of India (3) Narrative, lyric, religious, oral, and dramatic literature, as well as film from India studied in translation from a global perspective.
Effective: Summer 2005

CMLIT 120 (GH;IL)
The Literature of the Occult (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.
Effective: Spring 2006

CMLIT 120U (GH;IL)
The Literature of the Occult (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CMLIT 122 (GH;US;IL)
Global Science Fictions (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.
Effective: Summer 2010

CMLIT 122U (GH;US;IL)
Global Science Fictions (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CMLIT 130 (GH;IL)
Banned Books: International and Comparative Perspectives (3) The world of banned books, their history, and their politics, studied comparatively and internationally.
Effective: Summer 2010

CMLIT 131 (GH;IL)
Crime and Detection in World Literature (3) Issues of ethics, truth, justice, and social order as embodied in crime and detective literature, presented in comparative contexts.
Effective: Summer 2010

CMLIT 132 (GH;IL)
Nobel Prize Literature (3) Introduction to Nobel Prize winning literature and the culture of the prize in international and historical context.
Effective: Summer 2010

CMLIT 140 (GH;IL)
Literature and the Other Arts: International and Comparative Perspectives (3) A comparative, international examination of the relationship between literature and non-literary art forms.
Effective: Summer 2010

CMLIT 141 (GH;US;IL)
Religion and Literature (3) Major religious themes as expressed in literary masterpieces; sacred texts from various cultures read as literature.
Effective: Summer 2005

CMLIT 142 (GH;IL)
The Psychology of World Literature (3) A comparative, psychological approach to world literature from the perspectives of writer, narrative, character, and reader.
Effective: Summer 2010

CMLIT 143 (GH;US;IL)
Human Rights and World Literature (3) Human rights violations discussed in tandem with their literary representation, presented in a global and comparative context.
Effective: Summer 2010

CMLIT 153 (GH;IL)
International Cultures Through Literature and Film (3) Comparison of narrative techniques employed by literature and film in portraying different cultures; topics may vary each semester.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 153 (GH;IL)
International Cultures: Film and Literature (3) Comparison of narrative techniques employed by literature and film in portraying different cultures, topics may vary each semester.
Effective: Spring 2011 Future: Spring 2011

CMLIT 184 (ENGL 184) (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the Nineteenth and Twentieth Century.
Effective: Spring 2006

CMLIT 185 (ENGL 185) (GH;IL)
The Modern Novel in World Literature (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 185 (ENGL 185) (GH;IL)

World Novel (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2011 Future: Spring 2011

CMLIT 189 (ENGL 189) (GH;IL)
The Founders of Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 189 (ENGL 189) (GH;IL)
Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2011 Future: Spring 2011

CMLIT 190 (GH;IL)
Literary and Cultural Theory: An Introduction (3) A comparative introduction to literary and cultural theory, and its impact on the study of literature.
Effective: Summer 2010

CMLIT 415 (GH;US;IL)
World Graphic Novels (3) Critical analyses of form, genre, medium, and discourse of the graphic novel and its historical precedents in an international and comparative context.
Effective: Summer 2010
Prerequisite: 3 credits in literature

COMM 110 (GH)
Media and Democracy (3) This course considers the role of the mass media with regard to developing civic awareness and engagement in democratic societies.
Effective: Spring 2009

COMM 261 (GH)
The Literature of Journalism (3) Representative nonfiction by writers such as Susan Sheehan, George Orwell, Joan Didion, Alice Walker, Truman Capote, C. D. B. Bryan, Russell Baker.
Effective: Spring 2001

COMM 261H (GH)
The Literature of Journalism (3) Representative nonfiction by writers such as Susan Sheehan, George Orwell, Joan Didion, Alice Walker, Truman Capote, C.D.B. Bryan, Russell Baker.
Effective: Summer 2005

COMM 292 (GH)
Introduction to Media & Politics (3) This course explores the intersection of media and politics, introducing students to the critical analysis of mediated political discourse.
Effective: Spring 2008

ENGL 001 (GH)
Understanding Literature (3) Explores how major fiction, drama, and poetry, past

and present, primarily English and American, clarify enduring human values and issues.
Effective: Spring 2003

ENGL 001H (GH)
Understanding Literature (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 001S (GH)
Understanding Literature (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.
Effective: Fall 2000

ENGL 001W (GH)
Understanding Literature (3) Studies the various critical ways of reading, understanding, and writing about fiction, poetry, and drama.
Effective: Spring 1999

ENGL 002 (GH)
The Great Traditions in English Literature (3) Major works of fiction, drama, and poetry from the Middle Ages to the twentieth century expressing enduring issues and values.
Effective: Spring 2000

ENGL 003 (GH)
The Great Traditions in American Literature (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.
Effective: Spring 2001

ENGL 003S (GH)
The Great Traditions in American Literature (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.
Effective: Fall 2002

ENGL 083S (GH)
First-Year Seminar in English (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.
Effective: Summer 1999

ENGL 083T (GH)
First-Year Seminar in English (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 088 (GH)
Australian/New Zealand Cultural Perspectives (3) Australian and New Zealand cultural and social perspectives, with emphasis on the historical development of

intellectual, aesthetic, and humanistic values.
Effective: Spring 2001

ENGL 104 (GH)
The Bible as Literature (3) Study of the English Bible as a literary and cultural document.
Effective: Spring 2002

ENGL 105 (AM ST 105) (GH;US)
American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2008

ENGL 129 (GH)
Shakespeare (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.
Effective: Spring 2003

ENGL 129H (GH)
Shakespeare (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 129H (GH)
Shakespeare (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ENGL 130 (GH)
Reading Popular Texts (3) Popular texts (printed, visual, and aural texts) and their social, political, and cultural significance in the contemporary world.
Effective: Fall 2007
Prerequisite: ENGL 015 or ENGL 030H

ENGL 130H (GH)
Reading Popular Texts (3) Popular texts (printed, visual, and aural texts) and their social, political, and cultural significance in the contemporary world.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030H

ENGL 132 (J ST 132) (GH;US)
Introduction to Jewish American Literature (3) A historical and thematic survey of Jewish Literature of the United States.
Effective: Spring 2009

ENGL 133 (GH)
Modern American Literature to World War II (3) Cather, Eliot, Frost, Faulkner, Fitzgerald, Hemingway, Hurston, Wharton, Wright, and other writers representative of the years between the world wars.
Effective: Spring 2002

ENGL 134 (GH)
American Comedy (3) Studies in American comedy and satire, including such writers as Mark Twain, Faulkner, Vonnegut, Ellison, O'Connor, Welty, and Heller.
Effective: Spring 2003

ENGL 134H (GH)
American Comedy (3) Studies in American comedy and satire, including such writers as Mark Twain, Faulkner, Vonnegut, Ellison, O'Connor, Welty, and Heller.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 135 (GH;US)
Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 135S (GH;US)
Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 136 (GH)
The Graphic Novel (3) The graphic novel as a literary and visual form (produced primarily in English).
Effective: Summer 2010

ENGL 139 (GH;US)
Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Summer 2005

ENGL 139S (GH;US)
Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Fall 2006

ENGL 140 (GH)
Contemporary Literature (3) Writers such as Baldwin, Beckett, Bellow, Ellison, Gordimer, Lessing, Lowell, Mailer, Naipaul, Pinter, Plath, Pynchon, Rushdie, and Walker.
Effective: Spring 2003

ENGL 145 (GH;IL)
Modern Irish Literature (3) Irish literature in the twentieth century and beyond; focus on the interplay of poltical, social, and cultural, forces on literature.
Effective: Spring 2007

ENGL 180 (GH)
Literature and the Natural World (3) Literary representations of the natural world, focusing on English language traditions.
Effective: Spring 2003

ENGL 182A (GH;US;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182B (GH;US)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182C (GH;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182S (GH;US;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 184 (CMLIT 184) (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 184S (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 185 (CMLIT 185) (GH;IL)
The Modern Novel in World Literature (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2006 Ending: Fall 2010

ENGL 185 (CMLIT 185) (GH;IL)
World Novel (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2011 Future: Spring 2011

ENGL 189 (CMLIT 189) (GH;IL)
The Founders of Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2006 Ending: Fall 2010

ENGL 189 (CMLIT 189) (GH;IL)
Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2011 Future: Spring 2011

ENGL 191 (GH)
Science Fiction (3) Science fiction as the literature of technological innovation and social change--its development, themes, and problems.
Effective: Summer 1995

ENGL 192 (GH)
The Literature of Fantasy (3) Literature(s) of fantasy from early forms through a variety of contemporary traditions.
Effective: Spring 2011 Future: Spring 2011

ENGL 194 (WMNST 194) (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 194H (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 194S (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 196 (AM ST 196, AMSTD 196) (GH;US)
Introduction to American Folklore (3) A basic introduction to verbal and nonverbal folklore stressing the basic procedures of collection, classification, and analysis.
Effective: Summer 2005

ENGL 201 (GH)
What is Literature (3) Acquaints students with theory and practice relevant to studies of narrative, lyric poetry, and drama.
Effective: Summer 2006
Prerequisite: ENGL 015 or ENGL 030

ENGL 201H (GH)
What is Literature (3) Acquaints students with theory and practice relevant to studies of narrative, lyric poetry, and drama.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030

ENGL 225 (ART H 225, WMNST 225) (GA;GH)
Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

ENGL 226 (LTNST 226) (GH;US;IL)
Latina and Latino Border Theories (3) English 226 will constitute a wide-ranging

examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.
Effective: Spring 2007

ENGL 227 (GH;US;IL)
Introduction to Culture and Sexuality (3) A course addressing the relationships between sexuality, literature, and culture.
Effective: Summer 2009
Prerequisite: ENGL 015 or ENGL 030

ENGL 233 (CHEM 233) (GH;GN)
Chemistry and Literature (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature through history, and the relationship of science to society, culture, and values.
Effective: Spring 2006

ENGL 245 (GH;US)
Introduction to Lesbian and Gay Studies (3) An introduction to the study of sex and (homo)sexual identity across a wide range of disciplines and methodoligies.
Effective: Summer 2007

ENGL 262 (GH)
Reading Fiction (3) Elements of fiction including plot, character, viewpoint, and fictional genres in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 or ENGL 030

ENGL 263 (GH)
Reading Poetry (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 or ENGL 030

ENGL 263S (GH)
Reading Poetry (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030

ENGL 265 (GH)
Reading Nonfiction (3) Forms of nonfictional prose such as autobiography, biography, essay, letter, memoir, oration, travelogue in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 or ENGL 030

ENGL 268 (GH)
Reading Drama (3) Elements of drama including plot, character, dialogue, staging, and dramatic forms in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 or ENGL 030

FD SC 280H (PHIL 280H) (GH)
Food, Values, and Health (3) The perceived relatinship between food and health, emphasizing the conceptual nature of both; and how values contribute to the relationship.
Effective: Spring 2007

FR 083S (GH;IL)
First-Year Seminar in French (3) Critical approaches to the dimensions and directions in French/Francophone literatures and cultures.
Effective: Summer 2005

FR 137 (GH;IL)
Paris: Anatomy of a City (3) Survey of the cultural, artistic, literary, and social life of the city of Paris from Gallo-Roman times to the present.
Effective: Summer 2005

FR 138 (GH)
French Culture Through Film (3) Introduction to French culture through film by French and francophone directors examining gender, ethnicity, and global issues. Taught in English.
Effective: Spring 2002

FR 139 (GH;IL)
France and the French-speaking World (3) An introduction to the culture of France and its impact on the world.
Effective: Summer 2005

FR 142 (GH)
French and Francophone Literatures in Translation (3) An introduction to the literature of France and French-speaking countries.
Effective: Spring 2004

GEOG 122 (GH;US)
The American Scene (3) Historical perspectives on the social and cultural forces associated with the production of distinctive American landscapes.
Effective: Spring 2007

GER 083S (GH;US;IL)
First-Year Seminar in German (3) Germany's cultural past and present.
Effective: Summer 2005

GER 083T (GH;US;IL)
First-Year Seminar in German (3) Germany's cultural past and present.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

GER 100 (GH;IL)
German Culture and Civilization (3) Culture and civilization of the German people from the Germanic migrations to the Nazi period. Conducted in English.
Effective: Summer 2005

GER 120 (GH;IL)
The Faust Theme in Literature and in the Other Arts (3) Survey of the Faust

theme in literature (Spiess, Marlowe, Goethe, Mann), book illustrations, music (Gounod), theater, film, and visual arts.
Effective: Spring 2006

GER 143 (RUS 143) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Summer 2005

GER 143U (RUS 143U) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

GER 150 (GH;IL)
Masterpieces of German Literature in English Translation (3) Major works and prominent authors, E.G. Nieblungenlied, Tristan, Lessing, Goethe, Schiller, Heine, Hauptmann, Hesse, Mann, Kafka, Boll, Grass, Frisch.
Effective: Spring 2006

GER 157 (GH;US)
Pennsylvania Germans: The Culture of the Sectarians (3) Survey of the religious background, beliefs, social life, customs, education, and culture of the Pennsylvania German sectarians, especially the Amish. Conducted in English.
Effective: Summer 2005

GER 175 (GH;IL)
Germanic Heroic and Medieval Literature in English Translation (3) Germanic heroic and medieval courtly literature from 800 to 1350 focusing on the prevailing cultural, social, and legal conditions.
Effective: Spring 2006

GER 190 (GH;IL)
Twentieth-Century German Literature in English Translation (3) Works of such writers as Boll, Brecht, Durrenmatt, Frisch, Grass, Hesse, Kafka, Mann, Rilke, Weiss, and Wolf.
Effective: Spring 2006

GER 195 (GH;IL)
Modern German Drama and Theatre in English Translation (3) Plays and their stage realization by writers such as Brecht, Durrenmatt, Handke, Hauptmann, Kaiser, Schnitzler, Wedekind, and Weiss.
Effective: Spring 2006

GER 200 (GH;IL)
Contemporary German Culture (3) Germany since WWI, its politics, economics, society, arts, and educational system in the international context; conducted in English.
Effective: Summer 2005

GER 245 (GH)
The Vikings (3) Focus on the history of the Vikings from 800 to 1400 as conveyed

to us in mythology, literature, and archaeology. Conducted in English.
Effective: Spring 2005

HEBR 010 (J ST 010) (GH;IL)
Jewish Civilization (3) Life of the Jewish people from Biblical times, emphasizing cultural, religious, and institutional developments.
Effective: Summer 2005

HIST 001 (GH;IL)
The Western Heritage I (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.
Effective: Spring 2006

HIST 001T (GH;IL)
The Western Heritage I (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.
Effective: Spring 2006

HIST 002 (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Spring 2006

HIST 002S (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Summer 2005

HIST 002U (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 003 (GH)
The American Nation: Historical Perspectives (3) American history from discovery to the present, focusing on both racial, ethnic, and religious differences and shared traditions and ideals.
Effective: Spring 1995

HIST 003H (GH)
The American Nation: Historical Perspectives (3) American history from discovery to the present, focusing on both racial, ethnic, and religious differences and shared traditions and ideals.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 005 (CAMS 005) (GH;IL)
Ancient Mediterranean Civilizations (3) Survey of the history and cultures of anicent Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.
Effective: Spring 2008

HIST 010 (GH;IL)

World History I (3) Human origins; early civilizations; major political and intellectual developments on all continents; cultural interrelationships to 1500.
Effective: Summer 2005

HIST 011 (GH;IL)
World History II (3) Social, economic, and political evolution of societies and cultures from 1500 to the present.
Effective: Summer 2005

HIST 012 (GH;US)
History of Pennsylvania (3) Chronological and topical survey, emphasizing immigration of diverse ethnic groups and religious, political, economic, and social developments, including industrialization and urbanization.
Effective: Spring 2006

HIST 020 (GH;US)
American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 020U (GH;US)
American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 020Y (GH;US)
American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 021 (GH;US)
American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 021Y (GH;US)
American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 083S (GH)
First-Year Seminar in History (3) Critical approaches to the dimensions and directions in History.
Effective: Summer 1999

HIST 100 (CAMS 100) (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Spring 2006

HIST 100S (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Summer 2005

HIST 101 (CAMS 101) (GH;IL)
The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 101S (GH;IL)
The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 102 (CAMS 102, J ST 102, RL ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

HIST 103 (GH;IL)
The History of Madness, Mental Illness, and Psychiatry (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.
Effective: Summer 2005

HIST 103U (GH;IL)
The History of Madness, Mental Illness, and Psychiatry (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

HIST 104 (CAMS 104) (GH)
Ancient Egypt (3) The history and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.
Effective: Summer 2002

HIST 105 (GH;IL)
The Byzantine Empire (3) Development of Byzantine civilization from the decline of the Roman Empire to the fall of Constantinople.
Effective: Spring 2006

HIST 107 (MEDVL 107) (GH;IL)
Medieval Europe (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.
Effective: Spring 2006

HIST 108 (GH;IL)
The Crusades: Holy War in the Middle Ages (3) The social and political history of medieval religious warfare in Europe and in the Middle East.
Effective: Spring 2006

HIST 110 (GH;IL)
Nature and History (3) A broad introduction to the history of human relationships with nature throughout the world.
Effective: Summer 2005

HIST 115 (J ST 115, RL ST 115) (GH;US)
American Jewish History and Culture (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

HIST 117 (WMNST 117) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Summer 2005

HIST 117M (WMNST 117M) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 117U (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 119 (GH;IL)
Gender and History (3) Survey of the development of gender roles in Western societies from the prehistoric era to the early modern period.
Effective: Spring 2008

HIST 121 (J ST 121) (GH;IL)
History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.
Effective: Summer 2005

HIST 121U (GH;IL)
History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 122 (S T S 122) (GH)
History of Science I (3) A history of science and culture from Stonehenge to the scientific revolution.
Effective: Spring 2005

HIST 123 (S T S 123) (GH)
History of Science II (3) A history of science and culture from the scientific revolution to the present.
Effective: Spring 2004

HIST 124 (S T S 124) (GH;US;IL)

History of Western Medicine (3) This course explores the history of health, illness, and medicine in western society.
Effective: Summer 2008

HIST 130 (GH;US)
Introduction to the Civil War Era, 1848 through 1877 (3) Survey of causes and consequences of American Civil War, end of Mexican War in 1848 through end of Reconstruction, 1877.
Effective: Spring 2010

HIST 134 (GH;IL)
Introduction to the British Isles, 1400-1800 (3) Survey of the history and cultures of the British Isles from 1400 to 1800.
Effective: Spring 2010

HIST 141 (GH;IL)
Medieval and Modern Russia (3) Introductory survey, including political, social, economic, and cultural development of Kievan, Muscovite, and Imperial Russia.
Effective: Spring 2006

HIST 143 (GH;IL)
History of Fascism and Nazism (3) The study of right-wing totalitarianism in the twentieth century, with special emphasis on Fascist Italy and Nazi Germany.
Effective: Spring 2006

HIST 144 (GH;US;IL)
The World at War: 1939-1945 (3) In-depth study of the origins and conduct of World War II. Political and economic aspects as well as military.
Effective: Spring 2006

HIST 152 (GH;US;IL)
African American History (3) African roots; colonial and revolutionary experiences; slavery and abolitionism; civil war and reconstruction; accommodation and protest; the new militancy.
Effective: Summer 2005

HIST 153 (GH;US)
The Indian in North America (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 153Y (GH;US)
The Indian in North America (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 154 (GH;US)
History of Welfare and Poverty in the United States (3) History of care of the impoverished (emphasis on gender, race, nationality, age of poor, and welfare givers), 18th century to present.
Effective: Summer 2005

HIST 155 (GH;US)
American Business History (3) Major developments in the history of business and industry from the colonial period to the present.
Effective: Spring 2006

HIST 173 (GH;IL)
Vietnam in War and Peace (3) Rise of nationalism and communism; origins of conflict; United States involvement; impact on postwar regional and international politics; contemporary Vietnam.
Effective: Spring 2006

HIST 174 (GH;IL)
The History of Traditional East Asia (3) Comparative cultural, institutional, and social history of traditional China and Japan to their contact with the industrialized West.
Effective: Summer 2005

HIST 175 (GH;IL)
The History of Modern East Asia (3) Comparative survey of the internal developments and external relations of China and Japan since their contact with the industrialized West.
Effective: Summer 2005

HIST 176 (GH;IL)
Survey of Indian History (3) Survey of cultural, institutional, and political history from ancient times to the present.
Effective: Summer 2005

HIST 178 (GH;IL)
Latin-American History to 1820 (3) Conquest of the New World, development of colonial institutions, impact on native cultures, and origins of independence movements.
Effective: Summer 2005

HIST 179 (GH;IL)
Latin-American History Since 1820 (3) Origin, political growth, international relations, and economic status of the Latin-American republics, with emphasis upon present-day conditions.
Effective: Summer 2005

HIST 180 (CAMS 180) (GH;IL)
Ancient Warfare (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.
Effective: Summer 2006

HIST 181 (GH;IL)
Introduction to the Middle East (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.
Effective: Summer 2005

HIST 181U (GH;IL)
Introduction to the Middle East (3) Origins of Islamic civilization; expansion of

Islam; the Ottoman Empire; the Middle East since 1918.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 191 (AAA S 191) (GH;IL)
Early African History (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.
Effective: Summer 2005

HIST 192 (AAA S 192) (GH;IL)
Modern African History (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.
Effective: Summer 2005

HIST 205 (J ST 205, RL ST 205) (GH;US)
American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

HIST 210 (AAA S 210) (GH;US)
Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) The course will explore the context and events that shaped African American life over the period 1896-1932.
Effective: Summer 2005
Prerequisite: AAA S 100 three credits of American history or permission of the instructor

HIST 211 (AAA S 211) (GH;US;IL)
The Emergence and Evolution of the Black Diaspora in the Atlantic World (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 003 or HIST 020 or HIST 021 or HIST 152

HIST 240 (AAA S 240) (GH;US)
Harlem: History, Culture, and Politics, 1890-Present (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 152

HIST 250 (AAA S 250) (GH;IL)
Introduction to the Modern Caribbean (3) A survey course which explores the historical evolution and emergence of the modern Caribbean.
Effective: Summer 2005

I HUM 150 (GH;IL)
World Mythologies in the Arts (3) Interdisciplinary, cross cultural, historical, and contemporary study of world mythologies as represented in the visual arts, literature, and film.
Effective: Spring 2009

I HUM 311 (GH;IL)

The Western Tradition I (3) From prehistory through the Roman world.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 312 (GH;IL)
The Western Tradition II (3) The Middle Ages and the Renaissance.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 313 (GH;IL)
The Western Tradition III (3) The making of the modern mind.
Effective: Summer 2005
Prerequisite: fifth-semester standing

IT 083S (GH;IL)
First-Year Seminar in Italian Literature, Film, and Culture (3) Introduction to the study of Italian literature, film, and culture.
Effective: Summer 2005

IT 130 (GH;IL)
Italian Culture and Civilization (3) Italian life from antiquity to the present; literature, film, the arts, and contemporary problems in historical perspective.
Effective: Summer 2005

IT 131 (GH;US)
Italian American Culture and Civilization (3) Italian-American experience from the late 19th century to present. Socio-political issues seen through cinema and through literary and other readings.
Effective: Summer 2005

IT 230 (GH)
Masterpieces of Italian Literature in English Translation (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.
Effective: Summer 1995

J ST 004 (CAMS 004, RL ST 004) (GH;US;IL)
Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationship to culture.
Effective: Summer 2005

J ST 010 (HEBR 010) (GH;IL)
Jewish Civilization (3) Life of the Jewish people from biblical times; emphasizing cultural, religious, and institutional developments.
Effective: Summer 2005

J ST 012 (CAMS 012, RL ST 012) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

J ST 012U (CAMS 012U, RL ST 012U) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

J ST 070 (CAMS 070, RL ST 070) (GH;IL)
Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

J ST 083S (GH;IL)
First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Summer 2005

J ST 083T (GH;IL)
First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

J ST 090 (CAMS 090, RL ST 090) (GH;IL)
Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

J ST 102 (CAMS 102, HIST 102, RL ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

J ST 110 (CAMS 110, RL ST 110) (GH;US;IL)
Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

J ST 111 (CAMS 111, RL ST 111) (GH;IL)
Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

J ST 114 (RL ST 114) (GH;US;IL)
Modern Judaism (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.
Effective: Summer 2005

J ST 115 (HIST 115, RL ST 115) (GH;US)
American Jewish History and Culture (3) Examination of the history, culture, social tenstions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

J ST 120 (CAMS 120, RL ST 120) (GH)
New Testament (3) Introduction to the history, literature, and religion of early

Christianity in the Jewish-Hellenistic setting.
Effective: Spring 2004

J ST 121 (HIST 121) (GH;IL)
History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.
Effective: Summer 2005

J ST 124 (CAMS 124, RL ST 124) (GH;US;IL)
Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

J ST 131 (CMLIT 110) (GH;US;IL)
Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Spring 2011 Future: Spring 2011

J ST 132 (ENGL 132) (GH;US)
Introduction to Jewish American Literature (3) A historical and thematic survey of Jewish Literature of the United States.
Effective: Spring 2009

J ST 133 (CAMS 133, RL ST 133) (GH)
Archaeology of the Levant and Ancient Israel (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.
Effective: Spring 2004

J ST 134 (CAMS 134, RL ST 134) (GH;IL)
Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

J ST 205 (HIST 205, RL ST 205) (GH;US)
American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

J ST 280 (WMNST 280, RL ST 280) (GH;IL)
Women and Judaism (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.
Effective: Fall 2006

JAPNS 120 (GH;IL)
Japanese Literature in Its Cultural Context (3) Japanese literature and film from classical through contemporary times, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

JAPNS 121 (GH;IL)

Japanese Film and New Media (3) Survey of Japanese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

LING 102 (GH)
Introduction to Historical Linguistics (3) How languages change and evolve over time; language families; effects of borrowing and language contact.
Effective: Spring 2002
Prerequisite: LING 010 or LING 100

LTNST 100 (GH;US)
Introduction to Latina/s Studies (3) This course provides an interdisciplinary introduction to the study of Latinas/os in the U.S.
Effective: Summer 2006

LTNST 226 (ENGL 226) (GH;US;IL)
Latina and Latino Border Theories (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.
Effective: Spring 2007

LTNST 315 (SPAN 315) (GH;US)
Spanish and Spanish-speakers in the U.S. (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.
Effective: Summer 2006

LTNST 326 (SPAN 326) (GH;US)
Reading the Border/Lands (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.
Effective: Summer 2006

MEDVL 083S (GH;IL)
First-Year Seminar in Medieval Studies (3) Critical approaches to the dimensions and directions in Medieval Studies.
Effective: Spring 2006

MEDVL 107 (HIST 107) (GH;IL)
Medieval Europe (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.
Effective: Spring 2006

MEDVL 108 (GH;IL)
Medieval Civilization (3) An interdisciplinary introduction to literature, art, and thought of the Middle Ages.
Effective: Spring 2006

PHIL 001 (GH)
Basic Problems of Philosophy (3) Introduction to central philosophical themes, including the mind/body problem, the existence of God, ethical problems, the nature of reality. Students may take only one course for General Education credit from PHIL 001 GH or 004 GH.

Effective: Spring 2000

PHIL 002 (GH)
Philosophy, Politics, and Social Theory (3) Examines relations between political and social organizations, the justification and limits of the state, and issues concerning individuality and community.
Effective: Fall 2003

PHIL 003 (GH)
Persons, Moral Values and the Good Life (3) Major ethical positions and assumptions regarding questions of freedom, choice, obligation, and conflicts in contemporary moral conduct, values, and reasoning.
Effective: Fall 2004

PHIL 005 (GH)
Philosophy, Art, and Film (3) Explores relations between images and reality, representation and culture, and beauty and politics through film, artworks, and aesthetic theories.
Effective: Spring 2002

PHIL 006 (CMLIT 006) (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Spring 2006

PHIL 006S (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHIL 007 (GH;IL)
Asian Philosophy (3) Introduction to philosophical, moral, and aesthetic teachings of Asian traditions such as Hinduism, Buddhism (including Zen), Taoism, Confucianism, and Shintoism.
Effective: Summer 2005

PHIL 008 (WMNST 008) (GH)
Philosophy and Feminism (3) Explores diverse feminist philosophies of culture and knowledge, and examines gender's role in accounts of reality, truth, morality, and justice.
Effective: Spring 2006

PHIL 009 (GH;US)
Philosophy, Race, and Diversity (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.
Effective: Summer 2005

PHIL 009U (GH;US)
Philosophy, Race, and Diversity (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.

Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

PHIL 010 (GH)
Critical Thinking (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.
Effective: Fall 2003

PHIL 010S (GH)
Critical Thinking (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.
Effective: Spring 2005

PHIL 011 (GH)
Philosophy, Science, and Truth (3) Examines the philosophical foundations of natural scientific inquiry, knowledge, objectivity, and the relation of scientific truth to common sense.
Effective: Fall 2003

PHIL 013 (GH)
Philosophy, Nature, and the Environment (3) Studies competing historical and contemporary conceptions of nature, their philosophical foundations, and their implications for environmental problems and public policy.
Effective: Fall 2003

PHIL 014 (GH;US)
Philosophy of Love and Sex (3) Explores Western theories and attitudes concerning intimacy and examines various ethical issues involving love and sex.
Effective: Summer 2005

PHIL 083S (GH)
First-Year Seminar in Philosophy (3) Critical introduction to philosophical issues in ethics, social and political theory, religion, art, metaphysics, and epistemology.
Effective: Summer 1999

PHIL 100 (GH)
The Meaning of Human Existence (3) Explores differing views of the significance of human life, the meaning of freedom, and the way to a meaningful life.
Effective: Fall 2003

PHIL 101 (GH)
Pragmatism and American Philosophy (3) An introduction to American thought and its relation to American culture, with a focus on the development of pragmatism.
Effective: Fall 2003

PHIL 102 (GH)
Existentialism and European Philosophy (3) Introduction to European philosophy and issues of life, death, meaning, and absurdity, with a focus on existentialism and its development.
Effective: Fall 2003

PHIL 103 (GH)
Introduction to Ethics (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.
Effective: Fall 2003

PHIL 103W (GH)
Introduction to Ethics (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.
Effective: Fall 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 105 (GH)
Introduction to Philosophy of Law and Legal Ethics (3) Historical and contemporary philosophies of law; concepts of responsibility, property, rights, and justice; and ethical issues in legal practice.
Effective: Fall 2003

PHIL 106 (GH)
Introduction to Business Ethics (3) Studies ethical foundations of business and ethical problems in business practices such as advertising, international trade, labor relations, and marketing.
Effective: Fall 2003

PHIL 107 (S T S 107) (GH)
Introduction to Philosophy of Technology (3) The character of technology; its relation to human values; philosophical assumptions in its development; and how it transforms the world.
Effective: Spring 2004

PHIL 108 (GH)
Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Fall 2003

PHIL 108H (GH)
Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

PHIL 108W (GH)
Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Summer 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 109 (GH)

Introduction to Aesthetics (3) Examines the nature of art and aesthetic experience, art's relation to beauty and truth, and the nature of creativity.
Effective: Fall 2003

PHIL 109H (GH)
Introduction to Aesthetics (3) Examines the nature of art and aesthetic experience, art's relation to beauty and truth, and the nature of creativity.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHIL 110 (GH)
Introduction to Philosophy of Science (3) Examines science's assumptions about knowledge and reality, the relation between science and culture, and the nature of scientific progress.
Effective: Fall 2003

PHIL 113 (GH)
Introduction to Philosophy of Literature (3) Examines philosophical ideas in literature, literary forms in philosophies, style and genre, and relation of philosophy, literature, writing, and culture.
Effective: Fall 2003

PHIL 115 (GH)
Introduction to Philosophy and Education (3) Examines the nature and goals of education, the philosophical foundations of educational theories, and their economic, political, and cultural implications.
Effective: Fall 2003

PHIL 116 (GH)
Introduction to Philosophy of Social Science (3) Examines the philosophical foundations of the social sciences, focusing on issues of methodology, quantification, objectivity, and value-neutrality.
Effective: Fall 2003

PHIL 117 (GH)
Introduction to Philosophy of Mathematics (3) Central philosophical issues regarding mathematics, including the reality of numbers, set theory, truth and content, and realism/anti-realism in mathematics.
Effective: Fall 2003

PHIL 118 (GH)
Introduction to Environmental Philosophy (3) Considers the moral status of the environment and applies ethical theory to issues such as preservation, hunger, pollution, and sustainability.
Effective: Fall 2003

PHIL 119 (GH)
Ethical Leadership (3) Introduction to philosophical theories of ethics and leadership. Uses literary and biographical texts in developing skills of application.
Effective: Summer 2007

PHIL 120 (GH)
Introduction to Philosophy of Economics (3) Studies philosophical issues such as

individualism and preference, behavior and choice, and history and politics in economic systems and theories.
Effective: Fall 2003

PHIL 122 (GH)
Introduction to Philosophy of History (3) Examines methodological foundations and interpretations of history, the objectivity of history, and the issue of history as design or chance.
Effective: Fall 2003

PHIL 123 (GH)
Introduction to Ethics in Media and Journalism (3) Studies ethical problems, human values, and politics in differing media forms and the ways media shape such problems and values.
Effective: Fall 2003

PHIL 124 (GH)
Introduction to Philosophy of Religion (3) Explores the meaning of religious belief and experience, the existence of God, ideas of spirituality, and the question of immortality.
Effective: Fall 2003
Prerequisite: third-semester standing

PHIL 125 (GH)
Introduction to Theories of Knowledge (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth, conception, perception, and interpretation.
Effective: Fall 2003

PHIL 125W (GH)
Introduction to Theories of Knowledge (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth, conception, perception, and interpretation.
Effective: Summer 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 126 (GH)
Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Fall 2003

PHIL 126H (GH)
Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHIL 126W (GH)
Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Summer 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 127 (GH)
Introduction to Philosophy of Mind (3) Problems and concepts of mind and consciousness including mind-brain identification, the nature of subjectivity, identity, and artificial intelligence.
Effective: Fall 2003

PHIL 129 (GH)
Introduction to Philosophy of Language (3) Studies the nature of meaning in language, how we acquire language, communication, signs, and language as descriptive of reality.
Effective: Fall 2003

PHIL 131 (GH)
Introduction to Agricultural Ethics (3) Includes the study of animal rights, international development, environmental sustainability, biotechnology, social policy and justice, and agrarian community.
Effective: Fall 2003

PHIL 132 (RL ST 131) (GH)
Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Fall 2003

PHIL 132S (GH)
Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Fall 2003

PHIL 200 (CAMS 200) (GH)
Ancient Philosophy (3) Examines the thought and influence of major Western thinkers from the pre-Socratics to the neo-Platonists, emphasizing Plato and Aristotle.
Effective: Fall 2003

PHIL 201 (GH)
Medieval Philosophy (3) Examines the thought and influence of major Western thinkers from the fourth to the fifteenth centuries, emphasizing Augustine and Aquinas.
Effective: Fall 2003

PHIL 202 (GH)
Modern Philosophy (3) Examines the thought and influence of major Western thinkers from Descartes to Kant, emphasizing rationalism and empiricism, and critical philosophy.
Effective: Fall 2003

PHIL 203 (GH)
Nineteenth Century Philosophy (3) Examines the thought and influence of major Western thinkers from Hegel to Nietzsche, including Marx, Kierkegaard, and

Schopenhauer.
Effective: Fall 2003

PHIL 204 (GH)
Twentieth Century Philosophy (3) Examines the thought and influence of major Western thinkers of the century, including pragmatists, phenomenologists, existentialists, critical theorists, and feminists.
Effective: Fall 2003

PHIL 208 (GH)
Contemporary Philosophy (3) Recent trends in philosophical thought and culture, hybrid philosophies, and the philosophical landscape of the future.
Effective: Fall 2003

PHIL 221 (GH)
Philosophy of Science (3) An inquiry into the form and function of concepts, laws, theories, and into the character of scientific explanation and prediction.
Effective: Fall 2003

PHIL 233 (S T S 233) (GH)
Ethics and the Design of Technology (3) Ethics and individual and group decision-making in the design of technology including design projects and specific attention to institutional ethics.
Effective: Spring 2004

PHIL 280H (FD SC 280H) (GH)
Food, Values, and Health (3) The perceived relatinship between food and health, emphasizing the conceptual nature of both; and how values contribute to the relationship.
Effective: Spring 2007

RL ST 001 (GH;US;IL)
Introduction to World Religions (3) An historical and comparative survey of the principal beliefs and practices of the world's major religions.
Effective: Summer 2005

RL ST 003 (GH;US;IL)
Introduction to the Religions of the East (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.
Effective: Summer 2005

RL ST 003U (GH;US;IL)
Introduction to the Religions of the East (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RL ST 004 (CAMS 004, J ST 004) (GH;US;IL)
Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.

Effective: Summer 2005

RL ST 012 (CAMS 012, J ST 012) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

RL ST 012U (CAMS 012U, J ST 012U) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RL ST 044 (CAMS 044) (GH;IL)
Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Summer 2005

RL ST 070 (CAMS 070, J ST 070) (GH;IL)
Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

RL ST 083S (GH)
First-Year Seminar in Religious Studies (3) Critical approaches to the dimensions and directions in Religious Studies.
Effective: Summer 1999

RL ST 090 (CAMS 090, J ST 090) (GH;IL)
Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

RL ST 101 (GH;IL)
Comparative Religion (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.
Effective: Summer 2005

RL ST 101U (GH;IL)
Comparative Religion (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RL ST 102 (CAMS 102, HIST 102, J ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

RL ST 103 (GH;US;IL)
Introduction to Hinduism (3) Historical development of Hinduism to the present.

Effective: Summer 2005

RL ST 104 (GH;US;IL)
Introduction to Buddhism (3) A general survey of the basic doctrine, practice, and historical development of Hinayana and Mahayana Buddhism.
Effective: Summer 2005

RL ST 105 (GH;US;IL)
Buddhism in the Western World (3) A general survey of the development of Buddhism as a religious tradition in the West, focusing especially on America.
Effective: Summer 2005

RL ST 106 (GH;IL)
Mysticism (3) A survey of the history, philosophy, and cultural impact of various mystical traditions in relation to world religions.
Effective: Spring 2006

RL ST 107 (GH;US;IL)
Introduction to Islam (3) Community and message of the early movement; development of authoritative structures and traditions; proliferation of sects; theology and creeds; mysticism.
Effective: Spring 2006

RL ST 108 (GH;IL)
Muhammad and the Qur'an (3) History of the Qur'an and its interpretation by the early Muslim community; life of Muhammad and his role within Islam.
Effective: Fall 2010 Future: Fall 2010

RL ST 110 (CAMS 110, J ST 110) (GH;US;IL)
Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

RL ST 111 (CAMS 111, J ST 111) (GH;IL)
Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

RL ST 114 (J ST 114) (GH;US;IL)
Modern Judaism (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.
Effective: Summer 2005

RL ST 115 (HIST 115, J ST 115) (GH;US)
American Jewish History and Culture (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

RL ST 116 (GH;IL)
Muslims in America (3) This course is a study of Muslims from multiple racial, cultural, and national perspectives; it explores what it means to be a Muslim in America.

Effective: Summer 2010

RL ST 120 (CAMS 120, J ST 120) (GH)
New Testament (3) Introduction to the history, literature, and religion of early Christianity in its Jewish-Hellenistic setting.
Effective: Spring 2004

RL ST 124 (CAMS 124, J ST 124) (GH;US;IL)
Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

RL ST 125W (GH)
Modern Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the sixteenth century to the present.
Effective: Summer 1995

RL ST 130 (GH)
The Ethics of Western Religion (3) History of theological-social ethics of the Judaeo-Christian tradition.
Effective: Summer 1995

RL ST 131 (PHIL 132) (GH)
Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Spring 2003

RL ST 133 (CAMS 133, J ST 133) (GH)
Archaeology of the Levant and Ancient Israel (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.
Effective: Spring 2004

RL ST 134 (CAMS 134, J ST 134) (GH;IL)
Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

RL ST 137 (WMNST 137) (GH;US;IL)
Women and Religion (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.
Effective: Spring 2006
Prerequisite: third-semester standing

RL ST 140Y (AM ST 140Y) (GH;US)
Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

RL ST 145 (AAA S 145) (GH;US;IL)
African American Religion (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.
Effective: Summer 2005

RL ST 146 (AAA S 146) (GH;US)
The Life and Thought of Martin Luther King, Jr. (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.
Effective: Summer 2005

RL ST 147 (AAA S 147) (GH;US)
The Life and Thought of Malcolm X (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.
Effective: Summer 2005

RL ST 205 (HIST 205, J ST 205) (GH;US)
American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

RL ST 280 (WMNST 280, J ST 280) (GH;IL)
WOMEN AND JUDAISM (3) Explores the Jewish views of women that have influenced the roles of women wit hin both the religion and Western culture.
Effective: Spring 2006

RUS 083S (GH;US;IL)
First-Year Seminar in Russian (3) Russia's cultural past and present.
Effective: Summer 2005

RUS 100 (GH;IL)
Russian Culture and Civilization (3) The Russian people from the tenth century to present times; their literature, arts, music, science, and philosophy. In English.
Effective: Summer 2005

RUS 110 (GH;IL)
Russian Folklore (3) Study of byliny, lyrical and historical songs, folktales, drama, ceremonial poetry, chants, charms, proverbs, and mythology of Russia. In English.
Effective: Summer 2005

RUS 120 (GH;IL)
Theatrical Arts of Russia (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.
Effective: Summer 2005

RUS 120U (GH;IL)
Theatrical Arts of Russia (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

RUS 143 (GER 143) (GH;IL)

The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Summer 2005

RUS 143U (GER 143U) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

S T S 100 (GH)
The Ascent of Humanity (3) A survey of some of the intellectual achievements that highlight humanity's attempts to understand nature and shape the environment.
Effective: Spring 2005 Ending: Fall 2010

S T S 100 (GH)
Science, Technology, and Culture (3) A survey of the development and culture of science, technology, and medicine in world history.
Effective: Spring 2011 Future: Spring 2011

S T S 101 (GH)
Modern Science, Technology, and Human values (3) Relationships of science and technology to human aspirations, values, and arts.
Effective: Spring 1996

S T S 101H (GH)
Modern Science, Technology, and Human values (3) Relationships of science and technology to human aspirations, values, and arts.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

S T S 107 (PHIL 107) (GH)
Introduction to Philosophy of Technology (3) The character of technology; its relation to human values; philosophical assumptions in its development; and how it transforms the world.
Effective: Spring 2004

S T S 122 (HIST 122) (GH)
History of Science I (3) A history of science and culture from Stonehenge to the scientific revolution.
Effective: Spring 2005

S T S 123 (HIST 123) (GH)
History of Science II (3) A history of science and culture from the scientific revolution to the present.
Effective: Spring 2004

S T S 124 (HIST 124) (GH;US;IL)
History of Western Medicine (3) This course explores the history of health, illness, and medicine in western society.
Effective: Summer 2008

S T S 202 (GH;IL)

Introduction to Disability Studies in the Humanities (3) Provides a humanities-based interdisciplinary introduction to Disability Studies.
Effective: Summer 2008

S T S 233 (PHIL 233) (GH)
Ethics and the Design of Technology (3) Ethics and individual and group decision-making in the design of technology including design projects and specific attention to institutional ethics.
Effective: Spring 2004

S T S 235 (GH)
Science and Religion (3) This course investigates the relationship between science and religion in multiple cultures.
Effective: Spring 2009
Prerequisite: completion of a basic composition course or the equivalent S T S 100 or S T S 101 or completion of 30 credits of coursework

SPAN 083S (GH;IL)
First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Summer 2005

SPAN 083T (GH;IL)
First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SPAN 130 (GH;IL)
Iberian Civilization (3) Spanish and Portuguese life from the medieval period to the present; literature, the arts, and contemporary problems in historical perspective.
Effective: Spring 2006

SPAN 131 (GH;US;IL)
Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 131Y (GH;US;IL)
Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 230 (GH)
Masterpieces of Spanish Literature in English Translation (3) Study of works and authors of international importance; lectures, readings, and written works in English.
Effective: Spring 2003

SPAN 231 (GH;IL)

Masterpieces of Spanish American Literature in English Translation (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.
Effective: Summer 2005

SPAN 315 (LTNST 315) (GH;US)
Spanish and Spanish-speakers in the U.S. (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.
Effective: Summer 2006

SPAN 326 (LTNST 326) (GH;US)
Reading the Border/Lands (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.
Effective: Summer 2006

UKR 083S (GH;IL)
1st Year Seminar in Ukrainian (3) Aspects of Ukrainian Culture in Comparative Contexts
Effective: Spring 2006

UKR 100 (GH;IL)
Ukrainian Culture and Civilization (3) Survey of Ukrainian culture and civilization from the Middle Ages to the present.
Effective: Summer 2005

WMNST 003 (GH;US;IL)
Introduction to Women, the Humanities, and the Arts (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.
Effective: Summer 2005

WMNST 003U (GH;US;IL)
Introduction to Women, the Humanities, and the Arts (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 008 (PHIL 008) (GH)
Philosophy and Feminism (3) Explores diverse feminist philosophies of culture and knowledge, and examines gender's role in accounts of reality, truth, morality, and justice.
Effective: Spring 2006

WMNST 083S (GH;US;IL)
First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Summer 2005

WMNST 083T (GH;US;IL)
First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 101 (AAA S 101) (GH;US)
The African American Woman (3) The sociological, historical and political experiences of African American women, their roles and contributions to society.
Effective: Summer 2005

WMNST 102 (AAA S 102) (GH;IL)
Women of Color: Cross-Cultural Perspective (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.
Effective: Summer 2005

WMNST 104 (AM ST 104) (GH;US)
Women and the American Experience (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.
Effective: Summer 2005

WMNST 117 (HIST 117) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Summer 2005

WMNST 117M (HIST 117M) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 137 (RL ST 137) (GH;US;IL)
Women and Religion (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.
Effective: Spring 2006
Prerequisite: third-semester standing

WMNST 194 (ENGL 194) (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by British, American, and other English-speaking women writers.
Effective: Summer 2005

WMNST 225 (ENGL 225, ART H 225) (GA;GH)
Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

WMNST 280 (J ST 280, RL ST 280) (GH;IL)
Women and Judaism (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.
Effective: Fall 2006

Social and Behavioral Sciences

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

AAA S 100 (GS;US)
Evolving Status of Blacks in the Twentieth Century: Interdisciplinary Perspectives (3) An interdisciplinary, team-taught exploration of the evolving status of Black Americans in the twentieth century. Emphasis on the civil rights movement.
Effective: Summer 2005

AAA S 110 (GS;IL)
Introduction to Contemporary Africa (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.
Effective: Summer 2005

AAA S 110U (GS;IL)
Introduction to Contemporary Africa (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

AAA S 202 (WMNST 202) (GS;IL)
Gender Dynamics in Africa (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.
Effective: Summer 2005

AAA S 364 (WMNST 364) (GS;US)
Black & White Sexuality (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.
Effective: Spring 2007

AEE 201 (GS)
Interpersonal Skills for Tomorrow's Leaders (3) Study of concepts of self identity, values and interpersonal relations as related to professional and personal life.
Effective: Summer 2008

AG BM 101 (GS)
Economic Principles of Agribusiness Decision Making (3) Introduction to economic principles and their application to real world examples of agribusiness management issues.
Effective: Spring 2003

AN SC 215 (GS)
Pets in Society (3) Introduction to the varied roles that companion animals play in

human society and their impact on human activity and well-being.
Effective: Spring 2006

ANTH 001 (GS;US;IL)
Introductory Anthropology (3) Prehistoric and traditional peoples and cultures; traditional customs and institutions compared with those of modern society.
Effective: Summer 2005

ANTH 002 (GS)
Introduction to Archaeology (3) Survey of basic approaches used by archaeologists to interpret basic prehistoric human cultural patterns.
Effective: Spring 2000

ANTH 008 (GS;IL)
Aztecs, Mayas, and Incas (3) Comparative survey of the development of the pre-Columbian Latin American civilizations.
Effective: Summer 2005

ANTH 009 (GS;IL)
Rise of Civilization in the Old World (3) Evolution of Old World complex societies, especially the first great civilizations of Mesopotamia, Egypt, China, and the Indus Valley.
Effective: Spring 2006

ANTH 011 (GS;IL)
Introductory North American Archaeology (3) Introduction to archaeology of the North American Indians; sites, methods, and results of research interpreted in cultural history.
Effective: Summer 2005

ANTH 045 (GS;US;IL)
Cultural Anthropology (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.
Effective: Summer 2005

ANTH 045U (GS;US;IL)
Cultural Anthropology (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ANTH 060 (J ST 060, PL SC 060, SOC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

ANTH 083S (GS)
First-Year Seminar in Anthropology (3) This seminar introduces students to anthropology as a scientific discipline with ties to other social and natural sciences.
Effective: Summer 1999

ANTH 146 (GS;US)

North American Indians (3) An introduction to the cultures of the indigenous peoples of North America, north of Mexico, and the effect of contact.
Effective: Spring 2006

ANTH 285 (GS;IL)
Culture Contact (3) Survey of changes in indigenous societies following contact with colonial powers.
Effective: Summer 2005
Prerequisite: ANTH 002 ANTH 045

APLNG 083S (GS;US;IL)
First-Year Seminar in Applied Linguistics (3) Introduction to the application of theories of language to cognition, culture, gender, society, and second language acquisition.
Effective: Summer 2005

AYFCE 211 (CAS 222, CIVCM 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

AYFCE 211S (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

B A 100 (GS)
Introduction to Business (3) A comprehensive view of the contemporary environment of business.
Effective: Summer 2008

B A 100S (GS)
Introduction to Business (3) A comprehensive view of the contemporary environment of business.
Effective: Fall 2009

CAS 083S (GS)
First-Year Seminar in Speech Communication (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.
Effective: Fall 2003

CAS 101 (GS)
Introduction to Human Communication (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.
Effective: Fall 2003

CAS 202 (GS)
Introduction to Communication Theory (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.

Effective: Spring 2003

CAS 202S (GS)
Introduction to Communication Theory (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAS 203 (GS)
Interpersonal Communication (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.
Effective: Fall 2003

CAS 203S (GS)
Interpersonal Communication (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAS 222 (CIVCM 211, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Future: Fall 2010

CIVCM 211 (CAS 222, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Future: Fall 2010

CIVCM 211S (CAS 222, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

COMM 100 (GS)
The Mass Media and Society (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.
Effective: Spring 2002

COMM 100S (GS)
The Mass Media and Society (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.
Effective: Fall 2005

COMM 118 (GS)
Introduction to Media Effects (3) Examination of individuals' selection, uses and perceptions of media and the effects of media on individuals' attitudes, beliefs, and behaviors.

Effective: Spring 2007

COMM 180 (GS)
Survey of Electronic Media and Telecommunications (3) The development of electronic media and telecommunications, emphasizing social, economic, political and global impact.
Effective: Fall 2006

CRIM 012 (CRIMJ 012, SOC 012) (GS)
Criminology (3) Explanations and measurements of crime; criminal law; characteristics of criminals and victims; violent property, white-collar, organized, and sexual crimes.
Effective: Spring 2008

CRIM 012H (SOC 012H) (GS)
Criminology (3) Explanations and measurements of crime; criminal law; characteristics of criminals and victims; violent property, white-collar, organized, and sexual crimes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CRIM 100 (CRIMJ 100) (GS)
Introduction to Criminal Justice (3) Overview of the criminal justice system, including legal foundations, processing and correction of offenders, extent and types of crime, victims.
Effective: Spring 2008

CRIMJ 012 (CRIM 012, SOC 012) (GS)
Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Spring 2008

CRIMJ 012S (CRIM 012, SOC 012) (GS)
Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Summer 2010 Ending: Summer 2010

CRIMJ 013 (SOC 013) (GS)
Juvenile Delinquency (3) Juvenile conduct, causes of delinquency, current methods of treatment; organization and function of agencies concerned with delinquency.
Effective: Spring 2008

CRIMJ 083S (CRIM 083S) (GS)
First-Year Seminar in Criminal Justice (3) Critical approaches to issues in criminal justice and criminology.
Effective: Spring 2008

CRIMJ 100 (CRIM 100) (GS)
Introduction to Criminal Justice (3) Overview of the criminal justice system, including legal foundations, processing and correction of offenders, extent and

types of crime, victims.
Effective: Spring 2008

E B F 200 (GS)
Introduction to Energy and Earth Sciences Economics (3) Resource use decisions and their effect on local, national, and global development.
Effective: Fall 2010 Future: Fall 2010

ECON 002 (GS)
Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Spring 2003 Ending: Fall 2010

ECON 002H (GS)
Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ECON 002H (GS)
Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ECON 004 (GS)
Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Spring 2003 Ending: Fall 2010

ECON 004H (GS)
Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ECON 004H (GS)
Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ECON 014 (GS)
Principles of Economics (3) Analysis of the American economy, emphasizing the nature and interrelationships of such groups as consumers, business, governments, labor, and financial institutions. Students who have passed ECON 002 or 004 or are registered in the College of Business Administration may not schedule this course.
Effective: Spring 2003

ECON 083S (GS)
First-Year Seminar in Economics (3) Experiments in microeconomic principles.
Effective: Summer 1999

ECON 102 (GS)
Introductory Microeconomic Analysis and Policy (3) Methods of economic

analysis and their use; price determination; theory of the firm; distribution.
Effective: Spring 2011 Future: Spring 2011

ECON 104 (GS)
Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Spring 2011 Future: Spring 2011

ECON 302 (GS)
Intermediate Microeconomic Analysis (3) Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 302H (GS)
Intermediate Microeconomic Analysis (Honors) (3) Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools.
Effective: Spring 2009
Prerequisite: ECON 002 and MATH 110 or MATH 140

ECON 304 (GS)
Intermediate Macroeconomic Analysis (3) Analysis of forces that determine the level of aggregate economic activity.
Effective: Summer 1995
Prerequisite: ECON 004

ECON 304H (GS)
Intermediate Macroeconomic Analysis (Honors) (3) Analysis of forces that determine the level of aggregate economic activity.
Effective: Spring 2009
Prerequisite: ECON 004 and MATH 110 or MATH 140

ECON 315 (GS)
Labor Economics (3) Economic analysis of employment, earnings, and the labor market; labor relations; related government policies.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 323 (GS)
Public Finance (3) Contemporary fiscal institutions in the United States; public expenditures; public revenues; incidence of major tax types; intergovernmental fiscal relations; public credit.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 333 (GS)
International Economics (3) Why nations trade, barriers to trade, balance of payments adjustment and exchange rate determination, eurocurrency markets, and trade-related institutions.

Effective: Summer 1995
Prerequisite: ECON 002 ECON 004 or ECON 014

ECON 342 (GS)
Industrial Organization (3) Industrial concentration, size, and efficiency of business firms, market structure and performance, competitive behavior, public policy and antitrust issues.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 370 (GS)
Comparative Economic Development (3) Problems of growth and development in non-industrialized countries and in economies in transition; institutions and economic development.
Effective: Spring 2001
Prerequisite: ECON 002 or ECON 014

EDPSY 010 (GS)
Individual Differences and Education (3) Relationships between learner differences and physical, cognitive, language, social, and cultural development; emphasis on ethnicity, gender, special needs; schooling implications.
Effective: Spring 2000

EDTHP 115A (GS;US)
Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDTHP 115S (GS;US)
Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDTHP 200 (GS)
Educational Reform and Public Policy (3) The course uses an interdisciplinary approach to explore the reforms that shape the nation's largest social institutional-public education.
Effective: Summer 2008

EGEE 120 (GS;US;IL)
Oil: International Evolution (3) Survey of the commercial development of the world petroleum industry from various international, historical, business, and cultural perspectives.
Effective: Spring 2006

EGEE 211 (GS;US)
Social Legacy of Pennsylvania Coal (3) Survey of coal technologies with economic, social, and political impacts discussed with historical, cultural, and international perspectives.

Effective: Summer 2005

ENNEC 100 (GS)
Introduction to Energy and Earth Sciences Economics (3) Resource use decisions and their effect on local, national, and global development.
Effective: Fall 2006 Ending: Summer 2010

ENVST 100 (GS)
Visions of Nature (3) An interdisciplinary introduction to environmental studies, including perspectives from ethics, economics, public policy, art, literature, history, geology, biology, and ecology.
Effective: Fall 2000

GEOG 020 (GS;US;IL)
Human Geography: An Introduction (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.
Effective: Summer 2005

GEOG 020U (GS;US;IL)
Human Geography: An Introduction (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

GEOG 030 (GS)
Geographic Perspectives on Sustainability and Human-Environment Systems (3) Introduction to theory, methods, history and contemporary issues in global and regional relationships between human activity and the physical environment.
Effective: Spring 2007

GEOG 040 (GS;IL)
World Regional Geography (3) Introduction to the world as an interdependent community built from unique and independent regions and nations.
Effective: Summer 2005

GEOG 120 (GS;US;IL)
Urban Geography: A Global Perspective (3) Introduction to the geography of the world's cities and urban system.
Effective: Spring 2006

GEOG 123 (GS;IL)
Geography of Developing World (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.
Effective: Spring 2007

GEOG 123U (GS;IL)
Geography of Developing World (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

GEOG 124 (GS;IL)
Elements of Cultural Geography (3) Locational analysis of changes in non-Western cultures. Problems of plural societies, economic development, population growth, and settlement.
Effective: Summer 2005

GEOG 126 (GS;US;IL)
Economic Geography (3) The location of economic activity at both macro- and micro-regional levels on the earth's surface.
Effective: Spring 2007

GEOG 128 (GS;IL)
Geography of International Affairs (3) Contemporary international affairs in their geographical setting; geographic elements in the development of national power, political groupings, and international disputes.
Effective: Summer 2005

GEOG 130 (GS)
Environment, Power, and Justice (3) This course explores contemporary themes in human-environment relations through the lens of political ecology.
Effective: Spring 2008

GEOG 160 (GS)
Mapping Our Changing World (3) Fundamental concepts of GIS, cartography, remote sensing, and GPS in the context of environmental and social problems.
Effective: Spring 2007

HD FS 129 (GS)
Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle. Student may take only one course for General Education credits from HD FS 129 GS or SOC 030 GS.
Effective: Fall 2004

HD FS 129H (GS)
Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HD FS 129S (GS)
Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.
Effective: Summer 2006

HD FS 229 (GS)
Infant and Child Development (3) Theory, research, and methods of social/behavioral/biological sciences related to developmental processes and intervention during infancy and childhood.
Effective: Fall 2004

HD FS 239 (GS)
Adolescent Development (3) Social, behavioral, and biological development and intervention throughout adolescence.
Effective: Spring 2002

HD FS 249 (GS)
Adult Development and Aging (3) Physiological, psychological, and social development and intervention from young adulthood through old age.
Effective: Spring 2003

HD FS 287W (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287X (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287Y (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HIST 084S (GS)
First-Year Seminar in History (3) Critical approaches to the dimensions and directions in History.
Effective: Spring 2004

HIST 116 (WMNST 116) (GS;US;IL)
Family and Sex Roles in Modern History (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.
Effective: Spring 2006

HIST 120 (GS;IL)
Europe Since 1848 (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.
Effective: Spring 2006

HIST 120U (GS;IL)
Europe Since 1848 (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

HIST 142 (GS;IL)
History of Communism (3) Marxism; Leninism and evolution of the Soviet Union; formation and development of the Communist bloc; impact of Chinese

Communism.
Effective: Spring 2006

HIST 151 (S T S 151) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

HIST 151S (S T S 151S) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

INSYS 100 (GS;IL)
World Technologies and Learning (3) This course examines the impact of learning technologies from email to online learning on world cultures from a socio-technical perspective.
Effective: Spring 2006

INTAG 100 (GS;IL)
Introduction to International Agriculture (3) Survey of agriculture and food production in developing countries; focus on small traditional farmers, their methods, and socioeconomic environment. (NOTE: Write for a further listing of courses in and related to International Agriculture.)
Effective: Summer 2005

INTST 100 (GS;IL)
Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

INTST 100S (GS;IL)
Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

IST 110 (GS)
Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Summer 2005

IST 110H (GS)
Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

IST 110S (GS)
Information, People and Technology (3) The use, analysis and design of

information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

IST 110S (GS)
Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

J ST 060 (ANTH 060, PL SC 060, SOC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

LER 083S (GS)
First-Year Seminar in Labor Studies and Employment Relations (3) Critical approaches to the dimensions and direction in Labor and Employment Relations.
Effective: Spring 2008

LER 100 (GS)
Employment Relations (3) Introductory analysis of the employment relationship and of the interrelated interests of managements, workers, unions, and the public.
Effective: Spring 2008

LER 201 (GS)
Employment Relationship: Law and Policy (3) An examination of basic legal principles underlying the employment relationship and their social, political, and economic bases.
Effective: Spring 2008

LING 001 (GS;US;IL)
The Study of Language (3) A non-technical introduction to the study of human language, and its role in human interaction. Students who have successfully completed LING 100 may not enroll in LING 001.
Effective: Summer 2005

LING 083S (GS;US;IL)
1st Year Seminar in Linguistics (3) Non-technical exploration of aspects of human language.
Effective: Summer 2005

LING 100 (GS)
Foundations of Linguistics (3) Systematic study of linguistic structures in a variety of the world's languages; an overview of language, and its organization.
Effective: Spring 2011 Future: Spring 2011

NURS 245 (GS)
Violence and the Impact on Society (3) Interdisciplinary discussion of violence, its perpetrators, victims and its impact on society as well as possible solutions for violence reduction.
Effective: Spring 2010

PL SC 001 (GS)
Introduction to American National Government (3) Introduction to development and nature of American political culture, constitutional/structural arrangements, electoral/policy processes; sources of conflict and consensus.
Effective: Spring 2002

PL SC 003 (GS;IL)
Introduction to Comparative Politics (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.
Effective: Fall 2007

PL SC 003U (GS;IL)
Introduction to Comparative Politics (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PL SC 007 (GS)
Contemporary Political Ideologies (3) Critical analysis of contemporary political ideologies such as liberalism, conservatism, socialism, anarchism, fascism, feminism, and environmentalism.
Effective: Fall 2004

PL SC 014 (GS;IL)
International Relations (3) Characteristics of modern nation-states and forces governing their international relations; nationalism; imperialism; diplomacy; current problems of war and peace. Credit will not be given for both this course and INT U 200.
Effective: Fall 2007

PL SC 017 (GS)
Introduction to Political Theory (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.
Effective: Spring 2003

PL SC 017W (GS)
Introduction to Political Theory (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.
Effective: Spring 2001

PL SC 020 (GS;IL)
Comparative Politics--Western Europe (3) Comparative analysis of political cultures, interest groups, parties, and decision-making processes in principal Western European political systems.
Effective: Fall 2007

PL SC 022 (GS;IL)
Politics of the Developing Areas (3) The impact of colonialism, nationalism, and development policy on the political culture, structure, and transformation of post-colonial regimes.

Effective: Spring 2010

PL SC 060 (ANTH 060, J ST 060, SOC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

PL SC 083S (GS)
First-Year Seminar in Political Science (3) Exploration of current topics of interest in political science, international relations, and/or political theory.
Effective: Summer 1999

PL SC 083T (GS)
First-Year Seminar in Political Science (3) Exploration of current topics of interest in political science, international relations, and/or political theory.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PL SC 110 (GS;US)
Rights in America (3) This course explores the historical and contemporary struggles of particular groups within American society to expand their rights.
Effective: Summer 2006

PL SC 123 (GS;US;IL)
Ethnic and Racial Politics (3) Political movements among United States ethnic and racial groups; government policies on race and ethnicity; comparison to other culturally diverse countries.
Effective: Fall 2007
Prerequisite: PL SC 001 or PL SC 003

PL SC 130 (GS;US)
American Political Campaigns and Elections (3) Methods and strategies of American political campaigns: polls, political consultants, parties, and the media.
Effective: Fall 2007

PL SC 132 (GS;IL)
The Politics of International Intolerance (3) Introductory course emphasizing psychological, historical, and political aspects of global intolerance towards minorities.
Effective: Fall 2007

PL SC 135 (S T S 135) (GS)
The Politics of the Ecological Crisis (3) The political implications of the increasing scarcity of many of the world's resources.
Effective: Spring 2001

PL SC 140 (GS)
Contemporary Controversies in International Relations (3) Contemporary issues of international security presented rigorously using analytical tools of international relations and political science.
Effective: Summer 2009

PL SC 177 (GS)

Politics and Government in Washington DC (1-3) The course centers on a Spring Break trip to Washington DC, with students meeting on campus before and after the trip.
Effective: Fall 2007

PSYCH 083S (GS)
First-Year Seminar in Psychology (3) Scientific, societal, and individual implications of contemporary psychological theory.
Effective: Spring 2007

PSYCH 100 (GS)
Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2007

PSYCH 100H (GS)
Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PSYCH 100H (GS)
Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

PSYCH 100S (GS)
Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2007

PSYCH 212 (GS)
Introduction to Developmental Psychology (3) Developmental principles; physical growth; linguistic, intellectual, emotional, and social development from infancy to maturity.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 212H (GS)
Introduction to Developmental Psychology (3) Developmental principles; physical growth; linguistic, intellectual, emotional, and social development from infancy to maturity.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: PSYCH 100

PSYCH 221 (GS)
Introduction to Social Psychology (3) Research and theory on topics including interpersonal attraction, aggression, helping, attitudes, attribution, cooperation, competition, and groups, from a psychological perspective.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 230 (RL ST 236) (GS)

Introduction to Psychologies of Religion (3) Introduction to major Western psychologies of religion (James, Freud, Jung) and to subsequent extensions of and departures from them.
Effective: Spring 2007

PSYCH 231 (GS;US)
Introduction to the Psychology of Gender (3) Psychological study of gender in historical and contemporary perspective. Role of gender in development, self-concept, social relations, and mental health.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 232 (GS;US;IL)
Cross-Cultural Psychology (3) This course examines how ethnic and cultural background influences patterns of human thought and behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 238 (GS)
Introduction to Personality Psychology (3) Past and recent conceptualizations of key issues and root ideas of personality psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 243 (GS)
Introduction to Well-being and Positive Psychology (3) Applying psychological knowledge to develop and maintain effective personal adjustment and well-being and positive social relations.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 244 (GS)
Introduction to the Psychology of Human Factors Engineering (3) Introductory course in engineering/human factors psychology, emphasizing the application of core psychological principles and research to designing products and systems.
Effective: Spring 2009
Prerequisite: PSYCH 100 or 3 credits of GS

PSYCH 253 (GS)
Introduction to Psychology of Perception (3) Survey of human perception and processing of perceptual information, with some reference to animal literature. Emphasizes vision and audition.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 256 (GS)
Introduction to Cognitive Psychology (3) Introduction to study of such higher mental processes as thinking and reasoning, imagery, concept formation, problem solving, and skilled performance.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 260A (GS)
Neurological Bases of Human Behavior (3) An introduction to biopsychology, emphasizing the structure and function of the human brain. Students may take only one course for credit from PSY 203 and PSY 203A.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 261 (GS)
Introduction to Psychology of Learning (3) A general survey of the learning area, including animal and human experiments, with the applicability of learning principles being discussed.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 281 (GS)
Introduction to Industrial-Organizational Psychology (3) Personnel selection, training, accident prevention, morale, and organizational behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100

R SOC 011 (GS;US)
Introductory Rural Sociology (3) Basic sociological concepts applied to rural societal institutions and rural communities; causes and consequences of rural social change. Students may take only one course for General Education credit from R SOC 011 GS or SOC 001 GS.
Effective: Spring 2006

RHS 100 (GS)
Introduction to Disability Culture (3) Social and cultural contexts of disability on both a micro and macro levels will be examined.
Effective: Summer 2008

RL ST 236 (PSYCH 230) (GS)
Introduction to Psychologies of Religion (3) Introduction to major Western psychologies of religion (James, Freud, Jung) and to subsequent extensions of and departures from them.
Effective: Spring 2007

RL ST 237 (GS)
Introduction to Religions, Cultures, and Therapies (3) Comparison of methods and goals of selected religious and secular therapies within their cultural contexts.
Effective: Spring 2007
Prerequisite: PSYCH 100

RPTM 120 (GS;US;IL)
Leisure and Human Behavior (3) Leisure from historical and contemporary perspectives, including forces shaping leisure behavior, and relationships among leisure, the environment, and social institutions.
Effective: Spring 2010

S T S 102 (GS)

Science, Technology and Public Policy (3) This course will survey the main issues that relate science and technology to public policy.
Effective: Summer 2010

S T S 135 (PL SC 135) (GS)
The Politics of the Ecological Crisis (3) The political implications of the increasing scarcity of many of the world's resources.
Effective: Spring 2001

S T S 151 (HIST 151) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 151S (HIST 151S) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 200 (GS)
Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Spring 1995

S T S 200H (GS)
Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

S T S 200S (GS)
Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Summer 1999

S T S 245 (GS;IL)
Globalization, Technology, and Ethics (3) An investigation of technology and ethics in the globalized world from contemporary, socio-cultural, and historical perspectives.
Effective: Summer 2008

SO SC 001 (GS)
Urbanization (3) An overview of the social sciences, including an interdisciplinary analysis of the urban process.
Effective: Summer 1995

SOC 001 (GS)
Introductory Sociology (3) The nature and characteristics of human societies and

social life. Students may take only one course for General Education credit from SOC 001 GS or R SOC 011 GS.
Effective: Spring 2003

SOC 001H (GS)
Introductory Sociology (3) The nature and characteristics of human societies and social life.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

SOC 001S (GS)
Introductory Sociology (3) The nature and characteristics of human societies and social life.
Effective: Spring 2006

SOC 001W (GS)
Introductory Sociology (3) The nature and characteristics of human societies and social life.
Effective: Fall 1998

SOC 003 (GS)
Introductory Social Psychology (3) The impact of the social environment on perception, attitudes, and behavior.
Effective: Spring 2003

SOC 003H (GS)
Introductory Social Psychology (3) The impact of the social environment on perception, attitudes, and behavior.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

SOC 005 (GS)
Social Problems (3) Current social problems such as economic, racial, and gender inequalities; social deviance and crime; population, environmental, energy, and health problems.
Effective: Spring 2003

SOC 005H (GS)
Social Problems (3) Current social problems such as economic, racial, and gender inequalities; social deviance and crime; population, environmental, energy, and health problems.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SOC 012 (CRIMJ 012, CRIM 012) (GS)
Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Spring 2008

SOC 012H (CRIM 012H) (GS)
Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SOC 012H (GS)
Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

SOC 013 (CRIMJ 013) (GS)
Juvenile Delinquency (3) Juvenile conduct, causes of delinquency, current methods of treatment; organization and function of agencies concerned with delinquency.
Effective: Spring 2008

SOC 015 (GS)
Urban Sociology (3) City growth and decline; impact of city life on individuals, families, neighborhoods, and government; urban life-styles.
Effective: Summer 1995

SOC 023 (GS)
Population and Policy Issues (3) Local, national, and international population trends; basic techniques of demographic analysis; population problems; implications for public planning and policy.
Effective: Fall 2004

SOC 023H (GS)
Population and Policy Issues (3) Local, national, and international population trends; basic techniques of demographic analysis; population problems; implications for public planning and policy.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SOC 030 (GS)
Sociology of the Family (3) Family structure and interaction; functions of the family as an institution; cross-cultural comparisons. Students may take only one course for General Education credit from SOC 030 or HD FS 129 GS.
Effective: Spring 2003

SOC 055 (GS)
Work in Modern Society (3) The nature of work in varied occupational and organizational settings; current trends and work life in the future.
Effective: Summer 1995

SOC 060 (ANTH 060, J ST 060, PL SC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

SOC 083S (GS)
First-Year Seminar in Sociology (3) Critical approaches to issues in the structure of society.
Effective: Summer 1999

SOC 110 (WMNST 110) (GS;US)

Sociology of Gender (3) Changing sex role expectations and behavior for men and women in contemporary society.
Effective: Summer 2005

SOC 119 (GS;US)
Race and Ethnic Relations (4) Historical patterns and current status of racial and ethnic groups; inequality, competition, and conflict; social movements; government policy.
Effective: Summer 2005

SRA 111 (GS)
Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Spring 2008

SRA 111H (GS)
Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

SRA 111S (GS)
Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 001 (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Summer 2005

WMNST 001S (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2009

WMNST 001U (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 110 (SOC 110) (GS;US)
Sociology of Gender (3) Changing sex role expectations and behavior for men and women in contemporary society.
Effective: Summer 2005

WMNST 116 (HIST 116) (GS;US;IL)

Family and Sex Roles in Modern History (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.
Effective: Spring 2006

WMNST 202 (AAA S 202) (GS;IL)
Gender Dynamics in Africa (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.
Effective: Summer 2005

WMNST 364 (AAA S 364) (GS;US)
Black & White Sexuality (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.
Effective: Spring 2007

YFE 211 (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Summer 2010

YFE 211 (CAS 222, CIVCM 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

YFE 211S (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Fall 2010

YFE 211U (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

United States Cultures and International Cultures

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

A B E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008 Ending: Summer 2010

A B E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008 Ending: Summer 2010

A B E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008 Ending: Summer 2010

A ED 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 225 (GA;US)
Diversity, Pedagogy, and Visual Culture (3) Issues of diversity in art, education, visual culture, and pedagogy.
Effective: Summer 2005

A ED 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2006

A&A 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 100 (GA;IL)
Introduction to International Arts (3) An interdisciplinary, multicultural introduction to the arts of the world.
Effective: Summer 2005

A&A 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 083S (GH;US;IL)
First-Year Seminar in African and African American Studies (3) Cultural, philosophical, economic, political, and global dynamics of the Black experience in the United States and the Diaspora.
Effective: Summer 2005

AAA S 100 (GS;US)
Evolving Status of Blacks in the Twentieth Century: Interdisciplinary Perspectives (3) An interdisciplinary, team-taught exploration of the evolving status of Black Americans in the twentieth century. Emphasis on the civil rights movement.
Effective: Summer 2005

AAA S 101 (WMNST 101) (GH;US)
The African American Woman (3) The sociological, historical, and political experiences of African American women, their roles and contributions to society.
Effective: Summer 2005

AAA S 102 (WMNST 102) (GH;IL)
Women of Color: Cross-Cultural Perspective (3) Global examination of value

systems of women of color; attention to minority ethnic groups in the United States and developing countries.
Effective: Summer 2005

AAA S 103 (SOC 103, WMNST 103) (US)
Racism and Sexism (3) Critical analysis of the structure of race and gender in the contemporary United States.
Effective: Summer 2005

AAA S 105 (EARTH 105) (GN;IL)
Environments of Africa: Geology and Climate Change (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, natural resources.
Effective: Summer 2005

AAA S 110 (GS;IL)
Introduction to Contemporary Africa (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.
Effective: Summer 2005

AAA S 110U (GS;IL)
Introduction to Contemporary Africa (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

AAA S 132 (SPAN 132) (IL)
Afro-Hispanic Civilization (3) A general introduction to human and cultural elements of African origin in Spanish- and Portuguese-speaking countries of Latin America.
Effective: Summer 2005

AAA S 145 (RL ST 145) (GH;US;IL)
African American Religion (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.
Effective: Summer 2005

AAA S 146 (RL ST 146) (GH;US)
The Life and Thought of Martin Luther King, Jr. (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.
Effective: Summer 2005

AAA S 147 (RL ST 147) (GH;US)
The Life and Thought of Malcolm X (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.
Effective: Summer 2005

AAA S 150 (GH;IL)
Africa in Cinema (3) The study of the image of Africa as seen in fiction and

non-fictional feature length films, ethnographic and documentary films.
Effective: Spring 2006

AAA S 191 (HIST 191) (GH;IL)
Early African History (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.
Effective: Summer 2005

AAA S 192 (HIST 192) (GH;IL)
Modern African History (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.
Effective: Summer 2005

AAA S 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 200 (US)
Languages of the African Diaspora in America (3) This course focuses on the development, linguistic structures, and sociolinguistic status of the languages of the African Diaspora in America.
Effective: Spring 2006

AAA S 202 (WMNST 202) (GS;IL)
Gender Dynamics in Africa (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.
Effective: Summer 2005

AAA S 208 (THEA 208) (GA;US;IL)
Theatre Workshop in Diverse Cultures (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

AAA S 210 (HIST 210) (GH;US)
Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) The course will explore the context and events that shaped African American life over the period 1896-1932.
Effective: Summer 2005
Prerequisite: AAA S 100 HIST 021

AAA S 211 (HIST 211) (GH;US;IL)
The Emergence and Evolution of the Black Diaspora in the Atlantic World (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 003 or HIST 020 or HIST 021 or HIST 152

AAA S 212 (US)

Black History to the Twentieth Century (3) An examination of Black political, economic, social, and cultural life in America from the era of colonization to 1905.
Effective: Spring 2008

AAA S 235 (ENGL 235) (US)
African-American Oral Folk Tradition (3) The origins, forms, and function of the oral folk tradition of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

AAA S 240 (HIST 240) (GH;US)
Harlem: History, Culture, and Politics, 1890-Present (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 152

AAA S 250 (HIST 250) (GH;IL)
Introduction to the Modern Caribbean (3) A survey course which, explores the historical evolution and emergency of the modern Caribbean.
Effective: Summer 2005

AAA S 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 302 (BB H 302) (US)
Diversity and Health (3) Exam the relatinship of diverse personal and sociocultural factors to health, like socioeconomic class, race-ethnicity, gender, age, and sexual orientation.
Effective: Spring 2007
Prerequisite: PSYCH 100 or SOC 001

AAA S 335 (ART H 335) (GA;IL)
African Art (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.
Effective: Summer 2005

AAA S 364 (WMNST 364) (GS;US)
Black & White Sexuality (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.
Effective: Spring 2007

AAA S 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 404 (IL)
Eastern and Central African Societies (3) Cultural and historical studies of Eastern and Central Africa employing a multidisciplinary approach.
Effective: Spring 2006

Prerequisite: AAA S 191 AAA S 192

AAA S 409 (SOC 409) (US)
Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Summer 2005
Prerequisite: SOC 001

AAA S 409U (SOC 409U) (US)
Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: SOC 001

AAA S 412 (THEA 412) (US;IL)
African American Theatre (3) Exploration of the development of African American theatre from its roots in Africa through the Diaspora to the present time.
Effective: Summer 2005
Prerequisite: THEA 100

AAA S 415 (HIST 415) (US;IL)
Race, Gender, and Politics in the United States and South Africa (3) This thematic course will compare key issues, figures, and events in the historical development of the United States and South Africa.
Effective: Summer 2005
Prerequisite: AAA S 100 AAA S 102 AAA S 110 AAA S 192 or HIST 152

AAA S 416 (S T S 416, WMNST 416) (US;IL)
Race, Gender and Science (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

AAA S 422 (CAS 422) (US)
Contemporary African American Communication (3) A focused study on the continuities between African and African American culture and communication.
Effective: Summer 2005
Prerequisite: SPCOM 100

AAA S 431 (HIST 431) (US;IL)
Black Liberation and American Foreign Policy (3) This course deals with American foreign policy and Black liberation in Africa since 1945.
Effective: Summer 2005
Prerequisite: AAA S 100 AAA S 192 ; PL SC 001 or PL SC 014

AAA S 432 (HIST 432) (IL)
Between Nation and Empire: The Caribbean in the 20th Century (3) An exploration of the political evolution of the Caribbean Region over the course of

the 20th Century.
Effective: Summer 2005
Prerequisite: AAA S 250

AAA S 434 (PL SC 434) (IL)
War and Development in Africa (3) This course will examine the relationship between war and development in sub-Saharan Africa in the post colonial era.
Effective: Summer 2006
Prerequisite: PL SC 114 or PL SC 003 or AAA S 110

AAA S 440 (PL SC 440, I B 440) (US;IL)
Globalization and Its Implications (3) This course explores the socioeconomic implications of globalization.
Effective: Spring 2008
Prerequisite: AAA S 100 or AAA S 110 or PL SC 003 or PL SC 014 or PL SC 020 or PL SC 022

AAA S 443 (PL SC 443) (IL)
Ethnic Conflict in Africa (3) This course explores the various causes and impacts of ethnic conflicts in the African context.
Effective: Summer 2005
Prerequisite: AAA S 100 AAA S 110 PL SC 001 PL SC 003 PL SC 007 PL SC 014 PL SC 017 PL SC 020 or AFRAS 301

AAA S 445Y (LER 445Y, PL SC 445Y) (US)
Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course and PL SC 001 or PL SC 007

AAA S 454 (PL SC 454) (IL)
Government and Politics of Africa (3) Contemporary African Politics, institutions, and ideologies; patterns of change, social forces, and nation building in selected African states.
Effective: Summer 2005
Prerequisite: 3 credits from: AAA S 110 PL SC 003 PL SC 020 or PL SC 022

AAA S 459 (PL SC 459) (IL)
Culture and World Politics (3) Role of culture in world politics.
Effective: Summer 2006
Prerequisite: PL SC 014

AAA S 460 (PHIL 460) (US;IL)
African American Philosophy (3) Major works by African American Philosophers, on topics of race, freedom, citizenship, nationhood, law and society.
Effective: Fall 2009
Prerequisite: AAA S 100 or PHIL 009 and 5th semester standing

AAA S 464 (PL SC 464) (IL)
Globalization, Extractive Industries, and Conflict in Africa (3) Socioeconomic and environmental impacts of extractive industries in Africa.

Effective: Summer 2008
Prerequisite: AAA S 110 or at least one of the following: PL SC 003 or PL SC 014 or PL SC 022

AAA S 465 (HIST 465) (US)
Civil Rights and American Politics 1933-1968 (3) The civil rights struggle and its impact upon American politics.
Effective: Summer 2005
Prerequisite: AAA S 100 HIST 021 HIST 152 PL SC 001 or PL SC 002

AAA S 469 (ENGL 469) (US)
Slavery and the Literary Imagination (3) The impact of slavery on the petitions, poetry, slave narratives, autobiographies, and novels of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

AAA S 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAS 100 (GH;US)
Introduction to Asian American Studies (3) An introduction to the history, literature, and culture of Asian America.
Effective: Spring 2010

AAS 428 (ENGL 428) (US)
Asian American Literatures (3 per semester/maximum of 6) A seminar on the literatures and cultures of Asian America, with attention to forms of geographic, historical, and ethnic diversity.
Effective: Summer 2010

ACCTG 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ACCTG 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ACCTG 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ACCTG 461 (IL)
International Accounting (3) Study of international accounting issues with emphasis on need, use, and interpretation of financial accounting required in global business environment.
Effective: Spring 2008

Prerequisite: ACCTG 211

ACCTG 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

AEE 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AERSP 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AERSP 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AERSP 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AERSP 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AG BM 338 (IL)
Agribusiness in the Global Economy (3) Managing agribusinesses in the global food industry, international food product marketing, key public institution and policies affecting food trade.
Effective: Spring 2006
Prerequisite: AG BM 101 AG BM 102 AG BM 106

AG BM 499 (IL)
Foreign Studies - Agribusiness Management (1-12) Study in selected countries of agricultural economic institutions and current agricultural economic problems.
Effective: Spring 2006

AG EC 450 (IL)
International Development, Renewable Resources, and the Environment (3) Theories of agricultural and economic development, with particular attention to interactions between development, renewable resources, and the environment.
Effective: Summer 2005 Ending: Summer 2010
Prerequisite: 6 credits in agricultural economics or economics

AGECO 499 (IL)

Foreign Studies (1-2 per semester/maximum of 4) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 100 (GH;US)
Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 100U (GH;US)
Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: third-semester standing

AM ST 100Y (GH;US)
Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 103 (GH;US)
American Masculinities (3) Introduction to aspects of masculinities and manhood in America.
Effective: Summer 2008

AM ST 104 (WMNST 104) (GH;US)
Women and the American Experience (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.
Effective: Summer 2005

AM ST 105 (ENGL 105) (GH;US)
American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2008

AM ST 105U (GH;US)
American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

AM ST 140Y (RL ST 140Y) (GH;US)
Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

AM ST 196 (ENGL 196, AMSTD 196) (GH;US)
Introduction to American Folklore (3) A basic introduction to verbal and non-verbal folklore stressing the basic procedures of collection, classification, and

analysis.
Effective: Summer 2005

AM ST 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 307 (ART H 307) (GA;US)
American Art (3) History of art in the English colonies and the United States from the seventeenth century to the present.
Effective: Spring 2008

AM ST 321 (US)
American Indian Studies (3 per semester, maximum of 99) A study of American Indian history, societies and cultures (may be repeated for credit).
Effective: Fall 2007
Prerequisite: 3 credits of American Studies or ANTH 146 or HIST 153

AM ST 322 (US)
Ethnic America (3) A study of the sources, contributions, and conflicts of ethnic groups in the American experience.
Effective: Fall 2007
Prerequisite: 3 credits of American Studies or HIST 158 or SOC 119.

AM ST 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 430 (WOMST 430) (US)
Women in American Society (3) A historical study of women's roles and experiences in the United States.
Effective: Fall 2007
Prerequisite: 6 credits of American Studies Sociology or Women's Studies

AM ST 441 (KINES 441) (US)
History of Sport in American Society (3) Background, establishment, and growth of sport in America from colonial times to the present.
Effective: Fall 2007
Prerequisite: KINES 141 or 3 credits of United States history

AM ST 475 (ENGL 431) (US)
Black American Writers (3 per semester, maximum of 6) A particular genre or historical period in the development of Black American literature.
Effective: Fall 2007
Prerequisite: ENGL 015 or ENGL 030

AM ST 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AN SC 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 001 (GS;US;IL)
Introductory Anthropology (3) Prehistoric and traditional peoples and cultures; traditional customs and institutions compared with those of modern society.
Effective: Summer 2005

ANTH 008 (GS;IL)
Aztecs, Mayas, and Incas (3) Comparative survey of the development of the pre-Columbian Latin American civilizations.
Effective: Summer 2005

ANTH 009 (GS;IL)
Rise of Civilization in the Old World (3) Evolution of Old World complex societies, especially the first great civilizations of Mesopotamia, Egypt, China, and the Indus Valley.
Effective: Spring 2006

ANTH 011 (GS;IL)
Introductory North American Archaeology (3) Introduction to archaeology of the North American Indians; sites, methods, and results of research interpreted in cultural history.
Effective: Summer 2005

ANTH 045 (GS;US;IL)
Cultural Anthropology (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.
Effective: Summer 2005

ANTH 045U (GS;US;IL)
Cultural Anthropology (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ANTH 060 (J ST 060, PL SC 060, SOC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

ANTH 146 (GS;US)
North American Indians (3) An introduction to the cultures of the indigenous peoples of North America, north of Mexico, and the effect of contact.
Effective: Spring 2006

ANTH 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 241 (IL)
Peoples and Cultures of Highland New Guinea (3) History, ecology, social, economic, religious, and political systems of the aboriginal peoples and cultures of highland New Guinea.
Effective: Spring 2007
Prerequisite: ANTH 001 or ANTH 045

ANTH 242 (IL)
Peasant Societies (3) A critical examination of anthropological approaches to the study of peasantry around the globe.
Effective: Summer 2005
Prerequisite: ANTH 001 or ANTH 045

ANTH 285 (GS;IL)
Culture Contact (3) Survey of changes in indigenous societies following contact with colonial powers.
Effective: Summer 2005
Prerequisite: ANTH 002 ANTH 045

ANTH 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 441 (IL)
From Stone Ax to Uzi: Tradition and Change in the New Guinea Highlands (3) This course explores cultural change and innovation among tribal peoples of Highland New Guinea from stone tool technology to globalization.
Effective: Fall 2009
Prerequisite: ANTH 045

ANTH 442 (IL)
Indians and Peasants of Mexico and Central America (3) Indian culture and society in Mexico and Central America.
Effective: Summer 2005
Prerequisite: ANTH 001 or ANTH 045

ANTH 447 (IL)
Peoples and Cultures of Africa (3) Ethnographic survey of peoples and cultures of Africa.
Effective: Summer 2005

Prerequisite: AAA S 110 or ANTH 045

ANTH 457 (J ST 457, SOC 457) (US;IL)
Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.
Effective: Summer 2006
Prerequisite: ANTH 001 or ANTH 045 HEBR 010 J ST 010 SOC 001 SOC 005 SOC 007 SOC 015

ANTH 477 (US;IL)
Language, Culture, and Society (3) Relationships among language, culture and society, with an anthropological emphasis.
Effective: Spring 2007
Prerequisite: ANTH 045 or ANTH 001

ANTH 478 (IL)
Cannibalism (3) Explores the cultural institution of cannibalism, uses of the "cannibal" label, and cannibalism's meaning among those who practiced it.
Effective: Spring 2010
Prerequisite: ANTH 045

ANTH 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 499A (CAMS 499A) (IL)
Landscape Archaeology (3) This course introduces student to the basics of archaeological surveys.
Effective: Summer 2010 Ending: Summer 2010

ANTH 499B (CAMS 499B) (IL)
GIS for Archaeologists (3) This course gives students hands-on introduction to the use of GIS program in archaeological research.
Effective: Summer 2010 Ending: Summer 2010

ANTH 499C (CAMS 499C, J ST 499C, HIST 499C) (IL)
Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010

ANTH 499D (CAMS 499D, J ST 499D, HIST 499D) (IL)
Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010

APLNG 083S (GS;US;IL)
First-Year Seminar in Applied Linguistics (3) Introduction to the application of theories of language to cognition, culture, gender, society, and second language acquisition.

Effective: Summer 2005

APLNG 200 (GH;IL)
Introduction to Language, Culture, and Social Interaction (3) Introduction to the interrelationships among language, culture, and social interaction and their fundamental links to social identities and discourse communities.
Effective: Spring 2009

APLNG 482Y (IL)
Introduction to Applied Linguistics (3) Application of theories of language to psycholinguistics, philosophy of language, anthropological linguistics, sociolinguistics, bi/multilingualism, second language acquisition and teaching.
Effective: Spring 2006

APLNG 493 (IL)
Teaching English as a Second Language (3) Theory, research, and pedagogy that focus on the teaching of English to speakers of other languages in varied contexts.
Effective: Spring 2006

ARAB 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 110 (GH;IL)
Arab Language, Cultures, and Current Topics (3) Fourth-semester Modern Standard Arabic: study of cultures through authentic discourse, texts, film; development of reading, writing, listening, speaking skills.
Effective: Spring 2008
Prerequisite: ARAB 003 or permission of program

ARAB 165 (HIST 165, RL ST 165) (IL)
Introduction to Islamic Civilization (3) Islamic history, culture, and religious life c.600-1500 C.E.
Effective: Spring 2006

ARAB 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 401 (IL)

Advanced Language & Cultures I (3) Fifth-semester Modern Standard Arabic: reading more complex texts, films, further development of conversation, composition skills, Arab cultures, current issues.
Effective: Spring 2008
Prerequisite: ARAB 110 or approval of program

ARAB 402 (IL)
Advanced Language & Cultures II (3) Sixth-semester Modern Standard Arabic: reading more complex texts, films, further development of conversation, composition skills, Arab cultures, current issues.
Effective: Spring 2008
Prerequisite: ARAB 401 or approval of program

ARAB 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARCH 099 (IL)
Foreign Studies--Architecture (1-15) Individual or group instruction conducted in a foreign country.
Effective: Summer 2005

ARCH 199 (IL)
Foreign Studies--Architecture (1-15) Individual or group instruction conducted in a foreign country.
Effective: Summer 2005

ARCH 299 (IL)
Foreign Studies--Architecture (1-15) Individual or group instruction conducted in a foreign country.
Effective: Summer 2005

ARCH 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

ARCH 431A (IL)
Architectural Design V--Foreign Study (6) A studio offered in Rome, Italy, which emphasizes urban planning and architectural design in an urban context.
Effective: Summer 2008
Prerequisite: ARCH 332

ARCH 432A (IL)
Architectural Design VI--Foreign Study (6) A continuation of ARCH 431, this course explores urban planning and architectural design in an urban context in Rome, Italy.
Effective: Summer 2008
Prerequisite: ARCH 431

ARCH 499 (IL)

Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: seventh-semester standing

ARCH 499A (IL)
Foreign Study--Architectural Design VI (6) Individual or group instruction conducted in a foreign country.
Effective: Spring 2007
Prerequisite: ARCH 332 fourth-year standing in the architecture curriculum

ARCH 499B (IL)
Architectural Analysis (3) Comparative study of architectural elements and building types through on-site drawing, recording, measurement, sketching and decomposition activity.
Effective: Spring 2009
Prerequisite: ARCH 210

ARCH 499C (IL)
Urban Studies Topics (3) A presentation of the history of Rome through the medium of its maps and walking tours of the city.
Effective: Spring 2009
Prerequisite: ARCH 210

ART 122Y (US)
Commentary on Art (3) An introduction to verbal commentary, both oral and written, about art. The development of critical and expressive skills given emphasis.
Effective: Spring 2006

ART 199 (IL)
Foreign Studies--Art (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART 211 (US)
Introduction to Digital Art and Design Criticism (3) An introduction to the language, aesthetics and cultural impacts of digital art and design in contemporary society.
Effective: Fall 2007

ART 211Y (US)
Introduction to Digital Art and Design Criticism (3) An introduction to the language, aesthetics, and cultural impacts of digital art and design in contemporary society.
Effective: Spring 2010

ART 299 (IL)
Foreign Study--Art (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART 399 (IL)
Foreign Study--Art (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART 411 (US)
Seminar in Contemporary Art (3 per semester/maximum of 6) Trends in contemporary art investigated within the framework of studio visitations, museum tours, and through other related avenues of encounter.
Effective: Fall 2006
Prerequisite: ART 122Y ART H 111 ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 475 (ART H 475) (US)
Contemporary Women Artists (3) An interdisciplinary course that investigates women artists who were integral to the production of contemporary art primarily in the Americas, Europe, and Asia.
Effective: Spring 2009
Prerequisite: fifth-semester standing ART H 111 ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 499 (IL)
Foreign Studies--Art (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART H 100 (GA;IL)
Introduction to Art (3) An approach to the understanding of art through a critical analysis of selected works of architecture, painting, and sculpture. Students who have passed ART H 110 may not schedule this course.
Effective: Spring 2006

ART H 111 (GA;IL)
Ancient to Medieval Art (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.
Effective: Spring 2006

ART H 111U (GA;IL)
Ancient to Medieval Art (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ART H 112 (GA;IL)
Renaissance to Modern Art (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.
Effective: Spring 2006

ART H 112U (GA;IL)

Renaissance to Modern Art (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ART H 120 (GA;IL)
Asian Art and Architecture (3) A selective overview of the art and architecture of India, Southeast Asia, China, Korea, and Japan.
Effective: Summer 2005

ART H 130 (GA;US;IL)
African, Oceanic, and Native American Art (3) A selective overview of the history of African, Oceanic, and Native American art.
Effective: Summer 2005

ART H 199 (IL)
Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART H 201 (GA;IL)
Ancient to Medieval Architecture (3) A survey of Prehistoric, Ancient Near Eastern Egyptian, Greek, Roman, Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic architecture.
Effective: Spring 2006

ART H 202 (GA;US;IL)
Renaissance to Modern Architecture (3) A survey of Renaissance, Baroque, Rococo, Romantic, Victorian, Modern, Post-Modern, and Contemporary architecture in Europe and America.
Effective: Spring 2006

ART H 299 (IL)
Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART H 301 (GA;IL)
Egyptian and Mesopotamian Art (3) Art of the Ancient Near East, including Egypt, Mesopotamia, and neighboring civilizations.
Effective: Spring 2006

ART H 302 (GA;IL)
Art of the Early Middle Ages (3) A survey of the art of Western Europe from the Early Christian era through the Ottonian Empire, c.300-1050 A.D.
Effective: Spring 2006

ART H 303 (GA;IL)
Italian Renaissance Art (3) The major arts in Italy from the thirteenth century A.D. through the Renaissance; emphasis on sculpture and painting.
Effective: Spring 2006

ART H 304 (GA;IL)
Southern Baroque Painting (3) Seventeenth-century painting in Italy, France, and Spain. Emphasis will be on Italy as the vanguard country.
Effective: Spring 2006 Ending: Summer 2010

ART H 304 (GA;IL)
Italian, Spanish, and Spanish Colonial Baroque Art and Architecture (3) A survey of painting, sculpture, and architecture in Italy, Spain, and the Spanish Americas from 1600-1750.
Effective: Fall 2010 Future: Fall 2010

ART H 305 (GA;IL)
European Art from 1780-1860 (3) A survey of painting and sculpture in Europe 1780-1860, from the origins of Neoclassicism through Romanticism and Realism.
Effective: Spring 2006

ART H 306 (GA;IL)
English Art (3) An introduction to the history of art in England by examining selected themes and issues.
Effective: Spring 2006

ART H 307 (AM ST 307) (GA;US)
American Art (3) History of art in the English colonies and the United States from the seventeenth century to the present.
Effective: Spring 2008

ART H 311 (GA;IL)
Greek and Roman Art (3) Greek and Roman art, with emphasis on painting and sculpture.
Effective: Spring 2006

ART H 312 (GA;IL)
Romanesque and Gothic Art (3) Survey of the architecture, sculpture, and painting of the Christian church in western Europe from 1000 to 1500.
Effective: Spring 2006

ART H 313 (GA;IL)
Northern Renaissance Art (3) Art in northern Europe in the fifteenth and sixteenth centuries, emphasizing painters such as Van Eyck, Durer, and Bruegel.
Effective: Spring 2006

ART H 314 (GA;IL)
Art in the Age of Rembrandt (3) Dutch and Flemish painting in the seventeenth century.
Effective: Spring 2006

ART H 315 (ASIA 315) (GA;IL)
Architecture and Art of South and Southeast Asia (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.
Effective: Summer 2010

ART H 320 (GA;IL)
Chinese Art (3) A general survey of the great periods of Chinese art from the Shang dynasty until the modern period.
Effective: Summer 2005

ART H 324 (GA;IL)
Rococo Art (3) Eighteenth-century art in western Europe, with emphasis on artists such as Watteau, Fragonard, Falconet, Le Gros, Tiepolo, Guardi, Neumann.
Effective: Spring 2006

ART H 325 (GA;IL)
Impressionism to Surrealism (3) A survey of European painting and sculpture from ca. 1850 to ca. 1940.
Effective: Spring 2006

ART H 330 (GA;IL)
Islamic Architecture and Art (3) Survey of the art and architecture of Islamic lands from the late seventh century until the eighteenth century.
Effective: Summer 2005

ART H 335 (AAA S 335) (GA;IL)
African Art (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.
Effective: Summer 2005

ART H 340 (GA;IL)
Japanese Art (3) This course will examine the art and architecture of Japan, its relationship to Chinese art, and its influence on European art.
Effective: Summer 2005

ART H 399 (IL)
Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005
Prerequisite: ART H 100 or ART H 110 or ART H 111 or ART H 112

ART H 401 (IL)
Greek Art and Architecture (3-9) Developments in Greek art and architecture, tenth century B.C. to first century B.C.; emphasis on the importance of Greek sanctuaries.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 201 or ART H 311

ART H 402 (IL)
The Illuminated Manuscript (3) Specific stylistic periods in manuscript painting from A.D. 500-1500 in Western Europe and Byzantium.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 302 or ART H 312

ART H 404 (US)
The Art of Colonial America (3) A survey of the visual arts in the North American colonies from the explorer artists to the American Revolution.

Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 202 or ART H 307

ART H 405 (US;IL)
Pioneers of Modern Architecture (3 per semester/maximum of 6) Selected period or theme in the development of modern architecture during the nineteenth and/or early twentieth centuries.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 202 or ART H 307

ART H 411 (IL)
Roman Art (3-9) Roman sculpture and painting from Augustus to Constantine.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 201 or ART H 311

ART H 412 (IL)
The Gothic Cathedral (3) Specific aspects of Romanesque and Gothic church architecture of western Europe, especially France and England, between 1000-1500.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 201 ART H 302 or ART H 312

ART H 414 (IL)
Italian Baroque Painting (3) Survey of Italian Baroque painting from sixteenth-century proto-Baroque masters to painters of the late Baroque and Rococo periods.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 or ART H 304

ART H 415 (US)
The Skyscraper (3) Origin and evolution of the skyscraper as seen against the background of cultural conditions and technological factors.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 202 or ART H 307

ART H 416 (US)
American Painting: 1876-1913 (3) Art in the United States between 1876 and 1913; emergence of an American art and transition to the modern styles.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 or ART H 307

ART H 420 (IL)
Russian Architecture (3) Russian architecture from the first Orthodox churches of the late tenth century to the end of the Soviet Union.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 112 ART H 201 or ART H 202

ART H 422 (IL)
Studies in Medieval Sculpture (3-9) Specific studies of western European sculpture, 300-1500, with attention to sources, styles, type, and iconography.
Effective: Spring 2006

Prerequisite: ART H 100 ART H 111 ART H 201 ART H 302 or ART H 312

ART H 423 (IL)
Studies in Italian Renaissance Art (3-9) Specific studies of Italian Renaissance art, including the work of artists such as Leonardo da Vinci, Michaelangelo, and Raphael.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 202 or ART H 303

ART H 424 (IL)
Masters of Northern Baroque Art (3) Seventeenth-century painters in Flanders and Holland, including the works of artists such as Rubens, Rembrandt, and Vermeer.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 or ART H 314

ART H 426 (US;IL)
Iconoclasm: Powerful Images and their Destruction (3) Iconoclasm: exploring the political, religious, and social motivations behind the destruction of powerful imagery throughout history.
Effective: Summer 2009
Prerequisite: 3 credits of Art History in any area

ART H 429 (IL)
Studies in Baroque Art (3) Selected topics in the painting, sculpture, and architecture of seventeenth-century Italy, France, Flanders, Holland, and Spain.
Effective: Spring 2009
Prerequisite: 6 credits in art history (ART H)

ART H 435 (IL)
Studies in Modern Art (3-6) Lectures focusing on a selected movement of nineteenth- or twentieth-century art.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 305 ART H 307 or ART H 325

ART H 440 (ASIA 440) (IL)
Monuments of Asia (3-9 per semester/maximum of 9) An exploration of major Asian sites and monuments through a focus on their historical and cultural significance.
Effective: Summer 2010
Prerequisite: ART H 100 or ART H 120 or ART H 315 or ART H 320 or ART H 330 or ART H 340

ART H 442 (IL)
Late Antique and Early Christian Art (3) Survey of the architecture, painting, and minor arts of Christian society from the beginning to the mid-sixth century.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 201 or ART H 302

ART H 450 (US;IL)
The History of Photography (3) The history of photography from 1839, with

particular emphasis on the relationship with the plastic arts.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 305 ART H 307 or ART H 325

ART H 452 (IL)
Byzantine Art (3) Monumental and minor arts of Byzantium and related areas from the reign of Justinian to the Turkish conquest of Constantinople.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 111 ART H 201 or ART H 302

ART H 454 (IL)
Spanish Baroque Art (3) Survey of seventeenth-century Spanish painting and sculpture, with an emphasis on Velasquez, Murillo, Ribera, and Zurbaran.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 or ART H 304

ART H 456 (IL)
Renaissance and Baroque Palaces (3) This course examines palace architecture and decoration in Italy, France, England, and Germany from 1450-1700.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ART H 100 or ART H 112 or ART H 202 or ART H 303 or ART H 304

ART H 458 (IL)
Baroque Capitals of Europe (3) This course examines the architecture and urbanism of European capital cities from 1600-1800.
Effective: Spring 2010
Prerequisite: ART H 100 or ART H 112 or ART H 202 or ART H 304 or ART H 314

ART H 464 (IL)
French Baroque Painting (3) Examination of seventeenth-century French painting, including Italian influences; the provincial, Classical, and official styles in France.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 or ART H 304

ART H 470 (US)
American Painting and Sculpture Since 1940 (3) Painting and sculpture in the United States from the origins of Abstract Expressionism through the present.
Effective: Spring 2006
Prerequisite: ART H 100 ART H 112 ART H 307 or ART H 325

ART H 475 (ART 475) (US)
Contemporary Women Artists (3) An interdisciplinary course that investigates women artists who are integral to the production of contemporary art primarily in the Americas, Europe, and Asia.
Effective: Spring 2009
Prerequisite: Fifth semester standing ART H 111 ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART H 497A (IL)
Ancient Egyptian Art and Architecture (3) An examination of selected monuments of Ancient Egyptian art and architecture.

Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ART H 100 or ART H 111 or ART H 201 or ART H 301

ART H 497B (US;IL)
The Shock of the New: Provocation and Challenge in European Art 1400-1650 (3) A team-taught, interdisciplinary exploration of provocative challenges to tradition in the visual arts, music and literature, 1400-1650.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ART H 100 or ART H 112 or ART H 202 or ART H 303 or ART H 304 or ART H 313 or ART H 314

ART H 499 (IL)
Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ASIA 004 (CMLIT 004) (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Future: Fall 2010

ASIA 100 (GH;IL)
What is Asia? (3-6 per semester/maximum of 6) An introduction to the history, literatures, politics, and cultures of Asia.
Effective: Fall 2009

ASIA 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASIA 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASIA 315 (ART H 315) (GA;IL)
Architecture and Art of South and Southeast Asia (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.
Effective: Summer 2010

ASIA 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASIA 404 (CMLIT 404) (IL)
Topics in Asian Literature (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.
Effective: Fall 2010 Future: Fall 2010

Prerequisite: 3 credits in literature or related field appropriate to this course

ASIA 405Y (IL)
Seminar in Asian Studies (3-6 per semester/maximum of 6) An advanced, writing-focused seminar in Asian Studies.
Effective: Fall 2009
Prerequisite: ASIA 100

ASIA 440 (ART H 440) (IL)
Monuments of Asia (3-9 per semester/maximum of 9) An exploration of major Asian sites and monuments through a focus on their historical and cultural significance.
Effective: Summer 2010
Prerequisite: ART H 100 or ART H 120 or ART H 315 or ART H 320 or ART H 330 or ART H 340

ASIA 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASTRO 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ASTRO 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ASTRO 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AYFCE 211 (CAS 222, CIVCM 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

AYFCE 211S (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

AYFCE 438 (US)
Living in an Increasingly Diverse Society (1-3) Students in this course will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning.

Effective: Spring 2011 Future: Spring 2011

AYFCE 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2011 Future: Spring 2011

B A 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B A 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B A 364Y (US;IL)
International Business and Society (3) Business organizations and the sociocultural environment; current issues; corporate responsibility; international and multinational business environments.
Effective: Spring 2008
Prerequisite: ENGL 202D MGMT 301

B A 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B A 499 (IL)
Foreign Study--Business Administration (1-18) Study in selected countries of business institutions, functions, and current business problems.
Effective: Spring 2007
Prerequisite: ACCTG 211 ; ECON 002 ECON 004 ; SCM 200

B E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2010 Future: Fall 2010

B E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2010 Future: Fall 2010

B E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2010 Future: Fall 2010

B LAW 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group

instruction.
Effective: Summer 2007

B LAW 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

B LAW 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

B LAW 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

B M B 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B M B 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B M B 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BB H 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2009

BB H 251 (US)
Straight Talks I: Advanced Sexual Orientation/Gender Identity Peer Education (3) Exploration of social justice issues, diversity leadership, and group facilitation skills related to lesbian, gay, bisexual, transgender, and ally issues.
Effective: Summer 2005

BB H 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2009

BB H 302 (AAA S 302) (US)
Diversity and Health (3) Examine the relationship of diverse personal and sociocultural factors to health, like socioeconomic class, race-ethnicity, gender,

age, and sexual orientation.
Effective: Spring 2007
Prerequisite: PSYCH 100 or SOC 001

BB H 305 (IL)
Introduction to Global Health Issues (3) Course will develop awareness of contemporary issues in global health.
Effective: Summer 2010
Prerequisite: BB H 101

BB H 315 (US)
Gender and Biobehavioral Health (3) Interdisciplinary study of gender, examining the interaction of biological, behavioral, and sociocultural factors on health differentials throughout the lifespan.
Effective: Summer 2005
Prerequisite: BB H 101

BB H 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2009

BB H 402 (IL)
African Health & Development (3) Course will address African health and development strategies in the context of health promotion programs.
Effective: Summer 2010
Prerequisite: BB H 305

BB H 407 (IL)
Global Health Equity (3) Health, social disparities, and equity in the global environment.
Effective: Summer 2010

BB H 440 (H P A 440) (US;IL)
Principles of Epidemiology (3) Theory of epidemiology and significant case studies; potential applications to health care.
Effective: Fall 2008
Prerequisite: BB H 101 or BIOL 110 or H P A 310 ; STAT 200 or STAT 250

BB H 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2009

BE SC 464 (WMNST 464) (US)
Feminine/Masculine (3) Study of sex role learning; investigating feminine/masculine labeling; implications for contemporary society.
Effective: Spring 2008
Prerequisite: general psychology or general sociology

BIOE 444 (MATSE 404) (IL)
Surfaces and the Biological Response to Materials (3) Focus is on special

properties of surface as an important causative and mediating agent in the biological response to materials.
Effective: Summer 2007
Prerequisite: CHEM 111 CHEM 113

BIOL 120A (GN;US;IL)
Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance.
Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 120B (GN;US)
Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance.
Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 120C (GN;IL)
Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance.
Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BIOL 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BIOL 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BIOL 499A (IL)
Tropical Field Ecology (3) An intensive introduction to tropical biodiversity to be taught in Belize, Central America.
Effective: Summer 2005
Prerequisite: BIOL 220W

BKLV 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

C E 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

C E 254 (GHA;US)
Personal & Occupational Safety (3) Students will learn about principles of safety in work and personal settings.
Effective: Spring 2008

C E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

C E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

C E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

CAMS 002 (GH;IL)
Literature of the Ancient Near East (3) Reading and study of literary works from the Ancient Near East, especially from Mesopotamia and Ancient Egypt.
Effective: Summer 2005

CAMS 004 (J ST 004, RL ST 004) (GH;US;IL)
Jewish and Christian Foundations (3) Introduction to the perspectives, patterns

of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.
Effective: Summer 2005

CAMS 005 (HIST 005) (GH;IL)
Ancient Mediterranean Civilizations (3) Survey of the history and cultures of ancient Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.
Effective: Spring 2008

CAMS 010 (GH;IL)
Mesopotamian Civilization (3) Cultural, technological, literary, political, and economic achievements of peoples who occupied the region of Mesopotamia (4,000-331 B.C.E.), in historical context.
Effective: Spring 2006

CAMS 012 (J ST 012, RL ST 012) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

CAMS 012U (J ST 012U, RL ST 012U) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAMS 025 (GH;IL)
Greek Civilization (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.
Effective: Summer 2005

CAMS 025U (GH;IL)
Greek Civilization (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAMS 033 (GH;IL)
Roman Civilization (3) Origin of the Romans; sociopolitical development; food, homes, education, marriage, family life, amusements, private and public worship.
Effective: Summer 2005

CAMS 044 (RL ST 044) (GH;IL)
Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Summer 2005

CAMS 044U (GH;IL)
Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CAMS 045 (GH;IL)
Classical Mythology (3) Introduction to Greek and Roman divinities, heroes and heroines; survey of the major myths and their influence on Western culture.
Effective: Summer 2005

CAMS 070 (J ST 070, RL ST 070) (GH;IL)
Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

CAMS 083S (GH;IL)
First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Summer 2005

CAMS 083T (GH;IL)
First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAMS 090 (J ST 090, RL ST 090) (GH;IL)
Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

CAMS 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 100 (HIST 100) (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Spring 2006

CAMS 101 (HIST 101) (GH;IL)
The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

CAMS 102 (HIST 102, J ST 102, RL ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

CAMS 105 (GH;IL)
History of the Ancient Near East (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.
Effective: Summer 2005

CAMS 105U (GH;IL)
History of the Ancient Near East (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CAMS 109Y (GH;IL)
Writing Systems of the World (3) Writing intensive overview of the world's writing systems throughout history.
Effective: Spring 2007

CAMS 110 (J ST 110, RL ST 110) (GH;US;IL)
Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

CAMS 111 (J ST 111, RL ST 111) (GH;IL)
Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

CAMS 124 (J ST 124, RL ST 124) (GH;US;IL)
Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

CAMS 134 (J ST 134, RL ST 134) (GH;IL)
Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

CAMS 140 (GH;IL)
Classical Archaeology--Ancient Greece (3) Literary sources and material evidence for society; culture of the inhabitants of Greece in ancient times.
Effective: Summer 2005

CAMS 150 (GH;IL)
Classical Archaeology--Ancient Rome (3) Literary sources for the development of Roman civilization in relation to the relevant archaeological discoveries.
Effective: Summer 2005

CAMS 180 (HIST 180) (GH;IL)
Ancient Warfare (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.
Effective: Summer 2006

CAMS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 250U (GH;IL)
Honors Classics in Literature and Film (3) This honors course explores the Classical Tradition as it thrives in the literature of later epochs and film.
Effective: Summer 2010

CAMS 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 405 (IL)
Law & Economy in the Ancient Near East (3) This course is an overview of the legal and economic texts and institutions in the Ancient Near East.
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses.

CAMS 442 (KINES 442) (IL)
Sport in Ancient Greece and Rome (3) An examination of the continuity of sport in Greek and Roman societies.
Effective: Spring 2008
Prerequisite: CAMS 025 CAMS 033 CAMS 140 CAMS 150 CAMS 100 CAMS 101 or KINES 141

CAMS 470 (IL)
Languages and Cultures of the Ancient Near East (3) This course is an overview of the languages and cultures that populated the Ancient Near East.
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses.

CAMS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 499A (ANTH 499A) (IL)
Landscape Archaeology (3) This course introduces students to the basics of archaeological surveys.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499B (IL)
GIS for Archaeologists (3) This course gives students a hands-on introduction to the use of GIS programs in archaeological research.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499C (J ST 499C, HIST 499C) (IL)
Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.

Effective: Summer 2010 Ending: Summer 2010

CAMS 499D (J ST 499D, HIST 499D, ANTH 499D) (IL)
Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499E (HIST 499E, RL ST 499E) (IL)
Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.
Effective: Summer 2010 Ending: Summer 2010

CAS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAS 200 (US;IL)
Language, Culture, and Communication (3) Introduction to language, language development, cultural literacy, culture, and intercultural communication.
Effective: Summer 2005

CAS 222 (CIVCM 211, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Future: Fall 2010

CAS 271 (US;IL)
Intercultural Communication (3) Introduction to intercultural communication. Focus on topics such as language, identity, prejudice, and intergroup relations on a domestic/ international level.
Effective: Summer 2005

CAS 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAS 422 (AAA S 422) (US)
Contemporary African American Communication (3) A focused study on the continuities between African and African American culture and communication.
Effective: Summer 2005
Prerequisite: CAS 100

CAS 455 (WMNST 455) (US)

Gender Roles in Communication (3) Explores the literature on gender research in the discipline of human communication.
Effective: Summer 2005
Prerequisite: CAS 202

CAS 471 (US;IL)
Intercultural Communication Theory and Research (3) Intercultural and cross-cultural communication research theory and practice as applied within and across national boundaries.
Effective: Summer 2005
Prerequisite: CAS 271

CAS 471U (US;IL)
Intercultural Communication Theory and Research (3) Intercultural and cross-cultural communication research theory and practice as applied within and across national boundaries.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: CAS 271

CAS 499 (IL)
Foreign Studies (1-9) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CED 420 (R SOC 420, WMNST 420) (US;IL)
Women in Developing Countries (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.
Effective: Fall 2009
Prerequisite: 5th semester standing or above

CED 450 (IL)
International Development, Renewable Resources, and the Environment (3) Theories of agricultural and economic development, with particular attention to interactions between development, renewable resources, and the environment.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 6 credits in agricultural economics or economics

CH E 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CH E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CH E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CH E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CHEM 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CHEM 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CHEM 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CHNS 083S (IL)
Chinese First-year Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2010
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

CHNS 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 110 (IL)
Conversation, Reading, and Composition (4) Readings in selected modern Chinese literature (short stories, plays, essays, poems) and other texts; practice in conversation and simple composition.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 003

CHNS 110 (IL)
Level Two Chinese B (4) Readings in selected modern Chinese literature (short stories, plays, essays, poems) and other texts; practice in conversation and simple composition.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 003

CHNS 120 (GH;IL)
Introduction to Chinese Literature and Culture (3) Chinese cultural productions, classical through contemporary; literature and film; changing cultural settings in multiple Chinese-speaking locations. Taught in English.
Effective: Spring 2010

CHNS 121 (GH;IL)
Chinese Film and New Media (3) Survey of Chinese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

CHNS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 401 (IL)
Advanced Conversation (4) Emphasis on oral proficiency through discussions of aspects of contemporary Chinese culture.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 110

CHNS 401 (IL)
Level Three Chinese A (4) Emphasis on oral proficiency through discussions of aspects of contemporary Chinese culture.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 110

CHNS 402 (IL)
Advanced Reading (4) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Chinese culture.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 401 OR EQUIVALENT

CHNS 402 (IL)
Level Three Chinese B (4) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Chinese culture.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 401 OR EQUIVALENT

CHNS 452 (IL)
Contemporary China: Culture and Trends (3 per semester/maximum of 6) Survey of aspects of the contemporary Chinese-speaking world. Includes readings from Chinese newspapers, magazines, and fiction. Topics may vary each semester.
Effective: Spring 2010
Prerequisite: CHNS 401

CHNS 453 (IL)
Chinese Film (3 per semester/maximum of 6) Selected films and directors representing various aspects of Chinese culture and cinema. Topics may vary each semester. Taught in Chinese.
Effective: Spring 2010
Prerequisite: CHNS 401

CHNS 454 (IL)
Introduction to Classical Chinese (3 per semester/maximum of 6) Basic patterns and structures of Classical Chinese to the first millennium B.C. to the 19th century.
Effective: Spring 2010
Prerequisite: CHNS 401 or equivalent (such as study abroad credit)

CHNS 455 (IL)
Masterpieces of Traditional Chinese Literature (3) Survey of traditional Chinese literature, including poetry, historical narratives, philosophical texts, and drama and novel.
Effective: Spring 2010
Prerequisite: CHNS 401 or equivalent

CHNS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CI ED 401 (EDTHP 401) (IL)
Introduction to Comparative Education (3) Origins, nature, scope, basic literature, and methodology of comparative education. Study of sample topics.
Effective: Fall 2007
Prerequisite: 5th semester standing or higher

CIVCM 211 (CAS 222, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Future: Fall 2010

CIVCM 211S (CAS 222, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 001 (GH;IL)
Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Spring 2005

CMLIT 001U (GH;IL)

Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 001U (GH;IL)
Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CMLIT 002 (GH;IL)
Introduction to Western Literatures Since the Renaissance (3) Introductory comparative survey of European and American literatures, post-Renaissance through Modern, considering genre, themes, cultural, and literary values.
Effective: Summer 2005

CMLIT 003 (GH;IL)
Introduction to African Literatures (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.
Effective: Summer 2005

CMLIT 003U (GH;IL)
Introduction to African Literatures (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 004 (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 004 (ASIA 004) (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Future: Fall 2010

CMLIT 004U (GH;IL)
Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 005 (GH;US;IL)
Introduction to Literatures of the Americas (3) Comparative interpretation of the oral and written literary traditions of North, Central, and South America.
Effective: Summer 2005

CMLIT 006 (PHIL 006) (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Spring 2006

CMLIT 010 (GH;IL)
The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010 (GH;IL)
World Literatures (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 010S (GH;IL)
The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010S (GH;IL)
World Literatures (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 011 (GH;IL)
The Hero in World Literature (3) The figure of the hero/heroine examined in world literature as a vehicle for expressing social and cultural values.
Effective: Summer 2005

CMLIT 012 (GH;IL)
Introduction to World Drama and Performance (3) The power, ethics, and excitement of drama and related forms of performance literature, presented in a global and comparative context.
Effective: Summer 2010

CMLIT 013 (GH;IL)
Virtual Worlds: Antiquity to the Present (3) Virtual worlds from anicent to postmodern, in a comparative and global context that includes literature, film, and online multiplayer games.
Effective: Summer 2010

CMLIT 083S (GH;IL)
First-Year Seminar in Comparative Literature (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Summer 2005

CMLIT 083T (GH;IL)
First-Year Seminar in Comparative Literature (3) International topics in literature

and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMLIT 100 (GH;IL)
Introduction to Comparative Literature (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 100 (GH;IL)
Reading Across Cultures (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.
Effective: Fall 2010 Future: Fall 2010

CMLIT 101 (GH;US;IL)
The Theme of Identity in World Literature: Race, Gender, and Other Issues of Diversity (3) Themes of gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 101 (GH;US;IL)
Race, Gender, and Identity in World Literature (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Fall 2010 Future: Fall 2010

CMLIT 101U (GH;US;IL)
Race, Gender, and Identity in World Literature (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 105 (GH;IL)
The Development of Literary Humor (3) Literary humor expressed as satire, comedy, and farce--from ancient times to the present--in an international and multicultural context.
Effective: Summer 2005

CMLIT 106 (GH;IL)
The Arthurian Legend (3) The growth and development of the legend of King Arthur, from medieval Europe to modern Japan.
Effective: Summer 2005

CMLIT 107 (GH;IL)
The Literature of Exploration: Extraordinary Voyages from Antiquity to the

Future (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 107 (GH;IL)
Exploration, Travel, Migration, and Exile (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.
Effective: Spring 2011 Future: Spring 2011

CMLIT 108 (GH;IL)
Myths and Mythologies (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.
Effective: Summer 2005

CMLIT 108U (GH;IL)
Myths and Mythologies (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 109 (GH;US;IL)
Native American Myths, Legends, and Literatures (3) Myths, legends, and literatures of Native American cultures.
Effective: Spring 2006

CMLIT 110 (GH;US;IL)
Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 110 (J ST 131) (GH;US;IL)
Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Spring 2011 Future: Spring 2011

CMLIT 111 (GH;IL)
Introduction to Literatures of India (3) Narrative, lyric, religious, oral, and dramatic literature, as well as film from India studied in translation from a global perspective.
Effective: Summer 2005

CMLIT 120 (GH;IL)
The Literature of the Occult (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.
Effective: Spring 2006

CMLIT 120U (GH;IL)
The Literature of the Occult (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to

present.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CMLIT 122 (GH;US;IL)
Global Science Fictions (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.
Effective: Summer 2010

CMLIT 122U (GH;US;IL)
Global Science Fictions (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

CMLIT 130 (GH;IL)
Banned Books: International and Comparative Perspectives (3) The world of banned books, their history, and their politics, studied comparatively and internationally.
Effective: Summer 2010

CMLIT 131 (GH;IL)
Crime and Detection in World Literature (3) Issues of ethics, truth, justice, and social order as embodied in crime and detective literature, presented in comparative contexts.
Effective: Summer 2010

CMLIT 132 (GH;IL)
Nobel Prize Literature (3) Introduction to Nobel Prize winning literature and the culture of the prize in international and historical context.
Effective: Summer 2010

CMLIT 140 (GH;IL)
Literature and the Other Arts: International and Comparative Perspectives (3) A comparative, international examination of the relationship between literature and non-literary art forms.
Effective: Summer 2010

CMLIT 141 (GH;US;IL)
Religion and Literature (3) Major religious themes as expressed in literary masterpieces; sacred texts from various cultures read as literature.
Effective: Summer 2005

CMLIT 142 (GH;IL)
The Psychology of World Literature (3) A comparative, psychological approach to world literature from the perspectives of writer, narrative, character, and reader.
Effective: Summer 2010

CMLIT 143 (GH;US;IL)
Human Rights and World Literature (3) Human rights violations discussed in tandem with their literary representation, presented in a global and comparative context.
Effective: Summer 2010

CMLIT 153 (GH;IL)
International Cultures Through Literature and Film (3) Comparison of narrative techniques employed by literature and film in portraying different cultures; topics may vary each semester.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 153 (GH;IL)
International Cultures: Film and Literature (3) Comparison of narrative techniques employed by literature and film in portraying different cultures, topics may vary each semester.
Effective: Spring 2011 Future: Spring 2011

CMLIT 184 (ENGL 184) (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the Nineteenth and Twentieth Century.
Effective: Spring 2006

CMLIT 185 (ENGL 185) (GH;IL)
The Modern Novel in World Literature (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 185 (ENGL 185) (GH;IL)
World Novel (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2011 Future: Spring 2011

CMLIT 189 (ENGL 189) (GH;IL)
The Founders of Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 189 (ENGL 189) (GH;IL)
Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2011 Future: Spring 2011

CMLIT 190 (GH;IL)
Literary and Cultural Theory: An Introduction (3) A comparative introduction to literary and cultural theory, and its impact on the study of literature.
Effective: Summer 2010

CMLIT 199 (IL)
Foreign Study--Comparative Literature (3-6) Course offered on comparative literary topics as part of a foreign-study program.
Effective: Summer 2005

CMLIT 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2005

CMLIT 399 (IL)
Foreign Study--Comparative Literature (3-6) Special course offered on comparative literary topics as part of a foreign-study program.
Effective: Summer 2005
Prerequisite: third-semester standing

CMLIT 400Y (US;IL)
Senior Seminar in Literary Criticism and Theory (3) Discussions of theories of literature, of literary criticism, and particularly of the distinct methods of comparative study; individual projects.
Effective: Spring 2006
Prerequisite: seventh-semester standing; 18 credits in literature

CMLIT 401Y (IL)
The Western Literary Heritage I (3) Major literary movements and authors in the literature of the Western world from the beginnings through the early Renaissance.
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

CMLIT 402Y (US;IL)
The Western Literary Heritage II (3) Major literary movements and authors in the literature of the Western world from the late Renaissance to the present time.
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

CMLIT 403 (LTNST 403) (US)
Varieties of Latina/o Cultural Expression (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

CMLIT 403 (LTNST 403) (US)
Latino/a Literature and Culture (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

CMLIT 404 (IL)
Literary Modes of Asia (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 3 credits in literature or related field appropriate to this course

CMLIT 404 (ASIA 404) (IL)

Topics in Asian Literature (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature or related field appropriate to this course

CMLIT 405 (US;IL)
Inter-American Literature (3) This course examines the development of literature in Canada, the United States, Spanish America, the Caribbean area, and Brazil.
Effective: Spring 2006
Prerequisite: 3 credits in literature

CMLIT 406 (IL)
Women and World Literature (3) Literature written by women, especially women from non-Western cultures; the spectrum of genres in which women writers have excelled.
Effective: Spring 2006
Prerequisite: 3 credits in literature or in women's studies

CMLIT 408 (IL)
Heroic Literature (3) Traditional heroes, their traits and adventures; typical themes and examples chosen from the epics and sagas of world literature.
Effective: Spring 2006
Prerequisite: 3 credits in literature or folklore

CMLIT 410 (IL)
Problems in Translation (3) Emphasizing literary translation, a study of the theoretical and practical problems encountered in the processes of translation, transmission, and interpretation.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 18 credits in a foreign language

CMLIT 410 (IL)
Literary Translation: Theory and Practice (3) Emphasizing literary translation, a study of the theoretical and practical problems encountered in the processes of translation, transmission, and interpretation.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 18 credits in a foreign language

CMLIT 415 (GH;US;IL)
World Graphic Novels (3) Critical analyses of form, genre, medium, and discourse of the graphic novel and its historical precedents in an international and comparative context.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 422 (IL)
African Drama (3) Traditional and popular drama forms; modern anglophone and francophone drama; nationalism and social criticism in contemporary African drama.
Effective: Spring 2006

CMLIT 423 (IL)
African Novel (3) From traditional oral narratives to modern autobiograhical, historical, satirical, sociological, and allegorical forms; novelist as social critic.
Effective: Spring 2006

CMLIT 430 (IL)
Global Modernisms (3) A comparative investigation of global Modernisms, with an emphasis on the relations between modernism, modernity, and modernization.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 435 (IL)
Cultures of Globalization (3) Cultural and literary effects of the process of globalization, with an emphasis on world literatures and transnationalism.
Effective: Summer 2010
Prerequisite: 3 credits of literature

CMLIT 438 (IL)
Fantastic Worlds: International and Comparative Perspectives (3) A comparative, international study of fantastic worlds in literature and visual culture.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 443 (US;IL)
Literary Relations of Germany with England and America (3-9) Nature and extent of the literary relations of Germany and England; in alternate years, of Germany and America. A reading knowledge of German is recommended but not required. Conducted in English.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 443 (US;IL)
Transatlantic Literature (3 per semester/maximum of 6) Comparative literary and cultural relations across the Atlantic Ocean; may include Europe, Africa, the Americas, and/or the Caribbean.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature

CMLIT 446 (IL)
Postcolonial Literature and Culture (3) Postcolonial literature and theory in a comparative and international context.
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

CMLIT 448 (IL)
Literary Cultures of Buddhism (3) Comparative exploration of various Buddhist literary cultures, from the classical Indian subcontinent to modern movements like the Beats and dalit writing.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 449 (IL)

Literary Cultures of Islam (3) Comparative discussion of the literary cultures of Islam from the seventh century to the present.
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

CMLIT 453 (COMM 453) (IL)
Narrative Theory: Film and Literature (3) Comparative study of the aesthetics and techniques of film and literature; close analyses of masters of each art form.
Effective: Fall 2006
Prerequisite: COMM 150 or 3 credits in literature

CMLIT 455 (IL)
Ethics, Justice, and Rights in World Literature (3) Concepts of ethics, justice, and rights, appearing in world literature and/or film.
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

CMLIT 470 (IL)
Old Masters of the Modern Novel (3) Major novels of Joyce, Proust, Kafka, Thomas Mann, Nabokov, and others; their contributions to the art of the novel.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 3 credits in literature

CMLIT 470 (IL)
The Modern Novel (3) Major novels of Joyce, Proust, Kafka, Thomas Mann, Nabokov, and others; their contributions to the art of the novel.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature

CMLIT 471 (IL)
Poetry and Poetics (3) Theoretical and practical concepts in the comparative, global history of poetry and/or poetics.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 480 (IL)
The International Folktale (3) Traditional tales from various parts of the world: their origin, characteristics, forms; their transmission as oral narrative and written literature.
Effective: Spring 2006
Prerequisite: 3 credits in literature or folklore

CMLIT 481 (IL)
Theory and Techniques of World Folklore (3) Provides essential backgrounds to major folklore approaches and gives direction to the application of the most popular analytic methods.
Effective: Spring 2006
Prerequisite: 3 credits in literature

CMLIT 486 (IL)
Tragedy (3) Development of tragic drama and its relationship to social

background and philosophical theory.
Effective: Spring 2006

CMLIT 487 (IL)
Comedy (3) Development of comic drama and its relationship to social background and philosophical theory.
Effective: Spring 2006

CMLIT 488 (ENGL 488) (IL)
Modern Continental Drama (3) From Ibsen to the drama of today: Strindberg, Chekhov, Hauptmann, Pirandello, Ionesco, Beckett, Genet, and others.
Effective: Spring 2006
Prerequisite: ENGL 015 or ENGL 030

CMLIT 491 (IL)
Literary Adaptation: International and Comparative Perspectives (3) A comparative, international study of adapations between literature and other media (film, theater, photography, music).
Effective: Summer 2010
Prerequisite: 3 credits in literature or other fields relevant to this course

CMLIT 499 (IL)
Foreign Study--Comparative Literature (3-6) Advanced courses offered on comparative literary topics as part of a foreign-study program.
Effective: Summer 2005
Prerequisite: 18 credits or equivalent in the appropriate foreign language; 6 credits in literature or related field appropriate to this course

CMPEN 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

CMPEN 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

CMPEN 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

CMPSC 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMPSC 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

CMPSC 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMPSC 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CNPSY 254 (US)
Understanding Discrimination: An Educational and Employment Perspective (3) Study of the effects of educational and employment discrimination on United States social groups/identities.
Effective: Spring 2006

COMM 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

COMM 205 (WMNST 205) (US)
Women, Minorities, and the Media (3) Analysis of historical, economic, legal, political, and social implications of the relationship between women, minorities, and the mass media.
Effective: Summer 2005

COMM 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

COMM 350 (IL)
Comparative Media Cultures (3) Intercultural examination of economic, political, philosophical, and historical forces that shape various societies' newsgathering routines and content.
Effective: Spring 2008
Prerequisite: COMM 251

COMM 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

COMM 410 (IL)
International Mass Communications (3) The role of international media in communication among and between nations and people. Complement to COMM 419.
Effective: Spring 2009
Prerequisite: select 3 credits from the following COMM 100 COMM 110 COMM 118 COMM 150 COMM 180 COMM 251 COMM 260W COMM 320 or COMM 370

COMM 419 (US;IL)
World Media Systems (3) Comparative study of modern media systems of mass communications in selected foreign countries.
Effective: Spring 2009
Prerequisite: select 6 credits in the arts or the humanities; and 3 credits from the following: COMM 100 COMM 110 COMM 118 COMM 150 COMM 180 COMM 251 COMM 260W COMM 320 or COMM 370

COMM 419H (US;IL)
World Media Systems (3) Comparative study of modern media systems of mass communications in selected foreign countries.
Effective: Spring 2009
Prerequisite: select 6 credits in the arts or the humanities; and 3 credits from the following: COMM 100 COMM 110 COMM 118 COMM 150 COMM 180 COMM 251 COMM 260W COMM 320 or COMM 370

COMM 453 (CMLIT 453) (IL)
Narrative Theory: Film and Literature (3) Comparative study of the aesthetics and techniques of film and literature; close analyses of masters of each art form.
Effective: Fall 2006
Prerequisite: COMM 150 or 3 credits in literature

COMM 499 (IL)
Foreign Study--Mass Communications (1-12) Study of mass communication systems and practices in selected foreign countries.
Effective: Summer 2005
Prerequisite: departmental approval

CRIM 113 (CRIMJ 113) (US)
Introduction to Law (3) Introduction to law in society with a focus on criminal law, judicial code, laws of sentencing and corrections, ciminal procedure.
Effective: Spring 2008

CRIM 423 (CRIMJ 423, WMNST 423) (US)
Sexual and Domestic Violence (3) Legal, sociological, and psychological perspectives on sexual and domestic violence.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or WMNST 001

CRIM 441 (CRIMJ 441) (US)
Delinquency and Juvenile Justice (3) Course examines delinquency and the juvenile justice system including delinquency's nature, causes, and prevention and the processing of juveniles.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIM 451 (CRIMJ 451) (US)
Race, Crime, and Justice (3) This course focuses on the significance of race, class, and ethnicity to criminal justice processing and criminal offending.
Effective: Spring 2008

Prerequisite: CRIM 100

CRIM 453 (CRIMJ 453, WMNST 453) (US)
Women and the Criminal Justice System (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIM 100 or WMNST 001

CRIM 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

CRIMJ 113 (CRIM 113) (US)
Introduction to Law (3) Introduction to law in society with a focus on criminal law, judicial code, laws of sentencing and corrections, criminal procedure.
Effective: Spring 2008

CRIMJ 407 (CRIM 407) (US)
Victimology (3) This course will explore the legal, emotional, and social responses to the process of victimization by offenders and third parties.
Effective: Spring 2008

CRIMJ 423 (WMNST 423, CRIM 423) (US)
Sexual and Domestic Violence (3) Legal, sociological, and psychological perspectives on sexual and domestic violence.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 441 (CRIM 441) (US)
The Juvenile Justice System (3) Historical and contemporary view of the juvenile justice system. Focus on analyzing components of the system, their interactions, processing, and handling of youths.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 451 (CRIM 451) (US)
Race, Crime, and Justice (3) This course focuses on the significance of race, class, and ethnicity to criminal justice processing and criminal offending.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 453 (WMNST 453, CRIM 453) (US)
Women and the Criminal Justice System (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or WMNST 001

CRIMJ 499 (IL)
Foreign Studies (6) Courses offered in foreign countries by individual or group

instruction.
Effective: Spring 2008

CSD 100 (GHA;US)
Preventing Vocal Abuse, Misuse, and Disorders (1.5) Principles of the voice mechanisms, preventing vocal abuse, and promoting vocal health across the life span.
Effective: Summer 2005

CSD 101 (GHA;US)
Preventing Hearing Loss (1.5) Assessment, intervention, and prevention of hearing loss caused by loud music and recreational and industrial noise.
Effective: Summer 2005

CSD 146 (US;IL)
Introduction to Communication Sciences and Disorders (3) Classification of speech, language, and hearing disorders, diagnostic and treatment procedures; skills and responsibilities of the speech-language pathologist and audiologist.
Effective: Summer 2005

CSD 269 (US;IL)
Deafness and Society (3) Explores the economic, social, psychological, and political aspects of the deaf culture and its interaction with the majority hearing culture.
Effective: Summer 2005

CSD 300 (US;IL)
Developmental Considerations in the Assessment and Treatment of Language Disorders (3) Using a developmental framework to interpret problems in child language acquisition.
Effective: Summer 2005 Ending: Summer 2010

CSD 300 (US;IL)
Developmental Considerations in the Assessment and Treatment of Language Disorders (3) Using a developmental framework to interpret problems in child language acquisition.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 146

CSD 462 (US;IL)
Clinical Bases of Language Disorders (3) Description of pathological language and cognitive development, and principles of assessment and remediation among individuals with communication disorders.
Effective: Summer 2005 Ending: Summer 2010
Prerequisite: CSD 300

CSD 462 (US;IL)
Clinical Bases of Language Disorders (3) Description of pathological language and cognitive development, and principles of assessment and remediation among individuals with communication disorders.
Effective: Fall 2010 Future: Fall 2010

Prerequisite: CSD 300 plus 6 additional credits in CSD at the 300-level

CWC 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

DANCE 100 (GA;US;IL)
Dance Appreciation (3) Explore dance as a vital, communicative and performing art, reflecting social values and cultural beliefs.
Effective: Fall 2007

DANCE 484 (US;IL)
Dance History (3) Survey of dance history concerning perspectives of culture, race, and gender with a focus on Nineteenth and Twentieth centuries.
Effective: Fall 2006

E E 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E R M 499 (IL)
Foreign Studies (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2005

EARTH 101 (GN;US)
Natural Disasters: Hollywood vs. Reality (3) Analysis of the causes and consequences of natural disasters; comparison of popular media portrayal of disasters with perspective from scientific research.
Effective: Summer 2005

EARTH 105 (AAA S 105) (GN;IL)
Environments of Africa: Geology and Climate Change (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, and natural resources.
Effective: Summer 2005

EARTH 111 (GN;US)
Water: Science and Society (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.
Effective: Summer 2006

EARTH 111U (GN;US)
Water: Science and Society (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ECON 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ECON 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ECON 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ECON 436W (US)
Economics of Discrimination (3) Analysis of the economic characteristics of women and minorities, with examination of race and sex discrimination and related government policies.
Effective: Fall 2007

Prerequisite: ECON 302 or ECON 315

ECON 463 (IL)
Economic Demography (3) Microeconomics of demographic behavior; interrelationships between demographic and economic factors, in developing and industrialized economies; economic welfare and policy implications.
Effective: Spring 2006
Prerequisite: ECON 302 or ECON 304 ; or 9 credits in demography

ECON 470 (IL)
International Trade and Finance (3) Economic analysis of why nations trade, barriers to trade, the international monetary system, and macroeconomic policy in an open economy.
Effective: Spring 2008
Prerequisite: ECON 002 or ECON 004

ECON 473 (IL)
China in the Global Economy: History, Culture, and Society (3) Analysis of China's role in the global economy and the impact on U.S. as well as global business and society.
Effective: Spring 2008
Prerequisite: ECON 002 or ECON 004 or permission of program

ECON 499 (IL)
Foreign Study--Economics (2-6) Study in selected countries of economic institutions and current economic problems.
Effective: Summer 2005
Prerequisite: ECON 002 ECON 004

EDSGN 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

EDSGN 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EDSGN 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

EDSGN 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EDTHP 115 (US)
Education in American Society (3) Introduction to the development of educational institutions, with emphasis on historical, philosophical, and sociological forces,

and on problems of equity.
Effective: Spring 2006

EDTHP 115A (GS;US)
Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDTHP 115S (GS;US)
Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDTHP 401 (CI ED 401) (IL)
Introduction to Comparative Education (3) Origins, nature, scope, basic literature, and methodology of comparative education. Study of sample topics.
Effective: Fall 2007
Prerequisite: 5th semester standing or higher

EDTHP 411 (US)
Ethnic Minorities and Schools in the United States (3) Analysis of the social and cultural factors which affect educational outcomes among minority pupils, especially Blacks, Hispanics, and Indians.
Effective: Spring 2006

EDTHP 416 (SOC 416) (US)
Sociology of Education (3) The theoretical, conceptual, and descriptive contributions of sociology to education.
Effective: Spring 2006

EDUC 199 (IL)
Foreign Studies (1-12) Study of educational topics in a country other than the United States.
Effective: Summer 2007

EDUC 315 (US)
Social and Cultural Factors in Education (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.
Effective: Summer 2005 Ending: Fall 2010
Prerequisite: admission into Elementary Education Major or Secondary Teacher Certification Program

EDUC 315W (US)
Social and Cultural Factors in Education (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission into Elementary Education Major or Secondary Teacher

Certification Program

EDUC 499 (IL)
Foreign Studies (1-12) Study of educational topics in a country other than the United States.
Effective: Summer 2007
Prerequisite: permission of instructor

EGEE 101A (MATSE 101A) (GN;IL)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

EGEE 120 (GS;US;IL)
Oil: International Evolution (3) Survey of the commercial development of the world petroleum industry from various international, historical, business, and cultural perspectives.
Effective: Spring 2006

EGEE 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EGEE 211 (GS;US)
Social Legacy of Pennsylvania Coal (3) Survey of coal technologies with economic, social, and political impacts discussed with historical, cultural, and international perspectives.
Effective: Summer 2005

EGEE 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EGEE 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EGEE 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EM SC 101 (US;IL)
Resource Wars (3) "Resource Wars" presents an analysis of natural resources and how competition for them shapes national and international cultures and geopolitics.
Effective: Summer 2006

EM SC 150 (S T S 150) (GN;IL)
Out of the Fiery Furnace (3) A history of materials, energy and man, with emphasis on their interrelationships. For nontechnical students.
Effective: Spring 2006

EM SC 470Y (IL)
Undergraduate Collaborative Research in Earth and Materials Sciences (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.
Effective: Summer 2005

ENGL 015A (GWS;US)
Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Summer 2005
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 105 (AM ST 105) (GH;US)
American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2008

ENGL 132 (J ST 132) (GH;US)
Introduction to Jewish American Literature (3) A historical and thematic survey of Jewish Literature of the United States.
Effective: Spring 2009

ENGL 135 (GH;US)
Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 135S (GH;US)
Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 139 (GH;US)
Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Summer 2005

ENGL 139S (GH;US)
Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Fall 2006

ENGL 145 (GH;IL)

Modern Irish Literature (3) Irish literature in the twentieth century and beyond; focus on the interplay of poltical, social, and cultural, forces on literature.
Effective: Spring 2007

ENGL 182A (GH;US;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182B (GH;US)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182C (GH;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182S (GH;US;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 184 (CMLIT 184) (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 184S (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 185 (CMLIT 185) (GH;IL)
The Modern Novel in World Literature (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2006 Ending: Fall 2010

ENGL 185 (CMLIT 185) (GH;IL)
World Novel (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2011 Future: Spring 2011

ENGL 189 (CMLIT 189) (GH;IL)
The Founders of Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2006 Ending: Fall 2010

ENGL 189 (CMLIT 189) (GH;IL)

Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2011 Future: Spring 2011

ENGL 194 (WMNST 194) (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 194H (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGL 194S (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 196 (AM ST 196, AMSTD 196) (GH;US)
Introduction to American Folklore (3) A basic introduction to verbal and nonverbal folklore stressing the basic procedures of collection, classification, and analysis.
Effective: Summer 2005

ENGL 199 (IL)
Foreign Study--English (3-6) Studies in English language and/or literature.
Effective: Summer 2005

ENGL 226 (LTNST 226) (GH;US;IL)
Latina and Latino Border Theories (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.
Effective: Spring 2007

ENGL 227 (GH;US;IL)
Introduction to Culture and Sexuality (3) A course addressing the relationships between sexuality, literature, and culture.
Effective: Summer 2009
Prerequisite: ENGL 015 or ENGL 030

ENGL 235 (AAA S 235) (US)
African-American Oral Folk Tradition (3) The origins, forms, and function of the oral folk tradition of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 245 (GH;US)
Introduction to Lesbian and Gay Studies (3) An introduction to the study of sex and (homo)sexual identity across a wide range of disciplines and methodoligies.
Effective: Summer 2007

ENGL 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ENGL 399 (IL)
Foreign Study--English (3-6) Advanced studies in English language and/or literature.
Effective: Summer 2005

ENGL 426 (LTNST 426) (US)
Chicana and Chicano Cultural Production: Literature, Film, Music (3) An in-depth study of Chicana/Chicano literature, film, and music from the inception of the Chicano Movement (1965-1975) to the present.
Effective: Spring 2007
Prerequisite: 3 credits in English

ENGL 428 (AAS 428) (US)
Asian American Literatures (3 per semester/maximum of 6) A seminar on the literatures and cultures of Asian America, with attention to forms of geographic, historical, and ethnic diversity.
Effective: Summer 2010

ENGL 431 (AM ST 475) (US)
Black American Writers (3 per semester, maximum of 6) A particular genre or historical period in the development of Black American literature.
Effective: Fall 2007
Prerequisite: ENGL 015 or ENGL 030

ENGL 449 (US;IL)
Women Poets (3) Study of major writings by women poets; instructor chooses emphasis, language, and period.
Effective: Fall 2007
Prerequisite: ENGL 002 or ENGL 003 or ENGL 167 or ENGL 194 ; ENGL 015 or ENGL 030

ENGL 461 (US)
The Vernacular Roots of African American Literature (3) The relationship between oral tradition and literary texts and the double consciousness of African American voice in "print."
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 462 (WMNST 462) (US)
Reading Black, Reading Feminist (3) Female identity and its construction in textual representations of gender, class, color, and cultural difference in English-language literatures.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 463 (US)

African American Autobiography (3) The African American literary quest for identity and its adaptation to Euro-American culture and autobiographies.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 466 (US)
African American Novel I (3) Thematic, structural, and stylistic characteristics of the African American novel from residually oral forms to satiric realism.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 467 (US)
African American Novel II (3) Thematic, stylistic, and structural characteristics of the African American novel from naturalism to modernism and postmodernism.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 468 (US)
African American Poetry (3) African American poetry within the contexts of the black oral tradition and transformed European literary tradition.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 469 (AAA S 469) (US)
Slavery and the Literary Imagination (3) The impact of slavery on the petitions, poetry, slave narratives, autobiographies, and novels of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 486 (IL)
The World Novel in English (3) Studies in the novel, written in English, by writers outside of the United States and Great Britain.
Effective: Fall 2007
Prerequisite: ENGL 002 ; ENGL 015 or ENGL 030

ENGL 488 (CMLIT 488) (IL)
Modern Continental Drama (3) From Ibsen to the drama of today: Strindberg, Chekhov, Hauptmann, Pirandello, Ionesco, Beckett, Genet, and others.
Effective: Spring 2006
Prerequisite: ENGL 015 or ENGL 030

ENGL 490 (WMNST 490) (US;IL)
Women Writers and Their Worlds (3) American and British literature written from the perspective of women.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

ENGL 499 (IL)
Foreign Study--English (3-6) Studies abroad in English language and/or literature.
Effective: Summer 2005

ENGR 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 295I (IL)
Engineering International Cooperative Education (1) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Spring 2006

ENGR 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 301 (IL)
International Engineering Orientation (1) This course will prepare engineering students for an international educational experience, including study abroad and international internships.
Effective: Summer 2005

ENGR 395I (IL)
Engineering International Cooperative Education (1-2 per semester) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Spring 2006
Prerequisite: ENGR 295A or ENGR 295I

ENGR 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 408 (US)
Leadership Principles (2) An introduction to an exploration of theories and principles of leadership, supplemented by presentations given by industry and government leaders.
Effective: Spring 2006

ENGR 409 (US)
Leadership in Organizations (3) Development of leadership skills essential for engineers to guide colleagues or an organization in a productive direction.
Effective: Spring 2006

ENGR 420Y (US;IL)
Design for Global Society (3) An interdisciplinary study of the engineering design process and the influence of society and culture on design.

Effective: Spring 2008
Prerequisite: ENGL 202

ENGR 495I (IL)
Engineering International Cooperative Education (1-3 per semester) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Spring 2006
Prerequisite: ENGR 395A or ENGR 395I

ENGR 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENNEC 499 (IL)
Foreign Study--Mineral Industries (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

FIN 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FIN 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FIN 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FIN 456 (IL)
International Capital Markets (3) This course develops understanding of international capital markets by striking a balance between institutional details, theoretical foundation and practical application.
Effective: Spring 2008
Prerequisite: FIN 301

FIN 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FOR 418 (US;IL)
Agroforestry: Science, Design, and Practice (3) Agroforestry integrates trees in agricultural landscapes, and/or agriculture products into forested areas for multiple benefits.
Effective: Spring 2006

FOR 488Y (IL)
International Forestry (3) Forestry in global context, emphasizing developing countries: ecological, economic, technological, and political aspects.
Effective: Spring 2006
Prerequisite: E R M 413W FOR 421 or INTAG 100

FOR 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

FR 083S (GH;IL)
First-Year Seminar in French (3) Critical approaches to the dimensions and directions in French/Francophone literatures and cultures.
Effective: Summer 2005

FR 137 (GH;IL)
Paris: Anatomy of a City (3) Survey of the cultural, artistic, literary, and social life of the city of Paris from Gallo-Roman times to the present.
Effective: Summer 2005

FR 139 (GH;IL)
France and the French-speaking World (3) An introduction to the culture of France and its impact on the world.
Effective: Summer 2005

FR 140 (IL)
French Novel in English Translation (1-6) Readings of selected French masterpieces in translation; discussion of recurring themes in several literary periods.
Effective: Spring 2006

FR 141 (IL)
Cultural Tradition in French Cuisine (3) A study of French culture in English, emphasizing the French gastronomical traditions in literature and civilization.
Effective: Spring 2006

FR 199 (IL)
Foreign Study--French (1-12) Intensive postintermediate grammar review, with emphasis on oral skills and vocabulary building.
Effective: Summer 2005
Prerequisite: FR 003

FR 201 (IL)
Oral Communication and Reading Comprehension (3) Emphasis on oral skills and reading for total comprehension.
Effective: Spring 2007
Prerequisite: FR 003 or FR 112

FR 202 (IL)
Grammar and Composition (3) Grammar review and writing of short essays.

Effective: Spring 2006
Prerequisite: FR 003

FR 299 (IL)
Foreign Study--French (3-12) Writing practice at postintermediate level. Cultural readings about French civilization.
Effective: Summer 2005
Prerequisite: FR 199

FR 330 (IL)
French Culture and Civilization (3) French history and culture from the Middle Ages through the Third Republic.
Effective: Spring 2006
Prerequisite: FR 201 FR 202

FR 331 (IL)
French Culture and Civilization I (3) French history and culture from the Middle Ages until the French Revolution.
Effective: Summer 2006
Prerequisite: FR 201 FR 202

FR 332 (IL)
French Culture and Civilization II (3) French history and culture from the French Revolution through the Third Republic.
Effective: Summer 2006
Prerequisite: FR 201 FR 202

FR 351 (IL)
Introduction to French Literature I (3) Introduction to close textual reading and analysis of selected works of French literature from the middle ages to 1789.
Effective: Spring 2006
Prerequisite: FR 201 FR 202 FR 330

FR 352 (IL)
Introduction to French Literature II (3) Introduction to close textual reading and analysis of selected works of French Literature from 1789 to the present.
Effective: Spring 2006
Prerequisite: FR 201 FR 202 FR 330

FR 399 (IL)
Foreign Study--French (3-12) Advanced training in the French language skills.
Effective: Summer 2005
Prerequisite: FR 201 FR 202

FR 401 (IL)
Advanced Oral Communication (3) Emphasis on speaking and listening comprehension through discussion of current issues, using journalistic materials.
Effective: Spring 2006
Prerequisite: FR 201 FR 202

FR 402Y (IL)
Advanced Grammar and Writing (3) Advanced study of the structure of the

French language. Intensive essay writing.
Effective: Spring 2006
Prerequisite: FR 201 FR 202

FR 407 (IL)
Business Writing in French (3) Common forms of business communication; writing of reports and abstracts.
Effective: Spring 2007
Prerequisite: FR 331 or FR 332

FR 408 (IL)
French-American Business Translation (3) Translation from French to English of actual documents from the business world; theoretical consideration and systematic vocabulary building.
Effective: Spring 2007
Prerequisite: FR 407

FR 409 (IL)
Commercial and Technical Translation (3) Translation from English to French of commercial and technical materials; vocabulary building; writing of abstracts and summaries.
Effective: Spring 2006
Prerequisite: FR 402Y

FR 410 (IL)
French Press (3) Extensive readings of selected french daily and weekly newspapers and magazines, along with newscast viewings.
Effective: Spring 2007
Prerequisite: FR 331 or FR 332

FR 416 (IL)
Introduction to French Linguistics (3) Introduction to the theory and methods of linguistics as they apply to the major subfields.
Effective: Spring 2006

FR 417 (IL)
French Phonology (3) A formal study of the sound pattern of French.
Effective: Spring 2007
Prerequisite: FR 201 FR 202

FR 418 (IL)
French Syntax (3) A formal theory of word order and related issues in French grammar.
Effective: Spring 2006
Prerequisite: FR 201 and FR 202

FR 422 (IL)
Old French Literature (3) Medieval masterpieces in original and modern French versions.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 426Y (IL)
French Literature of the Renaissance (3) Survey of key texts from sixteenth century France, with attention to historical and philosophical currents of French social thought.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 430 (IL)
Contemporary France (3) Study of contemporary French society, politics, and culture from 1870 to the present.
Effective: Spring 2006
Prerequisite: FR 330

FR 434Y (IL)
Culture and Cuisine (3) Interdisciplinary perspectives on the historical, political, and cultural dimensions of French food.
Effective: Spring 2006
Prerequisite: FR 330 FR 452 FR 460

FR 436Y (IL)
Readings in Seventeenth-Century French Literature (3) Baroque and classicism: reappraisal of major and lesser-known 17th-century texts and theories.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 440 (IL)
Teaching of Romance Languages (3) Theories of second language acquisition. Current classroom practices in the teaching of Romance languages.
Effective: Spring 2006
Prerequisite: 15 credits beyond the elementary level

FR 445Y (IL)
Self and Society in Eighteenth-Century France (3) The changing relationship of the individual to society in pre-Revolutionary France will be explored in texts by major writers.
Effective: Spring 2006
Prerequisite: FR 351 . Prerequisite or concurrent: FR 352

FR 452Y (IL)
Nineteenth-Century French Literature (3) Selected readings in romanticism, realism, and symbolism, including Balzac, Stendhal, Sand, Baudelaire, and others, with emphasis on cultural issues.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 453Y (IL)
La Belle Epoque: Politics, Society, and Culture in France, 1880-1914 (3) Interdisciplinary perspectives on the politics, society, and culture of France, 1880-1914.
Effective: Fall 2006
Prerequisite: FR 330 or FR 351 or FR 352

FR 458 (IL)
African Literature of French Expression (3) Genesis of Franco-African literature in the 1930s; phases of the negritude movement; colonial and national literature.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 460 (IL)
Contemporary French Literature (3) Major authors and movements in French novel, drama, and poetry from Proust to the present.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 470 (IL)
Race and Gender Issues in Literatures in French (3) A critical presentation, taught in French, of changing ideas and values on race and gender in French and Francophone literatures.
Effective: Summer 2005
Prerequisite: FR 351 or FR 352

FR 471 (IL)
Francophone Women in Literature and Culture (3) Women's issues in literatures and cultures of French-speaking countries in Europe, the mediterranean, Africa, the Caribbean, and Quebec.
Effective: Summer 2005
Prerequisite: FR 351 or FR 352

FR 487 (IL)
Topics in French Film History and Theory I: 1895-1945 (3) Provide background needed to understand the broad outlines of French film history and theory in their first fifty years (1895-1945).
Effective: Spring 2006
Prerequisite: FR 351 and FR 352 or COMM 250

FR 488 (IL)
Topics in French Film History and Theory II: 1945-2002 (3) Provide background needed to understand the broad outlines of French film history and theory in their second half-century (1945-2002).
Effective: Spring 2006
Prerequisite: FR 351 and FR 352 or COMM 250

FR 489 (IL)
French Literature and Film (3) Comparison of artistic differences between selected pieces of French literature and their film adaptations.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 499 (IL)
Foreign Study--French (3-12) Advanced studies in French language and literature.
Effective: Summer 2005

Prerequisite: FR 201 FR 202

GD 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2006

GD 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2006

GEOG 020 (GS;US;IL)
Human Geography: An Introduction (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.
Effective: Summer 2005

GEOG 020U (GS;US;IL)
Human Geography: An Introduction (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

GEOG 040 (GS;IL)
World Regional Geography (3) Introduction to the world as an interdependent community built from unique and independent regions and nations.
Effective: Summer 2005

GEOG 120 (GS;US;IL)
Urban Geography: A Global Perspective (3) Introduction to the geography of the world's cities and urban system.
Effective: Spring 2006

GEOG 122 (GH;US)
The American Scene (3) Historical perspectives on the social and cultural forces associated with the production of distinctive American landscapes.
Effective: Spring 2007

GEOG 123 (GS;IL)
Geography of Developing World (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.
Effective: Spring 2007

GEOG 123U (GS;IL)
Geography of Developing World (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

GEOG 124 (GS;IL)

Elements of Cultural Geography (3) Locational analysis of changes in non-Western cultures. Problems of plural societies, economic development, population growth, and settlement.
Effective: Summer 2005

GEOG 126 (GS;US;IL)
Economic Geography (3) The location of economic activity at both macro- and micro-regional levels on the earth's surface.
Effective: Spring 2007

GEOG 128 (GS;IL)
Geography of International Affairs (3) Contemporary international affairs in their geographical setting; geographic elements in the development of national power, political groupings, and international disputes.
Effective: Summer 2005

GEOG 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 420Y (US;IL)
Metropolitan Analysis (3) Theory and practice of regional and metropolitan analysis.
Effective: Spring 2007
Prerequisite: GEOG 120 GEOG 160

GEOG 423Y (US)
Historical Geography of North America (3) Exploration, settlement, and changing patterns of human occupance from the seventeenth century to the 1930's.
Effective: Spring 2007
Prerequisite: GEOG 122 3 additional credits in geography or 6 credits

GEOG 424 (US;IL)
Geography of the Global Economy (3) Focus on industrial location theory, factors in industrial location, studies of selected industries and problems of industrial development.
Effective: Spring 2007

Prerequisite: ECON 002 ECON 004 GEOG 126

GEOG 426Y (WMNST 426Y) (US;IL)
Gender and Geography (3) Description and explanation of the links between gender relations and spatial structures.
Effective: Spring 2007
Prerequisite: GEOG 020 GEOG 126 GEOG 120 WMNST 001 or WMNST 187

GEOG 427 (US;IL)
Urban Historical Geography (3) Study of the development and transformation of the historical urban built environment.
Effective: Spring 2007
Prerequisite: 6 credits in geography humanities or social sciences

GEOG 428 (US)
Political Geography (3) Geographical foundations of political phemomena; significant geographic factors in growth and development of states, boundary problems, population distribution, colonies, and internal and international regional problems.
Effective: Spring 2007
Prerequisite: 6 credits in history or 6 credits in political science

GEOG 429 (US)
Global Urbanization (3) This course reflects critically on a number of issues related to global urbanization, including the culture and political economy of urban space.
Effective: Spring 2007
Prerequisite: GEOG 020 GEOG 126 or GEOG 120

GEOG 435H (IL)
Global Change and Sustainability - Bulgaria (3) Sustainability in the context of climate change, global socioeconomic change and regional transformation in Bulgaria; embedded foreign fieldwork (honors).
Effective: Summer 2008
Prerequisite: sophomore standing or above; departmental permission required

GEOG 497C (IL)
Biological Diversity in Agriculture and Global Change (3) Analysis of how biological diversity in agriculture is impacted by complex interactions with global land-use, climate, and social-environmental changes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 5th-semester standing or higher

GEOG 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOSC 402Y (IL)
Natural Disasters (3) Case studies of the causes and consequences of natural

disasters; analysis of disaster impact in different economic, cultural, and social conditions.
Effective: Summer 2005
Prerequisite: fourth-semester standing

GEOSC 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GER 083S (GH;US;IL)
First-Year Seminar in German (3) Germany's cultural past and present.
Effective: Summer 2005

GER 083T (GH;US;IL)
First-Year Seminar in German (3) Germany's cultural past and present.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

GER 099 (IL)
Foreign Study--German (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GER 100 (GH;IL)
German Culture and Civilization (3) Culture and civilization of the German people from the Germanic migrations to the Nazi period. Conducted in English.
Effective: Summer 2005

GER 120 (GH;IL)
The Faust Theme in Literature and in the Other Arts (3) Survey of the Faust theme in literature (Spiess, Marlowe, Goethe, Mann), book illustrations, music (Gounod), theater, film, and visual arts.
Effective: Spring 2006

GER 143 (RUS 143) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Summer 2005

GER 143U (RUS 143U) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

GER 150 (GH;IL)
Masterpieces of German Literature in English Translation (3) Major works and prominent authors, E.G. Nieblungenlied, Tristan, Lessing, Goethe, Schiller, Heine, Hauptmann, Hesse, Mann, Kafka, Boll, Grass, Frisch.
Effective: Spring 2006

GER 157 (GH;US)
Pennsylvania Germans: The Culture of the Sectarians (3) Survey of the religious

background, beliefs, social life, customs, education, and culture of the Pennsylvania German sectarians, especially the Amish. Conducted in English.
Effective: Summer 2005

GER 175 (GH;IL)
Germanic Heroic and Medieval Literature in English Translation (3) Germanic heroic and medieval courtly literature from 800 to 1350 focusing on the prevailing cultural, social, and legal conditions.
Effective: Spring 2006

GER 190 (GH;IL)
Twentieth-Century German Literature in English Translation (3) Works of such writers as Boll, Brecht, Durrenmatt, Frisch, Grass, Hesse, Kafka, Mann, Rilke, Weiss, and Wolf.
Effective: Spring 2006

GER 195 (GH;IL)
Modern German Drama and Theatre in English Translation (3) Plays and their stage realization by writers such as Brecht, Durrenmatt, Handke, Hauptmann, Kaiser, Schnitzler, Wedekind, and Weiss.
Effective: Spring 2006

GER 199 (IL)
Foreign Study--German (3-6) Intermediate training in German language skills.
Effective: Summer 2005
Prerequisite: GER 002

GER 200 (GH;IL)
Contemporary German Culture (3) Germany since WWI, its politics, economics, society, arts, and educational system in the international context; conducted in English.
Effective: Summer 2005

GER 201 (IL)
Conversation and Composition (4) Continuation of GER 003; emphasis on reading, writing, and conversational skills; course utilizes short literary selections, a concise novel, videos.
Effective: Fall 2006
Prerequisite: GER 003 or GER 008

GER 208Y (IL)
Business German (4) Intermediate Business German.
Effective: Fall 2006
Prerequisite: GER 003 or GER 008

GER 299 (IL)
Foreign Study--German (3-6) Advanced training in German language skills.
Effective: Summer 2005

GER 301 (IL)
Intermediate Conversation and Composition (3) Intensive practice in spoken and written German through readings, discussions, video, and composition.

Effective: Fall 2006
Prerequisite: GER 201 or GER 208

GER 308Y (IL)
German Business Communication (3) Development of German commerce and industry; extensive practice in the major forms of business communications such as business correspondence.
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent: GER 301

GER 310 (IL)
Introduction to the Study of German Literature (3) History, methods, and the terminology of literary interpretation and analysis in German.
Effective: Spring 2006
Prerequisite: or concurrent: GER 301

GER 344 (IL)
Intermediate German Culture (3) An overview of German culture from the Middle Ages to the present. Conducted in German.
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent: GER 301

GER 399 (IL)
Foreign Study--German (3-12) Advanced studies in German language and/or literature.
Effective: Summer 2005
Prerequisite: GER 201

GER 401Y (IL)
Advanced Composition (3) Intensive practice in writing different text types in German.
Effective: Spring 2006
Prerequisite: GER 301

GER 408 (IL)
Advanced German Business Communications (3) Study of German business organization, forms of business communications, business terminology; writing of reports and abstracts.
Effective: Spring 2006
Prerequisite: GER 308

GER 412 (IL)
Contrastive Analysis of Modern German and English (3) Structural comparison of the German and English grammatical systems: morphology, syntax, phonology.
Effective: Spring 2006
Prerequisite: or concurrent: GER 401

GER 420 (IL)
Genre (3-9) Special studies in a particular literary genre in German literature, such as lyrical poetry, drama, or narrative prose.
Effective: Spring 2006

Prerequisite: GER 310 GER 401

GER 430 (IL)
History of the German Language (3) Development of German from its earliest stages, including historical and cultural aspects.
Effective: Fall 2007
Prerequisite: or concurrent: GER 401Y

GER 431 (IL)
History of German Literature and Culture I (3) Significant works of German literature before the mid-eighteenth century considered in their cultural context.
Effective: Spring 2006
Prerequisite: GER 310 . Prerequisite or concurrent: GER 401

GER 432 (IL)
History of German Literature and Culture II (3) Significant works of German literature from the mid-eighteenth century to the present considered in their cultural context.
Effective: Spring 2006
Prerequisite: GER 310 . Prerequisite or concurrent: GER 401

GER 440 (IL)
Seminar in German Culture (3-6) Seminar devoted to a special topic in the field of German culture and civilization.
Effective: Spring 2006
Prerequisite: or concurrent: GER 401

GER 452 (IL)
Literature of the Renaissance (3) German literature of the late Middle Ages, Humanism and Reformation including such writers as Brant, Erasmus, Fischart, Luther, Sachs.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 460 (IL)
Literature of the Baroque (3) The literature and literary movements of seventeenth-century Germany, including such writers as Opitz, Fleming, Gryphius, Hofmannswaldau, and Gunther.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 461 (IL)
Literature of the Enlightenment (3) Lessing and his contemporaries; new currents in German literature of the eighteenth century.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 462 (IL)
Literature of the Late Eighteenth Century (3) Literature of the period of Empfindsamkeit and Sturm und Drang, including Rococo and Anacreontic tendencies.

Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 470 (IL)
Goethe (3) A study of Goethe's life and works especially his lyric poetry, novels, and dramas.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 471 (IL)
Schiller (3) Schiller's life, his classical poetry, aesthetic essays, and major dramas.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 472 (IL)
Romanticism (3) A study of both early and late romanticism, including such writers as Novalis, the Schlegels, E.T.A. Hoffmann, and Heine.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 480 (IL)
Realism (3) Literature of the nineteenth century from Biedermeier through Jenges Deutschland to realism: Grillparzer, Morike, Buchner, Heine, Hebbel, Keller, Storm, Fontane.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 481 (IL)
Early Twentieth Century (3) Development of German literature from Naturalism through Jugendstil to Expressionism: George, Hauptmann, Hesse, Hofmannsthal, Holz, Kafka, Kaiser, Mann, Rilke, Toller.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 482 (IL)
German Literature from 1933 to the Present (3) Literature from 1933 to the present including Exile and GDR literature.
Effective: Spring 2006
Prerequisite: or concurrent: GER 431 or GER 432

GER 499 (IL)
Foreign Study--German (3-12) Advanced studies in German language, literature, and culture.
Effective: Summer 2005
Prerequisite: any 300-level course in German

GREEK 099 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 199 (IL)

Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

H P A 401 (IL)
Comparative Health Systems (3) Comparative analysis of health services in selected developed and developing countries.
Effective: Spring 2006
Prerequisite: H P A 301

H P A 440 (BB H 440) (US;IL)
Principles of Epidemiology (3) Theory of epidemiology and significant case studies. Potential application to health care.
Effective: Fall 2008
Prerequisite: BB H 101 or BIOL 110 or H P A 310 ; STAT 200 or STAT 250

H&HD 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

H&HD 499H (IL)
Foreign Studies-Honors (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HD FS 250 (WMNST 250) (US)
Sexual Identity over the Life Span (3) Concepts of affectional and sexual orientation over life span, with emphasis on lesbian and gay male personal, family, and community adaptation.
Effective: Summer 2005
Prerequisite: 3 credits in HD FS or 3 credits in social or behavioral sciences

HD FS 287W (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287X (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287Y (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 315 (US)
Family Development (3) Family functions over the life course; family from a multidisciplinary perspective, emphasizing adaptation and change.
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

HD FS 315Y (US)
Family Development (3) Family functions over the life course; family from a multidisciplinary perspective, emphasizing adaptation and change.
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

HD FS 405 (US)
Gender and Social Development (3) A review of gender-related patterns of social development over the lifespan, as influenced by biological, sociological, and psychological factors.
Effective: Spring 2006
Prerequisite: HD FS 129 HD FS 312W ; or 6 credits in social sciences

HD FS 416 (SOC 411) (US)
Racial and Ethnic Diversity and the American Family (3) This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States.
Effective: Spring 2005
Prerequisite: 3 credits in sociology

HD FS 417 (US;IL)
Biocultural Studies of Family Organization (3) Study of variability in family organization with an emphasis on cultural and economic factors influencing household organization and family roles.
Effective: Spring 2006
Prerequisite: HD FS 129 ; HD FS 312W ; HD FS 315 or HD FS 315W ; or 6 credits in sociology or anthropology

HD FS 424 (US)
Family Development in an Economic Context (3) Economic conditions influencing family functioning; familial effects on the economy; strategies to enhance work-family relations.

Effective: Spring 2006
Prerequisite: HD FS 312W ; HD FS 315 or HD FS 315W

HD FS 425 (US)
Work as a Context for Human Development (3) Theory and research on role of work in adult development; interrealtionships between work and family; workplace interventions to enhance development.
Effective: Spring 2006
Prerequisite: HD FS 312W ; 3 credits in social and behavioral sciences

HD FS 469U (IL)
Family Change in the Global Economy (3) Exploration of how family life, quality, and structures in each region of the world are affected by the new global economy.
Effective: Fall 2005
Prerequisite: HD FS 315 or SOC 030

HD FS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HEBR 010 (J ST 010) (GH;IL)
Jewish Civilization (3) Life of the Jewish people from Biblical times, emphasizing cultural, religious, and institutional developments.
Effective: Summer 2005

HEBR 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 199 (IL)
Foreign Study--Basic Hebrew (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 399 (IL)
Foreign Study--Intermediate Hebrew (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 499 (IL)
Foreign Study--Advanced Hebrew (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HIST 001 (GH;IL)

The Western Heritage I (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.
Effective: Spring 2006

HIST 001T (GH;IL)
The Western Heritage I (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.
Effective: Spring 2006

HIST 002 (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Spring 2006

HIST 002S (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Summer 2005

HIST 002U (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 005 (CAMS 005) (GH;IL)
Ancient Mediterranean Civilizations (3) Survey of the history and cultures of anicent Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.
Effective: Spring 2008

HIST 010 (GH;IL)
World History I (3) Human origins; early civilizations; major political and intellectual developments on all continents; cultural interrelationships to 1500.
Effective: Summer 2005

HIST 011 (GH;IL)
World History II (3) Social, economic, and political evolution of societies and cultures from 1500 to the present.
Effective: Summer 2005

HIST 012 (GH;US)
History of Pennsylvania (3) Chronological and topical survey, emphasizing immigration of diverse ethnic groups and religious, political, economic, and social developments, including industrialization and urbanization.
Effective: Spring 2006

HIST 020 (GH;US)
American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 020U (GH;US)

American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 020Y (GH;US)
American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 021 (GH;US)
American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 021Y (GH;US)
American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 100 (CAMS 100) (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Spring 2006

HIST 100S (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Summer 2005

HIST 101 (CAMS 101) (GH;IL)
The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 101S (GH;IL)
The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 102 (CAMS 102, J ST 102, RL ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

HIST 103 (GH;IL)
The History of Madness, Mental Illness, and Psychiatry (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.
Effective: Summer 2005

HIST 103U (GH;IL)
The History of Madness, Mental Illness, and Psychiatry (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

HIST 105 (GH;IL)
The Byzantine Empire (3) Development of Byzantine civilization from the decline of the Roman Empire to the fall of Constantinople.
Effective: Spring 2006

HIST 107 (MEDVL 107) (GH;IL)
Medieval Europe (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.
Effective: Spring 2006

HIST 108 (GH;IL)
The Crusades: Holy War in the Middle Ages (3) The social and political history of medieval religious warfare in Europe and in the Middle East.
Effective: Spring 2006

HIST 110 (GH;IL)
Nature and History (3) A broad introduction to the history of human relationships with nature throughout the world.
Effective: Summer 2005

HIST 113 (IL)
Baseball in Comparative History (3) Comparative survey of baseball history from its beginnings to the present.
Effective: Fall 2009

HIST 115 (J ST 115, RL ST 115) (GH;US)
American Jewish History and Culture (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

HIST 116 (WMNST 116) (GS;US;IL)
Family and Sex Roles in Modern History (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.
Effective: Spring 2006

HIST 117 (WMNST 117) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Summer 2005

HIST 117M (WMNST 117M) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.

Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 117U (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 118 (J ST 118) (US;IL)
Modern Jewish History: 1492 to Present (3) Jewish social and political history from 1492 to the present.
Effective: Spring 2006

HIST 119 (GH;IL)
Gender and History (3) Survey of the development of gender roles in Western societies from the prehistoric era to the early modern period.
Effective: Spring 2008

HIST 120 (GS;IL)
Europe Since 1848 (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.
Effective: Spring 2006

HIST 120U (GS;IL)
Europe Since 1848 (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

HIST 121 (J ST 121) (GH;IL)
History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.
Effective: Summer 2005

HIST 121U (GH;IL)
History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 124 (S T S 124) (GH;US;IL)
History of Western Medicine (3) This course explores the history of health, illness, and medicine in western society.
Effective: Summer 2008

HIST 127 (LTNST 127) (US)
Introduction to U.S. Latina/o History (3) This course introduces students to the history of U.S. Latina/os, including Puerto Ricans, Dominicans, Chicanos, Cubans, and Central Americans.
Effective: Spring 2008

HIST 130 (GH;US)
Introduction to the Civil War Era, 1848 through 1877 (3) Survey of causes and consequences of American Civil War, end of Mexican War in 1848 through end of

Reconstruction, 1877.
Effective: Spring 2010

HIST 134 (GH;IL)
Introduction to the British Isles, 1400-1800 (3) Survey of the history and cultures of the British Isles from 1400 to 1800.
Effective: Spring 2010

HIST 141 (GH;IL)
Medieval and Modern Russia (3) Introductory survey, including political, social, economic, and cultural development of Kievan, Muscovite, and Imperial Russia.
Effective: Spring 2006

HIST 142 (GS;IL)
History of Communism (3) Marxism; Leninism and evolution of the Soviet Union; formation and development of the Communist bloc; impact of Chinese Communism.
Effective: Spring 2006

HIST 143 (GH;IL)
History of Fascism and Nazism (3) The study of right-wing totalitarianism in the twentieth century, with special emphasis on Fascist Italy and Nazi Germany.
Effective: Spring 2006

HIST 144 (GH;US;IL)
The World at War: 1939-1945 (3) In-depth study of the origins and conduct of World War II. Political and economic aspects as well as military.
Effective: Spring 2006

HIST 150 (US)
Colonial Pennsylvania (3) Development of the colony of Pennsylvania through the war for American independence, covering immigration, economics, politics, religion, and society.
Effective: Spring 2006

HIST 151 (S T S 151) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

HIST 151S (S T S 151S) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

HIST 152 (GH;US;IL)
African American History (3) African roots; colonial and revolutionary experiences; slavery and abolitionism; civil war and reconstruction; accommodation and protest; the new militancy.
Effective: Summer 2005

HIST 153 (GH;US)
The Indian in North America (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 153Y (GH;US)
The Indian in North America (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 154 (GH;US)
History of Welfare and Poverty in the United States (3) History of care of the impoverished (emphasis on gender, race, nationality, age of poor, and welfare givers), 18th century to present.
Effective: Summer 2005

HIST 155 (GH;US)
American Business History (3) Major developments in the history of business and industry from the colonial period to the present.
Effective: Spring 2006

HIST 156 (US)
History of the American Worker (3) A study of the American worker from the preindustrial era to the present.
Effective: Spring 2006

HIST 158 (US;IL)
History of American Immigration (3) The waves of migration to America and an analysis of the resulting minority groups, their reception, assimilation, and persisting identity.
Effective: Spring 2006

HIST 160 (US)
American Naval History (3) Introduction to the role of the United States Navy in the defense, diplomacy, commerce, and scientific development of the nation.
Effective: Spring 2006

HIST 161 (US)
The Battle of Gettysburg in American Historical Memory (3) Examines factors shaping understanding of the Civil War's decisive battle and its meanings as a national symbol.
Effective: Spring 2006

HIST 165 (ARAB 165, RL ST 165) (IL)
Introduction to Islamic Civilization (3) Islamic history, culture, and religious life c.600-1500 C.E.
Effective: Spring 2006

HIST 172 (IL)
Survey of Japanese Civilization (3) Survey of social, institutional, cultural, and religious developments from ancient times to the present.

Effective: Summer 2005

HIST 172U (IL)
Survey of Japanese Civilization (3) Survey of social, institutional, cultural, and religious developments from ancient times to the present.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

HIST 173 (GH;IL)
Vietnam in War and Peace (3) Rise of nationalism and communism; origins of conflict; United States involvement; impact on postwar regional and international politics; contemporary Vietnam.
Effective: Spring 2006

HIST 174 (GH;IL)
The History of Traditional East Asia (3) Comparative cultural, institutional, and social history of traditional China and Japan to their contact with the industrialized West.
Effective: Summer 2005

HIST 175 (GH;IL)
The History of Modern East Asia (3) Comparative survey of the internal developments and external relations of China and Japan since their contact with the industrialized West.
Effective: Summer 2005

HIST 176 (GH;IL)
Survey of Indian History (3) Survey of cultural, institutional, and political history from ancient times to the present.
Effective: Summer 2005

HIST 178 (GH;IL)
Latin-American History to 1820 (3) Conquest of the New World, development of colonial institutions, impact on native cultures, and origins of independence movements.
Effective: Summer 2005

HIST 179 (GH;IL)
Latin-American History Since 1820 (3) Origin, political growth, international relations, and economic status of the Latin-American republics, with emphasis upon present-day conditions.
Effective: Summer 2005

HIST 180 (CAMS 180) (GH;IL)
Ancient Warfare (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.
Effective: Summer 2006

HIST 181 (GH;IL)
Introduction to the Middle East (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.
Effective: Summer 2005

HIST 181U (GH;IL)
Introduction to the Middle East (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 191 (AAA S 191) (GH;IL)
Early African History (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.
Effective: Summer 2005

HIST 192 (AAA S 192) (GH;IL)
Modern African History (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.
Effective: Summer 2005

HIST 197B (US)
The FBI in the 20th Century & Beyond (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 197C (US)
The FBI in the 20th Century & Beyond (3) Survey of the FBI from 1908 covering political, social, cultural, minority, civil rights history, and every period of the century.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HIST 200 (US)
American Local History (3 per semester/maximum of 6) Topics in American local history relating local to national developments and studying the historical method by using primary source material.
Effective: Spring 2006
Prerequisite: HIST 020 or HIST 021

HIST 205 (J ST 205, RL ST 205) (GH;US)
American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

HIST 210 (AAA S 210) (GH;US)
Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) The course will explore the context and events that shaped African American life over the period 1896-1932.
Effective: Summer 2005
Prerequisite: AAA S 100 three credits of American history or permission of the

instructor

HIST 211 (AAA S 211) (GH;US;IL)
The Emergence and Evolution of the Black Diaspora in the Atlantic World (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 003 or HIST 020 or HIST 021 or HIST 152

HIST 235 (J ST 235, RL ST 235) (US;IL)
The Church and the Jews (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.
Effective: Spring 2006

HIST 240 (AAA S 240) (GH;US)
Harlem: History, Culture, and Politics, 1890-Present (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.
Effective: Summer 2005
Prerequisite: AAA S 100 or HIST 152

HIST 250 (AAA S 250) (GH;IL)
Introduction to the Modern Caribbean (3) A survey course which explores the historical evolution and emergence of the modern Caribbean.
Effective: Summer 2005

HIST 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HIST 399 (IL)
Foreign Study--History (1-12) Study in selected foreign countries of various periods and topics in history.
Effective: Summer 2005

HIST 401 (J ST 401) (IL)
Ancient Technologies and Socio-cultural History in the Ancient Levant (3) Social and intellectual development in the Ancient Levant as they affected and were affected by technological development.
Effective: Spring 2006
Prerequisite: RL ST 110

HIST 402 (IL)
The Rise of the Greek Polis (3) Development of the Greek city-state from Homeric times to the fifth century B.C.; special references to Athenian society.
Effective: Spring 2006
Prerequisite: HIST 100

HIST 403 (IL)
Alexander the Great and the Hellenistic World (3) The career of Alexander, his impact on his own time, and the Hellenistic legacy.
Effective: Spring 2006

Prerequisite: HIST 100

HIST 404Y (IL)
Rome and Hellenism (3) The impact of traditional Greek culture on ancient Italian society in the age (ca. 300-30 B.C.) of Roman imperial expansion.
Effective: Spring 2006
Prerequisite: HIST 100 HIST 101 or CAMS 033

HIST 405Y (IL)
The Roman Empire (3) The political and social history of the Roman empire; economic institutions and religious groups which influenced Roman administration.
Effective: Spring 2006
Prerequisite: HIST 001 HIST 101 or 3 credits in classical studies

HIST 407 (IL)
Early Medieval Society (3) Rise of European nations and evolution of their social and political institutions from the time of Constantine to the Crusades.
Effective: Spring 2006
Prerequisite: HIST 107

HIST 408 (IL)
Church and State in the High Middle Ages (3) European political, institutional, and social history in light of church- state tensions from the Crusades to the Renaissance.
Effective: Spring 2006
Prerequisite: HIST 107

HIST 409Y (J ST 409Y, RL ST 407Y) (IL)
European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

HIST 410 (J ST 410, RL ST 410) (US;IL)
Jews in the Medieval World (3) Trends in medieval Jewish society under Islam and Western Christendom.
Effective: Spring 2006

HIST 411 (MEDVL 411) (IL)
Medieval Britain (3) Political, cultural, and economic history of Britain from circa 400 to 1485 with an emphasis on the kingdom of England.
Effective: Spring 2006
Prerequisite: 6 credits in European history or medieval studies

HIST 412 (IL)
Intellectual History of the Middle Ages (3) Intensive study of selected topics, such as philosophy, mysticism, heresy, the church, literary and artistic expression, and science.
Effective: Spring 2006
Prerequisite: HIST 107

HIST 413 (MEDVL 413) (IL)

Medieval Celtic Studies (3) Celtic civilization from antiquity to the end of the middle ages.
Effective: Spring 2006
Prerequisite: 3 credits in medieval studies or in language literature or European history of the medieval period

HIST 414 (IL)
Renaissance and Reformation (3) The transformation of consciousness from medieval to modern times, with special emphasis on Renaissance Italy and Reformation Germany.
Effective: Spring 2006
Prerequisite: HIST 001

HIST 415 (AAA S 415) (US;IL)
Race, Gender, and Politics in the United States and South Africa (3) This thematic course will compare key issues, figures, and events in the historical development of the United States and South Africa.
Effective: Summer 2005
Prerequisite: AAA S 100 AAA S 102 AAA S 110 AAA S 192 or HIST 152

HIST 417 (IL)
The Age of Absolutism (3) Seventeenth- and eighteenth-century royal absolutism in France, Prussia, and Austria; concurrent economic, social, and scientific developments; the Enlightenment.
Effective: Spring 2006
Prerequisite: HIST 001

HIST 418 (IL)
The French Revolution and the Napoleonic Era (3) Development of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.
Effective: Spring 2006
Prerequisite: HIST 002

HIST 418W (IL)
The French Revolution and the Napoleonic Era (3) Developments of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.
Effective: Spring 2008
Prerequisite: HIST 002

HIST 419 (WMNST 419) (US;IL)
The History of Feminist Thought (3) A critical analysis of European and United States feminist thought from the renaissance to the present.
Effective: Spring 2006
Prerequisite: HIST 116 HIST 117 WMNST 001 or WMNST 003

HIST 420 (IL)
Recent European History (3) Impact of two World Wars in twentieth century; social conflict and economic catastrophe; political radicalism; post-1945 recovery and cooperation.

Effective: Spring 2006
Prerequisite: 3 credits in European history

HIST 420W (IL)
Recent European History (3) Impact of two World Wars in twentieth century; social conflict and economic catastrophe; political radicalism; post-1945 recovery and cooperation.
Effective: Spring 2008
Prerequisite: 3 credits in European history

HIST 421 (WMNST 421) (IL)
The History of European Women (3) European women's lives from the Middle Ages to the present.
Effective: Spring 2006
Prerequisite: HIST 116 HIST 117 WMNST 001 or WMNST 003

HIST 422 (IL)
Modernity and Its Critics: European Thought Since 1870 (3) Perceptions and critiques of modernity as seen in works of European cultural criticism, social theory, philosophy, and literature.
Effective: Spring 2006
Prerequisite: HIST 002 HIST 120 or 3 credits in modern literature or philosophy or political or social theory

HIST 423 (IL)
Economic History of Europe Since 1750 (3) Comparataive history of industrialization process; monetary financial systems; business cycles; public finance; welfare and warfare economics; planning; labor organization.
Effective: Spring 2006
Prerequisite: 3 credits in European history or economics

HIST 425 (IL)
Work and Leisure in Industrial Europe (3) Impact of industrialization on the workday and the changing role of leisure and family life, 1700-1960.
Effective: Spring 2006

HIST 426 (ADM J 426, J ST 426) (US)
Jewish/American Organized Crime in New York City (3) History of Jewish/American organized crime in New York City from 1890 through the Great Depression.
Effective: Spring 2006

HIST 427 (IL)
Germany Since 1860 (3) Bismarckian power-state; rise to economic dominance; welfare and warfare under Weimar republic and Hitler; post-1945 reconstruction and democracy.
Effective: Spring 2006
Prerequisite: 3 credits in European history

HIST 428 (S T S 428) (IL)
The Darwinian Revolution (3) The origins and implications of evolutionary

theory.
Effective: Spring 2006
Prerequisite: an introductory science course and a history course

HIST 430 (IL)
Eastern Europe in Modern Times (3) Influence of geography, economic conditions, and nationalism upon the Eastern European and Balkan peoples; Pan-Slavism, conflicting interests of the great powers.
Effective: Spring 2006
Prerequisite: HIST 001 or HIST 002

HIST 431 (AAA S 431) (US;IL)
Black Liberation and American Foreign Policy (3) This course deals with American foreign policy and Black liberation in Africa since 1945.
Effective: Summer 2005
Prerequisite: 3 credits in African history; 3 credits in African political science; or 3 credits in American political science

HIST 432 (AAA S 432) (IL)
Between Nation and Empire: The Caribbean in the 20th Century (3) An exploration of the political evolution of the Caribbean Region over the course of the 20th Century.
Effective: Summer 2005
Prerequisite: HIST 250

HIST 433 (IL)
Imperial Russia, 1700-1917 (3) Enlightened absolutism, mercantilism, westernization; economic progress, liberal reforms, and revolutionary movement; major intellectual and cultural trends; Russia as great power.
Effective: Spring 2006
Prerequisite: HIST 141

HIST 434 (IL)
History of the Soviet Union (3) Revolution; social, political, economic, and cultural continuity and change in the U.S.S.R. since 1917.
Effective: Spring 2006
Prerequisite: HIST 141 or HIST 142

HIST 436 (IL)
Great Britain Under the Tudors and Stuarts, 1485-1688 (3) Religious, political, and constitutional developments in the British Isles.
Effective: Spring 2006
Prerequisite: HIST 001 or HIST 002

HIST 437 (IL)
Great Britain 1688-1867 (3) Social, economic, and political history of Great Britain from late Stuart times until the mid-Victorian era.
Effective: Spring 2006
Prerequisite: HIST 001 or HIST 002

HIST 438 (IL)

Great Britain 1867-Present (3) Social, economic, and political history of Great Britain from the mid- Victorian era to the present.
Effective: Spring 2006
Prerequisite: HIST 001 or HIST 002

HIST 440 (US)
Colonial America to 1753 (3) Background, establishment, and growth of the American colonies, including economic, political, social, religious, and intellectual developments.
Effective: Spring 2006
Prerequisite: HIST 020 3 additional credits in history

HIST 441 (US)
Revolutionary America, 1753-1783 (3) Forces in Great Britain and America causing withdrawal of thirteen colonies from the British Empire and the Revolutionary War.
Effective: Spring 2006
Prerequisite: HIST 020 3 additional credits in history

HIST 442 (US)
The Early American Republic, 1783-1850 (3) Confederation and Constitution; the Federalist and Jeffersonian periods; "the Era of Good Feelings"; "the Age of Jackson."
Effective: Spring 2006
Prerequisite: 3 credits in American history

HIST 444 (US)
The United States in Civil War and Reconstruction--1850-1877 (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of Reconstruction.
Effective: Spring 2006
Prerequisite: HIST 130

HIST 444W (US)
The United States in Civil War and Reconstruction--1850-1877 (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of reconstruction.
Effective: Spring 2008
Prerequisite: HIST 130 or HIST 020

HIST 445 (US)
The Emergence of Modern America (3) Economic, social, political history of the United States, 1877-1919, emphasizing growth of industrialism and development as a modern nation.
Effective: Spring 2006
Prerequisite: HIST 021 3 additional credits in history economics or political science

HIST 446 (US)
America Between the Wars (3) The Roaring Twenties, the Great Crash, Depression, and New Deal; war debts, reparations, isolationism, and World War II.

Effective: Spring 2006

HIST 447 (US)
Recent American History (3) Contemporary economic, social, and political aspects of the United States and its role as a world power since 1945.
Effective: Spring 2006
Prerequisite: HIST 021 3 additional credits in history economics or political science

HIST 448 (US)
America in the 1960s (3) Social, political, and cultural themes in the United States in the 1960s.
Effective: Spring 2006
Prerequisite: HIST 021

HIST 449 (US)
Constitutional History of the United States to 1877 (3) Colonial background; framing and adoption of the constitution; development of the court under Marshall and Taney; sectionalism, Civil War, Reconstruction.
Effective: Spring 2006
Prerequisite: HIST 020 or HIST 021 3 additional credits in history or political science

HIST 450 (US)
Constitutional History of the United States Since 1877 (3) Constitutional developments from laissez-faire to the welfare state; imperialism, war, internationalism; the contemporary court, civil liberties, and civil rights.
Effective: Spring 2006
Prerequisite: HIST 020 or HIST 021 3 additional credits in history or political science

HIST 451 (US)
The Consumer Revolution (3) The origins and impact of American consumer society since 1870.
Effective: Spring 2006
Prerequisite: three credits in history marketing or advertising

HIST 452 (US;IL)
History of U.S. Foreign Relations (3) History of U.S. foreign relations since 1789; emphasis on twentieth century.
Effective: Spring 2006
Prerequisite: HIST 020 or HIST 021

HIST 454 (US)
American Military History (3) Development of U.S. military policy, 1776 to the present, emphasizing the conduct of our wars, interrelationship of civil and military authority.
Effective: Spring 2006
Prerequisite: HIST 020 or HIST 021

HIST 456Y (US)

The Social History of American Vernacular Building, 1607-1980 (3) Social, historical, and cultural context of American building including settlements, housing, workplaces, stores, recreational facilities; changes over time.
Effective: Spring 2006
Prerequisite: 3 credits in American history

HIST 457 (S T S 457, WMNST 457) (US;IL)
The History of Women in Science (3) Critical analysis of the roles women, gender, and minorities have played in natural sciences.
Effective: Spring 2006
Prerequisite: HIST 116 HIST 117 WMNST 001 WMNST 003 or WMNST 005

HIST 458Y (LER 458Y) (US)
History of Work in America (3) A study of selected problems in the history of work in the United States, especially since 1877.
Effective: Spring 2008
Prerequisite: HIST 021 HIST 156 or LER 100

HIST 459Y (US)
Social and Cultural History of the United States Since 1783 (3) Role of immigration, social reform movements, religion, education, science, literature, and the arts in American history.
Effective: Spring 2006

HIST 460 (US;IL)
United States Foreign Intelligence (3) Aims, methods, and organization of U.S. foreign intelligence from the American Revolution to the Cold War and beyond.
Effective: Spring 2006

HIST 461 (US;IL)
The Emergence of the American City: 1100-1880 (3) The growth of American cities from their urban origins in Europe and the Native-American Southwest to 1880.
Effective: Spring 2006

HIST 462 (US;IL)
The Twentieth Century City (3) Political, economic, social, and cultural transformations in American cities from 1880 to 2000.
Effective: Spring 2006

HIST 463 (US)
American Thought to 1865 (3 Introduction to, scholarly commentary on, major documents of American Intellectual history, early colonial period to end of the Civil War.
Effective: Spring 2006
Prerequisite: any American history course at the college freshman level

HIST 464 (US)
American Thought from 1865 (3) Introduction to, scholarly commentary on, major documents of American Intellectual history from end of the Civil War to the present.

Effective: Spring 2006
Prerequisite: any American history course at the college freshman level

HIST 465 (AAA S 465) (US)
Civil Rights and American Politics 1933-1968 (3) The civil rights struggle and its impact upon American politics.
Effective: Summer 2005
Prerequisite: AAA S 100 HIST 021 HIST 152 PL SC 001 or PL SC 002

HIST 466 (WMNST 466) (US;IL)
Lesbian and Gay History (3) Critical exploration of the history of sexuality, focusing especially on the emergence of modern lesbian and gay identities.
Effective: Summer 2005
Prerequisite: HIST 117 WMNST 001

HIST 467 (LTNST 467) (US;IL)
Latin America and the United States (3) Historical development of policies of the United States with regard to Latin- American affairs from colonial times to the present.
Effective: Fall 2008

HIST 468 (IL)
Mexico and the Caribbean Nations in the Twentieth Century (3) Political, economic, and social development in Mexico and the Caribbean since 1900. Emphasis on Mexican, Guatemalan, and Cuban revolutions.
Effective: Spring 2006

HIST 471Y (RL ST 471Y) (IL)
Classical Islamic Civilization, 600-1258 (3) Pre-Islamic Arabia; Muhammad; Arab conquests; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.
Effective: Fall 2006

HIST 472 (IL)
The Ottoman Empire and Other Muslim States (3) Turkish and Mongol invasions; Mamluks; Ottoman expansion and institutions; Safavid Persia; disintegration and reform; emergence of modern Turkey and Iran.
Effective: Spring 2006
Prerequisite: HIST 181

HIST 473 (IL)
The Contemporary Middle East (3) Political, economic, and social changes in Turkey, Iran, Israel, and the Arab countries in the twentieth century; Arab-Israeli conflict.
Effective: Spring 2006

HIST 475Y (IL)
The Making and Emergence of Modern India (3) India's transition to social, economic, and political modernity through the experience of British colonial rule and the nationalist struggle.
Effective: Spring 2006

Prerequisite: HIST 010 HIST 011 HIST 172 HIST 175 HIST 176 HIST 181 or HIST 191

HIST 479 (IL)
History of Imperialism and Nationalism in Africa (3) Theories and types of imperialism; varied patterns of colonial administration; initial African responses; nationalism; decolonization and independence.
Effective: Spring 2006
Prerequisite: HIST 191

HIST 480 (IL)
Medieval Japan (3) An overview of Japan between 1150-1550, a period of political decentralization, cultural efflorescence, and social change.
Effective: Spring 2006
Prerequisite: HIST 107 HIST 172 HIST 174 or HIST 407

HIST 481 (IL)
Modern Japan Since 1800 (3) The transformation of Japan from a pre-modern, isolated, and agricultural nation into a highly industrialized world power.
Effective: Spring 2006
Prerequisite: HIST 172 HIST 174 or HIST 175

HIST 483 (IL)
Chinese Society and Culture to 1800 (3) The social, political, and cultural issues and developments from ancient to the late-imperial times.
Effective: Spring 2006
Prerequisite: HIST 174

HIST 484Y (IL)
History of Chinese Thought (3) A study of the dynamic historical development of Chinese thought with its diverse expressions from antiquity to the present.
Effective: Spring 2006
Prerequisite: HIST 174 or HIST 175

HIST 485Y (IL)
Nineteenth-Century China (3) Ch'ing society and institutions; "opening" to the west; imperialism; domestic upheaval and its effect upon Chinese society; reform movements.
Effective: Spring 2006
Prerequisite: HIST 175 or HIST 300H (Honors in East Asian history)

HIST 486 (IL)
Twentieth-Century China (3) China from the Republican Revolution of 1911 to the present; nationalism, cultural change; development of communism.
Effective: Spring 2006
Prerequisite: HIST 175 or HIST 300H (Honors in East Asian History)

HIST 491 (IL)
British Civil Wars and Revolutions, 1639-1651 (3) This is an advanced course on the history of the general crisis in the British Isles, from the outbreak of war between England and Scotland in 1639 to the securing of the Commonwealth

regime following the desstruction of the last major royalist army in 1651.
Effective: Fall 2009
Prerequisite: HIST 002 HIST 134 or HIST 436

HIST 492 (IL)
Witchcraft in Early Modern Europe (3) Survey of the social, economic, political, and religious conditions of accusations and prosecutions of witchcraft in western Europe and north America, from 1500 to 1700.
Effective: Fall 2009
Prerequisite: HIST 002

HIST 499 (IL)
Foreign Study--History (1-6) Study in selected foreign countries of various periods and topics in history.
Effective: Summer 2005
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HIST 499C (CAMS 499C, J ST 499C) (IL)
Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HIST 499D (CAMS 499D, J ST 499D, ANTH 499D) (IL)
Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HIST 499E (RL ST 499E, CAMS 499E) (IL)
Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HORT 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HORT 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HRIM 099 (IL)

Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 365 (IL)
Organizational Behavior in the Hospitality Industry (3) Study of individual satisfaction and performance in hospitality organizations. Topics include cultural diversity, motivation, communication, group behavior, and leadership.
Effective: Spring 2006 Ending: Summer 2010
Prerequisite: HRIM 201 or MGMT 100

HRIM 365 (IL)
Organizational Behavior in the Hospitality Industry (3) Study of individual satisfaction and performance in hospitality organizations. Topics include cultural diversity, motivation, communication, group behavior, and leadership.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HRIM 201

HRIM 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 466 (US)
Human Resource Management in the Hospitality Industry (3) Recruitment, selection, training, performance appraisal, and compensation of hospitality human resources in today's culturally diverse work force.
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required for HRIM 365

HRIM 466 (US)
Human Resource Management in the Hospitality Industry (3) Recruitment, selection, training, performance appraisal, and compensation of hospitality human resources in today's culturally diverse work force.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required for HRIM 201 HRIM 365

HRIM 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

I B 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I B 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I B 303 (IL)
International Business Operations (3) A survey of the major aspects of international business environment and operations with an emphasis on the cultural dimension.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I B 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I B 440 (PL SC 440, AAA S 440) (US;IL)
Globalization and Its Implications (3) This course explores the socioeconomic implications of globalization.
Effective: Spring 2008
Prerequisite: AAA S 100 or AAA S 110 or PL SC 003 or PL SC 014 or PL SC 020 or PL SC 022

I B 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I E 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I E 399 (IL)
Foreign Studies--Industrial Engineering (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

I E 499 (IL)
Foreign Studies--Industrial Engineering (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2005

I HUM 150 (GH;IL)
World Mythologies in the Arts (3) Interdisciplinary, cross cultural, historical, and contemporary study of world mythologies as represented in the visual arts, literature, and film.
Effective: Spring 2009

I HUM 311 (GH;IL)
The Western Tradition I (3) From prehistory through the Roman world.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 312 (GH;IL)
The Western Tradition II (3) The Middle Ages and the Renaissance.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 313 (GH;IL)
The Western Tradition III (3) The making of the modern mind.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 410 (IL)
Religion and Culture (3) A comparative examination of several world religions in their social and cultural contexts.
Effective: Summer 2005
Prerequisite: sixth-semester standing

I HUM 461 (IL)
Selected Periods in the Humanities (3) Interdisciplinary studies dealing with selected periods of world culture. (May be repeated for credit.)
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 062 (GA;US;IL)
West African and African American Arts: from the 1960s to the present (3) An introduction to West African and African American Arts from the 1960s to the present.
Effective: Summer 2005

INART 116 (GA;US)
The Popular Arts in America: The History of Rock and Roll-The 1950s (3) This course examines the roots, development, and significance of rock and roll music in its first decade.
Effective: Summer 2007

INART 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INS 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INSYS 100 (GS;IL)
World Technologies and Learning (3) This course examines the impact of learning technologies from email to online learning on world cultures from a socio-technical perspective.
Effective: Spring 2006

INTAG 100 (GS;IL)
Introduction to International Agriculture (3) Survey of agriculture and food production in developing countries; focus on small traditional farmers, their methods, and socioeconomic environment. (NOTE: Write for a further listing of courses in and related to International Agriculture.)
Effective: Summer 2005

INTAG 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INTST 100 (GS;IL)
Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

INTST 100S (GS;IL)
Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

INTST 400 (IL)
Seminar in International Studies (3) An upper-division seminar focusing on one or two critical international issues from an interdisciplinary perspective; individual projects.
Effective: Spring 2007
Prerequisite: INTST 100

IST 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IST 341 (US;IL)
Human Diversity in the Global Information Technology (3) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: IST 110

IST 341 (US;IL)
Human Diversity in the Global Information Economy (3) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: IST 110

IST 442 (IL)
Information Technology in an International Context (3) International concepts to improve strategies for the design, dissemination, and use of information technology.
Effective: Summer 2006
Prerequisite: IST 110

IT 083S (GH;IL)
First-Year Seminar in Italian Literature, Film, and Culture (3) Introduction to the study of Italian literature, film, and culture.

Effective: Summer 2005

IT 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IT 130 (GH;IL)
Italian Culture and Civilization (3) Italian life from antiquity to the present; literature, film, the arts, and contemporary problems in historical perspective.
Effective: Summer 2005

IT 131 (GH;US)
Italian American Culture and Civilization (3) Italian-American experience from the late 19th century to present. Socio-political issues seen through cinema and through literary and other readings.
Effective: Summer 2005

IT 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IT 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IT 399 (IL)
Foreign Study--Italian (1-12) Advanced training in Italian language skills.
Effective: Summer 2005
Prerequisite: IT 003

J ST 004 (CAMS 004, RL ST 004) (GH;US;IL)
Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationship to culture.
Effective: Summer 2005

J ST 010 (HEBR 010) (GH;IL)
Jewish Civilization (3) Life of the Jewish people from biblical times; emphasizing cultural, religious, and institutional developments.
Effective: Summer 2005

J ST 012 (CAMS 012, RL ST 012) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

J ST 012U (CAMS 012U, RL ST 012U) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

J ST 060 (ANTH 060, PL SC 060, SOC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

J ST 070 (CAMS 070, RL ST 070) (GH;IL)
Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

J ST 083S (GH;IL)
First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Summer 2005

J ST 083T (GH;IL)
First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

J ST 090 (CAMS 090, RL ST 090) (GH;IL)
Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

J ST 102 (CAMS 102, HIST 102, RL ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

J ST 110 (CAMS 110, RL ST 110) (GH;US;IL)
Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

J ST 111 (CAMS 111, RL ST 111) (GH;IL)
Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

J ST 114 (RL ST 114) (GH;US;IL)
Modern Judaism (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.
Effective: Summer 2005

J ST 115 (HIST 115, RL ST 115) (GH;US)
American Jewish History and Culture (3) Examination of the history, culture, social tenstions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

J ST 118 (HIST 118) (US;IL)
Modern Jewish History: 1492 to Present (3) Jewish social and political history from 1492 to the present.
Effective: Spring 2006

J ST 121 (HIST 121) (GH;IL)
History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.
Effective: Summer 2005

J ST 124 (CAMS 124, RL ST 124) (GH;US;IL)
Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

J ST 131 (CMLIT 110) (GH;US;IL)
Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Spring 2011 Future: Spring 2011

J ST 132 (ENGL 132) (GH;US)
Introduction to Jewish American Literature (3) A historical and thematic survey of Jewish Literature of the United States.
Effective: Spring 2009

J ST 134 (CAMS 134, RL ST 134) (GH;IL)
Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

J ST 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 205 (HIST 205, RL ST 205) (GH;US)
American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

J ST 235 (HIST 235, RL ST 235) (US;IL)
The Church and the Jews (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.
Effective: Spring 2006

J ST 280 (WMNST 280, RL ST 280) (GH;IL)
Women and Judaism (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.
Effective: Fall 2006

J ST 299 (IL)

Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 401 (HIST 401) (IL)
Ancient Technologies and Socio-cultural History in the Ancient Levant (3) Social and intellectual development in the Ancient Levant as they affected and were affected by technological development.
Effective: Spring 2006
Prerequisite: RL ST 110

J ST 409Y (HIST 409Y, RL ST 407Y) (IL)
European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

J ST 410 (HIST 410, RL ST 410) (US;IL)
Jews in the Medieval World (3) Trends in medieval Jewish society under Islam and Western Christendom.
Effective: Spring 2006

J ST 411 (RL ST 411) (US;IL)
Jewish Studies (3) Study of the life and thought of a particular period or movement in the history of Judaism.
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

J ST 426 (ADM J 426, HIST 426) (US)
Jewish/American Organized Crime in New York City (3) History of Jewish/American organized crime in New York City from 1890 through the Great Depression.
Effective: Spring 2006

J ST 457 (ANTH 457, SOC 457) (US;IL)
Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.
Effective: Summer 2006
Prerequisite: ANTH 001 or ANTH 045 HEBR 010 J ST 010 SOC 001 SOC 005 SOC 007 SOC 015

J ST 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 499C (CAMS 499C, HIST 499C) (IL)

Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010

J ST 499D (CAMS 499D, HIST 499D, ANTH 499D) (IL)
Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010

JAPNS 099 (IL)
Foreign Study (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

JAPNS 110 (IL)
Intermediate Japanese II (4) Intermediate Japanese - Continued study of modern Japanese at intermediate level; extensive audio-lingual practice for conversational fluency; reading/writing original scripts.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 003

JAPNS 110 (IL)
Level Two Japanese B (4) Intermediate Japanese - Continued study of modern Japanese at intermediate level; extensive audio-lingual practice for conversational fluency; reading/writing original scripts.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 003

JAPNS 120 (GH;IL)
Japanese Literature in Its Cultural Context (3) Japanese literature and film from classical through contemporary times, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

JAPNS 121 (GH;IL)
Japanese Film and New Media (3) Survey of Japanese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

JAPNS 199 (IL)
Foreign Study--Basic Japanese (1-8) Small group instruction in spoken and written modern Japanese at the introductory level.
Effective: Spring 2010

JAPNS 299 (IL)
Foreign Study--Intermediate Japanese (1-12) Small group instruction in spoken and written modern Japanese at the intermediate level.
Effective: Spring 2010
Prerequisite: JAPNS 002

JAPNS 399 (IL)
Foreign Study (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

JAPNS 401 (IL)
Advanced Japanese I (4) Further acquisition of the four language skills in Japanese--reading, writing, speaking and listening comprehension.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 110

JAPNS 401 (IL)
Level Three Japanese A (4) Further acquisition of the four language skills in Japanese--reading, writing, speaking and listening comprehension.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 110

JAPNS 402 (IL)
Advanced Japanese II (Post Study Abroad) (4) Exclusively for study abroad returnees. To further develop Japanese proficiency in speaking, listening, reading, and writing.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 401

JAPNS 402 (IL)
Level Three Japanese B (4) Exclusively for study abroad returnees. To further develop Japanese proficiency in speaking, listening, reading, and writing.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 401

JAPNS 403Y (IL)
Practical Written Communication: Japanese for Professional and Academic Purposes I (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.
Effective: Spring 2010
Prerequisite: JAPNS 402

JAPNS 404 (IL)
Practical Written Communication: Japanese for Professional and Academic Purposes II (3) Continuation of emphasis on written styles used in newspapers, magazines, business reports, academic writing, and other texts; aspects of translation.
Effective: Spring 2010
Prerequisite: JAPNS 403Y

JAPNS 452 (IL)
Contemporary Japan: Cultures, Lifestyles, Trends (3 per semester/maximum of 6) Survey of aspects of modern Japanese society; includes readings from Japanese newspapers, magazines, and fiction; topics may vary each semester.
Effective: Spring 2010

Prerequisite: JAPNS 401

JAPNS 453 (IL)
Japanese Film (3 per semester/maximum of 6) Selected films and directors representing various aspects of Japanese culture and cinema; topics may vary each semester.
Effective: Spring 2010
Prerequisite: JAPNS 401

JAPNS 454 (IL)
Japanese Literature (3 per semester/maximum of 6) Selected works from important Japanese texts representing genres such as autobiography, poetry, fiction, and drama; topics may vary each semester.
Effective: Spring 2010
Prerequisite: JAPNS 401

JAPNS 499 (IL)
Foreign Study--Advanced Japanese (1-15) Small group instruction in spoken and written modern Japanese at the advanced level.
Effective: Spring 2010
Prerequisite: JAPNS 110 or JAPNS 299

KINES 141 (US;IL)
Physical Activity: Historical and Cultural (3) Evolution of cultural values in physical activity from antiquity to the present.
Effective: Spring 2006

KINES 424 (WMNST 424) (US)
Women and Sport (3) An interdisciplinary approach to contemporary issues related to women and sport from historical, physiological, psychological, and sociological perspectives.
Effective: Spring 2007
Prerequisite: PSYCH 100 PSYCH 231 PSYCH 479 SOC 001 or WMNST 001

KINES 441 (AM ST 441) (US)
History of Sport in American Society (3) Background, establishment, and growth of sport in America from colonial times to the present.
Effective: Fall 2007
Prerequisite: KINES 141 or 3 credits of United States history

KINES 442 (CAMS 442) (IL)
Sport in Ancient Greece and Rome (3) An examination of the continuity of sport in ancient Greek and Roman societies.
Effective: Spring 2008
Prerequisite: CAMS 025 CAMS 033 CAMS 140 CAMS 150 CAMS 100 CAMS 101 or KINES 141

KINES 443 (IL)
The Modern Olympic Games (3) An analysis of the modern Olympic Games from their inception through the current festival.
Effective: Spring 2006

Prerequisite: KINES 141 or 3 credits of history or philosophy

KINES 444 (US)
History of Athletics in Higher Education (3) Origin and development of athletics in American higher education from colonial times to the present.
Effective: Spring 2006
Prerequisite: KINES 141 or 3 credits of American history

KINES 446 (IL)
History of Sport in the Modern World (3) History of sport in modern world, ca. A.D. 1500 to present; concentrates on role of sport in societies outside United States.
Effective: Summer 2005
Prerequisite: KINES 141 or 3 credits of non-United States history

KOR 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

L A 199 (IL)
Foreign Study--Liberal Arts (1-9) Study in selected foreign countries of the cultural, institutional, and/or social development of the host country.
Effective: Summer 2005

L A 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

L A 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group

instruction.
Effective: Summer 2005

L A 499 (IL)
Foreign Study--Liberal Arts (1-9) Study in selected foreign countries of the cultural, institutional, and/or social development of the host country.
Effective: Summer 2005

LANG 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LARCH 060 (GA;US;IL)
History of Design on the Land (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century. Students may take only one course for General Education credit from LARCH 003 GA or 060 GA.
Effective: Fall 2010 Future: Fall 2010

LARCH 065 (GA;US;IL)
Built Environment and Culture (3) Investigates the relationship between socio-cultural practices and the development and organization of contemporary built environments.
Effective: Summer 2005

LARCH 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

LARCH 299 (IL)

Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

LARCH 331 (IL)
Landscape Architectural Design Implementation III (3) Introduction to landscape construction materials and their use in design; includes principles and techniques for detailed design of site elements. For Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 232

LARCH 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

LARCH 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LARCH 499A (IL)
Design Theory Seminar (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of the associated design studio course, LARCH 499B. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 361W

LARCH 499B (IL)
Design and Theory VI: Contemporary/International Landscape Architectural Design Issues (4) Study of and design for sites, programs, and social groups associated with ongoing contemporary landscape architectural concerns. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 361W

LARCH 499D (IL)
Contemporary/International Special Topics (4) Special topics related to, and study in conjunction with, LARCH 499A, 499B, and 499C. Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 361W

LARCH 499E (IL)
Seminar: People and Protected Areas (3) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010 Ending: Summer 2010

LARCH 499F (IL)
Studio: Community Design in the Vicinity of Udzungwa Mountains National Park (5) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2010 Ending: Summer 2010

LARCH 499G (IL)
Colloquium: Student-directed Readings and Discussion: The Contribution of Service-learning to Students and Community (1) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010 Ending: Summer 2010

LATIN 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LER 136 (WMNST 136) (US)
Race, Gender, and Employment (3) Employment relations and legislative and policy responses to labor force issues of racial and gender inequality.
Effective: Spring 2008

LER 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LER 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LER 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LER 400 (IL)
Comparative Employment Relations Systems (3) Analysis of structure and elements of employment relations systems in developed and developing areas.
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations

LER 445Y (AAA S 445Y, PL SC 445Y) (US)
Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course and PL SC 001 or PL SC 007

LER 458Y (HIST 458Y) (US)
History of Work in America (3) A study of selected problems in the history of work in the United States, especially since 1877.
Effective: Spring 2008
Prerequisite: HIST 021 HIST 156 or LER 100

LER 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LING 001 (GS;US;IL)
The Study of Language (3) A non-technical introduction to the study of human language, and its role in human interaction. Students who have successfully completed LING 100 may not enroll in LING 001.
Effective: Summer 2005

LING 083S (GS;US;IL)
1st Year Seminar in Linguistics (3) Non-technical exploration of aspects of human language.
Effective: Summer 2005

LING 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LING 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LING 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LING 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group

instruction.
Effective: Summer 2005

LTNST 100 (GH;US)
Introduction to Latina/s Studies (3) This course provides an interdisciplinary introduction to the study of Latinas/os in the U.S.
Effective: Summer 2006

LTNST 127 (HIST 127) (US)
Introduction to U.S. Latina/o History (3) This course introduces students to the history of U.S. Latina/os, including Puerto Ricans, Dominicans, Chicanos, Cubans, and Central Americans.
Effective: Spring 2008

LTNST 226 (ENGL 226) (GH;US;IL)
Latina and Latino Border Theories (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.
Effective: Spring 2007

LTNST 300 (WMNST 300) (US)
Latina Feminisms (3) This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States.
Effective: Summer 2006
Prerequisite: LTNST 100

LTNST 315 (SPAN 315) (GH;US)
Spanish and Spanish-speakers in the U.S. (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.
Effective: Summer 2006

LTNST 326 (SPAN 326) (GH;US)
Reading the Border/Lands (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.
Effective: Summer 2006

LTNST 403 (CMLIT 403) (US)
Varieties of Latina/o Cultural Expression (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

LTNST 403 (CMLIT 403) (US)
Latina/o Literature and Culture (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester

proficiency in Spanish

LTNST 426 (ENGL 426) (US)
Chicana and Chicano Cultural Production: Literature, Film, Music (3) An in-depth study of Chicana/Chicano literature, film, and music from the inception of the Chicano Movement (1965-1975) to the present.
Effective: Spring 2007
Prerequisite: 3 credits in English

LTNST 467 (HIST 467) (US;IL)
Latin America and the United States (3) Historical development of policies of the United States with regard to Latin- American affairs from colonial times to the present.
Effective: Fall 2008

M E 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

M E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

M E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

M E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

MATH 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MATH 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MATH 475 (US;IL)
Introduction to the History of Mathematics (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.
Effective: Spring 2010
Prerequisite: CMATH 221 or MATH 141

MATH 475W (US;IL)
History of Mathematics (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.
Effective: Spring 2010
Prerequisite: MATH 141

MATH 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MATSE 081 (GN;IL)
Materials in Today's World (3) A survey of the properties, manufacture, and uses of polymers, ceramics and metals in today's world with emphasis on modern developments and new materials.
Effective: Summer 2005

MATSE 101A (EGEE 101A) (GN;IL)
Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

MATSE 404 (BIOE 444) (IL)
Surfaces and the Biological Response to Materials (3) Focus is on the special properties of surfaces as an important causative and mediating agent in the biological response to materials.
Effective: Summer 2007
Prerequisite: CHEM 111 CHEM 113

MATSE 484W (IL)
International Internship in Materials: Research Definition and Methodology (3) A course focused on international research, specific design and methodology, facilitated through the International Internship in Materials and Program.
Effective: Summer 2006
Prerequisite: Sixth-semester standing in Materials Science and Engineering; MATSE 201 MATSE 460 MATSE 492W satisfactory completion of cultural class from Office of Education Abroad

MATSE 485W (IL)
International Internship in Materials: Experimentation and Documentation (3) A course focused on international research, specifically experimentation and documentation, facilitated through the International Internship in Materials Program.
Effective: Summer 2006
Prerequisite: Seventh-semester standing in Materials Science and Engineering; MATSE 484W ; satisfactory completion of cultural class from Office of Education Abroad

MEDVL 083S (GH;IL)

First-Year Seminar in Medieval Studies (3) Critical approaches to the dimensions and directions in Medieval Studies.
Effective: Spring 2006

MEDVL 107 (HIST 107) (GH;IL)
Medieval Europe (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.
Effective: Spring 2006

MEDVL 108 (GH;IL)
Medieval Civilization (3) An interdisciplinary introduction to literature, art, and thought of the Middle Ages.
Effective: Spring 2006

MEDVL 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MEDVL 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MEDVL 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MEDVL 411 (HIST 411) (IL)
Medieval Britain (3) Political, cultural, and economic history of Britain from circa 400 to 1485 with an emphasis on the kingdom of England.
Effective: Spring 2006
Prerequisite: 6 credits in European history or medieval studies

MEDVL 413 (HIST 413) (IL)
Medieval Celtic Studies (3) Celtic civilization from antiquity to the end of the middle ages.
Effective: Spring 2006
Prerequisite: 3 credits in medieval studies or in language literature or European history of the medieval period

MEDVL 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MGMT 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MGMT 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MGMT 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MGMT 445 (US)
Managing Differences in Organizations (3) This course focuses on developing knowledge and skills for dealing with demographic, functional, occupational and identity-based differences within and among organizations.
Effective: Spring 2008
Prerequisite: B A 304 or MGMT 301 ; MGMT 341

MGMT 461 (IL)
International Management (3) Examines issues of nations and cultures including motivation, communication, negotiation, leadership, ethics and social responsibility, and women in management.
Effective: Spring 2008
Prerequisite: B A 304 or MGMT 301

MGMT 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MICRB 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MICRB 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MICRB 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MIS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MIS 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2007

MIS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MIS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 445 (IL)
Global Marketing (3) Role of international marketing in the global environment; political, economic, geographic, historical, cultural conditions; developing and implementing international marketing strategies.
Effective: Spring 2008
Prerequisite: B A 303 or MKTG 301

MKTG 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MNG 400 (IL)
Mining and Our Environment (3) For nonmining students. Nontechnical treatment of mining methods, practices, and role in today's civilization; socioeconomic and environmental problems.
Effective: Summer 2005

MUSIC 007 (GA;US)
Evolution of Jazz (3) Study of the origins and development of jazz as an art form.
Effective: Summer 2005

MUSIC 009 (GA;IL)
Introduction to World Musics (3) An overview of the music of India, China, Japan, Indonesia, Africa, and the Middle East.

Effective: Summer 2005

MUSIC 093 (GA;US;IL)
Essence of Joy (1 per semester, maximum of 8) Rehearsal and performance of choral repertoire from the African/American tradition.
Effective: Spring 2006
Prerequisite: audition

MUSIC 162 (IL)
Introduction to Music History (2) An introduction to Western music history and world music of selected cultures through the study of representative works.
Effective: Spring 2006

MUSIC 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

MUSIC 261 (IL)
Survey of Music History I (3) A survey of music history to 1750, with readings, listening, and lecture.
Effective: Spring 2006
Prerequisite: MUSIC 131 MUSIC 162

MUSIC 262 (IL)
Survey of Music History II (3) A survey of music history from 1750 to the present, with readings, listening, and lecture.
Effective: Spring 2006
Prerequisite: MUSIC 132 MUSIC 162

MUSIC 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

MUSIC 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

MUSIC 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

NUC E 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

NUC E 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group

instruction.
Effective: Summer 2008

NUC E 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

NUC E 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

NURS 111S (US;IL)
Nursing Roles (4) Introduction to nursing roles/process with emphasis on societal norms and multicultural influences on health care needs.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission to 2NURS major

NURS 215 (US)
Health: Introduction to Wellness (3) Designed to explore the wellness component of health, with emphasis on concepts of health, life-style patterns and nursing interventions.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: BIOL 129 BIOL 141

NURS 250 (US)
Professional Role Dev I: Intro to Professional Issues in Nursing Practice and Nursing Informatics (2) Introduction to professional nursing practice and health-related issues emphasizing application of nursing informatics.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 129 BIOL 141

NURS 390 (US)
Transition and the Professional Nursing Role (3) Transition to baccalaureate education and professional nursing practice, emphasizing leadership, management, and issues influencing nursing education and practice.
Effective: Fall 2008
Prerequisite: eligibiity for NURN major

NURS 401 (IL)
Concepts of Health (3) Exploration of current and ancient concepts of health and their respective modes of intervention.
Effective: Fall 2008
Prerequisite: PSYCH 100 or SOC 001

NURS 402 (US;IL)
Holistic Health (3) Examination of emerging conceptualizations of health and therapy based on a holistic view of human beings.
Effective: Fall 2008
Prerequisite: NURS 401

NURS 415 (US;IL)
Community and Family Health Nursing--Concepts and Applications (4) Health promotion concepts to meet the health care needs of multicultural families and groups in community health nursing practice.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205 NURS 301 NURS 302 NURS 310 NURS 320

NURS 415 (US;IL)
Community and Family Health Nursing (4) Therapeutic nursing care and health promotion concepts to families, groups and populations in the community.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

NURS 417 (US;IL)
Family and Community Health Concepts (4) Study of the concepts of family and community based nursing care emphasizing multicultural influences on health practices.
Effective: Fall 2008
Prerequisite: NURS 390 and current and valid RN license; Prerequisite or concurrent: NURS 457

NURS 452 (BB H 452, WMNST 452) (US)
Women's Health Issues (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.
Effective: Fall 2008
Prerequisite: BIOL 141 or PSYCH 100

NURS 464 (US;IL)
Dying and Death (3) Explores attitudes toward death and dying; concept of grief; responsibilities to the dying person and the family.
Effective: Fall 2008
Prerequisite: PSYCH 100 or SOC 001

NURS 499 (IL)
Foreign Study--Nursing (1-9) Study of nursing issues in a foreign country.
Effective: Fall 2008

NUTR 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NUTR 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NUTR 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NUTR 421 (US;IL)
Food Culture and Health Trends (3) Social-political, historic, and geographic roots of food patterns, featuring specific cuisine areas and nutritional disease patterns; includes foods laboratory.
Effective: Summer 2005
Prerequisite: NUTR 119 or NUTR 120 ; NUTR 151 or NUTR 251

NUTR 430 (S T S 430) (IL)
Global Food Strategies: Problems and Prospects for Reducing World Hunger (3) Technological, social, and political solutions to providing basic food needs; food resources, population, and the environment; current issues.
Effective: Summer 2005

NUTR 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

O T 103 (US)
Occupational Performance Across the Life Span (3) Analysis of occupations from birth to death including descriptions of occupational performance and factors which influence performance.
Effective: Spring 2005
Prerequisite: O T 100 O T 101

P T 270A (IL)
Pathophysiology (3) Introduction to medical and post-operative conditions and/or disease states most frequently treated by physical therapy modalities.
Effective: Fall 2005
Prerequisite: a grade of C or better in BIOL 141 BIOL 142 P T 100 P T 384

PHIL 006 (CMLIT 006) (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Spring 2006

PHIL 006S (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHIL 007 (GH;IL)
Asian Philosophy (3) Introduction to philosophical, moral, and aesthetic teachings of Asian traditions such as Hinduism, Buddhism (including Zen), Taoism, Confucianism, and Shintoism.
Effective: Summer 2005

PHIL 009 (GH;US)
Philosophy, Race, and Diversity (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.

Effective: Summer 2005

PHIL 009U (GH;US)
Philosophy, Race, and Diversity (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

PHIL 014 (GH;US)
Philosophy of Love and Sex (3) Explores Western theories and attitudes concerning intimacy and examines various ethical issues involving love and sex.
Effective: Summer 2005

PHIL 199 (IL)
Foreign Study--Philosophy (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHIL 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHIL 399 (IL)
Foreign Study--Philosophy (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHIL 437 (IL)
World Philosophies and Cultures (3) Philosophical traditions, problems, and authors in African, Asian, Middle- Eastern, Native American, or other non-Western cultures and intellectual traditions.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 437H (IL)
World Philosophies and Cultures (3) Philosophical traditions, problems, and authors in African, Asian, Middle- Eastern, Native American, or other non-Western cultures and intellectual traditions.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 439 (IL)
Asian Philosophies and Issues (3) Exploration of the traditions, problems, and authors of one or more of the philosophical systems of Buddhism, Hinduism, Taoism, and Confucianism.
Effective: Fall 2007
Prerequisite: PHIL 007 9 credits in philosophy including PHIL 007 or 5th semester standing

PHIL 460 (AAA S 460) (US;IL)
African American Philosophy (3) Major works by African American Philosophers, on topics of race, freedom, citizenship, nationhood, law and society.
Effective: Fall 2009
Prerequisite: AAA S 100 or PHIL 009 and 5th semester standing

PHIL 499 (IL)
Foreign Study--Philosophy (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHYS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHYS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHYS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PL ET 497B (IL)
Plastics International Experience (1-6) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PL ET 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

PL SC 003 (GS;IL)
Introduction to Comparative Politics (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.
Effective: Fall 2007

PL SC 003U (GS;IL)
Introduction to Comparative Politics (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PL SC 014 (GS;IL)
International Relations (3) Characteristics of modern nation-states and forces governing their international relations; nationalism; imperialism; diplomacy;

current problems of war and peace. Credit will not be given for both this course and INT U 200.
Effective: Fall 2007

PL SC 020 (GS;IL)
Comparative Politics--Western Europe (3) Comparative analysis of political cultures, interest groups, parties, and decision-making processes in principal Western European political systems.
Effective: Fall 2007

PL SC 022 (GS;IL)
Politics of the Developing Areas (3) The impact of colonialism, nationalism, and development policy on the political culture, structure, and transformation of post-colonial regimes.
Effective: Spring 2010

PL SC 060 (ANTH 060, J ST 060, SOC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

PL SC 110 (GS;US)
Rights in America (3) This course explores the historical and contemporary struggles of particular groups within American society to expand their rights.
Effective: Summer 2006

PL SC 123 (GS;US;IL)
Ethnic and Racial Politics (3) Political movements among United States ethnic and racial groups; government policies on race and ethnicity; comparison to other culturally diverse countries.
Effective: Fall 2007
Prerequisite: PL SC 001 or PL SC 003

PL SC 130 (GS;US)
American Political Campaigns and Elections (3) Methods and strategies of American political campaigns: polls, political consultants, parties, and the media.
Effective: Fall 2007

PL SC 132 (GS;IL)
The Politics of International Intolerance (3) Introductory course emphasizing psychological, historical, and political aspects of global intolerance towards minorities.
Effective: Fall 2007

PL SC 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PL SC 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2005

PL SC 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PL SC 428 (WMNST 428) (US;IL)
Gender and Politics (3) Gender in politics in the United States and around the world; major areas of women and politics research.
Effective: Fall 2007
Prerequisite: 3 credits in political science or women's studies

PL SC 434 (AAA S 434) (IL)
War and Development in Africa (3) This course will examine the relationship between war and development in sub-Saharan Africa in the post colonial era.
Effective: Spring 2008
Prerequisite: PL SC 114 PL SC 003 AAA S 110

PL SC 440 (AAA S 440, I B 440) (US;IL)
Globalization and Its Implications (3) This course explores the socioeconomic implications of globalization.
Effective: Spring 2008
Prerequisite: AAA S 100 or AAA S 110 or PL SC 003 or PL SC 014 or PL SC 020 or PL SC 022

PL SC 443 (AAA S 443) (IL)
Ethnic Conflict in Africa (3) This course explores the various causes and impacts of ethnic conflicts in the African context.
Effective: Spring 2008
Prerequisite: AAA S 100 AAA S 110 PL SC 001 PL SC 003 PL SC 007 PL SC 014 PL SC 017 PL SC 020 or AFRAS 301

PL SC 445Y (AAA S 445Y, LER 445Y) (US)
Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course and PL SC 001 or PL SC 007

PL SC 453 (IL)
Political Processes in Underdeveloped Systems (3) Comparative analysis of the political, social, and economic problems characteristic of underdeveloped systems.
Effective: Fall 2007
Prerequisite: PL SC 003 PL SC 020 or PL SC 022

PL SC 454 (AAA S 454) (IL)
Government and Politics of Africa (3) Contemporary African politics, institutions, and ideologies; patterns of change, social forces, and nation building in selected African states.
Effective: Summer 2005
Prerequisite: 3 credits from: AAA S 110 PL SC 003 PL SC 020 or PL SC 022

PL SC 459 (AAA S 459) (IL)
Culture and World Politics (3) Role of culture in world politics.
Effective: Summer 2006

PL SC 464 (AAA S 464) (IL)
Globalization, Extractive Industries, and Conflict in Africa (3) Socioeconomic and environmental impacts of extractive industries in Africa.
Effective: Summer 2008
Prerequisite: AAA S 110 or at least one of the following: PL SC 003 or PL SC 014 or PL SC 022

PL SC 497K (IL)
South Asian Politics (3) This course will present an overview of the politics of modern South Asia focusing on Afghanistan, India and Pakistan.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PL SC 499 (IL)
Foreign Study--Government (1-12) Study, in selected foreign countries, of political institutions.
Effective: Summer 2005
Prerequisite: PL SC 003 3 credits in economics history political science or sociology

POL 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

POL 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

POL 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

POL 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PSYCH 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

PSYCH 231 (GS;US)
Introduction to the Psychology of Gender (3) Psychological study of gender in historical and contemporary perspective. Role of gender in development, self-concept, social relations, and mental health.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 232 (GS;US;IL)
Cross-Cultural Psychology (3) This course examines how ethnic and cultural background influences patterns of human thought and behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

PSYCH 370 (US)
Psychology of the Differently-Abled (3) This course familiarizes students with the needs and abilities of people with varying physical challenges through academic and experimental exercises.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

PSYCH 432 (US)
Multicultural Psychology in America (3) This course focuses on the central role of culture, race, and ethnicity in the human condition.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 479 (WMNST 471) (US)
The Psychology of Gender (3) Theories and research on gender differences and gender roles. Emphasis on women's and men's current positions in society.
Effective: Spring 2007
Prerequisite: PSYCH 100 PSYCH 221

PSYCH 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

R EST 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

R EST 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

R EST 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

R EST 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

R SOC 011 (GS;US)
Introductory Rural Sociology (3) Basic sociological concepts applied to rural societal institutions and rural communities; causes and consequences of rural social change. Students may take only one course for General Education credit from R SOC 011 GS or SOC 001 GS.
Effective: Spring 2006

R SOC 420 (CED 420, WMNST 420) (US;IL)
Women in Developing Countries (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.
Effective: Fall 2009

R SOC 422 (US)
Family in Rural Society (3) The relationship between the family and rural society, including critical review of theories, research and problems, issues, and trends.
Effective: Spring 2006
Prerequisite: 6 credits in the social sciences

R SOC 499 (IL)
Foreign Study--Rural Sociology (1-12) Study in selected countries of rural social institutions and current rural sociological problems.

Effective: Summer 2005

RL ST 001 (GH;US;IL)
Introduction to World Religions (3) An historical and comparative survey of the principal beliefs and practices of the world's major religions.
Effective: Summer 2005

RL ST 003 (GH;US;IL)
Introduction to the Religions of the East (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.
Effective: Summer 2005

RL ST 003U (GH;US;IL)
Introduction to the Religions of the East (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RL ST 004 (CAMS 004, J ST 004) (GH;US;IL)
Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.
Effective: Summer 2005

RL ST 012 (CAMS 012, J ST 012) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

RL ST 012U (CAMS 012U, J ST 012U) (GH;IL)
Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RL ST 044 (CAMS 044) (GH;IL)
Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Summer 2005

RL ST 070 (CAMS 070, J ST 070) (GH;IL)
Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

RL ST 090 (CAMS 090, J ST 090) (GH;IL)
Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

RL ST 101 (GH;IL)

Comparative Religion (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.
Effective: Summer 2005

RL ST 101U (GH;IL)
Comparative Religion (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RL ST 102 (CAMS 102, HIST 102, J ST 102) (GH;IL)
Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

RL ST 103 (GH;US;IL)
Introduction to Hinduism (3) Historical development of Hinduism to the present.
Effective: Summer 2005

RL ST 104 (GH;US;IL)
Introduction to Buddhism (3) A general survey of the basic doctrine, practice, and historical development of Hinayana and Mahayana Buddhism.
Effective: Summer 2005

RL ST 105 (GH;US;IL)
Buddhism in the Western World (3) A general survey of the development of Buddhism as a religious tradition in the West, focusing especially on America.
Effective: Summer 2005

RL ST 106 (GH;IL)
Mysticism (3) A survey of the history, philosophy, and cultural impact of various mystical traditions in relation to world religions.
Effective: Spring 2006

RL ST 107 (GH;US;IL)
Introduction to Islam (3) Community and message of the early movement; development of authoritative structures and traditions; proliferation of sects; theology and creeds; mysticism.
Effective: Spring 2006

RL ST 108 (GH;IL)
Muhammad and the Qur'an (3) History of the Qur'an and its interpretation by the early Muslim community; life of Muhammad and his role within Islam.
Effective: Fall 2010 Future: Fall 2010

RL ST 110 (CAMS 110, J ST 110) (GH;US;IL)
Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

RL ST 111 (CAMS 111, J ST 111) (GH;IL)

Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

RL ST 114 (J ST 114) (GH;US;IL)
Modern Judaism (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.
Effective: Summer 2005

RL ST 115 (HIST 115, J ST 115) (GH;US)
American Jewish History and Culture (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

RL ST 116 (GH;IL)
Muslims in America (3) This course is a study of Muslims from multiple racial, cultural, and national perspectives; it explores what it means to be a Muslim in America.
Effective: Summer 2010

RL ST 124 (CAMS 124, J ST 124) (GH;US;IL)
Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

RL ST 134 (CAMS 134, J ST 134) (GH;IL)
Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

RL ST 137 (WMNST 137) (GH;US;IL)
Women and Religion (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.
Effective: Spring 2006
Prerequisite: third-semester standing

RL ST 140Y (AM ST 140Y) (GH;US)
Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

RL ST 145 (AAA S 145) (GH;US;IL)
African American Religion (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.
Effective: Summer 2005

RL ST 146 (AAA S 146) (GH;US)
The Life and Thought of Martin Luther King, Jr. (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for

social change.
Effective: Summer 2005

RL ST 147 (AAA S 147) (GH;US)
The Life and Thought of Malcolm X (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.
Effective: Summer 2005

RL ST 165 (ARAB 165, HIST 165) (IL)
Introduction to Islamic Civilization (3) Islamic history, culture, religious life c.600-1500 C.E.
Effective: Spring 2006

RL ST 181 (IL)
Introduction to the Religions of China and Japan (3) A survey of the history, philosophy, and cultural impact of the major Far Eastern religions: Confucianism, Taoism, Buddhism, and Shinto.
Effective: Spring 2006

RL ST 205 (HIST 205, J ST 205) (GH;US)
American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

RL ST 235 (HIST 235, J ST 235) (US;IL)
The Church and the Jews (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.
Effective: Spring 2006

RL ST 280 (WMNST 280, J ST 280) (GH;IL)
WOMEN AND JUDAISM (3) Explores the Jewish views of women that have influenced the roles of women wit hin both the religion and Western culture.
Effective: Spring 2006

RL ST 401 (IL)
Studies in Comparative Religion (3) An intensive study of comparable phenomena from two or more religious traditions.
Effective: Spring 2006
Prerequisite: 6 credits in religious studies

RL ST 407Y (HIST 409Y, J ST 409Y) (IL)
European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

RL ST 408 (US;IL)
Hindu Studies (3) Special topics in Hindu studies.
Effective: Summer 2005
Prerequisite: 3 credits in religious studies

RL ST 409 (US;IL)
Buddhist Studies (3) Special topics in Buddhist studies.

Effective: Spring 2006
Prerequisite: 3 credits in religious studies

RL ST 410 (HIST 410, J ST 410) (US;IL)
Jews in the Medieval World (3) Trends in medieval Jewish society under Islam and Western Christendom.
Effective: Spring 2006

RL ST 411 (J ST 411) (US;IL)
Jewish Studies (3) Study of the life and thought of a particular period or movement in the history of Judaism.
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

RL ST 440Y (RUS 440Y) (US;IL)
The Orthodox Christian Tradition (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.
Effective: Spring 2006
Prerequisite: RL ST 004 RL ST 124 RL ST 125 RUS 100 or RUS 110

RL ST 461 (SOC 461) (US;IL)
Sociology of Religion (3) Contemporary religion in the United States: beliefs, structure, and function of major denominations and religious cults.
Effective: Spring 2006
Prerequisite: 3 credits of sociology or religious studies

RL ST 471Y (HIST 471Y) (IL)
Classical Islamic Civilization, 600-1258 (3) Pre-Islamic Arabia; Muhammad; Arab conquest; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.
Effective: Spring 2006

RL ST 481 (IL)
Religion and Japanese Culture (3) A study of the impact of the traditional religions, Shinto and Buddhism, on the intellectual and cultural history of Japan.
Effective: Spring 2006
Prerequisite: 3 credits from HIST 172 HIST 173 HIST 174 HIST 175 PHIL 111 RL ST 003 RL ST 104 or RL ST 181

RL ST 483 (IL)
Zen Buddhism (3) The development and current state of Zen Buddhist thought and practice.
Effective: Spring 2006
Prerequisite: HIST 172 HIST 173 HIST 174 HIST 175 PHIL 111 RL ST 003 RL ST 104 or RL ST 181

RL ST 499 (IL)
Foreign Study--Religious Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RL ST 499E (HIST 499E, CAMS 499E) (IL)

Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.
Effective: Summer 2010 Ending: Summer 2010

RPTM 120 (GS;US;IL)
Leisure and Human Behavior (3) Leisure from historical and contemporary perspectives, including forces shaping leisure behavior, and relationships among leisure, the environment, and social institutions.
Effective: Spring 2010

RPTM 277 (US)
Recreation for Persons with Disabilities (3) Encouragement of appreciation for cultural experiences, disability-related characteristics, and recreation pursuits among persons with disabilities.
Effective: Summer 2005

RPTM 300Y (IL)
Tourism and Leisure Behavior (3) Examination of the impact of recreational sociocultural, governmental, economic, and physical environment on the leisure traveler within the tourism industry.
Effective: Summer 2005

RUS 083S (GH;US;IL)
First-Year Seminar in Russian (3) Russia's cultural past and present.
Effective: Summer 2005

RUS 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 100 (GH;IL)
Russian Culture and Civilization (3) The Russian people from the tenth century to present times; their literature, arts, music, science, and philosophy. In English.
Effective: Summer 2005

RUS 110 (GH;IL)
Russian Folklore (3) Study of byliny, lyrical and historical songs, folktales, drama, ceremonial poetry, chants, charms, proverbs, and mythology of Russia. In English.
Effective: Summer 2005

RUS 120 (GH;IL)
Theatrical Arts of Russia (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.
Effective: Summer 2005

RUS 120U (GH;IL)
Theatrical Arts of Russia (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

RUS 130 (WMNST 130) (IL)

Women in Russian Literature (3) Survey of Russian and Soviet women characters and writers from the Medieval Period to the present (in English).
Effective: Spring 2006

RUS 141Y (IL)
Russian Literature in English Translation: 1800-1870 (3) Pushkin, Lermontov, Gogol, the critics, Turgenev, Dostoevsky, Tolstoy. Writing assignments will serve as a major way of exploring subject matter.
Effective: Spring 2006

RUS 142Y (IL)
Russian Literature in English Translation: 1870 to Present (3) Dostoevsky, Tolstoy, Chekhov, Gorky, symbolists, selected Soviet authors. Writing assignments will serve as a major way of exploring subject matter.
Effective: Spring 2006

RUS 143 (GER 143) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Summer 2005

RUS 143U (GER 143U) (GH;IL)
The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

RUS 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 204 (IL)
Intermediate Russian II (4) Intensive practice of Russian reading, writing, listening and speaking; review of Russian grammar.
Effective: Spring 2006
Prerequisite: RUS 003 or RUS 012

RUS 214 (IL)
Intermediate Russian III (4) Intensive practice of Russian reading, writing, listening and speaking; review of Russian grammar.
Effective: Spring 2006
Prerequisite: RUS 003 or RUS 012

RUS 221 (IL)
Russian Conversation (3) Practice aimed at developing fluency in the use of the grammatical constructions and vocabulary essential for everyday conversation.
Effective: Spring 2006
Prerequisite: RUS 003 or RUS 006

RUS 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2005

RUS 304 (IL)
Readings in Russian III (3) Extensive reading of contemporary Russian texts, including articles from Soviet press and short fiction.
Effective: Spring 2006
Prerequisite: 6 credits of Russian at the 200 level

RUS 305 (IL)
Advanced Russian Conversation (3) Discussion and role-playing based on real-life situations and current events; supervised by a native speaker.
Effective: Spring 2006
Prerequisite: RUS 204 RUS 214

RUS 360 (IL)
Advanced Russian Grammar (3) Russian morphology and syntax on an advanced level.
Effective: Spring 2006
Prerequisite: 6 credits of Russian at the 200 level

RUS 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 400 (IL)
Senior Seminar in Russian Culture (3) Senior seminar devoted to topics in Russian culture; conducted in Russian.
Effective: Spring 2006
Prerequisite: RUS 204 RUS 214 RUS 304

RUS 412 (IL)
Russian Translation (3 per semester/maximum of 6) Translation from Russian into English of complex texts from the humanities, social sciences, and technical fields.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 426 (IL)
Dostoevsky (3) Study of representative works by Dostoevsky in the original Russian.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 427 (IL)
Tolstoy (3) Study of representative works by Tolstoy in the original Russian.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 440Y (RL ST 440Y) (US;IL)
The Orthodox Christian Tradition (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.

Effective: Spring 2006
Prerequisite: RL ST 004 RL ST 124 RL ST 125 RUS 100 or RUS 110

RUS 450 (IL)
History of the Russian Language (3) Relationship of Russian to other Indo-European languages and changes within Russian from the time of the earliest records to the present.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 460 (IL)
Linguistic Analysis of Contemporary Russian (3) Detailed study of the phonology, morphology, and syntax of Modern Standard Russian and the major dialects.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 497A (IL)
Great Works of Short Russian Fiction (3) A survey of great short works of Russian fiction from the 18th century to the present day, read in Russian.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RUS 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 499 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S T S 005 (WMNST 005) (US)
Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2005

S T S 124 (HIST 124) (GH;US;IL)
History of Western Medicine (3) This course explores the history of health, illness, and medicine in western society.
Effective: Summer 2008

S T S 150 (EM SC 150) (GN;IL)
Out of the Fiery Furnace (3) A history of materials, energy, and humans, with emphasis on their interrelationships. For nontechnical students.
Effective: Spring 2006

S T S 151 (HIST 151) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 151S (HIST 151S) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 202 (GH;IL)
Introduction to Disability Studies in the Humanities (3) Provides a humanities-based interdisciplinary introduction to Disability Studies.
Effective: Summer 2008

S T S 245 (GS;IL)
Globalization, Technology, and Ethics (3) An investigation of technology and ethics in the globalized world from contemporary, socio-cultural, and historical perspectives.
Effective: Summer 2008

S T S 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S T S 416 (AAA S 416, WMNST 416) (US;IL)
Race, Gender and Science (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

S T S 428 (HIST 428) (IL)
The Darwinian Revolution (3) The origins and implications of evolutionary theory.
Effective: Spring 2006
Prerequisite: An introductory Science course and a history course.

S T S 430 (NUTR 430) (IL)
Global Food Strategies: Problems and Prospects for Reducing World Hunger (3)

Technological, social, and political solutions to providing basic food needs; food resources, population, and the environment; current issues.
Effective: Summer 2005

S T S 457 (HIST 457, WMNST 457) (US;IL)
The History of Women in Science (3) Critical analysis of the role women, gender, and minorities have played in the natural sciences.
Effective: Spring 2006
Prerequisite: HIST 116 HIST 117 WMNST 001 WMNST 003 or WMNST 005

S T S 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SCM 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SCM 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SCM 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SCM 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SLAV 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group

instruction.
Effective: Summer 2005

SLAV 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SOC 060 (ANTH 060, J ST 060, PL SC 060) (GS;IL)
Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

SOC 103 (AAA S 103, WMNST 103) (US)
Racism and Sexism (3) Critical analysis of the structure of race and gender inequality in the contemporary United States.
Effective: Summer 2005

SOC 110 (WMNST 110) (GS;US)
Sociology of Gender (3) Changing sex role expectations and behavior for men and women in contemporary society.
Effective: Summer 2005

SOC 119 (GS;US)
Race and Ethnic Relations (4) Historical patterns and current status of racial and ethnic groups; inequality, competition, and conflict; social movements; government policy.
Effective: Summer 2005

SOC 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

SOC 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

SOC 409 (AAA S 409) (US)
Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Summer 2005
Prerequisite: 3 credits in Sociology

SOC 409U (AAA S 409U) (US)
Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 3 credits in Sociology

SOC 411 (HD FS 416) (US)
Racial and Ethnic Diversity and the American Family (3) This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States.
Effective: Spring 2005
Prerequisite: 3 credits in sociology

SOC 416 (EDTHP 416) (US)
Sociology of Education (3) The theoretical, conceptual, and descriptive contributions of sociology to education.
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

SOC 419 (US)
Race and Public Policy (3) Seminar format course in which sociological theory and research are applied to current race policy issues.
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

SOC 454 (US)
The City in Postindustrial Society (3) Postindustrial social organization in the United States and Europe; consequences for metropolitan social stratification, community power, and environmental quality.
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

SOC 457 (ANTH 457, J ST 457) (US;IL)
Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.
Effective: Summer 2006
Prerequisite: ANTH 001 or ANTH 045 HEBR 010 J ST 010 SOC 001 SOC 005 SOC 007 SOC 015

SOC 461 (RL ST 461) (US;IL)
Sociology of Religion (3) Contemporary religion in the United States: beliefs, structure, and function of major denominations and religious cults.
Effective: Spring 2006
Prerequisite: 3 credits in sociology or religious studies

SOC 499 (IL)
Foreign Study--Sociology (2-6) Study, in selected foreign countries, of groups, institutions, and social problems.
Effective: Summer 2005
Prerequisite: 3 credits in Sociology

SOILS 071 (GN;IL)
Environmental Sustainability (3) An introduction to environmental science, exploring sustainable human- environment interactions with examples from environmental soil science.

Effective: Spring 2007

SPAN 083S (GH;IL)
First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Summer 2005

SPAN 083T (GH;IL)
First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

SPAN 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SPAN 130 (GH;IL)
Iberian Civilization (3) Spanish and Portuguese life from the medieval period to the present; literature, the arts, and contemporary problems in historical perspective.
Effective: Spring 2006

SPAN 131 (GH;US;IL)
Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 131Y (GH;US;IL)
Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 132 (AAA S 132) (IL)
Afro-Hispanic Civilization (3) A general introduction to human and cultural elements of African origin in Spanish- and Portuguese-speaking countries of Latin America.
Effective: Summer 2005

SPAN 199 (IL)
Foreign Study--Beginning Conversational Spanish (3) Grammar review and practice in oral expression and aural comprehension.
Effective: Summer 2005

SPAN 231 (GH;IL)
Masterpieces of Spanish American Literature in English Translation (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.
Effective: Summer 2005

SPAN 299 (IL)
Foreign Study--Intermediate Conversational Spanish (3) Grammar review and practice in oral expression and aural comprehension.
Effective: Summer 2005

SPAN 315 (LTNST 315) (GH;US)
Spanish and Spanish-speakers in the U.S. (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.
Effective: Summer 2006

SPAN 326 (LTNST 326) (GH;US)
Reading the Border/Lands (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.
Effective: Summer 2006

SPAN 399 (IL)
Foreign Study--Spanish (1-12) Advanced training in Spanish language skills.
Effective: Summer 2005
Prerequisite: SPAN 003

SPAN 499 (IL)
Foreign Study--Spanish (1-12) Contemporary Spanish life and civilization. Emphasis on post-Civil War period: literature, arts, and sociopolitical problems.
Effective: Summer 2005
Prerequisite: SPAN 100 SPAN 110 or SPAN 120

STAT 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

STAT 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

STAT 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 299 (IL)

Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWENG 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

SWENG 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

THEA 100 (GA;US;IL)
The Art of the Theatre (3) An experiential survey of all aspects of the living theatre, as presented by a resident company of theatre artists.
Effective: Spring 2006

THEA 199 (IL)
Foreign Studies--Theatre Arts (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005
Prerequisite: approval by department

THEA 207 (GA;US)
Gender and Theatre (3) A study of theatre and drama literature as formed by issues of gender, race, and ethnic background.
Effective: Summer 2005

THEA 208 (AAA S 208) (GA;US;IL)
Workshop: Theatre in Diverse Cultures (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

THEA 208S (GA;US;IL)
Workshop: Theatre in Diverse Cultures (3) A performance-oriented class, which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

THEA 401Y (IL)
Theatre History I: Ancient to 1700 (3) Survey of drama and theatre from primitive rites through the Renaissance.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 405 (US)
Theatre History: American Theatre (3) Survey of American drama and theatre from the colonial period to the present.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 406 (IL)
Theatre in Asia (3) A survey of major theatre forms and traditions in Asia.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 407 (WMNST 407) (US)
Women and Theatre (3) A study of theatre practice and dramatic literature as informed by issues of gender, race, and ethnic background.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 408 (US)
History of American Musical Theatre (3) A survey of the history of American musical theatre presented in a social, cultural, and aesthetic prospective.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 412 (AAA S 412) (US;IL)
African American Theatre (3) Exploration of the development of African American theatre from its roots in Africa through the diaspora, to the present time.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 499 (IL)
Foreign Studies--Theatre Arts (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005
Prerequisite: approval by department

UKR 083S (GH;IL)
1st Year Seminar in Ukrainian (3) Aspects of Ukrainian Culture in Comparative Contexts
Effective: Spring 2006

UKR 099 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 100 (GH;IL)
Ukrainian Culture and Civilization (3) Survey of Ukrainian culture and civilization from the Middle Ages to the present.
Effective: Summer 2005

UKR 199 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 299 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 399 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

W F S 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

W P 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WF ED 450 (US;IL)
Cultural Diversity in the Workplace (3) Provides opportunities for students to explore different cultures and mores that are changing the dynamics of the workplace.
Effective: Fall 2006

WMNST 001 (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Summer 2005

WMNST 001S (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2009

WMNST 001U (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 003 (GH;US;IL)
Introduction to Women, the Humanities, and the Arts (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.
Effective: Summer 2005

WMNST 003U (GH;US;IL)
Introduction to Women, the Humanities, and the Arts (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 005 (S T S 005) (US)
Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2005

WMNST 005S (US)
Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2006

WMNST 083S (GH;US;IL)
First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Summer 2005

WMNST 083T (GH;US;IL)
First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 101 (AAA S 101) (GH;US)
The African American Woman (3) The sociological, historical and political experiences of African American women, their roles and contributions to society.
Effective: Summer 2005

WMNST 102 (AAA S 102) (GH;IL)
Women of Color: Cross-Cultural Perspective (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.
Effective: Summer 2005

WMNST 103 (AAA S 103, SOC 103) (US)
Racism and Sexism (3) Critical analysis of the structure of race and gender

inequality in the contemporary United States.
Effective: Summer 2005

WMNST 104 (AM ST 104) (GH;US)
Women and the American Experience (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.
Effective: Summer 2005

WMNST 110 (SOC 110) (GS;US)
Sociology of Gender (3) Changing sex role expectations and behavior for men and women in contemporary society.
Effective: Summer 2005

WMNST 116 (HIST 116) (GS;US;IL)
Family and Sex Roles in Modern History (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.
Effective: Spring 2006

WMNST 117 (HIST 117) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Summer 2005

WMNST 117M (HIST 117M) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 130 (RUS 130) (IL)
Women in Russian Literature (3) Survey of Russian women characters and writers from the Medieval Period to the present.
Effective: Spring 2006

WMNST 136 (LER 136) (US)
Race, Gender, and Employment (3) Employment relations and legislative and policy responses to labor force issues of racial and gender inequality.
Effective: Spring 2008

WMNST 137 (RL ST 137) (GH;US;IL)
Women and Religion (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.
Effective: Spring 2006
Prerequisite: third-semester standing

WMNST 194 (ENGL 194) (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by British, American, and other English-speaking women writers.
Effective: Summer 2005

WMNST 199 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WMNST 202 (AAA S 202) (GS;IL)
Gender Dynamics in Africa (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.
Effective: Summer 2005

WMNST 205 (COMM 205) (US)
Women, Minorities, and the Media (3) Analysis of historical, economic, legal, political, and social implications of the relationship between women, minorities, and the mass media.
Effective: Summer 2005

WMNST 250 (HD FS 250) (US)
Sexual Identity Over the Lifespan (3) Concepts of affectional and sexual orientation over lifespan, with emphasis on lesbian and gay male personal, family, and community adaptation.
Effective: Summer 2005
Prerequisite: 3 credits in Hd FS or 3 credits in behavioral sciences

WMNST 280 (J ST 280, RL ST 280) (GH;IL)
Women and Judaism (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.
Effective: Fall 2006

WMNST 299 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WMNST 300 (LTNST 300) (US)
Latina Feminisms (3) This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States.
Effective: Summer 2006
Prerequisite: LTNST 100

WMNST 364 (AAA S 364) (GS;US)
Black & White Sexuality (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.
Effective: Spring 2007

WMNST 399 (IL)
Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WMNST 400 (US;IL)
Feminist Theory (3) Consideration of feminist theories of women's experience in transforming understanding, reconceptualizing old problems, raising new ones, and expanding traditional disciplines.
Effective: Summer 2005
Prerequisite: WMNST 301

WMNST 407 (THEA 407) (US)
Women and Theatre (3) A study of theatre practice and dramatic literature as informed by issues of gender, race, and ethnic background.
Effective: Summer 2005
Prerequisite: THEA 100

WMNST 416 (AAA S 416, S T S 416) (US;IL)
Race, Gender and Science (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

WMNST 419 (HIST 419) (US;IL)
The History of Feminist Thought (3) A critical analysis of European and United States feminist thought from the Renaissance to the present.
Effective: Spring 2006
Prerequisite: WMNST 001 WMNST 003 WMNST 116 or WMNST 117

WMNST 420 (CED 420, R SOC 420) (US;IL)
Women in Developing Countries (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.
Effective: Fall 2009

WMNST 421 (HIST 421) (IL)
The History of European Women (3) European women's lives from the Middle Ages to the present.
Effective: Spring 2006
Prerequisite: WMNST 001 WMNST 003 WMNST 116 or WMNST 117

WMNST 423 (CRIMJ 423, CRIM 423) (US)
Sexual and Domestic Violence (3) Legal, sociological, and psychological perspectives of sexual and domestic violence.
Effective: Spring 2008
Prerequisite: CRIM 100

WMNST 424 (KINES 424) (US)
Women and Sport (3) An interdisciplinary approach to contemporary issues related to women and sport from historical, physiological, psychological, and sociological perspectives.
Effective: Spring 2007
Prerequisite: PSYCH 100 PSYCH 231 PSYCH 479 SOC 001 or WMNST 001

WMNST 426Y (GEOG 426Y) (US;IL)
Gender and Geography (3) Description and explanation of the links between

gender relations and spatial structures; gender and work, social services, and neighborhood activism.
Effective: Spring 2007
Prerequisite: GEOG 020 GEOG 126 GEOG 120 WMNST 001 or WMNST 187

WMNST 428 (PL SC 428) (US;IL)
Gender and Politics (3) Gender in politics in the United States and around the world; major areas of women and politics research.
Effective: Fall 2007
Prerequisite: 3 credits in political science or women's studies

WMNST 430 (AM ST 430) (US)
Women in American Society (3) A historical study of women's roles and experiences in the United States.
Effective: Spring 2008
Prerequisite: 6 credits of American Studies Sociology or Women's Studies

WMNST 432 (US)
Women in Politics in the U.S. (3) Course examines the U.S. women's movements, the participation of women in politics, and selected areas of public policy.
Effective: Spring 2008
Prerequisite: 3 credits in political science or women's studies

WMNST 453 (CRIMJ 453, CRIM 453) (US)
Women and the Criminal Justice System (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or WMNST 001

WMNST 455 (CAS 455) (US)
Gender Roles in Communication (3) Explores the literature on gender research in the discipline of human communication.
Effective: Summer 2005
Prerequisite: CAS 202

WMNST 457 (HIST 457, S T S 457) (US;IL)
The History of Women in Science (3) Critical analysis of the roles women, gender, and minorities have played in the natural sciences.
Effective: Spring 2006
Prerequisite: WMNST 001 WMNST 003 WMNST 005 WMNST 116 or WMNST 117

WMNST 462 (ENGL 462) (US)
Reading Black, Reading Feminist (3) Female identity and its construction in textual representations of gender, class, color, and cultural difference in English-language literatures.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

WMNST 464 (BE SC 464) (US)
Feminine/Masculine (3) Study of sex role learning; investigating

feminine/masculine labeling; implications for contemporary society.
Effective: Spring 2008
Prerequisite: general psychology or general sociology

WMNST 466 (HIST 466) (US;IL)
Lesbian and Gay History (3) Critical exploration of the history of sexuality, focusing especially on the emergence of modern lesbian and gay identities.
Effective: Summer 2005
Prerequisite: WMNST 001 WMNST 117

WMNST 471 (PSYCH 479) (US)
The Psychology of Gender (3) Theories and research on gender differences and gender roles. Emphasis on women's and men's current positions in society.
Effective: Spring 2007
Prerequisite: PSYCH 100 PSYCH 221

WMNST 490 (ENGL 490) (US;IL)
Women Writers and Their Worlds (3) American and British literature written from the perspective of women.
Effective: Summer 2005
Prerequisite: ENGL 015 or ENGL 030

WMNST 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

YFE 211 (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Summer 2010

YFE 211 (CAS 222, CIVCM 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

YFE 211S (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Fall 2010

YFE 211U (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

YFE 438 (US)

Living in an Increasingly Diverse Society (1-3) Students in this course will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning.
Effective: Summer 2005 Ending: Fall 2010

YFE 499 (IL)
Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005 Ending: Fall 2010

Writing Across the Curriculum

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

A E 441W
Integration of Architectural Engineering Systems (3) Analysis and synthesis of systems--structural, mechanical, electrical, sanitary, construction--considering interrelationship in performance, economics of total systems, computer programs.
Effective: Fall 1993
Prerequisite: A E 309 A E 310 A E 311 A E 401 A E 402

A E 481W
Comprehensive Architectural Engineering Senior Project I (4) Building project selection and preparation of overall plan; preliminary investigation of building design and construction issues; creation of individual Capstone Project Electronic Portfolio (CPEP) and project proposal required.
Effective: Fall 2005
Prerequisite: ARCH 441 fifth-year architectural engineering standing in major area of emphasis

A ED 201W
History and Philosophy of Art Education in Schools and Cultural Institutions (3) Introduction to historical, philosophical, and sociological foundations art education in schools and cultural institutions, museums, and community organizations.
Effective: Spring 2003

A S M 429W
Agricultural Systems Analysis and Management (3) Theory of systems thinking; optimization and quantitative techniques for analysis of agricultural production and processing systems.
Effective: Spring 2010
Prerequisite: A S M 422 A S M 425

AAA S 445Y (LER 445Y, PL SC 445Y) (US)
Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course and PL SC 001 or PL SC 007

ACCTG 403W
Auditing (3) Financial, compliance, internal, and operational audits; standards and procedures; sampling; EDP auditing; professional issues; application of concepts through written responses.
Effective: Spring 2008
Prerequisite: ACCTG 371 or ACCTG 471

AE T 210W

Architectural Engineering Office Practice Using Writing Skills (3) Concepts, procedures, and writing-intensive activities to properly prepare site observation reports, cost estimates, contractual conditions, and outline and technical specification.
Effective: Spring 1994
Prerequisite: fourth-semester standing

AEE 330W
Communication in Agricultural and Natural Resource Careers (3) The course explores the conventions of writing and speaking found in agricultural professions through the use of case studies.
Effective: Summer 1999
Prerequisite: ENGL 015

AERSP 305W
Aerospace Technology Laboratory (3) Experiments in measurement systems, aerodynamics, aerospace structures, dynamics and control, and propulsion, technical report writing and presentations.
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent: AERSP 301 AERSP 311 ENGL 202C

AERSP 406W
Structures and Dynamics Laboratory (2) Experiments in static deformations and stresses, vibrations, and control of aerospace structures.
Effective: Spring 2007
Prerequisite: or concurrent: ENGL 202C

AG 301W
Introduction to Agricultural Law (3) A survey of the legal system and legal issues that typically arise in agricultural and agribusiness situations.
Effective: Fall 1987

AG BM 308W
Strategic Decision Making in Agribusiness (3) Utilize case studies to investigate strategic decision making among agribusiness firms, highlighting how information and market power shape strategies.
Effective: Spring 2004
Prerequisite: AG BM 101 AG BM 102 AG BM 106

AG EC 431W (E RRE 431W)
Economic Analysis of Environmental and Resource Policies (3) Economic Analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques, resource damage assessment.
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

AGCOM 462W
Advanced Agricultural Writing (3) Practice in journalistic writing strategies to report scientific and technical information in the agricultural/environmental sciences to general audiences.
Effective: Spring 2001

Prerequisite: a grade of C or better required in COMM 260W or equivalent coursework

AGRO 410W
Crop Science (4) Study of the relation of crop plants to their environment, crop ecology, and the physiology of crop growth.
Effective: Spring 1996
Prerequisite: AGRO 028 BIOL 102

AM ST 100Y (GH;US)
Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 140Y (RL ST 140Y) (GH;US)
Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

AM ST 491W
American Themes, American Eras (3-6) Interdisciplinary American culture course on major themes and eras such as the American Revolutionary Era or the 1930s.
Effective: Fall 2007
Prerequisite: seventh-semester standing

AN SC 290W
Careers in Animal Agriculture (1) A description and analysis of career opportunities in the animal sciences and allied industries.
Effective: Summer 1999

AN SC 331W
Applied Physiology of Reproduction in Farm Animals (3) Physiological principles controlling reproductive patterns of cattle, horses, sheep, and swine; factors affecting fertility and methods for improving reproductive efficiency.
Effective: Spring 2009
Prerequisite: AN SC 201 ; 3 credits of physiology

AN SC 419W
Applied Animal Welfare (3) Assessment of management practices impacting animal welfare; devoted to livestock species, companion animals, captive exotic species, and animals in research.
Effective: Spring 2009
Prerequisite: AN SC 201 or 6 credits of biology

AN SC 431W
Physiology of Mammalian Reproduction (4) Physiological processes of reproduction in animals, including the use of current and emerging technologies.
Effective: Summer 1999
Prerequisite: 3 credits in animal physiology

ANTH 321W

Intellectual Background of Archaeology (3) Introduction to primary sources on the development of archaeology as a scientific discipline.
Effective: Spring 1995
Prerequisite: ANTH 002 ANTH 045

ANTH 406W

Problems in Human Evolution (3) Investigation of human evolution in terms of the history of ideas and contemporary research on genetic and evolutionary processes.
Effective: Summer 1996
Prerequisite: ANTH 021 or 3 credits in biology 3 credits in statistics

ANTH 426W

Archaeological Laboratory Analysis (3) Scientific laboratory methods used in the analysis of ceramic and lithic artifacts.
Effective: Summer 2004
Prerequisite: ANTH 007 ANTH 008 ANTH 009 or ANTH 011

ANTH 427W

Forensic Archaeology (3) Application of archaeological techniques to crime scene investigations, with practical experience in field and laboratory contexts.
Effective: Summer 2007
Prerequisite: ANTH 002

ANTH 445W

Ethnographic Film (3) Comparisons of written and visual ethnography; critical assessment of ethnographic film; cross-cultural variation.
Effective: Summer 2000
Prerequisite: ANTH 001 or ANTH 045

ANTH 450W

Comparative Social Organization (3) Social structure and cultural change among nonliterate societies.
Effective: Summer 1996
Prerequisite: ANTH 045

ANTH 473W

Genetics of Human Disease (3) Human genetic variation and evolution as reflected in disease patterns; methods for assessing and quantifying such disease patterns.
Effective: Summer 1995
Prerequisite: ANTH 021 or 3 credits in biology; 3 credits in statistics

ANTH 476W (WMNST 476W)

Anthropology of Gender (3) Cross-cultural construction of gender and sex roles; theories of gender construction; case studies and practical effects.
Effective: Spring 2001
Prerequisite: 3 credits in women's studies or anthropology

APLNG 482Y (IL)

Introduction to Applied Linguistics (3) Application of theories of language to psycholinguistics, philosophy of language, anthropological linguistics, sociolinguistics, bi/multilingualism, second language acquisition and teaching.
Effective: Spring 2006

ARCH 311W
Architectural and Planning Theories (3) Architectural theory course with a strong focus on the reading and writing of essays about architecture and related fields.
Effective: Summer 2006
Prerequisite: fifth-semester standing in the Architecture curriculum

ART 122Y (US)
Commentary on Art (3) An introduction to verbal commentary, both oral and written, about art. The development of critical and expressive skills given emphasis.
Effective: Spring 2006

ART 211Y (US)
Introduction to Digital Art and Design Criticism (3) An introduction to the language, aesthetics, and cultural impacts of digital art and design in contemporary society.
Effective: Spring 2010

ART 466W
Individual Approaches II (6) An advance studio/lecture addressing the preparation for potential employment and/or entrance into graduate studies.
Effective: Summer 2007
Prerequisite: ART 165 ART 166 ART 265 ART 266 ART 365 ART 366 ART 465

ART H 350W
Undergraduate Seminar in the History of Art (3-6) An introduction to original research, methodology, analysis, and writing on a scholarly level.
Effective: Summer 1992
Prerequisite: fifth-semester standing 6 credits in art history at the 300 level or above

ASIA 405Y (IL)
Seminar in Asian Studies (3-6 per semester/maximum of 6) An advanced, writing-focused seminar in Asian Studies.
Effective: Fall 2009
Prerequisite: ASIA 100

ASTRO 420W
Planets and Planetary System Formation (3) Solar system properties, star formation, protoplanetary disks and planet formation, solar system model, extrasolar planets, and astrobiology.
Effective: Summer 2004
Prerequisite: ASTRO 292

ASTRO 475W
Stars and Galaxies (3) Astronomical studies concerning the distribution and

evolution of stars and gas in our and other galaxies.
Effective: Fall 1993
Prerequisite: ASTRO 292

B A 364Y (US;IL)
International Business and Society (3) Business organizations and the sociocultural environment; current issues; corporate responsibility; international and multinational business environments.
Effective: Spring 2008
Prerequisite: ENGL 202D MGMT 301

B A 422W
Strategic Business Planning (3) Presentations and discussion of contemporary business issues by students and visiting professionals; emphasis on effective business communications.
Effective: Spring 2008
Prerequisite: B A 421 MGMT 301 MKTG 301 FIN 301 . Prerequisite or concurrent: B A 495A B A 495B or B A 495C

B E 466W
Biological Engineering Design (3) This course focuses on a industry sponsored design project offered in conjunction with the College of Engineering Learning Factory.
Effective: Summer 2010
Prerequisite: B E 391 ; senior level standing in B E

B E 469W
Optimization of Biological Production and Processing Systems (3) Engineering and biological principles combined with economics and mathematical techniques to evaluate and optimize biological production and processing systems.
Effective: Fall 2008
Prerequisite: B E 302 and one B E 460 level course

B E 490W
Agricultural and Biological Engineering Colloquium (1) Identification and analysis of the opportunities for professional development in the agricultural and biological engineering profession.
Effective: Fall 2008
Prerequisite: sixth-semester or higher standing in Agricultural and Biological Engineering

B M B 443W
Laboratory in Protein Purification and Enzymology (3) Laboratory in protein isolation methodology, enzyme kinetics, and physico- chemical properties of proteins.
Effective: Spring 2009
Prerequisite: B M B 442 B M B 401

B M B 445W
Laboratory in Molecular Genetics I (2) Laboratory in molecular techniques in gene analysis and microbial genetics, emphasizing in vitro methodologies.

Effective: Spring 2009
Prerequisite: B M B 442 B M B 400 MICRB 202

BB H 310W
Research Strategies for Studying Biobehavioral Health (3) Surveys the various research methodologies used in biomedical research, including case, epidemiological, quasiexperimental and experimental approaches.
Effective: Fall 1994 Ending: Summer 2010
Prerequisite: BB H 101 STAT 200

BB H 411W
Research and Applications in Biobehavioral Health (3) Research methods, multi-level analyses, and applications in biobehavioral health.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BB H 101 BB H 310 STAT 200

BE T 204W
Medical Equipment and Systems II (5) Principles of medical equipment: operation, application; circuit and block diagrams; preventive maintenance inspections; and troubleshooting with report writing and presentations.
Effective: Fall 2008
Prerequisite: BE T 201 BE T 205

BIOE 450W
Bioengineering Senior Design (3) Application of engineering and physiological principles to design of artificial organs and life supportive devices.
Effective: Spring 2009
Prerequisite: BIOE 403 BIOE 440 ENGL 202C senior standing

BIOL 220M (GN)
Honors Biology: Populations and Communities (4) Honors study of the major physical, chemical, and biological factors constituting environment and their dynamic interaction with organisms forming ecosystems.
Effective: Summer 2005
Prerequisite: BIOL 110

BIOL 220W (GN)
Biology: Populations and Communities (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.) BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement.
Effective: Fall 2004
Prerequisite: BIOL 110

BIOL 220X (GN)
Biology: Populations and Communities (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)

Effective: Fall 2004
Prerequisite: BIOL 110

BIOL 230M (GN)
Honors Biology: Molecules and Cells (4) Honors study of cellular phenomena including molecular genetics and metabolic interactions.
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 230W (GN)
Biology: Molecules and Cells (4) A study of cellular phenomena including molecular genetics and metabolic interactions. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.) BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement.
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 240M (GN)
Honors Biology: Function and Development of Organisms (4) Honors study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 240W (GN)
Biology: Function and Development of Organisms (4) A study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.) BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement.
Effective: Summer 2007
Prerequisite: BIOL 110 CHEM 110

BIOL 402W
Biological Experimental Design (3) Discussion of experimental design, analysis and presentation, with a practicum providing for student design, analysis and presentation of biological experiments. Students may not take this course if they have taken BIOBD 350W.
Effective: Fall 2007
Prerequisite: at least two of the following three courses: BIOL 220W BIOL 230W BIOL 240W ; STAT 250

BIOL 422W
Advanced Genetics (3) Chromosomal mechanism of heredity; cytoplasmic and polygenic inheritance, chemical genetics, and experimental evolution.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: BIOL 133 or BIOL 222 or BIOL 230W

BIOL 450W

Experimental Field Biology (3-5) A practical introduction to modern experimental techniques for ecological study of terrestrial, marine, and fresh water habitats.
Effective: Fall 2007
Prerequisite: BIOL 220W BIOL 240W

C E 333W
Construction Management I (3) Components of a construction organization, managerial terminology and documents, labor laws and relations, insurance and safety.
Effective: Spring 2008

C E 410W
Sustainable Residential Subdivision Design (3) Residential subdivision process; site selection; conservation and neo- traditional design; utility design and layout; best management practices for erosion and stormwater.
Effective: Fall 2001
Prerequisite: A E 372 or C E 332 ; seventh-semester standing in Architectural or Civil Engineering

C E 421W
Transportation Design (3) Design of streets and highway facilities; emphasis on geometric elements, intersections and interchanges, roadway drainage, and pavement design.
Effective: Spring 2002
Prerequisite: C E 321

C E 438W
Construction Engineering Capstone Design (3) Construction project integrating geotechnical reports; materials specifications; quality control; equipment; estimation; scheduling; design details: excavations, foundations, retaining walls, formwork, pavements.
Effective: Fall 2007
Prerequisite: C E 432 and C E 435 or C E 436

C E 448W
Advanced Structural Design (3) Wind, snow, seismic, bridge loads; building design using steel, concrete, and prestressed concrete; advanced steel connections; capstone project; computer applications.
Effective: Spring 2002
Prerequisite: C E 341 C E 342 C E 435

C E 465W
Water Resources Capstone Course (3) Hydraulic design of river structures and open channels including supercritical and spatially varied flow; hydrologic/hydraulic computer modeling; design project.
Effective: Fall 2007
Prerequisite: C E 361 . Prerequisite or concurrent: C E 462

C E 472W
Environmental Engineering Capstone Design (3) Principles and design of unit

operations for water; domestic and industrial wastewater treatment; equipment selection and application.
Effective: Spring 2002
Prerequisite: C E 370 C E 371

C I 412W
Secondary Teaching (3) Study of the teacher's responsibilities, steps in planning instruction, and various strategies for implementing and assessing teaching.
Effective: Spring 2007
Prerequisite: C I 295 EDPSY 014 EDTHP 115

CAMS 109Y (GH;IL)
Writing Systems of the World (3) Writing intensive overview of the world's writing systems throughout history.
Effective: Spring 2007

CAMS 400W
Comparative Study of the Ancient Mediterranean World (3) Comparative study of ancient Mediterranean civilizations.
Effective: Spring 2001
Prerequisite: 3 credits in Classics and Ancient Mediterranean Studies

CAMS 411W
Classical Drama (3) Masterpieces of Greek tragedy (Aeschylus, Sophocles, Euripides) and comedy (Aristophanes, Menander); their influence on Roman writers.
Effective: Spring 2001

CAMS 440W
Studies in Classical and Ancient Mediterranean Archaeology (3-6) Selected topics in the literary sources and material evidence for classical and ancient Mediterranean society.
Effective: Summer 2000
Prerequisite: 3 credits from: ANTH 002 ART H 311 CAMS 010 CAMS 020 CAMS 025 CAMS 033 CAMS 140 CAMS 150 HIST 100 HIST 101

CAS 214W
Speech Writing (3) Writing speeches for delivery in political, professional, and ceremonial settings; emphasis on composition and language for oral presentation.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 280W
Storytelling and Speaking (3) Principles of oral performance from storytelling to the printed page; includes oral performance of stories, speeches, prose, drama, and poetry.
Effective: Spring 2003

CAS 426W
Communication Ethics (3) Ethical issues in public and private communication; role of communication in expressing and realizing individual and social values.

Effective: Spring 2003
Prerequisite: CAS 100

CAS 450W
Group Communication Theory and Research (3) Selected theories of problem solving through group discussion emphasizing participation and leadership.
Effective: Spring 2003
Prerequisite: CAS 100 or CAS 250

CAS 452W
Organizational Communication Theory and Research (3) Explores the nature and functions of communication in organizations; emphasis on writing and exploring concepts, tools, and skills for effective management of communication.
Effective: Spring 2004
Prerequisite: CAS 202 or CAS 252

CC 403W
Studies in Public Relations (3) Capstone course for the major in Corporate Communication; focuses on case studies in public relations: problems and solutions.
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

CED 427W (S T S 427W, SOC 427W)
Society and Natural Resource (3) Analysis of the relationships between societal development and enhancement and natural resources.
Effective: Summer 2008
Prerequisite: R SOC 011 or SOC 001

CED 431W
Economic Analysis of Environmental and Resource Policies (3) Economic analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques; resource damage assessment.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 302

CH E 480M
Chemical Engineering Laboratory (Honors) (3) Data interpretation and analysis from student-operated experiments on pilot-plant equipment. Individual written and oral technical reports.
Effective: Spring 2008
Prerequisite: ENGL 202C ; prerequisite or concurrent: CH E 410 CH E 430

CH E 480W
Chemical Engineering Laboratory (3) Data interpretation and correlation from student-operated experiments on pilot-plant equipment. Individual written and oral technical reports.
Effective: Spring 2006
Prerequisite: ENGL 202C ; prerequisite or concurrent: CH E 410 CH E 430

CHEM 413W

Chemistry of the Elements (4) Theoretical and descriptive chemistry of the elements; laboratory synthesis and measurements in inorganic, coordination, and transition metal chemistry.
Effective: Summer 2007
Prerequisite: CHEM 213

CHEM 423W
Chemical Spectroscopy (4) Modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 452 CHEM 457

CHEM 427W (FRNSC 427W)
Forensic Chemistry (4) Analytical and instrumental methods used in the forensic sciences with special emphasis on the analysis and characterization of trace evidence.
Effective: Spring 2008
Prerequisite: CHEM 213 and CHEM 227

CHEM 431W
Organic and Inorganic Preparations (3) Preparation, purification, and characterization of both organic and inorganic compounds by modern methods.
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: CHEM 213

CHEM 431W
Organic and Inorganic Preparations (4) Preparation, purification, and characterization of both organic and inorganic compounds by modern methods.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 213

CHEM 459W
Advanced Experimental Physical Chemistry (4) Laboratory experiments and projects for students interested in advanced study in physical chemistry.
Effective: Summer 2010
Prerequisite: CHEM 450 CHEM 457 Prerequisite or concurrent: CHEM 452

CHNS 403W
Practical Written Communication: Chinese for Professional and Academic Purposes (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.
Effective: Spring 2010
Prerequisite: CHNS 401

CMLIT 400Y (US;IL)
Senior Seminar in Literary Criticism and Theory (3) Discussions of theories of literature, of literary criticism, and particularly of the distinct methods of comparative study; individual projects.
Effective: Spring 2006
Prerequisite: seventh-semester standing; 18 credits in literature

CMLIT 401Y (IL)
The Western Literary Heritage I (3) Major literary movements and authors in the literature of the Western world from the beginnings through the early Renaissance.
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

CMLIT 402Y (US;IL)
The Western Literary Heritage II (3) Major literary movements and authors in the literature of the Western world from the late Renaissance to the present time.
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

CMPEN 352W
Embedded Systems Design (3) Design/development of embedded systems for data acquisition, process control, and special-purpose computing systems; peripheral interfacing, serial/parallel communications and bus systems.
Effective: Spring 2008
Prerequisite: CMPEN 351

CMPEN 482W
Computer Engineering Project Design (3) Computer engineering design project, project management, documentation, reporting, and group and individual communication skills.
Effective: Spring 2008
Prerequisite: E E 310 ; E E 353 ; CMPSC 473 ; ENGL 202C

CMPSC 431W
Database Management Systems (3) Database system concepts: file organizations and retrieval algorithms; the three data models (relational, hierarchical, and network) and their database implementations.
Effective: Spring 2008
Prerequisite: CMPSC 221 ; ENGL 202C

CMPSC 483W
Software Design Methods (3) Applications of scientific knowledge and methods in the design and construction of computer software using engineering concepts.
Effective: Spring 2008
Prerequisite: CMPSC 221 ; CMPSC 465 ; ENGL 202C

CMPSC 485W
Computer Science Senior Project II (3) Computer science capstone project with documentation emphasis.
Effective: Spring 2008
Prerequisite: CMPSC 484

CMPSC 487W
Software Engineering and Design (3) Requirements analysis, specification, design, expectation and testing strategies, development handling, development libraries, approaches to project management, and documentation.

Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462 ; MATH 315

CMPSC 487W
Software Engineering and Design (3) Software development process, life cycle; requirements analysis, specification, design, prototyping, testing, project management, and documentation.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 202C CMPSC 425 CMPSC 462

COMM 230W
Writing for Media (3) The application of creativity to the practical concerns of narrative script and radio/television spot writing.
Effective: Spring 2008
Prerequisite: ENGL 015 and ENGL 202

COMM 260W
News Writing and Reporting (3) News and news values; legal and ethical problems of reporting; writing and reporting news for the mass media.
Effective: Spring 2004
Prerequisite: ENGL 015 or ENGL 030 ; COMM 160 ; third-semester standing and typing proficiency

COMM 283W
Introduction to Audio and Video Communications (3) Introduction to audio and video studio procedures and techniques within the context of human communication.
Effective: Fall 1990 Ending: Summer 2010

COMM 283W
Television Studio Production (3) Students will learn the technical aspects of multi-camera studio television production.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 282

COMM 337W
Theory and Practice of Production (3) Writing-intensive course addressing the analysis, theory and film and video production process of alternative and documentary forms.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 242

COMM 342W
Intermediate Film and Video Production I (6) A comprehensive approach to the film and video production process including writing for the screen, directing, and film and video production. Exploration through the production of nonsynchronous 16mm film and video projects. Designed primarily for Film/Video Majors.
Effective: Spring 1993 Ending: Fall 2010
Prerequisite: COMM 242

COMM 342W
Idea Development and Media Writing (3) Introduction to various modalities of idea development and written expression for media production.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 242 and Film-Video Major

COMM 413W
The Mass Media and the Public (3) Social-level and political theories of the relationships between media and public; media influences on public opinion; social pressure on the media; political communications.
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: select 3 credits from the following COMM 100 COMM 118 COMM 150 COMM 180 COMM 251 COMM 260W COMM 320 or COMM 370

COMM 413W
The Mass Media and the Public (3) Social-level and political theories of the relationships between media and public; media influences on public opinion; social pressure on the media; political communications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: select 3 credits from the following COMM 100 COMM 118 COMM 150 COMM 180 COMM 251 COMM 260W COMM 320 or COMM 370 and select 3 credits from the following: COMM 304 COMM 420

COMM 421W
Advertising Creative Strategies (3) Planning, designing, writing advertisements; introduction to graphics and production techniques and processes; layout and copywriting practice and critiques.
Effective: Spring 2004
Prerequisite: COMM 320

COMM 460W
Reporting Methods (3) Techniques in reporting news and trends at the local, regional, and county levels. Emphasis on both deadline and interpretive reporting.
Effective: Fall 1990
Prerequisite: COMM 260W

COMM 464W
Editorial, Opinion and Commentary Writing (3) Introduces techniques of editorial, opinion and commentary writing.
Effective: Spring 2008
Prerequisite: COMM 260W

COMM 489W
Media and Information Industries (3) The structure, conduct and performance of firms and industries in the electronic media and information sectors.
Effective: Spring 2004
Prerequisite: COMM 387 or equivalent

CRIM 250W (CRIMJ 250W)
Research Methods in Criminal Justice (4) Fundamental concepts of social science research including design, measurement, sampling, and interpretation of the

study of crime, law, and justice.
Effective: Spring 2008
Prerequisite: CRIM 012

CRIMJ 240W
Field Research in the Criminal Justice (4) Field research and observational strategies appropriate to the identification, investigation, and analysis of research questions in criminal justice.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 250W (CRIM 250W)
Research Methods in Criminal Justice (4) Fundamental concepts of social science research including design, measurement, sampling, and interpretation of the study of crime, law, and justice.
Effective: Spring 2008
Prerequisite: CRIMJ 012

CRIMJ 421W
Violent Crime in the United States (3) The impact of violent crime on victims, their families, and communities; the police process as it relates to violent crime.
Effective: Spring 2008
Prerequisite: CRIMJ 012

CRIMJ 424W
Drugs and Crime (3) Analysis of international narcotics trafficking in the twentieth century.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 441W
The Juvenile Justice System (3) Historical and contemporary view of the juvenile justice system. Focus on analyzing components of the system, their interactions, processing, and handling of youths.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

CRIMJ 450W
Senior Seminar (3 per semester/maximum of 6) Capstone course exploring past, current and future developments in criminal justice.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or CRIM 100 and sixth semester standing or permission of program.

CRIMJ 489W
Victimology: Predatory Crime (3) This course uses medical, social scientific and legal research to study the complexities of predatory crime.
Effective: Spring 2004
Prerequisite: CRIMJ 407

CSD 395W

Clinical Observations in Communication Disorders (1) Systematic observation of therapy and diagnostic sessions in speech-language pathology and audiology.
Effective: Fall 2003
Prerequisite: CSD 146

CSD 459W
Principles of Clinical Management in Communication Disorders (3) Survey of principles and practices for diagnosing, interviewing, counseling, treating, reporting, and programming in Communication Disorders.
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146

CSD 459W
Principles of Clinical Management in Communication Disorders (3) Survey of principles and practices for diagnosing, interviewing, counseling, treating, reporting, and programming in Communication Disorders.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300 CSD 230 plus 3 additional credits in CSD at the 300-level

D S M 295W
Professional Staff Field Experience (4) Methods of, and practice in, the client-oriented dietetic systems.
Effective: Spring 1996
Prerequisite: D S M 195 D S M 205 D S M 260 ; NUTR 151 or NUTR 251

E B F 304W
Global Management for the Earth, Energy, and Materials Industries (3) This class is designed to introduce students to modern management and organization strategies for resource businesses.
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: ENNEC 100

E B F 304W
Global Management for the Earth, Energy, and Materials Industries (3) This class is designed to introduce students to modern management and organization strategies for resource businesses.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: E B F 200

E E 313W
Electronic Circuit Design II (4) Design/analysis of electronics circuits including: single/multistage transistor amplifiers, op amp circuits, feedback amplifiers, filters, A/D and D/A converters.
Effective: Spring 2008
Prerequisite: E E 310

E E 402W
Senior Project Design in Electromagnetics (3) Project designs of antenna and microwave systems, with an emphasis on technical communications skills. Lab.
Effective: Spring 2001
Prerequisite: E E 330 . Prerequisite or concurrent: ENGL 202C

E E 403M
Senior Project Design (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: E E 330 ; E E 350 ; E E 316 ; and the completion of two Electrical Engineering technical electives

E E 403M
Senior Project Design (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: E E 330 ; E E 350 ; E E 316 ; and the completion of two Electrical Engineering technical electives

E E 403W
Senior Project Design (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.
Effective: Spring 2008
Prerequisite: E E 330 ; E E 350 ; E E 316 ; and the completion of two Electrical Engineering technical electives

E E 406W
Electrical Engineering Capstone Design (3) Project designs of analog and digital systems, interfacing, and relevant electronic circuits, with an emphasis on technical communications skills.
Effective: Spring 2008
Prerequisite: E E 311 ; E E 405 ; ENGL 202C

E R M 413W
Case Studies in Ecosystem Management (3) Application of biological, physical, and social science principles to ecosystem management problems; introduction to environmental impact analysis and review.
Effective: Spring 2010
Prerequisite: BIOL 220W SOILS 101W . Prerequisite or concurrent: E R M 412

E RRE 431W (AG EC 431W)
Economic Analysis of Environmental and Resource Policies (3) Economic analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques; resource damage assessment.
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

E SC 261M
Computational Methods in Engineering (3) Modeling, solving engineering problems using FORTRAN, software libraries, graphics. Reports on root search, curve fitting, finite differences, algebraic equations.
Effective: Spring 1995

Prerequisite: or concurrent: MATH 141

E SC 414M
Elements of Material Engineering (3) Structure and imperfections in engineered materials; their influence on properties, behavior, and processing. Applications of metals, ceramics, polymers, and composites.
Effective: Spring 2008
Prerequisite: E MCH 213 E MCH 210H or E MCH 210 . Prerequisite or concurrent: E SC 312 or PHYS 237

ECON 400M
Honors Seminar in Economics (3-12) Readings, discussion, and oral and written reports on selected topics in economics.
Effective: Spring 1993
Prerequisite: ECON 302 ECON 304 fifth-semester standing admission into Honors program

ECON 403W
The Economics of Arts and Entertainment (3) Supply and demand of creative goods and services; industry structure; role of information; policy issues.
Effective: Summer 2008
Prerequisite: ECON 302 and ECON 490

ECON 404W
Current Economic Issues (3) An analytical survey of significant problems of current economic policy and the application of economic analysis to important social issues.
Effective: Spring 1993
Prerequisite: ECON 302 or ECON 304

ECON 406W
The Economics of Social Conflict (3) Economic theory of the resolution of social conflicts: social choice theory, voting, noncooperative games, voluntary trade, and allocation by force.
Effective: Summer 2008
Prerequisite: ECON 402 and MATH 110 or MATH 140

ECON 407W
Political Economy (3) Applications of the tools of game theory to analyze topics in collective decision making.
Effective: Summer 2008
Prerequisite: ECON 402

ECON 408W
Intellectual Property (3) A comparative and cost-benefit analysis of intellectual property that examines patents, copyrights, government supported research, and prizes.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 444

ECON 409W

Economics of Terrorism (3) Terrorism throughout history; economic causes, costs, sources, and consequences.
Effective: Summer 2008
Prerequisite: ECON 402

ECON 411W
Behavioral Economics (3) Topics in behavioral economics; selected games; evolutionary models of social behavior; culture and social behavior; herding; overconfidence.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 444

ECON 413W
Economic Growth and the Challenge of World Poverty (3) Economic prosperity in historical perspective; recent successes (East Asia, China, India); ongoing challenges (the bottom billion; sub-Saharan Africa).
Effective: Summer 2008
Prerequisite: ECON 471

ECON 414W
The Economic Way of Looking at Life (3) Economics/life according to Gary Becker: criminal behavior; economics of the family (marriage, divorce, intrahousehold resource allocation, bequests), policy issues.
Effective: Summer 2008
Prerequisite: ECON 412

ECON 415W
The Economics of Global Climate Change (3) Evidence on climate change; economic models of the environment and market failure; cost-benefit analysis of policy options; carbon markets.
Effective: Summer 2008
Prerequisite: ECON 428

ECON 417W
The Economics of Uncertainty (3) Uncertainty is examined in contracts, with an emphasis on limited liability. Asymmetric information and economic puzzles are also considered.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 444

ECON 418W
A Comparative and Cost-Benefit Analysis of State Government Activities (3) This course examines federalism with a particular focus on the activities undertaken by the state of Pennsylvania.
Effective: Summer 2008
Prerequisite: ECON 490

ECON 422W
Applying Monetary Theory to Monetary History (3) Monetary history is examined. Special attention is paid to commodity-based systems, private money, and government monopolies on currency.

Effective: Summer 2008
Prerequisite: ECON 451

ECON 436W (US)
Economics of Discrimination (3) Analysis of the economic characteristics of women and minorities, with examination of race and sex discrimination and related government policies.
Effective: Fall 2007
Prerequisite: ECON 302 or ECON 315

ECON 437W
Multinationals and the Globalization of Production (3) This course will focus on trade, multinationals and offshoring, and explore their implications for the U.S. and developing countries.
Effective: Summer 2008
Prerequisite: ECON 433

ECON 438W
Winners and Losers from Globalization (3) The economic effects of globalization on individuals, governments, nation- states and business.
Effective: Summer 2008
Prerequisite: ECON 433 and ECON 490

ECON 445W (H P A 445W)
Health Economics (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.
Effective: Spring 2008
Prerequisite: ECON 302 ECON 315 or ECON 323

ECON 446W
Economics of Industry Evolution (3) Dynamics of industry evolution; empirical evidence and theoretical modeling of firm entry, growth, and exit; entrepreneurship; investment and strategic behavior.
Effective: Summer 2008
Prerequisite: ECON 444 and ECON 490

ECON 447W
Economics of Sports (3) Examination of economic issues pertaining to professional and collegiate sports, including analysis of industrial organization, labor markets, and local economies.
Effective: Spring 2009
Prerequisite: ECON 302 and ECON 490

ECON 448W
Economics of Auctions and Procurements (3) Theoretical and empirical analyses of auctions and procurements; different modeling environments; econometric analysis of auction and procurement data.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 444 and ECON 490

ECON 449W

Economics of Collusion (3) Theoretical and empirical analysis of collusion among firms, case studies of cartel behavior, bidding behavior at auctions and procurements.
Effective: Spring 2008
Prerequisite: ECON 302 or ECON 342 and ECON 490 or permission of instructor

ECON 452W
Financial Crises (3) Examination of causes and consequences of financial crises; asset pricing theory, market efficiency, speculative bubbles; policy considerations.
Effective: Summer 2008
Prerequisite: ECON 451

ECON 455W
Economics of the Internet (3) Economics of the Internet; electronic commerce and network economics; pricing issues; intellectual property.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 444

ECON 457W
Economics of Organizations (3) An advanced course in the economics of organizations. The focus is on coordination, incentives, contracts, and information in corporations.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 444

ECON 463W
Economic Demography (3) Microeconomics of demographic behavior; interrelationships between demographic and economic factors, in developing and industrialized economies; economic welfare and policy implications.
Effective: Summer 2008
Prerequisite: ECON 412 or ECON 471 or 9 credits in demography

ECON 465W
Cross Sectional Econometrics (3) Discrete choice models, censored and truncated regression models, longitudinal models, applications.
Effective: Summer 2008
Prerequisite: ECON 302 and ECON 490

ECON 466W
Panel Data Models (3) Random and fixed effects, endogeneity, balanced and unbalanced panels, censoring of spells, differences in differences, applications.
Effective: Summer 2008
Prerequisite: ECON 302 and ECON 490

ECON 475W
Migration and Development (3) Human Capital Approach to Migration; Economics of Family Migration; Evidence: Micro and Macro Perspectives; Migration Policies.
Effective: Summer 2008
Prerequisite: ECON 471 or ECON 412 ; ECON 490

ECON 476W

The Economics of Fertility in the Developing World (3) Demand for children, supply of children, and costs of fertility regulation; fertility transition; public policies to affect fertility.
Effective: Summer 2008
Prerequisite: ECON 471 and ECON 490

ECON 479W
Economics of Matching (3) Economic application of matching to employment, marriage, organ markets, and medical residents.
Effective: Summer 2008
Prerequisite: ECON 402 or ECON 412 or ECON 444

ECON 489M
Honors Thesis (1-6) No description.
Effective: Spring 1993
Prerequisite: ECON 302 ECON 304 and admission into the departmental honors program

EDUC 315W (US)
Social and Cultural Factors in Education (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission into Elementary Education Major or Secondary Teacher Certification Program

EDUC 470W
Higher-Order Thinking for Educators (3) Presentation of strategies, techniques, and principles of higher-order thinking which are grounded in relevant research and practice will be presented.
Effective: Fall 2006
Prerequisite: admission into Elementary Education Major

EET 212W
Op Amp and Integrated Circuit Electronics (4) Analysis and design of amplifier, rectifier, filter, comparator, oscillator, and other practical circuits using op amps and integrated circuit devices.
Effective: Summer 2008
Prerequisite: EET 114 ENGL 015 MATH 022

EET 213W
Fundamentals of Electrical Machines Using Writing Skills (5) AC and DC machinery principles and applications; introduction to magnetic circuits, transformers, and electrical machines including laboratory applications.
Effective: Fall 2007
Prerequisite: EET 114 EET 118 ENGL 015

EET 420W
Electrical Design Project (3) Design, construction, and testing of a project either selected by the students with approval or assigned by the instructor.
Effective: Spring 2008

Prerequisite: EET 312 EET 331 EET 419 ENGL 202C

EET 490W
Electrical/Computer Senior Design Project (3) Individual or group design projects in electrical and computer engineering technology.
Effective: Fall 2007
Prerequisite: EET 480 . Prerequisite or concurrent: EET 450

EGEE 464W
Energy Design Project (3) A team and capstone design project on an industrial energy-related problem.
Effective: Spring 2008
Prerequisite: seventh-semester standing in energy engineering or chemical engineering ENGL 202C

ELEDM 395W
Field Experience for Urban Teacher Preparation (2 per semester, maximum of 6) Structured opportunities for investigating and understanding the work of teachers within urban schools and communities.
Effective: Spring 2005
Prerequisite: C I 295 EDPSY 014 EDTHP 115

EM SC 470W
Undergraduate Collaborative Research in Earth and Materials Sciences (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.
Effective: Spring 1998

EM SC 470Y (IL)
Undergraduate Collaborative Research in Earth and Materials Sciences (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.
Effective: Summer 2005

EMET 321W
Electrical Machines (4) Electro-mechanical energy conversion, AC and DC rotating machines, transformers, system protective devices, and solid state power control.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 114

ENGL 001W (GH)
Understanding Literature (3) Studies the various critical ways of reading, understanding, and writing about fiction, poetry, and drama.
Effective: Spring 1999

ENGL 200W
Introduction to Critical Reading (3) Responses to a variety of literary texts written in English that evoke different approaches.
Effective: Fall 2001
Prerequisite: 6 credits of ENGL ENLSH or LIT

ENGL 211W

Introduction to Writing Studies (3) This course introduces students to the most salient issues and theories in writing studies. Students explore contemporary theories and issues about writing in order to understand writing as a skill and a complex object of study in various professional contexts.
Effective: Summer 2010
Prerequisite: ENGL 015 or ENGL 030 ; third semester standing

ENGL 221W
British Literature to 1798 (3) Introduction to literary history and analysis. Beowulf and writers such as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, and Fielding.
Effective: Summer 1992
Prerequisite: ENGL 015 or ENGL 030

ENGL 222W
British Literature from 1798 (3) Introduction to literary history and analysis. Writers such as Austen, Wordsworth, Keats, Browning, Dickens, the Brontes, Yeats, Joyce, and Woolf.
Effective: Summer 1992
Prerequisite: ENGL 015 or ENGL 030

ENGL 231W
American Literature to 1865 (3) Introduction to literary history and analysis. Writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Whitman, and Dickinson.
Effective: Summer 1992
Prerequisite: ENGL 015 or ENGL 030

ENGL 232W
American Literature from 1865 (3) Introduction to literary history and analysis. Writers such as Mark Twain, James, Cather, Frost, O'Neill, Faulkner, Hemingway, Hughes, and Morrison.
Effective: Summer 1992
Prerequisite: ENGL 015 or ENGL 030

ENGL 300M
Honors Course in English (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 1997
Prerequisite: ENGL 015 or ENGL 030 ; approval of the departmental Honors Committee

ENGL 301M
Honors Seminar in English: Literature Before 1800 (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 or ENGL 030 ; approval of the departmental Honors Committee

ENGL 302M

Honors Seminar in English: Literature After 1800 (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 or ENGL 030 ; approval of the departmental Honors Committee

ENGL 303M
Honors Seminar in English: American Literature & Culture (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 or ENGL 030 ; approval of the departmental Honors Committee

ENGL 304M
Honors Seminar in English: Creative Writing (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 or ENGL 030 ; approval of the departmental Honors Committee

ENGL 401W
Creative Writing Theory (3) Theories of art and creativity which inform the making of literary works.
Effective: Fall 2007
Prerequisite: ENGL 200 ; ELISH 201 ELISH 209 ENGL 212 or ENGL 213

ENGL 482W
Contemporary Literary and Cultural Theory (3) Contemporary literary and cultural theories and their implication for critical practice as applies to a variety of texts, e.g. literary, linguistic, visual, multimedia, and/or popular.
Effective: Fall 2007
Prerequisite: ENGL 015 or ENGL 030H ; ENGL 200

ENGL 487W
Senior Seminar (3) Issues, themes, periods, critical theories, etc., that invite students to use prior English studies, limited to seniors majoring in English.
Effective: Summer 1997
Prerequisite: six credits of 400-level courses in English

ENGR 420Y (US;IL)
Design for Global Society (3) An interdisciplinary study of the engineering design process and the influence of society and culture on design.
Effective: Spring 2008
Prerequisite: ENGL 202

ENGR 490W
Senior Design I (1) Analysis of environmental impacts on a design, designing products for the global environment and discussion on engineering ethics and professionalism.

Effective: Summer 2010
Prerequisite: ENGR 350 E MCH 407 or E MCH 461

ENGR 491W
Senior Design II (3) Capstone of research projects from conception to prototype through industry sponsored collaboration on common technical interests between faculty and student.
Effective: Summer 2010
Prerequisite: ENGR 490W

ENT 402W (VB SC 402W)
Biology of Animal Parasites (3) An introduction to animal parasitology. Emphasizes placed on host/parasite interactions, parasites of zoonotic importance, control programs and taxonomy.
Effective: Spring 2010
Prerequisite: BIOL 110

ENVE 301W
Environmental Microbiology (3) Fundamentals of microbial ecology and environmental microbiology with an emphasis on aspects of these fields important to environmental engineers.
Effective: Fall 2003
Prerequisite: introductory chemistry high school biology

ENVE 413W
Operation and Control of Treatment Systems (3) Wastewater treatment, water treatment, solids handling, hazardous waste site control and operations, operator certification, report writing.
Effective: Spring 2002
Prerequisite: ENVE 411 ENVE 424

ENVST 400W
Senior Seminar in Environmental Studies (3) Writing-intensive study of a specified topic in environmental studies integrating approaches and research from a variety of disciplines.
Effective: Spring 2000
Prerequisite: ENVST 200

FD SC 409W
Laboratory in Food Microbiology (3) Methods of isolation, detection of spoilage, pathogenic microorganisms in foods; effects of processing and preservation on survival of food microorganisms.
Effective: Fall 2009
Prerequisite: MICRB 202 . Prerequisite or concurrent: FD SC 408

FIN 305M
Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in a business firm.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: B A 301

FIN 305W
Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in a business firm.
Effective: Fall 1994 Ending: Fall 2010
Prerequisite: B A 301

FIN 305W
Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in a business firm.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 or FIN 301

FIN 306W
Investment Valuation (3) Approaches to investment strategy, investment decisions; valuation of corporate securities, including the impact of dividend policy and capital structure.
Effective: Spring 2001
Prerequisite: FIN 301

FOR 200W (W P 200W)
Professional Careers in Forest Resources (3) Introduction to managing forests for products and services to meet human needs; developing career goals and an academic plan.
Effective: Spring 1996

FOR 466W
Forest Resource Management (3) Optimum use of forest's tangible and intangible resources by application of financial and administrative management principles and management science techniques.
Effective: Spring 2001
Prerequisite: FOR 421 . Prerequisite or concurrent: FOR 440

FOR 488Y (IL)
International Forestry (3) Forestry in global context, emphasizing developing countries: ecological, economic, technological, and political aspects.
Effective: Spring 2006
Prerequisite: E R M 413W FOR 421 or INTAG 100

FR 402Y (IL)
Advanced Grammar and Writing (3) Advanced study of the structure of the French language. Intensive essay writing.
Effective: Spring 2006
Prerequisite: FR 201 FR 202

FR 426Y (IL)
French Literature of the Renaissance (3) Survey of key texts from sixteenth century France, with attention to historical and philosophical currents of French social thought.

Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 434Y (IL)
Culture and Cuisine (3) Interdisciplinary perspectives on the historical, political, and cultural dimensions of French food.
Effective: Spring 2006
Prerequisite: FR 330 FR 452 FR 460

FR 436Y (IL)
Readings in Seventeenth-Century French Literature (3) Baroque and classicism: reappraisal of major and lesser-known 17th-century texts and theories.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 445Y (IL)
Self and Society in Eighteenth-Century France (3) The changing relationship of the individual to society in pre-Revolutionary France will be explored in texts by major writers.
Effective: Spring 2006
Prerequisite: FR 351 . Prerequisite or concurrent: FR 352

FR 452Y (IL)
Nineteenth-Century French Literature (3) Selected readings in romanticism, realism, and symbolism, including Balzac, Stendhal, Sand, Baudelaire, and others, with emphasis on cultural issues.
Effective: Fall 2006
Prerequisite: FR 351 or FR 352

FR 453Y (IL)
La Belle Epoque: Politics, Society, and Culture in France, 1880-1914 (3) Interdisciplinary perspectives on the politics, society, and culture of France, 1880-1914.
Effective: Fall 2006
Prerequisite: FR 330 or FR 351 or FR 352

FRNSC 201W
Principles of Crime Scene Investigation (4) Basic principles of crime scene investigation including management, processing and investigative techniques.
Effective: Spring 2008
Prerequisite: permission of program

FRNSC 401W
Criminalistics III - Advanced Analysis and Crime Scene Investigation (4) Advanced concepts in criminalistics as they apply to criminal and civil investigations.
Effective: Fall 2008
Prerequisite: FRNSC 302 and FRNSC 421W or prerequisite or concurrent FRNSC 427W

FRNSC 421W

Forensic Molecular Biology (3) Concepts and application of serology of molecular biology techniques to analyze biological evidence collected at crime scenes.
Effective: Spring 2009
Prerequisite: B M B 442 B M B 400 B M B 401 ; FRNSC 302 or a 400-level biology or B M B course

FRNSC 427W (CHEM 427W)
Forensic Chemistry (4) Analytical and instrumental methods used in the forensic sciences with special emphasis on the analysis and characterization of trace evidence.
Effective: Spring 2008
Prerequisite: CHEM 213 and CHEM 227

GD 403W
Graphic Design Seminar (3) A seminar on subjects which relate to the field of graphic design.
Effective: Fall 2007
Prerequisite: GD 302

GEOEE 404W
Surface and Interfacial Phenomena in Geo-Environmental Systems (3) Principles underlying surface and interfacial phenomena with application to mineral processing and geo-environmental systems.
Effective: Fall 2009
Prerequisite: or concurrent: EME 301 or MATSE 401 ; GEOEE 412

GEOG 310W
Introduction to Global Climatic Systems (3) Introduction to global atmospheric circulation, including tropical, midlatitude and polar subsystems; ocean, land, cryospheric and urban climatic systems and interactions.
Effective: Spring 2007
Prerequisite: GEOG 010 or METEO 003

GEOG 411W
Forest Geography (3) This course studies processes that control spatial and temporal change in forests.
Effective: Fall 2007
Prerequisite: GEOG 010 GEOG 111 ; or BIOL 220W

GEOG 412W
Climatic Change and Variability (3) Theories and observations of past, present, and future climatic change and variability; introduction to techniques used in climatic change research.
Effective: Spring 2007
Prerequisite: GEOG 110 or METEO 003

GEOG 420Y (US;IL)
Metropolitan Analysis (3) Theory and practice of regional and metropolitan analysis.
Effective: Spring 2007
Prerequisite: GEOG 120 GEOG 160

GEOG 423Y (US)
Historical Geography of North America (3) Exploration, settlement, and changing patterns of human occupance from the seventeenth century to the 1930's.
Effective: Spring 2007
Prerequisite: GEOG 122 3 additional credits in geography or 6 credits

GEOG 426Y (WMNST 426Y) (US;IL)
Gender and Geography (3) Description and explanation of the links between gender relations and spatial structures.
Effective: Spring 2007
Prerequisite: GEOG 020 GEOG 126 GEOG 120 WMNST 001 or WMNST 187

GEOG 438W
Human Dimensions of Global Warming (3) Human dimensions of global environmental change: human causes; human adaptations; and policy implications of global warming.
Effective: Fall 2008
Prerequisite: EARTH 002 GEOG 010 or METEO 003 ; GEOG 030

GEOG 461W
Dynamic Cartographic Representation (3) Theory and practice of mapping and geo-representation in a hypermedia context. Applications in science, policy, travel, and education.
Effective: Fall 2007
Prerequisite: GEOG 361 GEOG 330 GEOG 362 GEOG 363

GEOSC 402Y (IL)
Natural Disasters (3) Case studies of the causes and consequences of natural disasters; analysis of disaster impact in different economic, cultural, and social conditions.
Effective: Summer 2005
Prerequisite: fourth-semester standing

GEOSC 409W
Geomicrobiology (3) Investigation of modern and ancient microbial interactions with soils, sediments, the atmosphere, minerals, rocks, nutrients, and pollutants.
Effective: Summer 2008
Prerequisite: CHEM 112 ; GEOSC 001 GEOSC 020 GEOSC 040 EARTH 002 BIOL 110 or MICRB 201

GEOSC 413W
Techniques in Environmental Geochemistry (3) This course teaches techniques needed for the collection, chemical analysis, and data analysis of environmental geochemical measurements. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: one of the following: C E 475 CHEM 402 GEOSC 202 GEOSC 412 SOILS 419

GEOSC 470W

Introduction to Field Geology (3) Field interpretation of geologic features; principles and techniques of geologic mapping; interpretation of geologic maps and diagrams. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: GEOSC 001 ; fifth-semester standing

GEOSC 475W (METEO 475W)
Global Biogeochemical Cycles (3) The study of earth's major global biogeochemical cycles (carbon, oxygen, nitrogen, phosphorus, and sulfur) in the context of the climate system.
Effective: Summer 2007
Prerequisite: MATH 110 and MATH 111 or MATH 140 and MATH 141 and CHEM 110

GEOSC 494M
Senior Thesis (1-4) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2007
Prerequisite: seventh-semester standing

GEOSC 494W
Senior Thesis (1-4) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Spring 2001
Prerequisite: seventh-semester standing

GER 208Y (IL)
Business German (4) Intermediate Business German.
Effective: Fall 2006
Prerequisite: GER 003 or GER 008

GER 302W
Intermediate Conversation and Composition II (3) Continuation of oral and written practice in German with extensive work in composition.
Effective: Summer 1994
Prerequisite: GER 301

GER 308Y (IL)
German Business Communication (3) Development of German commerce and industry; extensive practice in the major forms of business communications such as business correspondence.
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent: GER 301

GER 401Y (IL)
Advanced Composition (3) Intensive practice in writing different text types in German.
Effective: Spring 2006
Prerequisite: GER 301

H P A 301W
Health Services Policy Issues (3) Analysis of major issues in health services delivery in hospitals, medical practice, public health, mental health, and health professional education.
Effective: Spring 2001
Prerequisite: ECON 002 H P A 101 PL SC 001

H P A 390W
Professional Development in Health Policy and Administration (3) Development of personal understanding and professional skills to prepare students for future employment or study in health policy and administration.
Effective: Spring 2001
Prerequisite: H P A 101

H P A 445W (ECON 445W)
Health Economics (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.
Effective: Spring 2008
Prerequisite: ECON 302 ECON 315 or ECON 323

HD FS 287W (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287X (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287Y (GS;US)
Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 310M
Seminar in Honors--Research Methods (3) Overview of research and methods issues tailored around development of honors thesis proposals.
Effective: Spring 1998
Prerequisite: permission of Human Development and Family Studies honors adviser

HD FS 312W
Empirical Inquiry in Human Development (3) Introduction to the skills involved in critical thinking in general and the methods of empirical inquiry in particular. Open to HD FS majors only.
Effective: Spring 2001
Prerequisite: a grade of C or better required in EDPSY 101 or STAT 200

HD FS 315Y (US)
Family Development (3) Family functions over the life course; family from a

multidisciplinary perspective, emphasizing adaptation and change.
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

HIST 020Y (GH;US)
American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 021Y (GH;US)
American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 117M (WMNST 117M) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HIST 153Y (GH;US)
The Indian in North America (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 301W
Scope and Methods of History (3) A course designed to introduce students to the analysis, methods, and practices of historical writing and research.
Effective: Spring 2008
Prerequisite: 3 credits in history

HIST 302W
Undergraduate Seminar (3) Thematic or topical investigation; emphasis on historical criticism and analysis.
Effective: Fall 1995
Prerequisite: 6 credits in history at the 400 level

HIST 320W
Contemporary World History and Issues (3) Aspects of global history in 20th and 21st centuries and study of selected trends and controversies.
Effective: Spring 2008

HIST 404Y (IL)
Rome and Hellenism (3) The impact of traditional Greek culture on ancient Italian society in the age (ca. 300-30 B.C.) of Roman imperial expansion.
Effective: Spring 2006
Prerequisite: HIST 100 HIST 101 or CAMS 033

HIST 405Y (IL)
The Roman Empire (3) The political and social history of the Roman empire;

economic institutions and religious groups which influenced Roman administration.
Effective: Spring 2006
Prerequisite: HIST 001 HIST 101 or 3 credits in classical studies

HIST 406W
Research in Medieval Sources (3) Guided research in the literature of medieval Europe.
Effective: Spring 2008
Prerequisite: HIST 001

HIST 409Y (J ST 409Y, RL ST 407Y) (IL)
European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

HIST 418W (IL)
The French Revolution and the Napoleonic Era (3) Developments of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.
Effective: Spring 2008
Prerequisite: HIST 002

HIST 420W (IL)
Recent European History (3) Impact of two World Wars in twentieth century; social conflict and economic catastrophe; political radicalism; post-1945 recovery and cooperation.
Effective: Spring 2008
Prerequisite: 3 credits in European history

HIST 444W (US)
The United States in Civil War and Reconstruction--1850-1877 (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of reconstruction.
Effective: Spring 2008
Prerequisite: HIST 130 or HIST 020

HIST 456Y (US)
The Social History of American Vernacular Building, 1607-1980 (3) Social, historical, and cultural context of American building including settlements, housing, workplaces, stores, recreational facilities; changes over time.
Effective: Spring 2006
Prerequisite: 3 credits in American history

HIST 458Y (LER 458Y) (US)
History of Work in America (3) A study of selected problems in the history of work in the United States, especially since 1877.
Effective: Spring 2008
Prerequisite: HIST 021 HIST 156 or LER 100

HIST 459Y (US)

Social and Cultural History of the United States Since 1783 (3) Role of immigration, social reform movements, religion, education, science, literature, and the arts in American history.
Effective: Spring 2006

HIST 471Y (RL ST 471Y) (IL)
Classical Islamic Civilization, 600-1258 (3) Pre-Islamic Arabia; Muhammad; Arab conquests; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.
Effective: Fall 2006

HIST 475Y (IL)
The Making and Emergence of Modern India (3) India's transition to social, economic, and political modernity through the experience of British colonial rule and the nationalist struggle.
Effective: Spring 2006
Prerequisite: HIST 010 HIST 011 HIST 172 HIST 175 HIST 176 HIST 181 or HIST 191

HIST 484Y (IL)
History of Chinese Thought (3) A study of the dynamic historical development of Chinese thought with its diverse expressions from antiquity to the present.
Effective: Spring 2006
Prerequisite: HIST 174 or HIST 175

HIST 485Y (IL)
Nineteenth-Century China (3) Ch'ing society and institutions; "opening" to the west; imperialism; domestic upheaval and its effect upon Chinese society; reform movements.
Effective: Spring 2006
Prerequisite: HIST 175 or HIST 300H (Honors in East Asian history)

HONOR 494M
Interdisciplinary Writing and Thesis Formulation (2) Seminar to help students approach interdisciplinary analysis, writing as interpretive process, and how to formulate a thesis project and proposal.
Effective: Summer 1999 Ending: Summer 2010
Prerequisite: enrollment in the Penn State Harrisburg Honors Program

HONOR 494M
Interdisciplinary Writing and Thesis Formulation (2) Seminar to help students with interdisciplinary analysis, writing, and formulation of honors projects and proposals.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

HORT 402W
Plant Nutrition (3) Mineral nutrition of higher plants, including nutrient acquisition, transport, metabolism, and practical implications.
Effective: Spring 2003

Prerequisite: HORT 315 or BIOL 441 SOILS 101

HORT 410W

Issues in Landscape Contracting (3) This will be a survey of business management, regulatory, and environmental issues facing the landscape contracting profession. Laboratory.
Effective: Summer 1998
Prerequisite: HORT 408

HORT 412W

Post-Harvest Physiology (3) Harvesting, handling, storage, and transportation of horticultural crops; primary emphasis on physiological response to pre- and post-harvest environmental factors.
Effective: Spring 2001
Prerequisite: 6 credits in horticulture or other plant sciences

HORT 430W

Landscape Maintenance and Management (3) Principles and practices in the maintenance and management of landscaped areas.
Effective: Spring 2001
Prerequisite: HORT 101 ; HORT 137 or HORT 138

HORT 440W

Plant Water Relations (3) Fundamentals of plant water relations including acquisition, transport, conservation, response to drought, measurement of water status, relationship to productivity, interaction with mineral nutrition, and use of equipment.
Effective: Spring 2003
Prerequisite: BIOL 441 or BIOL 446 or permission of department

HRIM 295W

Analysis of Field Experience I (3) Capstone class integrating content from throughout the previous curriculum, including directed written analysis of the 500-hour hospitality working experience.
Effective: Spring 2008
Prerequisite: HRIM 201 HRIM 204 HRIM 250 HRIM 335 and HRIM 380

HRIM 395W

Practicum Analysis (3) Written analysis comparing and contrasting conceptual issues in the hospitality industry.
Effective: Spring 2004
Prerequisite: HRIM 201 1000 hours of adviser-approved professional hospitality experience

HRIM 490W

Strategic Hospitality Management (3) This capstone writing-intensive class integrates content from throughout the previous curriculum, focusing on strategic application to current industry issues.
Effective: Fall 2007 Ending: Summer 2010
Prerequisite: HRIM 365 HRIM 435 HRIM 442

HRIM 490W
Strategic Hospitality Management (3) This capstone writing-intensive class integrates content from throughout the previous curriculum, focusing on strategic application to current industry issues.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better for HRIM 365 HRIM 435 HRIM 442

I E 480W
Capstone Design Project (3) Industry-based senior capstone design project emphasizing manufacturing systems, service systems, and information systems in an interdisciplinary setting.
Effective: Spring 2009
Prerequisite: I E 302 I E 327 I E 323 I E 305 I E 330 I E 405

I H S 495W
Industrial Health and Safety Internship (2) The preparation of a technical report on hazard assessment and control, resulting from experiential education gained at industrial worksites.
Effective: Fall 2009
Prerequisite: junior or senior standing

I HUM 300W
Interpretations in the Humanities (3) A study of selected themes, topics, or periods that introduces students to interdisciplinary approaches to knowledge, interpretation, and creative expression.
Effective: Fall 2001
Prerequisite: ENGL 015 ENGL 202 and at least 30 credits

INART 100W (GA)
Seminar in Integrative Arts (3) A study of various arts with emphasis on comparison, contrast, and other aspects of interrelation. Topics will change each semester.
Effective: Spring 2004

INS 310W
Property and Liability Insurance Market (3) Property and liability insurance industry and company operations.
Effective: Spring 1996
Prerequisite: INS 301

IST 260W
Introduction to Systems Analysis and Design (3) Introduction to systems analysis and design, stressing the process of requirements acquisition, specification, design, and implementation.
Effective: Spring 2010
Prerequisite: IST 110 IST 210 IST 220 and ENGL 015

IST 440W
Information Sciences and Technology Integration and Problem Solving (3) Problem-based approach to technology integration by focussing on real-life problems faced by an organization.

Effective: Fall 2002
Prerequisite: ENGL 202C or ENGL 202D seventh-semester standing (this course is intended for seniors) and the five common course requirements plus at least three of the required courses in an option

IT 330W
Greatest Books of Italian Literature (3) A survey of the greatest books of Italian literature (prose, poetry, drama). Time period varies each semester. In Italian.
Effective: Summer 2006
Prerequisite: IT 003 IT 020 or permission of program

J ST 409Y (HIST 409Y, RL ST 407Y) (IL)
European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

JAPNS 403Y (IL)
Practical Written Communication: Japanese for Professional and Academic Purposes I (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.
Effective: Spring 2010
Prerequisite: JAPNS 402

KINES 438W
Administration and Issues in Athletic Training (3) Theoretical and practical aspects for management of an Athletic Training professional practice and identifying contemporary issues related to the profession.
Effective: Fall 2006
Prerequisite: KINES 436

KINES 439W
Ethics in Sport and Sport Management (3) Analysis of moral dilemmas in sport and sport management utilizing the tools of ethics.
Effective: Spring 2001
Prerequisite: KINES 345 or 3 credits in humanities

KINES 461W
Preparation for Research Project (2) Planning and preparation for research project.
Effective: Fall 2006
Prerequisite: KINES 180 KINES 260 STAT 200 KINES 321 KINES 345 KINES 350 KINES 360 KINES 384

KINES 462W
Research Project (2) Completion of research topic.
Effective: Fall 2006
Prerequisite: KINES 461W

KINES 469W
Curriculum Development in Health and Physical Education (3) The content and

process of K-12 school health and physical education curriculum development for public school students.
Effective: Fall 2006
Prerequisite: KINES 362 KINES 364 KINES 366

KINES 481W
Scientific Basis of Exercise for Older Adults (3) Study of age-associated physical changes and the effects of exercise on the aging process.
Effective: Spring 2001
Prerequisite: KINES 350

KINES 492W
Programming for Business and Agencies (3) Fundamentals of program development applied to corporate and private physical fitness businesses.
Effective: Fall 2006
Prerequisite: KINES 395B

LARCH 361W
Historic Issues in Landscape Architecture (3) A review of design history (precedent studies), an introduction to historic method, history as an informant to design, reading the historic landscape, and issues of preservation and restoration. Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 060

LATIN 450W
History of Latin (3) History of the Latin language and its speakers, from their origins to the 2nd century C.E.
Effective: Summer 1994
Prerequisite: LING 102 ; LATIN 401 LATIN 402 or LATIN 403

LAWUN 382W
Legal Writing (3) Intensive writing, editing, and oral advocacy course focusing on drafting legal memoranda and briefs.
Effective: Summer 2003

LER 414W
Labor and Employment Relations Theory (3) Content and implications of major and minor theories of Labor and Employment Relations.
Effective: Spring 2008
Prerequisite: 6 credits in Labor and Employment Relations

LER 437W
Work Dispute Resolution (3) Dispute resolution practices and procedures used in the workplace and employment law settings.
Effective: Spring 2008
Prerequisite: LER 100

LER 445Y (AAA S 445Y, PL SC 445Y) (US)
Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.

Effective: Spring 2008
Prerequisite: AAA S 100 level course and PL SC 001 or PL SC 007

LER 458Y (HIST 458Y) (US)
History of Work in America (3) A study of selected problems in the history of work in the United States, especially since 1877.
Effective: Spring 2008
Prerequisite: HIST 021 HIST 156 or LER 100

LL ED 412W
Teaching Language Arts in Secondary Schools II (3) Exploration of language, literacy, and culture and development of curricular designs for teaching language arts in secondary schools.
Effective: Summer 2010
Prerequisite: LL ED 411

M E 345W
Instrumentation, Measurements, and Statistics (4) Measurement concepts, probability and statistics, error analysis; electro- mechanical transducers, applied electrical and mechanical measurements, electrical and electronics instruments, data acquisition and instrumentation systems.
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent: E E 212 or E E 211 or equivalent

M E 440W
Mechanical Systems Design Project (3) Design and analysis of mechanical components and systems. Application of fundamental design and analysis methods to open ended engineering problems.
Effective: Fall 2007
Prerequisite: ENGL 202C I E 312 M E 360 M E 370 M E 340

M E 441W
Thermal Systems Design Project (3) Design of thermal systems through component design and/or selection, system simulation and optimization. Assessment of system economics and energy efficiency.
Effective: Fall 2007
Prerequisite: ENGL 202C M E 340 M E 410

M E 442W
Advanced Vehicle Design I (2) Part one of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical Elective requirements (when combined with M E 443W).
Effective: Summer 2010
Prerequisite: ENGL 202C I E 312 M E 340 M E 360 M E 370

M E 443W
Advanced Vehicle Design II (1) Part two of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical Elective requirements (when combined with M E 442W).

Effective: Summer 2010
Prerequisite: M E 442W

MAE T 204W
Structure Characterization Laboratory (3) A hands-on experience course with emphasis on equipment and lab techniques used for microstructural evaluation of metals.
Effective: Summer 2007
Prerequisite: MAE T 201 CHEM 111 PHYS 150

MATH 311M
Honors Concepts of Discrete Mathematics (3) Basic methods of mathematical thinking and fundamental mathematical structures, primarily in the context of numbers, groups, and symmetries.
Effective: Spring 2006
Prerequisite: MATH 141

MATH 311W
Concepts of Discrete Mathematics (3-4) Introduction to mathematical proofs; elementary number theory and group theory. Students who have passed CMPSC 360 may not schedule this course for credit.
Effective: Spring 2007
Prerequisite: MATH 141

MATH 475W (US;IL)
History of Mathematics (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.
Effective: Spring 2010
Prerequisite: MATH 141

MATSE 484W (IL)
International Internship in Materials: Research Definition and Methodology (3) A course focused on international research, specific design and methodology, facilitated through the International Internship in Materials and Program.
Effective: Summer 2006
Prerequisite: Sixth-semester standing in Materials Science and Engineering; MATSE 201 MATSE 460 MATSE 492W satisfactory completion of cultural class from Office of Education Abroad

MATSE 485W (IL)
International Internship in Materials: Experimentation and Documentation (3) A course focused on international research, specifically experimentation and documentation, facilitated through the International Internship in Materials Program.
Effective: Summer 2006
Prerequisite: Seventh-semester standing in Materials Science and Engineering; MATSE 484W ; satisfactory completion of cultural class from Office of Education Abroad

MATSE 492W

Materials Engineering Methodology and Design (3) Designed to familiarize students with the literature and technology developments in the use of, and design with, materials in industrial applications.
Effective: Fall 2005
Prerequisite: sixth semester standing in Materials Science and Engineering

MATSE 494M
Research and Design Senior Project (1-3) Continuation of a research problem in materials culminating in a bound thesis describing the work.
Effective: Fall 2007

MATSE 494W
Research and Design Senior Project (1-3) Continuation of a research problem in materials culminating in a bound thesis describing the work.
Effective: Spring 2006

MET 210W
Machine Design (3) Design machine elements including bearings, springs, levers, shafts, gears, belts, and small mechanical devices; writing skills and computer applications.
Effective: Spring 2008
Prerequisite: MET 206 or E MCH 212 ; MCH T 213 or E MCH 213 or ET 322 or EMET 322

MET 331W
Heat Transfer (4) Introduction for technologists to the basic concepts and applications of heat transfer. Includes a thermodynamics and heat transfer laboratory.
Effective: Fall 2007
Prerequisite: M E 300 or MET 330 . Prerequisite or concurrent: MET 341

METEO 418W
Topics in Mesoscale Meteorology (3) Topics in mesoscale meteorology will be investigated in an independent study environment through computer-based modules, papers, and semester project.
Effective: Fall 1995
Prerequisite: METEO 414

METEO 440W
Principles of Atmospheric Measurements (3) Theory and practices used in measurement and analysis of meteorological variables.
Effective: Summer 2006 Ending: Summer 2010
Prerequisite: METEO 300 METEO 431 STAT 301 or STAT 401 or ENNEC 472

METEO 440W
Principles of Atmospheric Measurements (3) Theory and practices used in measurement and analysis of meteorological variables.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: METEO 300 METEO 431 STAT 301 or STAT 401 or E B F 472

METEO 471W

Observing Meteorological Phenomena (3) Teaching the observational and interpretative skills needed to read the sky.
Effective: Spring 1999
Prerequisite: METEO 421 . Prerequisite or concurrent: METEO 436

METEO 472W
Topics in Climatology (3) Selected topics of current interest in physical and dynamic climatology and climatic change.
Effective: Summer 2002

METEO 475W (GEOSC 475W)
Global Biogeochemical Cycles (3) The study of Earth's major global biogeochemical cycles (carbon, oxygen, nitrogen, phosphorus, and sulfur) in the context of the climate system.
Effective: Summer 2007
Prerequisite: MATH 110 and MATH 111 or MATH 140 and MATH 141 and CHEM 110

METEO 480M
Undergraduate Research (3) A research thesis will be prepared. A written and oral presentation required.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: junior or senior standing as a Meteorology Major

METEO 480M
Undergraduate Research (3) A research thesis will be prepared. A written and oral presentation required.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011
Prerequisite: junior or senior standing as a Meteorology Major

METEO 480W
Undergraduate Research (3) A research thesis will be prepared. A written and oral presentation required.
Effective: Summer 1991
Prerequisite: junior or senior standing as a Meteorology Major

MFET 210W
Product Design for Manufacturing (3) Design of mechanical parts and assemblies for manufacturing with writing skills.
Effective: Fall 2007
Prerequisite: MCH T 213 IET 101 EG T 114

MFTBD 061W
Plastics Processing Equipment and Operation (4) Mechanical, hydraulic/pneumatic, and electrical aspects of plastic processing equipment are discussed.
Effective: Summer 1999
Prerequisite: MFTBD 060

MGMT 100W
Survey of Management (3) Introduction to organizational factors relevant to

management processes, including leadership, motivation, job design, technology, organizational design and environments, systems, change. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 304 or MGMT 301.
Effective: Summer 1993

MGMT 301W
Basic Management Concepts (3) Examination of fundamental principles and processes applicable to the study of managment. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 304.
Effective: Summer 2003 Ending: Summer 2010
Prerequisite: ENGL 015 ; MATH 021 ; ECON 002 or ECON 004

MGMT 301W
Basic Management Concepts (3) Examination of fundamental principles and processes applicable to the study of management. Not availabe to students who have taken B A 304.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030 ; ECON 002 or ECON 004 ; MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MGMT 451W
Business, Ethics, and Society (3) Advanced examination of social, ethical, legal, economic, equity, environmental, public policy, and political influences on managerial decisions and strategies.
Effective: Spring 2004
Prerequisite: B A 241 and B A 242 or B A 243

MGMT 471W
Strategic Management and Business Policy (3) Study of strategic management and business policy formulation and implementation processes.
Effective: Spring 2008
Prerequisite: MGMT 301 MKTG 301 FIN 301 SCM 301

MGMT 475W
Strategic Product Development (3) Study of an organization, industry, and evaluation of the introduction to a new product. Preparation of proposal for industry product.
Effective: Summer 2008
Prerequisite: 7th semester standing; MGMT 300 ; FIN 301 ; SCM 310 ; MKTG 301 ; M E 300 or MET 330 ; MCH T 213 or E MCH 213 ; EET 101 or E E 211

MICRB 151W
Seminar and Practicum for Medical Laboratory Technicians--Clinical Microbiology (6) Properties of normal and abnormal human microbial flora and procedures for their identification.
Effective: Summer 2007
Prerequisite: BIOL 141 CHEM 202 MICRB 150 MICRB 201 MICRB 202

MICRB 421W

Laboratory of General and Applied Microbiology (3) Laboratory exercises demonstrating fundamental techniques and principles of experimentation of general and applied microbiology.
Effective: Spring 2001
Prerequisite: MICRB 201 MICRB 202

MIS 479W
Management of Operations Information/ERP (3) Management and implementation of enterprise information systems for business integration and supply chain management.
Effective: Spring 2008
Prerequisite: MIS 390 or MIS 431

MKTG 221W
Contemporary American Marketing (3) Social and economic aspects; movement of goods and services from producers to consumers; analysis of marketing functions, systems, and institutions. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 303 or MKTG 301.
Effective: Spring 1993
Prerequisite: 3 credits in economics

MKTG 301W
Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken BA 303.
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: ENGL 015 MATH 021 ; ECON 002 or ECON 004

MKTG 301W
Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken BA 303.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030 ; ECON 002 or ECON 004 ; MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MKTG 450W
Marketing Strategy (3) Market-oriented problems of the firm; identification and selection of market opportunities; formulation of competitive strategies; marketing policies and programs.
Effective: Spring 2008
Prerequisite: MKTG 330 MKTG 342

MNG 451W
Mining Engineering Project (1-5) Independent and integrative design and report of specific mine evaluation, layout, equipment selection, environmental control, permitting, and financial analysis.
Effective: Spring 1999
Prerequisite: seventh-semester standing in mining engineering plus six months of mining work experience

MNG T 205W
Mining Systems Technology (3) Comparison of mining methods with focus on preventative maintenance, coal transport, and estimating production and manpower needs.
Effective: Summer 2006
Prerequisite: MNG T 030

MTHED 412W
Teaching Secondary Mathematics II (3) Assessing learning and instruction; methods of evaluation and grading; long- term planning; accommodating needs of diverse learners; connecting theory and practice.
Effective: Summer 2010
Prerequisite: a grade of C or better in MTHED 411

MUSIC 441W
Capstone Experience in Elementary General and Choral Music (3) Selection and application of materials, methods, teaching and assessment strategies for elementary general and choral music settings.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345 MUSIC 395B

MUSIC 441W
Emphasis in Elementary General and Choral Music (3) Selection and application of materials, methods, teaching and assessment strategies for elementary general and choral music settings.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345 MUSIC 395B

MUSIC 442W
Capstone Experience in Middle School General and Choral Music (3) Capstone experience to teaching in general and choral middle school settings.
Effective: Fall 2007
Prerequisite: Limited to Music Education Majors. MUSIC 345 MUSIC 395B

MUSIC 444W
Capstone Experiences in Elementary and Intermediate Band (3) Examination and application of teaching strategies and materials for students planning to teach band in the elementary and middle schools.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MUSIC 345 MUSIC 395A MUSIC 366 piano proficiency passes

MUSIC 444W
Emphasis in Elementary and Intermediate Band (3) Examination and application of teaching strategies and materials for students planning to teach band in the elementary and middle schools.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345 MUSIC 395A MUSIC 366 piano proficiency passes

MUSIC 445W
Capstone Experiences in High School Band (3) Examination and application of

teaching strategies and materials for students planning to teach high school bands.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345 MUSIC 395B

MUSIC 445W
Emphasis in High School Band (3) Examination and application of teaching strategies and materials for students planning to teach high school bands.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345 MUSIC 395B

MUSIC 446W
Capstone Experiences in Strings and Orchestra (3) Development of teaching techniques for instructing elementary and secondary string/orchestra student musicians for music education majors.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345 MUSIC 395B

MUSIC 446W
Emphasis in Strings and Orchestra (3) Development of teaching techniques for instructing elementary and secondary string/orchestra student musicians for music education majors.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345 MUSIC 395B

MUSIC 461W
Studies in Music History: Antiquity to 1600 (3) In-depth study of selected aspects of music and culture from antiquity to 1600, with emphasis on writing and research.
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 261 MUSIC 331

MUSIC 461W
Studies in Music History: Antiquity to 1600 (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from antiquity to 1600, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 261 MUSIC 331

MUSIC 462W
Studies in Music History: 1550-1750 (3) In-depth study of selected aspects of music and culture from 1550-1750, with emphasis on writing and research.
Effective: Fall 1996 Ending: Summer 2010
Prerequisite: MUSIC 261 MUSIC 331

MUSIC 462W
Studies in Music History: 1550-1750 (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1550-1750, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 261 MUSIC 331

MUSIC 463W
Studies in Music History: 1700-1900 (3) In-depth study of selected aspects of music and culture from 1700-1900, with emphasis on writing and research.
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 262 MUSIC 331

MUSIC 463W
Studies in Music History: 1700-1900 (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1700-1900, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 262 MUSIC 331

MUSIC 464W
Studies in Music History: 1850-Present (3) In-depth study of selected aspects of music and culture from 1850 to the present, with emphasis on writing and research.
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 262 MUSIC 332

MUSIC 464W
Studies in Music History: 1850-Present (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1850 to the present, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 262 MUSIC 332

MUSIC 476W
B.A. Senior Project (3) A semester project appropriate to student's option in B.A. program (e.g., research paper, performance with program notes, or related paper).
Effective: Spring 1992
Prerequisite: seventh-semester standing

NMT 210W
Introduction to Nanofabrication Manufacturing Technology (3) This course provides an overview of basic Nanofabrication Manufacturing Technology for Engineering and Technology students. The course will give the student an overview of atomic physics and the use of atoms to build devices and machines.
Effective: Fall 2003
Prerequisite: E E T 101

NUC E 310W
Issues in Nuclear Engineering (2) Societal and technical issues facing nuclear engineers, including safety, operations, waste, regulation, public acceptance, economics, ethics, and radiation.
Effective: Fall 2001
Prerequisite: fifth-semester standing

NUC E 431W
Nuclear Reactor Core Design Synthesis (4) Technical and economic optimization

of nuclear systems.
Effective: Spring 1994
Prerequisite: ENGL 202C ; NUC E 403 NUC E 430

NURS 200W
Introduction to Nursing Research (3) Introduction to methods and philosophy of empirical inquiry as applied to research in nursing.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: STAT 200 NURS 215 NURS 225 NURS 230 NURS 351 ; or STAT 200 and NURS 390 for NURN major

NURS 200W
Understanding and Applying Nursing Research (3) Introduction to methods and philosophy of empirical inquiry as applied to research in nursing and application to practice.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: STAT 200 or STAT 250 NURS 225 ; or STAT 200 or STAT 250 and NURS 390 for NURN major

NURS 214W
Psychiatric Nursing/Leadership Concepts (5) Care of older adults with complex emotional or physical dysfunctional health patterns while developing the management knowledge base.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 211 NURS 212 . Prerequisie or concurrent: Arts elective and Humanities elective

NURS 214W
Nursing Care of Clients with Psychiatric/Mental Health Disorders (3) Emphasis on care of adults with emotional or dysfunctional mental health patterns.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 212 PSYCH 100

NUTR 490W
Nutrition Seminar (3) Use of selected materials from the scientific literature to prepare a term paper and an oral report.
Effective: Spring 1995
Prerequisite: or concurrent: NUTR 452

O T 105W
Activity Analysis: Group Interaction Skills (3) Group interaction observed and analyzed. Activities to facilitate and enhance interactions practiced.
Effective: Spring 2007
Prerequisite: O T 101 PSYCH 100

O T 412W
Introduction to Research (3) Introduction to quantitative and qualitative research process relative to occupational therapy.
Effective: Spring 2000
Prerequisite: O T 407 O T 408 O T 409 ; STAT 200 or STAT 250

OISM 401W
Statistics and Quality Control (3) Statistical methods for measurement and improvement of quality; topics include statistical inference, process control, and design.
Effective: Spring 2007
Prerequisite: MATH 110 or MATH 140 ; SCM 200

P N G 440W
Formation Evaluation (3) Study of those methods used to evaluate the engineering properties of oil and gas bearing reservoir formations.
Effective: Spring 1999
Prerequisite: P N G 405 P N G 406

P T 270W
Pathophysiology (3) Introduction to the study of disease and those conditions most often treated by physical therapy methods; basic signs, symptoms, and causes of disease and conditions will be covered.
Effective: Fall 2004
Prerequisite: a grade of C or better in BIOL 141 BIOL 142 P T 100 P T 384

P T 280W
Rehabilitation (4) Examination of techniques and laboratory experiences in rehabilitation techniques for the physically challenged.
Effective: Fall 2004
Prerequisite: a grade of C or better in BIOL 141 BIOL 142 P T 150 P T 160 P T 270 P T 384 P T 395E

P T 395W
Physical Therapist Assistant--Practicum I (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist.
Effective: Fall 2004
Prerequisite: a grade of C or better in BIOL 141 BIOL 142 P T 384

PHIL 103W (GH)
Introduction to Ethics (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.
Effective: Fall 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 108W (GH)
Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Summer 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 125W (GH)
Introduction to Theories of Knowledge (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth,

conception, perception, and interpretation.
Effective: Summer 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 126W (GH)
Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Summer 1998
Prerequisite: ENGL 015 or ENGL 030

PHIL 408W
Social and Political Philosophy (3) Historical and philosophical foundations of political organization, authority, and justice, and contemporary issues of rights, community, and culture.
Effective: Fall 1998
Prerequisite: 9 credits in philosophy including PHIL 108 or 6 credits at the 200 level

PHIL 418W
Ethics (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including PHIL 103 or 6 credits of philosophy at the 200 level

PHIL 425W
Epistemology (3) The nature of cognition and perception, the conditions of experience, and the justification and truth of belief.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including PHIL 125 or 6 credits of philosophy at the 200 level; in addition to ENGL 015 or ENGL 030

PHIL 426W
Metaphysics (3) Examines the nature of reality, the existence of freedom, and the nature of matter, mind, and values.
Effective: Summer 1998
Prerequisite: 9 credits in philosophy including PHIL 126 or 6 credits of philosophy at the 200 level

PHYS 421W
Research Methods in Physics (3) Methodology focusing on the theory of measurement and experiment design.
Effective: Spring 2007
Prerequisite: PHYS 237

PHYS 457W
Experimental Physics (3) Selected experiments in various fields in physics.
Effective: Spring 2007
Prerequisite: PHYS 212 PHYS 213 PHYS 214 and PHYS 237

PL ET 206W
Plastic Materials and Properties (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics; writing intensive.
Effective: Summer 1996 Ending: Fall 2010
Prerequisite: MCH T 213 PL ET 205

PL ET 206W
Plastic Materials and Properties (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics; writing intensive.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: PL ET 205

PL ET 400W
Plastics Management Issues (3) Study of business management topics as they relate to the plastics industry. Writing intensive.
Effective: Summer 1996
Prerequisite: PL ET 350 PL ET 370

PL SC 017W (GS)
Introduction to Political Theory (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.
Effective: Spring 2001

PL SC 411W
Principles of International Cooperation (3) An exploration of the forces that make conflict, or cooperation, more likely in international relations.
Effective: Summer 2006
Prerequisite: PL SC 014

PL SC 418W
International Relations Theory (3) A survey of traditional and contemporary conceptual frameworks and theoretical approaches for the analysis of international relations.
Effective: Spring 1999
Prerequisite: PL SC 014

PL SC 430W
Selected Works in the History of Political Theory (3) Detailed examination and analysis of a selected major work, thinker, or tradition in the history of political theory.
Effective: Spring 2008
Prerequisite: PL SC 017 or PL SC 007

PL SC 435W
Foundations of American Political Theory (3) Political theories of the revolutionary and constitutional periods presented through works of selected political thinkers and political issues.
Effective: Spring 2001
Prerequisite: PL SC 001 PL SC 017 or PL SC 007

PL SC 445Y (AAA S 445Y, LER 445Y) (US)
Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course and PL SC 001 or PL SC 007

PL SC 470W
Legal Brief Writing (3) Writing of legal briefs as practiced in American courts.
Effective: Spring 1998
Prerequisite: PL SC 001

PL SC 480W
Congress and the Presidency (3) Basic characteristics and processes of the national legislature and executive; roles and interaction of these institutions in the policy process.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 484W
The Foreign Policy of Soviet Successor States (3) Relations between Russia and The Newly Independent States (NIS); Russia's relations with selected foreign states and political Institutions; regional impact of the NIS in Baltic, Asian, and Central Asian areas.
Effective: Fall 2007
Prerequisite: PL SC 003

PSYCH 301W
Basic Research Methods in Psychology (4) Introduction to methods of psychological research, with special attention to hypothesis formation and testing, threats to validity, and data presentation.
Effective: Spring 2007
Prerequisite: PSYCH 100 ; PSYCH 200 or STAT 200

PSYCH 302W
Critical Thinking and Writing in Psychology (4) This course aims to teach psychology majors to think critically and to write clearly using APA writing style.
Effective: Spring 2007
Prerequisite: Psychology major a grade of C or better in ENGL 202A

PSYCH 406W
Advanced Research Projects in Psychology (4) Advanced methodology focusing on the logic and practice of research culminating in the completion of a student designed research project.
Effective: Spring 2007
Prerequisite: PSYCH 301W

PUBPL 304W
Public Policy Analysis (3) The use of analytic models for describing and explaining the forces shaping policy and the consequence of policy decisions.
Effective: Spring 2004

R SOC 305W
Leadership for Social Change (3) Exploration, analysis, understanding, and application of leadership skills and concepts in groups, organizations, and communities.
Effective: Spring 1988
Prerequisite: 6 credits in social or behavioral sciences

RADSC 210W
Radiographic Pathology (3) Writing intensive study of theories of disease causation and the pathophysio- logic disorders compromising health systems with emphasis on radiographic presentation.
Effective: Fall 2002
Prerequisite: BIOL 129 BIOL 141

RHS 400W
Case Management and Communication Skills (3) Principles and practices of obtaining, recording, evaluating, and utilizing case data in rehabilitation planning; implementation of rehabilitation plans.
Effective: Spring 2009
Prerequisite: RHS 300

RL ST 125W (GH)
Modern Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the sixteenth century to the present.
Effective: Summer 1995

RL ST 132W
Sects and Cults (3) The origins, beliefs, and practices of new or dissenting religious groups and their relationship to the dominant religious culture.
Effective: Spring 1994

RL ST 140Y (AM ST 140Y) (GH;US)
Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

RL ST 407Y (HIST 409Y, J ST 409Y) (IL)
European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

RL ST 440Y (RUS 440Y) (US;IL)
The Orthodox Christian Tradition (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.
Effective: Spring 2006
Prerequisite: RL ST 004 RL ST 124 RL ST 125 RUS 100 or RUS 110

RL ST 471Y (HIST 471Y) (IL)
Classical Islamic Civilization, 600-1258 (3) Pre-Islamic Arabia; Muhammad; Arab conquest; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.

Effective: Spring 2006

RPTM 300Y (IL)
Tourism and Leisure Behavior (3) Examination of the impact of recreational sociocultural, governmental, economic, and physical environment on the leisure traveler within the tourism industry.
Effective: Summer 2005

RPTM 433W
Program Evaluation and Research in Recreation Services (3) Systematic, structured problem-solving process for decision making in recreation and parks. Research techniques/evaluation procedures; quantitative, qualitative methodologies; deductive, inductive reasoning.
Effective: Spring 2005
Prerequisite: RPTM 356 3 credits in statistics

RUS 141Y (IL)
Russian Literature in English Translation: 1800-1870 (3) Pushkin, Lermontov, Gogol, the critics, Turgenev, Dostoevsky, Tolstoy. Writing assignments will serve as a major way of exploring subject matter.
Effective: Spring 2006

RUS 142Y (IL)
Russian Literature in English Translation: 1870 to Present (3) Dostoevsky, Tolstoy, Chekhov, Gorky, symbolists, selected Soviet authors. Writing assignments will serve as a major way of exploring subject matter.
Effective: Spring 2006

RUS 440Y (RL ST 440Y) (US;IL)
The Orthodox Christian Tradition (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.
Effective: Spring 2006
Prerequisite: RL ST 004 RL ST 124 RL ST 125 RUS 100 or RUS 110

S T S 427W (CED 427W, SOC 427W)
Society and Natural Resources (3) Analysis of the relationship between societal development and enhancement and natural resources.
Effective: Summer 2008
Prerequisite: R SOC 011 or SOC 001

SCM 406W
Strategic Procurement (3) Analysis of strategic procurement in the supply chain.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

SO SC 480W
Quantitative Methods in the Social Sciences (4) Students will learn to conduct, analyze and write up quantitative social scientific research according to appropriate professional standards.
Effective: Spring 2008
Prerequisite: permission of program

SOC 001W (GS)
Introductory Sociology (3) The nature and characteristics of human societies and social life.
Effective: Fall 1998

SOC 287W
Intercultural Community Building (3) An intercultural analysis of diversity issues.
Effective: Spring 2005

SOC 400W
Senior Research Seminar (3) Major concepts and principles of sociology through reading, data analysis, and writing. Capstone course for senior Sociology majors.
Effective: Fall 2001
Prerequisite: SOC 470

SOC 427W (CED 427W, S T S 427W)
Society and Natural Resources (3) Analysis of the relationships between societal development and enhancement and natural resources.
Effective: Summer 2008
Prerequisite: R SOC 011 or SOC 001

SOILS 412W
Soil Ecology (3) Introduction to soil organisms; includes interactions between organisms, their processes, and metabolism with a major focus on microorganisms.
Effective: Spring 2008
Prerequisite: BIOL 011 BIOL 127 or BIOL 110

SPAN 131Y (GH;US;IL)
Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 253W
Introduction to Hispanic Literature (3) Introduction to generic distinctions, critical methods, and approaches to Hispanic literature.
Effective: Spring 2008
Prerequisite: SPAN 100 and SPAN 110

SPLED 395W
Observing in Exceptional Settings (3) Observations of exceptional persons and techniques used by their teachers in a variety of settings, e.g., school, day care, vocational.
Effective: Summer 1997
Prerequisite: EDPSY 101 . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)

SS ED 412W
Teaching Secondary Social Studies II (3) Writing-intensive course focusing on

study of the social studies teacher's role in planning instruction; strategies for teaching.
Effective: Summer 2010
Prerequisite: SS ED 411

SS ED 430W
Teaching Social Studies in the Elementary Grades (3) Principles underlying use of social studies in the elementary school; practical demonstration of desirable methods.
Effective: Spring 2007
Prerequisite: LL ED 400 LL ED 401 LL ED 402 PSYCH 212 nine credits in history and the social sciences

STAT 470W
Problem Solving and Communication in Applied Statistics (3) Provide problem solving and communication skills through development of writing ability, interaction with peers and the SCC, and oral presentations.
Effective: Spring 2000
Prerequisite: STAT 460 STAT 462 STAT 480

SUR 372W
Legal Aspects of Land Surveying (3) Legal research; rules of evidence including classification and evaluation; unwritten rights; land description composition; easements.
Effective: Spring 1994
Prerequisite: SUR 272

SWENG 452W
Embedded Real Time Systems (3) The design and implementation of real time systems.
Effective: Summer 2008
Prerequisite: CMPSC 472 or CMPSC 473 or CMPEN 441

TELCM 241W
Telecommunications Switching and Data (3) An advanced discussion of switching principles present in today's telephone and data systems environment; traffic theory for telephone and data systems is included.
Effective: Summer 1997
Prerequisite: ENGL 015 TELCM 140

THEA 401Y (IL)
Theatre History I: Ancient to 1700 (3) Survey of drama and theatre from primitive rites through the Renaissance.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

THEA 402W
Theatre History II: From 1700 to Present (3) Survey of European drama and theatre from the eighteenth century through the modern period.
Effective: Spring 2008
Prerequisite: THEA 100 or THEA 105

TURF 436W
Turfgrass Management Systems (3) Case study and discussion considering integrated management of selected turfgrass sites; emphasis on problem analysis, principle application, and decision making.
Effective: Fall 1995
Prerequisite: TURF 235 TURF 236 TURF 425

VB SC 402W (ENT 402)
Biology of Animal Parasites (3) An intorduction to animal parasitology. Emphasis placed on host/parasite interactions, parasites of zoonotic importance, control programs and taxonomy.
Effective: Spring 2010
Prerequisite: BIOL 110

VB SC 423W
Pathology of Nutritional and Metabolic Diseases (3) Overview of nutritional and metabolic diseases of animals integrating concepts from biochemical and physiologic abberrations to clinical applications.
Effective: Spring 2008
Prerequisite: B M B 211 or B M B 401 AN SC 301 or equivalent nutrition course

VB SC 448W
Current Topics in Immunology (3) Study of current approaches and questions driving research in immunology and infectious diseases.
Effective: Fall 2007
Prerequisite: MICRB 410 B M B 400

W F S 447W
Wildlife Management (3) Management of renewable wildlife resources by applying ecological concepts, habitat evaluation, and decision-making; writing and editing reports are emphasized.
Effective: Fall 2001
Prerequisite: W F S 209 or W F S 309

W F S 463W
Fishery Management (3) Management of sport and commercial fisheries, including biological, political, social, and economic factors; regulations and other management techniques.
Effective: Spring 2001
Prerequisite: W F S 209 W F S 300 W F S 301 W F S 310

W P 200W (FOR 200W)
Professional Careers in Forest Resources (3) Introduction to managing forests for products and services to meet human needs; developing career goals and an academic plan.
Effective: Spring 1996

W P 437W
Wood Industries Marketing Management (4) Examination of major international wood products market segments in terms of products, distribution, industry

structure, and strategic management issues.
Effective: Summer 1997
Prerequisite: W P 200W W P 203

WF ED 207W
Assessment Techniques (3) Assessment, recording, and reporting of learning in an integrated competency based vocational education system.
Effective: Summer 1996
Prerequisite: WF ED 105

WILDL 208M
Terrestrial Wildlife Management (3) Ecological characteristics and manipulation of terrestrial habitats; control of wildlife populations.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: FORT 150 FORT 160 WILDL 101 WILDL 103 WILDL 106 WILDL 204

WILDL 208W
Terrestrial Wildlife Management (3) Ecological characteristics and manipulation of terrestrial habitats; control of wildlife populations.
Effective: Spring 2000
Prerequisite: FORT 150 FORT 160 WILDL 101 WILDL 103 WILDL 106 WILDL 204

WL ED 412W
Methods of Teaching World Languages in Grades 6-12 (3) Exploring the complexity of teaching World Languages and development of curricular designs for teaching World Languages in grades 6-12.
Effective: Spring 2010
Prerequisite: WL ED 411 WL ED 495B

WMNST 117M (HIST 117M) (GH;US;IL)
Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

WMNST 426Y (GEOG 426Y) (US;IL)
Gender and Geography (3) Description and explanation of the links between gender relations and spatial structures; gender and work, social services, and neighborhood activism.
Effective: Spring 2007
Prerequisite: GEOG 020 GEOG 126 GEOG 120 WMNST 001 or WMNST 187

WMNST 476W (ANTH 476W)
Anthropology of Gender (3) Cross-cultural construction of gender and sex roles; theories of gender construction; case studies and practical effects.
Effective: Spring 2001
Prerequisite: 3 credits in women's studies or anthropology

WMNST 492W
Current Feminist Issues (3) Critical analysis of major contemporary feminist research and writing in the arts, humanities, social and natural sciences.

Effective: Spring 2002
Prerequisite: WMNST 301 WMNST 302

First-Year Seminar

For some courses, a more detailed description may be available, accessible by clicking on the course number. All course descriptions are updated periodically.

A E 124S
Architectural Engineering Orientation (1) Introduction to architectural engineering; lectures and discussions with special reference to the relation of architectural engineering to the building industry.
Effective: Fall 1999

A ED 101S
Introduction to Art Education (3) This course introduces students to issues, concepts, and ideas in Art Education.
Effective: Summer 2002

A&A 102S
Art and Design Studio I (3) Provides students with an interdisciplinary introduction to studio work in the arts and design.
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture.

AAA S 083S (GH;US;IL)
First-Year Seminar in African and African American Studies (3) Cultural, philosophical, economic, political, and global dynamics of the Black experience in the United States and the Diaspora.
Effective: Summer 2005

ADTED 100S
Adult Learners in the University (1) Opportunity to develop effective learning strategies while exploring critical issues related to adults entering or returning to higher education.
Effective: Spring 2001

AERSP 001S
Aerospace Explorer--First-Year Seminar (1) First-Year Seminar explores aerodynamics, structural mechanics, flight mechanics, rotorcraft systems, high performance computers, air/space propulsion, and space systems.
Effective: Fall 1999

AERSP 097S
First Year Seminar - Hands on Helicopter (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

AERSP 097S
First Year Seminar - Hands on Helicopter (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of

special interest.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

AG 150S
Be a Master Student! (2) Students explore agricultural issues and research methodologies through literature review, library searches, field studies, and critical thinking.
Effective: Summer 1999
Prerequisite: first- or second-semester standing

AM ST 083S (GH)
First-Year Seminar in American Studies (3) Critical approaches to the interdisciplinary study of American culture.
Effective: Summer 1999

AM ST 187S
Revisiting Jefferson's Washington: Research/Writing/Presentation (3) The in-situ seminar will teach hands-on and electronic research/writing skills in a collaborative/laptop setting.
Effective: Summer 1999

AN SC 110S
Contemporary Issues in Animal Biotechnology and Society (1) An introductory survey of animal biotechnology in society, the role for biotechnology and how it will benefit society.
Effective: Spring 2003

ANTH 083S (GS)
First-Year Seminar in Anthropology (3) This seminar introduces students to anthropology as a scientific discipline with ties to other social and natural sciences.
Effective: Summer 1999

APLNG 083S (GS;US;IL)
First-Year Seminar in Applied Linguistics (3) Introduction to the application of theories of language to cognition, culture, gender, society, and second language acquisition.
Effective: Summer 2005

ARCH 131S
Basic Design Studio I (4) An introduction to the basic concepts, methods, and skills of architectural design in a project-based, active learning, studio environment.
Effective: Summer 2008
Prerequisite: or concurrent ARCH 121

ART 010S (GA)
Introduction to Visual Studies (3) Introduction to visual studies; pictorial space and the principles of visual organization.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ART 020S (GA)

Introduction to Drawing (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ART 110S
Ideas as Visual Images (3) Introduction to the ideational relationships among subject, form, and content in visual images.
Effective: Fall 2002
Prerequisite: portfolio review

ART H 001S (GA)
First-Year Seminar (3) An introduction to the field of art history, through an examination of a selected issue in a seminar setting.
Effective: Fall 2000

ASIA 083S
Asian Studies First Year Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2010

ASTRO 011S (GN)
Elementary Astronomy Laboratory (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: or concurrent: ASTRO 001 or ASTRO 010

ASTRO 020S
First-Year Astronomy Seminar (2) Introduction to the study of modern astronomy through discussions, activities, and writing.
Effective: Summer 1999

AYFCE 211S (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

B A 100S (GS)
Introduction to Business (3) A comprehensive view of the contemporary environment of business.
Effective: Fall 2009

B E 001S
Growing Your Future--First-Year Seminar (1) Introduce students to University life, the agricultural/biological/engineering program and profession; prepare them to succeed in academic life at Penn State.
Effective: Fall 2008
Prerequisite: first-year status

B M B 001S (GN)

Understanding the Bases of Human Disease (3) A broad survey of the molecular and cellular factors that provide an explanation for an understanding of human disease.
Effective: Spring 2001

BB H 019S
Health and Disease (1) Essentials of communicable and chronic disease control.
Effective: Spring 2005

BB H 046S
Introduction to Health Aspects of Human Sexuality (1) An examination of health concerns related to sexuality and sexual behavior.
Effective: Spring 2005

BB H 148S
Coping with College: A First Year Transition Seminar (2) Exploration of effective learning strategies, university resources, academic requirements and planning, career development issues in discussion-centered environment.
Effective: Summer 1999

BIOE 100S
Bioengineering Seminar (1) First-year seminar to introduce the role of engineering in biomedical research and in instrument development for the medical device industry.
Effective: Fall 2001

BIOL 110S (GN)
Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.
Effective: Summer 1999

C E 100S
Topics and Contemporary Issues in Civil and Environmental Engineering: First-Year Seminar (1) First-Year Seminar exploring a specific topic or contemporary issue in civil and environmental engineering.
Effective: Fall 1999

CAMS 083S (GH;IL)
First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Summer 2005

CAP 100S
Orientation to the Undergraduate Experience (1) To facilitate transition of new students through active engagement and introduction to university and campus resources.
Effective: Fall 2004

CAP 110S
First-Year Seminar for Capital College, The School of Behavioral Sciences and

Education (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2003

CAP 120S
First-Year Seminar for Business (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2003

CAP 140S
First-Year Seminar for Humanities (1) Introduction to the discipline including: ethics, research methods, communications, career opportunities/issues and applied technology.
Effective: Summer 1999
Prerequisite: or concurrent: CAP 100S

CAP 150S
First-Year Seminar for Capital College, The School of Public Affairs (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2003

CAP 160S
First-Year Seminar for Capital College, The School of Science, Engineering and Technology (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2004

CAS 083S (GS)
First-Year Seminar in Speech Communication (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.
Effective: Fall 2003

CAS 084S (GH)
First-Year Seminar in Communication Arts and Sciences (3) Introduction to significant issues surrounding effective human communication; humanities emphasis.
Effective: Summer 2002

CAS 100S (GWS)
Effective Speech (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.
Effective: Fall 2003

CAS 201S (GH)
Rhetorical Theory (3) History and theory of public advocacy and civic discourse.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAS 202S (GS)
Introduction to Communication Theory (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CAS 203S (GS)
Interpersonal Communication (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CH E 100S
Exploring Chemical Engineering First-Year Seminar (1) The exploration of Chemical Engineering and available career opportunities.
Effective: Summer 2007

CHEM 101S (GN)
Introductory Chemistry (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

CHEM 111S (GN)
Experimental Chemistry I (1) Introduction to quantitative experimentation in chemistry.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: or concurrent: CHEM 110 or CHEM 106

CHNS 083S (IL)
Chinese First-year Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2010
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

CIVCM 211S (CAS 222, YFE 211) (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

CMLIT 010S (GH;IL)
The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010S (GH;IL)
World Literatures (3) The development of literature around the world--from epic,

legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 083S (GH;IL)
First-Year Seminar in Comparative Literature (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Summer 2005

CMPEN 111S
Computers and Computer Hardware (1) A brief orientation to University life and resources and an introduction to computers and computer hardware.
Effective: Spring 2009

CMPSC 101S (GQ)
Introduction to C++ Programming (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 2 entrance units in mathematics

CMPSC 111S
Logic for Computer Science (1) An introduction to logic and its application to problem solving and computer science.
Effective: Spring 2009

CMPSC 201S (GQ)
Programming for Engineers with C++ (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: MATH 140

COMM 100S (GS)
The Mass Media and Society (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.
Effective: Fall 2005

COMM 150S (GA)
The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Fall 2005

CRIM 083S (CRIMJ 083S)
First-Year Seminar in Criminal Justice (3) Critical approaches to issues in criminal justice and criminology.
Effective: Spring 2008

CRIMJ 012S (CRIM 012, SOC 012) (GS)

Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Summer 2010 Ending: Summer 2010

CRIMJ 083S (CRIM 083S) (GS)
First-Year Seminar in Criminal Justice (3) Critical approaches to issues in criminal justice and criminology.
Effective: Spring 2008

E E 007S
Adventures in Electrical Engineering (1) Exploration of electrical engineering through several hands-on activities that cover a broad spectrum of applications and fundamental concepts.
Effective: Fall 1999

E E 008S
Introduction to Digital Music (1) First-year seminar that discusses digital music from an electrical engineering perspective; topics include sampling, digital filtering, compression, and music synthesis.
Effective: Fall 2001

E E 009S
First-Year Seminar in Electrical Engineering (1) First-year seminar covering a variety of Electrical Engineering topics that vary from year to year.
Effective: Spring 2008

E MCH 120S
Adventures in Mechanics--First-Year Seminar (1) First-year seminar that introduces students to basic concepts in engineering mechanics.
Effective: Summer 2000

E SC 120S
Design for Failure--First-Year Seminar (1) This seminar, through the utilization of commonly used examples, discusses the engineering principles which are exploited by such designs.
Effective: Summer 2000

E SC 121S
Science/Engineering Fiction and the Engineering Sciences--First-Year Seminar (1
(1) Examines the technology predictions of authors in view of the engineering sciences on which the underlying devices of their stories are based.
Effective: Summer 2000

E SC 122S
Weird, Wild, and Wonderful Materials and Devices--First-Year Seminar (1) First-year seminar that surveys the use of novel materials and material systems to create practical devices.
Effective: Summer 2000

E SC 123S
Catastrophic Failures--First-Year Seminar (1) First-year seminar that explores

design deficiencies through the study of case histories of a number of famous failures.
Effective: Summer 2000

E SC 124S
Green Engineering--First-Year Seminar (1) This First-year seminar introduces students to basic concepts in green engineering practices and processes.
Effective: Fall 2001

E SC 130S
Selected Topics in Engineering Science (1) Introduction to basic concepts of engineering practices, processes, and research across the engineering sciences.
Effective: Fall 2001

EARTH 002S (GN)
The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution evolution of the earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

ECON 083S (GS)
First-Year Seminar in Economics (3) Experiments in microeconomic principles.
Effective: Summer 1999

EDSGN 011S
Explorations in Design First-Year Seminar (1) Students explore topical issues in engineering design.
Effective: Spring 2007

EDSGN 012S
Solar Racers First-Year Seminar (1) Students explore solar energy engineering by designing, building, testing, and racing a model car powered by a photoboltaic panel.
Effective: Spring 2007

EDSGN 013S
Ethics of Star Trek First-Year Seminar (1) The Star Trek television series is used as an introduction to ethics, with application to student life and engineering practice.
Effective: Spring 2007

EDSGN 015S
Transformations by Design: First-Year Seminar (1) Examination of the social and environmental transformations that follow engineering design, and of the transformations of students by higher education.
Effective: Spring 2007

EDSGN 100S
Introduction to Engineering Design (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.
Effective: Fall 2007

EDTHP 115S (GS;US)
Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDUC 100S
First-Year Seminar in Education (3) Learning about a scholarly community through the development of knowledge and skills needed for successful participation in higher education.
Effective: Fall 2007

EET 002S
Introduction to Engineering Technology (1) Introduction to engineering technology and the use of computer methods for analyzing and solving engineering technology problems; microcomputer fundamentals, word processing, spreadsheet, and database software packages.
Effective: Fall 2007

EM SC 100S (GWS)
Earth and Mineral Sciences First-Year Seminar (3) Writing, speaking, and critical thinking skills applied to topics of general interest in Environmental and Materials Science.
Effective: Spring 2001

ENGL 001S (GH)
Understanding Literature (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.
Effective: Fall 2000

ENGL 003S (GH)
The Great Traditions in American Literature (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.
Effective: Fall 2002

ENGL 015S (GWS)
Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Summer 1999
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 030S (GWS)
Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Spring 2003

ENGL 083S (GH)

First-Year Seminar in English (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.
Effective: Summer 1999

ENGL 135S (GH;US)
Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 139S (GH;US)
Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Fall 2006

ENGL 182S (GH;US;IL)
Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 184S (GH;IL)
The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 194S (GH;US;IL)
Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 263S (GH)
Reading Poetry (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: ENGL 015 or ENGL 030

ENGR 097S
Firsr Year Seminars-Engineering (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

ENGR 097S
First Year Seminars-Engineering (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

ENGR 100S
Introduction to Engineering (1) A seminar providing information about different engineering majors, coping with college life, and exploring educational and career goals.

Effective: Fall 1999

FORT 100S
Introduction to Forestry (1) A general introduction to forest ecology, history, management, and practices.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

FR 083S (GH;IL)
First-Year Seminar in French (3) Critical approaches to the dimensions and directions in French/Francophone literatures and cultures.
Effective: Summer 2005

GD 001S
First-Year Seminar in Graphic Design (1) An orientation to the historical, social, and professional context of design and an exposure to a variety of ethical, philosophical, and topical ideas from the world of design.
Effective: Summer 2007
Prerequisite: admission to the AADES program

GEOG 010S (GN)
Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2006

GER 083S (GH;US;IL)
First-Year Seminar in German (3) Germany's cultural past and present.
Effective: Summer 2005

H&HD 297S
HHDEV First Year Seminar (2) First-year seminar.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

HD FS 129S (GS)
Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.
Effective: Summer 2006

HIST 002S (GH;IL)
The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Summer 2005

HIST 083S (GH)
First-Year Seminar in History (3) Critical approaches to the dimensions and directions in History.
Effective: Summer 1999

HIST 084S (GS)
First-Year Seminar in History (3) Critical approaches to the dimensions and directions in History.

Effective: Spring 2004

HIST 100S (GH;IL)
Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Summer 2005

HIST 101S (GH;IL)
The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 151S (S T S 151S) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

I E 100S
Discover Industrial Engineering: First-Year Seminar (1) Informational First-year on Industrial Engineering as a career choice and profession; lab exercises; guest speakers; real world problems.
Effective: Fall 1999

I E 101S
Build Your Own Robot--First-Year Seminar (1) The objective of this first-year seminar course is to provide students hands-on experience with robotics and automation devices.
Effective: Summer 2000

I E 102S
Human-Centered Engineering--First-Year Seminar (1) This First-year seminar considers what makes products and processes usable by people, through both design principles and student projects.
Effective: Summer 2000

I E 103S
Management Science and the Modern Engineer--First-Year Seminar (1) This First-year seminar will introduce students to quantitative methods for decision making through a number of hands-on learning exercises.
Effective: Summer 2000

I E 104S
Managing the Real (Unpredictable) World--First-Year Seminar (1) Informational First-year seminar on decision making under uncertainty in engineering and everyday life.
Effective: Summer 2000

I E 105S
Manufacturing Science and Technology--First-Year Seminar (1) This First-year seminar will explore some aspects of manufacturing science and technology associated with the manufacturing of electronic products.

Effective: Summer 2000

INTST 100S (GS;IL)
Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

IST 110S (GS)
Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

IST 110S (GS)
Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Spring 2011 Ending: Spring 2011Future: Spring 2011

IST 111S
Seminar in Information Sciences and Technology (1) Introduction to academic requirements, career planning, and information literacy for students majoring in the College of Information Sciences and Technology.
Effective: Spring 2001

IT 083S (GH;IL)
First-Year Seminar in Italian Literature, Film, and Culture (3) Introduction to the study of Italian literature, film, and culture.
Effective: Summer 2005

J ST 083S (GH;IL)
First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Summer 2005

KINES 017S (GHA)
Ballroom Dance (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.
Effective: Fall 2007

KINES 027S (GHA)
Badminton 1 (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 029S (GHA)
Golf I (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 061S (GHA)
Fitness Theory and Practice (3) Students will learn about the science of

fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.
Effective: Summer 2005

KINES 067S (GHA)
Physical Conditioning (1.5) A course designed to give students an experience with an understanding of vigorous physical training.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

KINES 077S (GHA)
Yoga 1 (1.5) A course designed to give students an understanding of and proficiency in yoga.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

L ST 083S
The Twenty-First Century Researcher (1) Students learn to use technology and Libraries resources to access and cite relevant information into academic research projects.
Effective: Fall 2009

L ST 101S
Stories and Storytelling: How Humans Become People (3) This First-year seminar uses story and collaborative storytelling to examine how knowledge is organized, found, evaluated, used, and communicated.
Effective: Summer 1999

LARCH 121S
Landscape Architecture Orientation Seminar (1) Introductory seminar involving readings on significant issues in landscape architecture. LARCH majors only.
Effective: Spring 2007

LER 083S (GS)
First-Year Seminar in Labor Studies and Employment Relations (3) Critical approaches to the dimensions and direction in Labor and Employment Relations.
Effective: Spring 2008

LING 083S (GS;US;IL)
1st Year Seminar in Linguistics (3) Non-technical exploration of aspects of human language.
Effective: Summer 2005

M E 101S
Toy Fundamentals: First-Year Seminar (1) First-Year Seminar focusing on toy design and manufacture.
Effective: Fall 1999

M E 102S
Smart Lego Robots & Design (1) First-Year Seminar focusing on the development of technology exploration kits for middle-school-aged children.
Effective: Fall 2004

M E 103S

The Art and Science of Manufacturing: First-Year Seminar (1) A First-Year Seminar focusing on the practical and non-technical aspects of manufacturing.
Effective: Fall 1999

M E 104S
Environmentally Conscious Engineering: First-Year Seminar (1) A First-Year Seminar focusing on environmental issues as they pertain to the engineering profession.
Effective: Fall 1999

M E 105S
Product Dissection A: Bicycles--First-Year Seminar (1) A First-Year Seminar in which students analyze and disassemble a multi-speed bicycle.
Effective: Fall 1999

M E 106S
Product Dissection B: Household Appliances--First-Year Seminar (1) A First-Year Seminar in which students analyze and disassemble household appliances.
Effective: Fall 1999

M E 107S
Product Dissection C: The Enigmatic Engine--First-Year Seminar (1) A First-Year Seminar in which students analyze and disassemble a single-cylinder lawnmower engine.
Effective: Fall 1999

M E 190S
Special Topics in Mechanical Engineering: First-Year Seminar (1) A First-Year Seminar focusing on issues related to Mechanical Engineering.
Effective: Fall 1999

MATH 140S (GQ)
Calculus With Analytic Geometry I (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022 MATH 026 ; or MATH 040 or MATH 041 or satisfactory performance on the mathematics FTCAP examination

MEDVL 083S (GH;IL)
First-Year Seminar in Medieval Studies (3) Critical approaches to the dimensions and directions in Medieval Studies.
Effective: Spring 2006

MGMT 001S
Business Leadership (3) The aim of this course is to introduce fundamental concepts of business management and leadership.
Effective: Spring 2000

MUSIC 005S (GA)
An Introduction to Western Music (3) A general survey of art music in western

society, highlighting important composers and stylistic developments.
Effective: Summer 2006

MUSIC 040S
First-Year Seminar in Music Education (1) Introduction to the University, the School of Music, the music education degree program, and the music teaching profession.
Effective: Fall 2006

MUSIC 119S
First-Year Music Seminar (2) Individual applied instruction and group activities; orientation, area recitals, and studio classes as required by instructor.
Effective: Summer 1999
Prerequisite: permission of instructor

MUSIC 129S
First-Year Performance Seminar (3) Individual applied instruction and group activities; orientation, area recitals, and studio classes as required by instructor.
Effective: Summer 1999
Prerequisite: permission of instructor

MUSIC 173S
First-Year Composition Seminar (2) Individual composition instruction for freshman composition majors (Fall semester) and group activities.
Effective: Summer 1999
Prerequisite: admission to the BM degree in Composition

NUC E 001S
Atomic Adventures: First-Year Seminar (1) First-year seminar exploring the interesting and exciting world of nuclear science and its applications.
Effective: Fall 1999

NUC E 002S
PSU Lion Loop: First-Year Seminar (1) First-year seminar involving hands-on work and learning using the PSU Lion Loop research project.
Effective: Fall 1999

NUC E 003S
Power Plants and Their Simulation: First-Year Seminar (1) First-year seminar using modern computer tools applied to power plant simulation.
Effective: Fall 1999

NURS 111S
Nursing Roles (4) Introduction to associate degree nursing roles and nursing process.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: or concurrent: NURS 112 BIOL 141 ; BIOL 142 or BIOL 129 HD FS 129 or PSYCH 212 ENGL 015

NURS 111S (US;IL)
Nursing Roles (4) Introduction to nursing roles/process with emphasis on societal norms and multicultural influences on health care needs.

Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission to 2NURS major

O T 100S
Structural Foundations of Occupational Therapy (1) An overview of the structural foundations of the occupational therapy profession.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

O T 100S
Structural Foundations of Occupational Therapy (1) An overview of the structural foundations of the occupational therapy profession.
Effective: Spring 2011 Future: Spring 2011

P T 101S
Introduction to Computer Skills for the PTA (1) Introduction to basic computer skills for the physical therapist assistant.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHIL 006S (GH;IL)
Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

PHIL 010S (GH)
Critical Thinking (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.
Effective: Spring 2005

PHIL 083S (GH)
First-Year Seminar in Philosophy (3) Critical introduction to philosophical issues in ethics, social and political theory, religion, art, metaphysics, and epistemology.
Effective: Summer 1999

PHIL 132S (GH)
Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Fall 2003

PHYS 150S (GN)
Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent: MATH 021 MATH 081

PHYS 151S (GN)
Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: PHYS 150

PHYS 251S (GN)
Introductory Physics II (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010
Prerequisite: PHYS 250

PL SC 083S (GS)
First-Year Seminar in Political Science (3) Exploration of current topics of interest in political science, international relations, and/or political theory.
Effective: Summer 1999

PSU 008S
First-Year Seminar University College (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 2000

PSYCH 083S (GS)
First-Year Seminar in Psychology (3) Scientific, societal, and individual implications of contemporary psychological theory.
Effective: Spring 2007

PSYCH 100S (GS)
Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2007

RL ST 083S (GH)
First-Year Seminar in Religious Studies (3) Critical approaches to the dimensions and directions in Religious Studies.
Effective: Summer 1999

RPTM 297S
First Year Seminar (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

RUS 083S (GH;US;IL)
First-Year Seminar in Russian (3) Russia's cultural past and present.
Effective: Summer 2005

S T S 105S (GHA)
First-Year Seminar - Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Fall 2003

S T S 151S (HIST 151S) (GS;US)
Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 200S (GS)
Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Summer 1999

SOC 001S (GS)
Introductory Sociology (3) The nature and characteristics of human societies and social life.
Effective: Spring 2006

SOC 083S (GS)
First-Year Seminar in Sociology (3) Critical approaches to issues in the structure of society.
Effective: Summer 1999

SPAN 083S (GH;IL)
First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Summer 2005

SRA 001S
First-Year Seminar in Security and Risk Analysis (1) Provides introduction to the field of Security and Risk Analysis and assessments of key skills.
Effective: Summer 2006

SRA 111S (GS)
Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

STAT 100S (GQ)
Statistical Concepts and Reasoning (3) Introduction to the art and science of decision making in the presence of uncertainty.
Effective: Summer 1999

SUR 100S
Surveying First Year Seminar (1) Introduction to college study; critical thinking, reading, and writing; calculations, team skills, academic survival, and the surveying profession.
Effective: Fall 2007

THEA 001S
First-Year Seminar: Theatre Production Practices (1) An orientation to the School of Theatre production practices, resources, faculty, and practicum.
Effective: Spring 2006
Prerequisite: admission into Theatre Program

THEA 102S (GA)
Fundamentals of Acting (3) Introduction to the art and craft of acting for

non-theatre majors.
Effective: Fall 2010 Ending: Fall 2010Future: Fall 2010

THEA 208S (GA;US;IL)
Workshop: Theatre in Diverse Cultures (3) A performance-oriented class, which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

UKR 083S (GH;IL)
1st Year Seminar in Ukrainian (3) Aspects of Ukrainian Culture in Comparative Contexts
Effective: Spring 2006

VB SC 050S
Mechanisms of Disease (3) Introduction to the study of disease pathogenesis and careers in Animal Health Research and Service.
Effective: Fall 2007

WMNST 001S (GS;US;IL)
Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2009

WMNST 005S (US)
Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2006

WMNST 083S (GH;US;IL)
First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Summer 2005

YFE 211S (GS;US;IL)
Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Fall 2010

University Course Descriptions

COURSE-NUMBERING SYSTEM

These course descriptions are arranged alphabetically. If any course cannot be located readily, refer to the index. Multiple offerings may be accommodated by the use of suffixes A, B, etc. Courses are numbered as follows:

UNDERGRADUATE COURSES (1 to 399): General courses accepted in fulfillment of requirements for the bachelor's degrees.

ADVANCED UNDERGRADUATE COURSES (400 to 499): Courses open to graduate students and to juniors and seniors and, with the special written permission of the head of the department or the chair of the program sponsoring the course, to qualified students in earlier semesters.

GRADUATE COURSES (500 to 699; 800 to 899): Courses restricted to students registered in the Graduate School, seniors with an average of at least 3.50, and other students who have been granted permission to enroll by the dean of the Graduate School. These courses are described in the Penn State Graduate Degree Programs Bulletin.

MEDICAL COURSES (700-799): Courses restricted to students registered in the College of Medicine.

LAW COURSES (900-999): Courses restricted to students registered in The Dickinson School of Law.

COMMON COURSE NUMBERS

The following course numbers for which students may register have been set up for common use by major programs, with University Senate approval, to encourage innovation and provide flexibility in designing programs, but in no case may a course be scheduled for 0 credits. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

097, 197, 297, 397, 497; 098, 198, 298, 398, 498. SPECIAL TOPICS (1-9) (Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.) Several different topics may be taught in one year or semester. A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

099, 199, 299, 399, 499. (GI) FOREIGN STUDIES (1-12) (Courses offered in foreign countries by individual or group instruction.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

187 FIRST-YEAR SEMINAR Listed under some liberal art-related academic headings, this course has prerequisites of first-semester standing and enrollment in the College of the Liberal Arts. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

294, 494. RESEARCH PROJECT COURSES (1-12) (Supervised student activities on research projects identified on an individual or small-group basis.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

295, 395, 495. INTERNSHIP (1-18) (Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc. Prerequisite: prior approval of proposed assignment by instructor.

296, 496. INDEPENDENT STUDIES (1-18) (Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc. Students may not register for these courses without prior written approval of a faculty member in the department in which the courses are listed.

GENERAL EDUCATION COURSE DESIGNATIONS

Courses that appear in this bulletin with the following designations have been approved for General Education. See http://bulletins.psu.edu/bulletins/bluebook/general_education.cfm for further information.

- **Skills Courses**
- Writing/Speaking — GWS
- Quantification — GQ
- **Knowledge Domains Courses**
- Health and Physical Activity — GHA (formerly Health Sciences--GHS and Physical Education--GPE)
- Natural Sciences — GN
- Arts — GA
- Humanities--GH
- Social and Behavioral Sciences — GS

DESIGNATIONS FOR ADDITIONAL REQUIREMENTS

In addition to the General Education degree requirements, every baccalaureate degree student will also complete the United State Cultures (US) and International Cultures (IL), Writing Across the Curriculum (M, W, Y, and X), and First-Year Seminar (S, T, X, or PSU designation) requirements.

Courses that appear in this bulletin with an H, M, or T suffix following the course number are identified as honors courses. University Scholars Program students may participate in honors courses. In addition, any University Senate approved course may be offered with the honors suffix identification with the approval of the University Scholars Program. The honors identification will be entered on the student's transcript.

CREDITS AND HOURS

Credits are awarded on the semester-hour basis. According to Senate Policy 42-23, a total of at least forty hours of work planned and arranged by the University faculty is required for the average student to gain 1 credit. While the distribution of time varies from course to course, generally one-third of the time is devoted to formal instruction, such as lecture, recitation, laboratory, field trips, etc., and two-thirds of the time to outside preparation.

Credits, classroom work, and practicum work

The number of credits for each course is indicated in parentheses and can be earned with classroom, practicum, or laboratory work as designated in the Schedule of Courses, accessible through the Registrar's home page at www.psu.edu/registrar.

A typical period is fifty minutes.

A department may schedule an entire section in an undergraduate course for fewer credits than the maximum authorized. In 400-level courses, a department may schedule an individual student for fewer credits than the maximum authorized. In no case, however, may the course be scheduled for 0 credit, or may the total credits scheduled for any student exceed the maximum number authorized for the course.

Courses that may be repeated and variable credit courses

If a course may be repeated, the words "per semester" follow the number of credits--for example (3 credits per semester). These courses may be repeated indefinitely unless the credits are followed by the maximum number of credits allowed, such as (3 per semester, maximum of 12).

Courses may have variable credits, such as (1-3), (2-6), or (3-10). Here, the larger number signifies the total credits that can be accumulated for the course over an indefinite number of semesters, unless otherwise specified. For example, a course listed with (1-6) could be taken six semesters for 1 credit each semester, or two semesters for 3 credits each semester, or once for 6 credits, etc.

In some courses with variable credits, students may be permitted to accumulate more than the larger number shown. Such courses will be listed as, for example, (1-3 per semester, maximum of 12).

Any special departmental limitations are indicated by footnotes.

PREREQUISITE AND CONCURRENT COURSES

Prerequisites are approximations of the necessary prior specific or general academic knowledge, background, or semester standing required in order to succeed academically in a specific course. Concurrent courses are to be taken in the same semester. The course instructor has the right to limit the students in the course to those who have the stated prerequisites. If this limitation is exercised, it must occur before the end of the course add period.

Accounting (ACCTG)

ACCTG 151 **Introductory Financial Accounting I** (3) Basic concepts, principles, and practices for the recording, summarizing, and interpreting of accounting data.
Effective: Summer 1995

ACCTG 152 **Introductory Financial Accounting II** (3) Accounting for partnerships, corporations, cash flows, certain liabilities and assets, and the analysis of financial statements.
Effective: Summer 1995
Prerequisite: ACCTG 151

ACCTG 153 **Intermediate Accounting** (3) Financial accounting statements, concepts, and procedures; assets, liabilities, owners' equity, statement analysis. Students may not receive credit for both ACCTG 150 and 471.
Effective: Spring 1996
Prerequisite: ACCTG 151, ACCTG 152

ACCTG 160 **Cost Accounting** (3) Use of standard cost accounting procedures to present cost and budget statements as a means of providing managerial control. Students may not receive credit for both ACCTG 160 and ACCTG 404.
Effective: Spring 2008
Prerequisite: ACCTG 151, ACCTG 152

ACCTG 186 **Federal Tax Accounting** (3) Tax planning and compliance with federal income tax rules and regulations, especially those affecting individuals.
Effective: Spring 2008
Prerequisite: ACCTG 151, ACCTG 152

ACCTG 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

ACCTG 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ACCTG 201 **Introductory Financial Accounting** (3) Fundamentals of the collection, recording summarization, and interpretation of accounting data.
Effective: Summer 2004

ACCTG 202 **Introductory Managerial Accounting** (3) Actual and standard cost system, managerial use of cost, data, budgeting and performance evaluation.
Effective: Summer 2004
Prerequisite: ACCTG 201

ACCTG 211 **Financial and Managerial Accounting for Decision Making** (4) Introduction to the role of accounting numbers in the process of managing a business and in investor decision making.
Effective: Spring 2008
Prerequisite: MATH 021 or 1.5 units of high school algebra

ACCTG 211H **Financial and Managerial Accounting for Decision Making** (4) Introduction to the role of accounting numbers in the process of managing a business and in investor decision making.
Effective: Spring 2008
Prerequisite: MATH 021 or 1.5 units of high school algebra

ACCTG 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Spring 2008

ACCTG 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1992

ACCTG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ACCTG 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ACCTG 300H **Honors Course in Accounting** (1-12) Honors program of intensive individual or group study in various areas of accounting.

Effective: Spring 2008
Prerequisite: approval by Departmental Honors Committee

ACCTG 305 **Financial Statements and Management Decisions** (4) Impact of management's financing, investing, and operating decisions on GAAP- based financial statements. Students who have passed ACNTG 310 or 311 may not take this course for credit.
Effective: Spring 2008
Prerequisite: ACCTG 211, FIN 301

ACCTG 310 **Federal Taxation I** (3) Study of income determination concepts for individuals and corporations, impact of taxation on decisions, elementary research techniques, and ethical standards.
Effective: Spring 2008
Prerequisite: ACCTG 211 orFIN 301

ACCTG 311 **Accounting Systems and Control** (3) Introduction to accounting procedures to gather, to aggregate, and to report accounting data to managers and to external readers.
Effective: Spring 1995
Prerequisite: ACCTG 211

ACCTG 312 **Accounting Technology Lab** (3) Hands-on course to teach accounting software, applications of spreadsheets and databases in accounting, and surveying of underlying database theory.
Effective: Spring 2008
Prerequisite: ACCTG 305 orACCTG 371

ACCTG 340 **Cost Accounting** (3) Accounting for manufacturing concerns; actual and standard cost systems, and managerial uses of cost data.
Effective: Spring 2008
Prerequisite: ACCTG 211 orACCTG 311

ACCTG 371 **Intermediate Accounting I** (4) Financial accounting methods, theory and concepts; analysis of problems in applying concepts to financial statements and asset accounts.
Effective: Spring 2008
Prerequisite: ACCTG 211

ACCTG 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

ACCTG 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

ACCTG 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ACCTG 403 **Auditing** (3) Financial compliance, internal, and operational audits; standards and procedures; sampling; EDP auditing; professional issues; application of concepts through written responses.
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471

ACCTG 403W **Auditing** (3) Financial, compliance, internal, and operational audits; standards and procedures; sampling; EDP auditing; professional issues; application of concepts through written responses.
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471

ACCTG 404 **Managerial Accounting: Economic Perspective** (3) Accounting techniques as planning, control, and motivating devices in business and other organizations; accounting data for decision making and performance evaluation.
Effective: Spring 2008
Prerequisite: ACCTG 211, SCM 200 orSTAT 200, ECON 002

ACCTG 405 **Principles of Taxation I** (3) Elements of tax policy and tax-planning concepts for personal and business decision making; with emphasis on taxation of individuals.
Effective: Spring 2008
Prerequisite: ACCTG 211;B A 301 orFIN 301

ACCTG 406 **Principles of Taxation II** (3) Impact of federal tax structure on business decisions, research methodology, tax planning; ethical considerations of tax practice.
Effective: Spring 2008
Prerequisite: ACCTG 405

ACCTG 410 **Federal Taxation II** (3) An examination of the rules and forms used to compute the federal tax liability of corporations and partners.
Effective: Spring 2008
Prerequisite: ACCTG 310

ACCTG 411 **Accounting Practicum: VITA** (3) Introduces students to practical aspects of tax preparation through the IRS' VITA program and completion of a tax research project.
Effective: Spring 2008

Prerequisite: ACCTG 310

ACCTG 413 **Auditing Internship** (3) Full-time auditing experience for at least 10 weeks with approved firms. Students who have passed ACCTG 414 may not schedule this course.
Effective: Spring 2008
Prerequisite: ACCTG 403 orACCTG 403W

ACCTG 422 **Accounting Systems** (3) Understanding flow and documentation of accounting information and internal controls in the context of accounting cycles.
Effective: Spring 2008
Prerequisite: ACCTG 312

ACCTG 426 **Financial Statement Analysis** (3) The exploration of conventional and advanced methods of analyzing financial statements, including the assessment of earnings quality.
Effective: Spring 2008
Prerequisite: FIN 301

ACCTG 431 **Advanced Auditing** (3) Examination of legal liability, EDP, statistical sampling, SEC reporting, internal control, and financial reporting in specialized industries.
Effective: Spring 2008
Prerequisite: ACCTG 403 orACCTG 403W

ACCTG 432 **Accounting Information Systems** (3) Systems analysis tools and techniques; internal control concepts; development of computer control procedures.
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471, MIS 204

ACCTG 433 **Computer Audit and Control** (4) Management application controls for EDP systems; EDP audit techniques; evaluation of system reliability.
Effective: Spring 2008
Prerequisite: or concurrent:ACCTG 403 orACCTG 403W

ACCTG 440 **Advanced Management Accounting** (3) Management accounting topics such as decision models, quantitative techniques, variance analysis, and their use in accounting.
Effective: Spring 2008
Prerequisite: ACCTG 340

ACCTG 450 **Advanced Accounting** (3) Accounting theory and practice for business combinations, branches, international operations, partnerships, consolidated financial statements, corporate liquidations, nonprofit organizations, estates, and trusts.
Effective: Spring 2008
Prerequisite: ACCTG 472

ACCTG 461 (IL) **International Accounting** (3) Study of international accounting issues with emphasis on need, use, and interpretation of financial accounting required in global business environment.
Effective: Spring 2008
Prerequisite: ACCTG 211

ACCTG 462 **Governmental and Not-for-Profit Accounting** (3) Provides an understanding of governmental and not-for-profit accounting theory, procedures, and financial statements.
Effective: Spring 2010
Prerequisite: ACCTG 311 orACCTG 471

ACCTG 463 **Accounting Theory** (3) An analysis of the development of accounting theory and its current and future impact on accounting.
Effective: Spring 2008
Prerequisite: ACCTG 471

ACCTG 471 **Intermediate Financial Accounting I** (3) Theory and practice issues in income concepts and value measurement; GAAP; revenues, costs, assets, liabilities, and equities.
Effective: Spring 2008
Prerequisite: ACCTG 211 orACCTG 311

ACCTG 472 **Intermediate Financial Accounting II** (3) Off-balance-sheet financing; special issues in cost capitalization, liabilities, and equities; matching; funds flow statements; statement analysis; inflation accounting.
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471

ACCTG 473 **Advanced Financial Accounting** (3) Reporting for multi-corporate enterprises, business combinations, quasi-reorganizations, and selected contemporary reporting problems.
Effective: Spring 2010
Prerequisite: ACCTG 472

ACCTG 481 **Financial Statement Analysis: Accounting Based Evaluation and Decision Making** (3) An accounting based evaluation and decision making approach to analyzing financial statements by studying business and firm valuation.
Effective: Spring 2008
Prerequisite: or concurrent:ACCTG 472

ACCTG 489 **Seminar in Accounting** (3) New trends and concepts in accounting; applications and impact on problem solving and decision making.
Effective: Spring 2008

Prerequisite: permission of program

ACCTG 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

ACCTG 494H **Research Project** (1-3 per semester/maximum of 6) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2005

ACCTG 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

ACCTG 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1992

ACCTG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ACCTG 497A **Forensic Accounting** (3) Forensic Accounting.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ACCTG 497A **Forensic Accounting** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ACCTG 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest. .
Effective: Summer 2003

ACCTG 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Acoustics (ACS)

ACS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

ACS 401 **General Acoustics** (3) Basic principles of acoustics; perception of sound; electroacoustic transducers and fundamentals of sound techniques. Offered for Communications Disorders and some nonscience majors.
Effective: Fall 1983
Prerequisite: 3 credits of Communication Disorders

ACS 402 **Introduction to Acoustics** (3) Basic principles of acoustics and perception of sound; fundamentals of applications: electroacoustic transducers, noise measurement and control, architectural and building acoustics, underwater sound. Offered for science and engineering majors.
Effective: Fall 1983
Prerequisite: PHYS 203

ACS 403 **Modern Electronics for Engineering Acoustic Applications** (3) A wide-ranging coverage of modern electronic technology and the application of this technical base to acoustics and acoustical problems.
Effective: Fall 1982
Prerequisite: PHYS 202

ACS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ACS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ACS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

Last Import from UCM: May 29, 2010 3:00 AM

Adult Education (ADTED)

ADTED 100 **Adult Learners in the University** (3) Opportunity to develop effective learning strategies while exploring critical issues related to adults entering or returning to higher education.
Effective: Spring 1998

ADTED 100S **Adult Learners in the University** (1) Opportunity to develop effective learning strategies while exploring critical issues related to adults entering or returning to higher education.
Effective: Spring 2001

ADTED 297 **Special Topics** (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.
Effective: Summer 2000

ADTED 456 **Introduction to Family Literacy** (3) Explores comprehensive family literacy models, focusing upon families, services, outcomes, and roles and responsibilities of individuals, organizations, and communities.
Effective: Spring 2008
Prerequisite: Associate Degree or 60 undergraduate credits

ADTED 457 **Adult Literacy** (3) Surveys adult basic and literacy education programs and best practices; applies recent research on adult and family literacy.
Effective: Spring 2008
Prerequisite: Associate Degree or 60 undergraduate credits

ADTED 458 **Early Literacy Development and Parental Involvement** (3) Focuses on young children's language and literacy development, including parental and staff support, grounded in scientifically based reading research.
Effective: Spring 2008
Prerequisite: Associate degree or 60 undergraduate credits

ADTED 459 **Interactive Literacy: Parents and Children** (3) Focuses on literacy and language interactions between parents and their young children (including English language learners), implementing intentional/planned learning.
Effective: Spring 2008
Prerequisite: Associate Degree or 60 undergraduate credits

ADTED 460 **Introduction to Adult Education** (3) History, methods, agencies, program areas, and problems of adult education in the United States.
Effective: Fall 2001

ADTED 470 (CI ED 470) **Introduction to Distance Education** (3) An introduction to the history, philosophy, organizations, learning theories, and instructional procedures used in American and foreign distance education.
Effective: Summer 1996

ADTED 496 **Independent Studies** (1-18) Creative projects supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1996

ADTED 497 **Special Topics** (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.
Effective: Summer 1996

ADTED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

ADTED 498A **Teaching Adults Responsibly** (3) Virtues operating in particular teaching situations are examined. Also examined are opportunities and challenges enabling and constraining those virtues.
Effective: Summer 2010 Ending: Summer 2010

ADTED 498A **Teaching Adults Responsibly** (3) Virtues operating in particular teaching situations are examined. Also examined are opportunities and challenges enabling and constraining those virtues.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Aerospace Engineering (AERSP)

AERSP 001S **Aerospace Explorer--First-Year Seminar** (1) First-Year Seminar explores aerodynamics, structural mechanics, flight mechanics, rotorcraft systems, high performance computers, air/space propulsion, and space systems.
Effective: Fall 1999

AERSP 055 (GN) (S T S 055) **Space Science and Technology** (3) The science and technology of space exploration and exploitation; physical principles; research and development; history, space policy, and social implications.
Effective: Spring 1994

AERSP 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

AERSP 097S **First Year Seminar - Hands on Helicopter** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AERSP 097S **First Year Seminar - Hands on Helicopter** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AERSP 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AERSP 200 **Principles of Aviation** (3) Aviation history, piloting, principles of flight, navigation, meteorology,FAA regulations, the air transportation system.
Effective: Spring 1994
Prerequisite: third-semester standing

AERSP 204H **Flight Vehicle Design and Fabrication I** (2 per semester/maximum of 8) Integrated project management, design, fabrication, testing, and flight evaluation of an advanced composite flight vehicle.
Effective: Spring 2000

AERSP 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AERSP 301 **Aerospace Structures** (3) Aerospace structural design concepts, flight safety. Stiffness, strength, stability of thin-walled structures under combined loads. Energy methods, finite element analysis.
Effective: Spring 2008
Prerequisite: E MCH 210 orE MCH 213 . Prerequisite or concurrent:AERSP 313

AERSP 304 **Dynamics and Control of Aerospace Systems** (3) Vibrations of single, multiple, and infinite degree-of-freedom systems; operational methods applied to aerospace vehicles; design of controllers.
Effective: Spring 2008
Prerequisite: AERSP 313, E MCH 212

AERSP 305W **Aerospace Technology Laboratory** (3) Experiments in measurement systems, aerodynamics, aerospace structures, dynamics and control, and propulsion, technical report writing and presentations.
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:AERSP 301, AERSP 311, ENGL 202C

AERSP 306 **Aeronautics** (3) Lift and drag characteristics of aircraft; propulsion systems; airplane performance; introduction to stability and control.
Effective: Fall 1989
Prerequisite: AERSP 311, AERSP 313

AERSP 308 **Mechanics of Fluids** (3) Kinetics and dynamics of fluids; perfect fluid theory using complex variables; introduction to viscous flow theory; fundamentals of compressible flow.
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;MATH 251

AERSP 308H **Mechanics of Fluids** (3) Kinetics and dynamics of fluids; perfect fluid theory using complex variables; introduction to viscous flow theory; fundamentals of compressible flow.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212 orE MCH 212H;MATH 251

AERSP 309 **Astronautics** (3) Introduction to space and space flight; laws of particle mechanics; orbits and trajectories; space vehicles and propulsion.

Effective: Spring 2008
Prerequisite: E MCH 212, MATH 251;CMPSC 201 orCMPSC 202

AERSP 311 **Aerodynamics I** (3) Fluid statics and kinematics; fluid dynamics of inviscid and viscous flows; Navier-Stokes equations; introduction to boundary layers.
Effective: Spring 2008
Prerequisite: E MCH 212, MATH 250, CMPSC 201 orCMPSC 202

AERSP 312 **Aerodynamics II** (3) Fluid mechanics of viscous and compressible flows, laminar boundary layers, turbulent flows, isentropic flows, shock waves, supersonic life and drag.
Effective: Fall 2007
Prerequisite: AERSP 311, AERSP 313, M E 201

AERSP 313 **Aerospace Analysis** (3) Mathematical methods applied to aerospace engineering: Fourier series, ordinary and partial differential equations, complex variables, numerical methods, data analysis.
Effective: Spring 2008
Prerequisite: MATH 220, MATH 230, MATH 250;CMPSC 201 orCMPSC 202

AERSP 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

AERSP 401A **Spacecraft Design--Preliminary** (3) Conceptual and preliminary design of a spacecraft, its constituent subsystems, and related systems, to satisfy a given set of specifications.
Effective: Spring 2007
Prerequisite: AERSP 309 . Prerequisite or concurrent:AERSP 450

AERSP 401B **Spacecraft Design--Detailed** (2) Detailed design of the constituent subsystems and related support systems for a spacecraft.
Effective: Spring 2007
Prerequisite: AERSP 301, AERSP 401A

AERSP 402A **Aircraft Design--Preliminary** (3) Conceptual and preliminary design of an aircraft, its constituent subsystems, and related systems, to satisfy a given set of specifications.
Effective: Spring 2007
Prerequisite: AERSP 306 . Prerequisite or concurrent:AERSP 413

AERSP 402B **Aircraft Design--Detailed** (2) Detailed design of the constituent subsystems and related support systems for an aircraft.
Effective: Spring 2007
Prerequisite: AERSP 301, AERSP 402A

AERSP 403 **Design of Air Transport Systems** (3) Air transportation; vehicle technology; vehicle-airport-route design interface; ATC, energy, environmental, human, and regulatory considerations in design.
Effective: Summer 1984
Prerequisite: AERSP 306

AERSP 404H **Flight Vehicle Design and Fabrication II** (3 per semester/maximum of 12) Project management, design, fabrication, aerodynamic and structural testing, and flight evaluation of an advanced composite flight vehicle.
Effective: Spring 2000
Prerequisite: AERSP 204H

AERSP 406W **Structures and Dynamics Laboratory** (2) Experiments in static deformations and stresses, vibrations, and control of aerospace structures.
Effective: Spring 2007
Prerequisite: or concurrent:ENGL 202C

AERSP 407 **Aerodynamics of V/STOL Aircraft** (3) Rotary wing aircraft; VTOL and STOL performance; propeller-wing combinations; jet flap; high lift devices.
Effective: Fall 1984
Prerequisite: AERSP 312

AERSP 410 **Aerospace Propulsion** (3) Analysis and performance characteristics of reciprocating engine, turbo-jet, turbo-prop, turbo-fan, ram-jets, and chemical rockets. Aerothermodynamics of inlets, combustors, and turbomachinery.
Effective: Fall 1983
Prerequisite: AERSP 312

AERSP 411 **Aeroelasticity** (3) Structural deformations under static and dynamic loads; static aeroelastic phenomena; unsteady two-dimensional incompressible and compressible flow; flutter.
Effective: Spring 2007
Prerequisite: AERSP 312

AERSP 412 **Turbulent Flow** (3) Homogeneous turbulence; spectral transfer of energy, viscous dissipation; turbulent shear flow: mixing-length theory, eddy viscosity, scaling laws, energy budget.
Effective: Winter 1978
Prerequisite: one course in fluid mechanics

AERSP 413 **Stability and Control of Aircraft** (3) Static and dynamic stability and control of aircraft; open and closed loop systems.
Effective: Fall 1989
Prerequisite: AERSP 304, AERSP 306

AERSP 420 **Principles of Flight Testing** (3) In-flight and analytical studies of airplane performance, stability, and control; reduction of data; instrumentation; flight test techniques.
Effective: Fall 1983
Prerequisite: AERSP 306

AERSP 423 **Introduction to Numerical Methods in Fluid Dynamics** (3) Finite difference methods applied to solving viscid/inviscid fluid dynamics problems, error control, numerical stability.
Effective: Spring 2008
Prerequisite: AERSP 312 orM E 320;MATH 250 orMATH 251;CMPSC 201 orCMPSC 202

AERSP 424 **Advanced Computer Programming** (3) Engineering and scientific programming topics: object oriented programming, parallel programming, and various modern languages (e.g. C++, Java, and Ada).
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

AERSP 425 **Theory of Flight** (3) Advanced wing and airfoil theory, conformal mapping, slender body theory.
Effective: Spring 2001
Prerequisite: AERSP 306

AERSP 430 **Space Propulsion and Power Systems** (3) Analysis and performance of chemical and nuclear rockets, electric propulsion systems. Introduction to solar, chemical, thermoelectric, and nuclear power sources.
Effective: Fall 2007
Prerequisite: AERSP 410 orM E 432

AERSP 440 **Introduction to Software Engineering for Aerospace Engineers** (3) Software engineering for safety- and mission-critical systems, including requirements, management, processes, designs, programming, validation/ verification, and other aspects of software development.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202

AERSP 450 **Orbit and Attitude Control of Spacecraft** (3) Principles of mechanics and vector analysis applied to basic concepts of satellite motion and control, rocket ballistics, and gyroscopic instruments.
Effective: Fall 1987
Prerequisite: AERSP 304, AERSP 309

AERSP 460 **Aerospace Control Systems** (3) Design and analysis of feedback control systems for aerospace applications; stability, root locus, time- and frequency-domain, state-space methods.
Effective: Summer 2006
Prerequisite: AERSP 304

AERSP 470 **Advanced Aerospace Structures** (3) Design and analysis of aerospace structures. Plates and sandwich panels; composite materials; structural dynamics; aeroelasticity; damage tolerance.
Effective: Spring 2008
Prerequisite: AERSP 301 . Prerequisite or concurrent:AERSP 304, E MCH 315

AERSP 473 (E MCH 473) **Composites Processing** (3) An introduction to the principles of mechanics governing manufacturing, computer-aided design, and testing of composite materials and structures.
Effective: Summer 1988
Prerequisite: E MCH 471

AERSP 490 (E E 471, NUC E 490) **Introduction to Plasmas** (3) Plasma oscillations; collisional phenomena; transport properties; orbit theory; typical electric discharge phenomena.
Effective: Spring 2008
Prerequisite: E E 330 orPHYS 467

AERSP 492 (E E 472) **Space Astronomy and Introduction to Space Science** (3) The physical nature of the objects in the solar system; the earth's atmosphere, ionosphere, radiation belts, magnetosphere, and orbital mechanics.
Effective: Spring 2008
Prerequisite: E E 330 orPHYS 400

AERSP 494 **Aerospace Undergraduate Thesis** (1-3 per semester/maximum of 6) Individual problem investigations reported in written thesis and seminar lectures. Cooperative research with faculty guidance on topics of current interest.
Effective: Fall 1992
Prerequisite: seventh-semester standing

AERSP 494H **Aerospace Undergraduate Thesis** (1-3 per semester/maximum of 6) Individual problem investigations reported in written thesis and seminar lectures. Cooperative research with faculty guidance on topics of current interest.
Effective: Fall 2007
Prerequisite: seventh-semester standing

AERSP 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1992

AERSP 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1983

AERSP 497B **Experimental Methods and Projects** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AERSP 497I **Spacecraft/Environment Interactions** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AERSP 497K **Aerospace Projects Lab** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AERSP 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2006

AERSP 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

Last Import from UCM: May 29, 2010 3:00 AM

African and African American Studies (AAA S)

AAA S 003 **Scholarship and Community** (1) Introduction to college life for new students in a designated residential community to help them optimize their Penn State experience.
Effective: Spring 1999
Prerequisite: students must be participating in the Pennypacker Experience to take this course

AAA S 083S (GH;US;IL) **First-Year Seminar in African and African American Studies** (3) Cultural, philosophical, economic, political, and global dynamics of the Black experience in the United States and the Diaspora.
Effective: Summer 2005

AAA S 100 (GS;US) **Evolving Status of Blacks in the Twentieth Century: Interdisciplinary Perspectives** (3) An interdisciplinary, team-taught exploration of the evolving status of Black Americans in the twentieth century. Emphasis on the civil rights movement.
Effective: Summer 2005

AAA S 101 (GH;US) (WMNST 101) **The African American Woman** (3) The sociological, historical, and political experiences of African American women, their roles and contributions to society.
Effective: Summer 2005

AAA S 102 (GH;IL) (WMNST 102) **Women of Color: Cross-Cultural Perspective** (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.
Effective: Summer 2005

AAA S 103 (US) (SOC 103, WMNST 103) **Racism and Sexism** (3) Critical analysis of the structure of race and gender in the contemporary United States.
Effective: Summer 2005

AAA S 105 (GN;IL) (EARTH 105) **Environments of Africa: Geology and Climate Change** (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, natural resources.
Effective: Summer 2005

AAA S 110 (GS;IL) **Introduction to Contemporary Africa** (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.
Effective: Summer 2005

AAA S 110U (GS;IL) **Introduction to Contemporary Africa** (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AAA S 132 (IL) (SPAN 132) **Afro-Hispanic Civilization** (3) A general introduction to human and cultural elements of African origin in Spanish- and Portuguese-speaking countries of Latin America.
Effective: Summer 2005

AAA S 145 (GH;US;IL) (RL ST 145) **African American Religion** (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.
Effective: Summer 2005

AAA S 146 (GH;US) (RL ST 146) **The Life and Thought of Martin Luther King, Jr.** (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.
Effective: Summer 2005

AAA S 147 (GH;US) (RL ST 147) **The Life and Thought of Malcolm X** (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.
Effective: Summer 2005

AAA S 150 (GH;IL) **Africa in Cinema** (3) The study of the image of Africa as seen in fiction and non-fictional feature length films, ethnographic and documentary films.
Effective: Spring 2006

AAA S 191 (GH;IL) (HIST 191) **Early African History** (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.
Effective: Summer 2005

AAA S 192 (GH;IL) (HIST 192) **Modern African History** (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.
Effective: Summer 2005

AAA S 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

AAA S 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 200 (US) **Languages of the African Diaspora in America** (3) This course focuses on the development, linguistic structures, and sociolinguistic status of the languages of the African Diaspora in America.
Effective: Spring 2006

AAA S 202 (GS;IL) (WMNST 202) **Gender Dynamics in Africa** (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.
Effective: Summer 2005

AAA S 208 (GA;US;IL) (THEA 208) **Theatre Workshop in Diverse Cultures** (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

AAA S 210 (GH;US) (HIST 210) **Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932** (3) The course will explore the context and events that shaped African American life over the period 1896-1932.
Effective: Summer 2005
Prerequisite: AAA S 100, HIST 021

AAA S 211 (GH;US;IL) (HIST 211) **The Emergence and Evolution of the Black Diaspora in the Atlantic World** (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 003 orHIST 020 orHIST 021 orHIST 152

AAA S 212 (US) **Black History to the Twentieth Century** (3) An examination of Black political, economic, social, and cultural life in America from the era of colonization to 1905.
Effective: Spring 2008

AAA S 235 (US) (ENGL 235) **African-American Oral Folk Tradition** (3) The origins, forms, and function of the oral folk tradition of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

AAA S 240 (GH;US) (HIST 240) **Harlem: History, Culture, and Politics, 1890-Present** (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 152

AAA S 250 (GH;IL) (HIST 250) **Introduction to the Modern Caribbean** (3) A survey course which, explores the historical evolution and emergency of the modern Caribbean.
Effective: Summer 2005

AAA S 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

AAA S 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1994

AAA S 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 302 (US) (BB H 302) **Diversity and Health** (3) Exam the relatinship of diverse personal and sociocultural factors to health, like socioeconomic class, race-ethnicity, gender, age, and sexual orientation.
Effective: Spring 2007
Prerequisite: PSYCH 100 orSOC 001

AAA S 335 (GA;IL) (ART H 335) **African Art** (3) Introduction to the visual arts of Africa, including contemporary African art

and the influence of African art outside Africa.
Effective: Summer 2005

AAA S 364 (GS;US) (WMNST 364) **Black & White Sexuality** (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.
Effective: Spring 2007

AAA S 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

AAA S 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2003

AAA S 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AAA S 400 **African Studies Seminar** (3 per semester/maximum of 9) A study of the Organization of African Unity (OAU) leading to participation in the Model OAU Conference in Washington, D.C.
Effective: Spring 2001
Prerequisite: AAA S 110, AAA S 191

AAA S 401 **Afro-American Studies Seminar** (3) A seminar examining theoretical and methodological issues in Afro-American Studies.
Effective: Spring 2001
Prerequisite: AAA S 100, AAA S 101

AAA S 403 **South Africa Today** (3) A course examining the South African government's policy of apartheid: its history, why it exists, how it works, and the prospects for change.
Effective: Fall 2001
Prerequisite: AAA S 110

AAA S 404 (IL) **Eastern and Central African Societies** (3) Cultural and historical studies of Eastern and Central Africa employing a multidisciplinary approach.
Effective: Spring 2006
Prerequisite: AAA S 191, AAA S 192

AAA S 405 **African Studies Methodologies** (3) Multidisciplinary research techniques for studying in and about Africa.
Effective: Spring 1997

AAA S 409 (US) (SOC 409) **Racial and Ethnic Inequality in America** (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Summer 2005
Prerequisite: SOC 001

AAA S 409U (US) (SOC 409U) **Racial and Ethnic Inequality in America** (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SOC 001

AAA S 410 (WMNST 410) **Spirit, Space, Survival: Contemporary Black Women** (3) How recent Black women have used spirit and space to survive.
Effective: Spring 1995
Prerequisite: AAA S 101

AAA S 412 (US;IL) (THEA 412) **African American Theatre** (3) Exploration of the development of African American theatre from its roots in Africa through the Diaspora to the present time.
Effective: Summer 2005
Prerequisite: THEA 100

AAA S 415 (US;IL) (HIST 415) **Race, Gender, and Politics in the United States and South Africa** (3) This thematic course will compare key issues, figures, and events in the historical development of the United States and South Africa.
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 102, AAA S 110, AAA S 192 orHIST 152

AAA S 416 (US;IL) (S T S 416, WMNST 416) **Race, Gender and Science** (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

AAA S 422 (US) (CAS 422) **Contemporary African American Communication** (3) A focused study on the continuities between African and African American culture and communication.
Effective: Summer 2005
Prerequisite: SPCOM 100

AAA S 431 (US;IL) (HIST 431) **Black Liberation and American Foreign Policy** (3) This course deals with American foreign policy and Black liberation in Africa since 1945.
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 192;PL SC 001 orPL SC 014

AAA S 432 (IL) (HIST 432) **Between Nation and Empire: The Caribbean in the 20th Century** (3) An exploration of the political evolution of the Caribbean Region over the course of the 20th Century.
Effective: Summer 2005
Prerequisite: AAA S 250

AAA S 434 (IL) (PL SC 434) **War and Development in Africa** (3) This course will examine the relationship between war and development in sub-Saharan Africa in the post colonial era.
Effective: Summer 2006
Prerequisite: PL SC 114 orPL SC 003 orAAA S 110

AAA S 440 (US;IL) (PL SC 440, I B 440) **Globalization and Its Implications** (3) This course explores the socioeconomic implications of globalization.
Effective: Spring 2008
Prerequisite: AAA S 100 orAAA S 110 orPL SC 003 orPL SC 014 orPL SC 020 orPL SC 022

AAA S 443 (IL) (PL SC 443) **Ethnic Conflict in Africa** (3) This course explores the various causes and impacts of ethnic conflicts in the African context.
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 110, PL SC 001, PL SC 003, PL SC 007, PL SC 014, PL SC 017, PL SC 020 orAFRAS 301

AAA S 445Y (US) (LER 445Y, PL SC 445Y) **Politics of Affirmative Action** (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course andPL SC 001 orPL SC 007

AAA S 454 (IL) (PL SC 454) **Government and Politics of Africa** (3) Contemporary African Politics, institutions, and ideologies; patterns of change, social forces, and nation building in selected African states.
Effective: Summer 2005
Prerequisite: 3 credits from:AAA S 110, PL SC 003, PL SC 020 orPL SC 022

AAA S 459 (IL) (PL SC 459) **Culture and World Politics** (3) Role of culture in world politics.
Effective: Summer 2006
Prerequisite: PL SC 014

AAA S 460 (US;IL) (PHIL 460) **African American Philosophy** (3) Major works by African American Philosophers, on topics of race, freedom, citizenship, nationhood, law and society.
Effective: Fall 2009
Prerequisite: AAA S 100 orPHIL 009 and 5th semester standing

AAA S 464 (IL) (PL SC 464) **Globalization, Extractive Industries, and Conflict in Africa** (3) Socioeconomic and environmental impacts of extractive industries in Africa.
Effective: Summer 2008
Prerequisite: AAA S 110 or at least one of the following:PL SC 003 orPL SC 014 orPL SC 022

AAA S 465 (US) (HIST 465) **Civil Rights and American Politics 1933-1968** (3) The civil rights struggle and its impact upon American politics.
Effective: Summer 2005
Prerequisite: AAA S 100, HIST 021, HIST 152, PL SC 001 orPL SC 002

AAA S 469 (US) (ENGL 469) **Slavery and the Literary Imagination** (3) The impact of slavery on the petitions, poetry, slave narratives, autobiographies, and novels of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

AAA S 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

AAA S 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

AAA S 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

AAA S 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1994

AAA S 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject

which may be topical or of special interest.
Effective: Spring 1994

AAA S 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Agribusiness Management (AG BM)

AG BM 101 (GS) **Economic Principles of Agribusiness Decision Making** (3) Introduction to economic principles and their application to real world examples of agribusiness management issues.
Effective: Spring 2003

AG BM 102 **Economics of the Food System** (3) Introduction to topics designed to develop an understanding of how the food production, processing, and marketing system works and evolves.
Effective: Spring 2003

AG BM 106 **Agribusiness Problem Solving** (3) Development of quantitative problem solving skills applied to specific examples of agribusiness management problems, using EXCEL spreadsheets.
Effective: Spring 2006
Prerequisite: AG BM 101

AG BM 200 **Introduction to Agricultural Business Management** (3) Application of management principles and processes to agricultural business firms in their planning and operating in domestic and international markets.
Effective: Fall 2003

AG BM 220 **Agribusiness Sales and Marketing** (3) Principles underlying the sales process and practical application for selling situations in agribusiness. Role of selling in the total marketing process.
Effective: Spring 2006

AG BM 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Future: Fall 2010

AG BM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2004

AG BM 302 **Food Product Marketing** (3) Analysis of economic and psychological determinants of the demand for food; marketing decisions in an increasingly consumer-driven food system.
Effective: Spring 2003
Prerequisite: AG BM 101, AG BM 102, AG BM 106

AG BM 308W **Strategic Decision Making in Agribusiness** (3) Utilize case studies to investigate strategic decision making among agribusiness firms, highlighting how information and market power shape strategies.
Effective: Spring 2004
Prerequisite: AG BM 101, AG BM 102, AG BM 106

AG BM 320 **Markets and Prices: Analysis and Forecasting** (3) Understand how prices are determined; develop the skill to analyze and forecast how prices change as the underlying conditions change.
Effective: Summer 2002
Prerequisite: AG BM 101, AG BM 102, AG BM 106

AG BM 338 (IL) **Agribusiness in the Global Economy** (3) Managing agribusinesses in the global food industry, international food product marketing, key public institution and policies affecting food trade.
Effective: Spring 2006
Prerequisite: AG BM 101, AG BM 102, AG BM 106

AG BM 407 **Farm Planning and Financial Management** (3) Economic principles applied to the management of farms, with particular emphasis on the financial aspects of management.
Effective: Spring 2003
Prerequisite: AG BM 101, AG BM 106

AG BM 408 **Financial Decision Making for Agribusiness** (3) Develop financial management and business analysis skills, integrating previous course work and finance training; principles of financial management, planning, control.
Effective: Spring 2004
Prerequisite: AG BM 308W, B A 301

AG BM 420 **Agribusiness Markets & Prices** (3) Understand and forecast price level and volatility for commodities, differentiated products, services. Why markets work and why they may not.
Effective: Spring 2004
Prerequisite: 6 credits in Agribusiness Management Business Administration Agricultural Economics and/or Economics

AG BM 440 **Food Product Innovation Management** (3) A problem-based course designed to enhance decision-making skills in the context of industry's approach to developing new food products.
Effective: Fall 2003
Prerequisite: AG BM 302 or junior/senior standing in Food Science

AG BM 460 **Managing the Food System** (3) Firm management in the food system; coordination with suppliers and customers, including supply chain management, strategic thinking, risk management.
Effective: Spring 2003
Prerequisite: AG BM 320, AG BM 338

AG BM 495A **Internship in Agribusiness and Rural Development** (1-6) Supervised field experience in an agribusiness or rural development setting.
Effective: Spring 2003
Prerequisite: prior approval by department

AG BM 495B **Internship in International Agribusiness** (6) Supervised field experience related to student's major, minor, or option.
Effective: Spring 2003
Prerequisite: prior approval by department

AG BM 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2003

AG BM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2004

AG BM 497B **United Kingdom Study Abroad Program** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AG BM 497B **United Kingdom Study Abroad Program** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AG BM 499 (IL) **Foreign Studies - Agribusiness Management** (1-12) Study in selected countries of agricultural economic institutions and current agricultural economic problems.
Effective: Spring 2006

Last Import from UCM: May 29, 2010 3:00 AM

Agricultural Communications (AGCOM)

AGCOM 462W **Advanced Agricultural Writing** (3) Practice in journalistic writing strategies to report scientific and technical information in the agricultural/environmental sciences to general audiences.
Effective: Spring 2001
Prerequisite: a grade of C or better required inCOMM 260W or equivalent coursework

AGCOM 495 **Internship** (1-3) Supervised field experiences related to student's professional interest in agricultural communications; limited to minors in agricultural communications.
Effective: Summer 1993
Prerequisite: a grade of C or better required inCOMM 260W ; and prior approval of the professor-in-charge of Minor

Last Import from UCM: May 29, 2010 3:00 AM

Agricultural Economics (AG EC)

AG EC 201 (CED 201) **Introductory Environmental and Resource Economics** (3) Apply principles of economics to analyze environmental protection policies and natural resource use decisions. Examine contemporary policy issues.
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG BM 101 orECON 002

AG EC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983 Ending: Summer 2010

AG EC 404 (CED 404) **Methods in Natural Resource and Environmental Economics** (3) Empirical research methodology in the areas of environmental and natural resource economics.
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG EC 201 orECON 302, ECON 428

AG EC 429 (E RRE 429) **Natural Resource Economics** (3) Optimal management of resources; roles of markets and other institutions; resources and economic development; public policy.
Effective: Summer 2002 Ending: Summer 2010
Prerequisite: ECON 302

AG EC 430 (CEDEV 430) **Principles of Community Economic Development** (3) Concepts, strategies and techniques of local economic analysis, planning and development; case studies and decision-making exercises.
Effective: Spring 2004
Prerequisite: introductory course in economics

AG EC 431W (E RRE 431W) **Economic Analysis of Environmental and Resource Policies** (3) Economic Analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques, resource damage assessment.
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

AG EC 450 (IL) **International Development, Renewable Resources, and the Environment** (3) Theories of agricultural and economic development, with particular attention to interactions between development, renewable resources, and the environment.
Effective: Summer 2005 Ending: Summer 2010
Prerequisite: 6 credits in agricultural economics or economics

Last Import from UCM: May 29, 2010 3:00 AM

Agricultural Science (AG SC)

AG SC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1985

AG SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

AG SC 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

AG SC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

AG SC 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

AG SC 495 **Internship** (1-10) Independent study and supervised field experience related to the student's professional interest. Intended for Agricultural Science majors.
Effective: Summer 1985
Prerequisite: fifth-semester standing in the Agricultural Science major with a G.P.A. of 2.00 or greater and prior approval of proposed plan before registration

AG SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1985

AG SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

AG SC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Agricultural Systems Management (A S M)

A S M 101 **Mechanization Principles for Production Agriculture** (3) Applying engineering and mechanization principles for selection and application of agricultural equipment, structural environmental control, and soil and water conservation.
Effective: Summer 1994

A S M 210 **Turfgrass and Outdoor Power Equipment Systems Management** (2) Management of turfgrass and outdoor power equipment (OPE) systems. Application of mechanical systems in the turfgrass and OPE industry.
Effective: Summer 2005
Prerequisite: MATH 021 or equivalent

A S M 217 **Landscape Soil and Water Management** (3) Landscape soil and water management and practices including irrigation, hydrology, erosion, open channel, drainage, and impoundments.
Effective: Spring 2001

A S M 221 **Introduction to Agricultural Systems Management** (3) Application of engineering principles critical to agricultural systems management.
Effective: Summer 1994
Prerequisite: MATH 110, PHYS 250

A S M 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1994

A S M 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1994

A S M 307 **Golf Course Irrigation and Drainage** (3) Golf course irrigation systems; including sprinkler selection; piping; control systems; scheduling. Surface and subsurface drainage topics. Note: Students may not take both A S M 217 and A S M 307 for credit.
Effective: Spring 2006
Prerequisite: MATH 021, SOILS 101

A S M 309 (E R M 309) **Measurement & Monitoring of Hydrologic Systems** (3) Introduction to measurement and monitoring equipment/techniques commonly used in analyses and design of hydrologic systems.
Effective: Spring 2010
Prerequisite: PHYS 211 orPHYS 250, CHEM 110

A S M 310 **Power Transmission in Agriculture** (3) Selection and maintenance of mechanical, hydraulic, and pneumatic power transmission components and systems. Electric motor principles and controls.
Effective: Spring 2004
Prerequisite: or concurrent:A S M 221

A S M 320 **Combustion Engines for Mobile Equipment** (3) Operating principles of internal combustion engines; performance, selection, and maintenance aspects of engine systems in mobile equipment.
Effective: Spring 2004
Prerequisite: A S M 310

A S M 326 **Hazard Identification and Control in Production Agriculture and Related Businesses** (2) Identification and control of hazards common to farms and agriculturally related rural businesses, including structures, equipment, animals, chemicals, outdoor environment.
Effective: Summer 2002
Prerequisite: third-semester or higher

A S M 327 **Soil and Water Resource Management** (3) Soil and water management systems and practices including hydrology, surface drainage, open channels, and erosion, subsurface drainage, impoundments and irrigation.
Effective: Summer 1994
Prerequisite: PHYS 250

A S M 327L **Soil and Water Resource Management** (3) Soil and water management systems and practices including hydrology, surface drainage, open channels, and erosion, subsurface drainage, impoundments and irrigation.
Effective: Summer 1994
Prerequisite: PHYS 250

A S M 327P **Soil and Water Resource Management** (3) Soil and water management systems and practices including hydrology, surface drainage, open channels, and erosion, subsurface drainage, impoundments and irrigation.
Effective: Summer 1994
Prerequisite: PHYS 250

A S M 391 (GWS) (B E 391) **Contextual Integration of Communication Skills for the Technical Workplace** (2) To develop corporate communication skills in technically focused students in a contextual manner.
Effective: Fall 2008

Prerequisite: Junior level standing in B E or A S M

A S M 392 (GWS) (B E 392) **Contextual Integration of Leadership Skills for the Technical Workplace** (2) To develop corporate leadership skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: A S M 391 junior level standing in B E or A S M

A S M 420 **Off-Road Power Units** (3) Cabs, traction, power allocation, and electronic systems for tractors and other off-road vehicles; requirements for production agriculture, logging, and construction.
Effective: Spring 2008
Prerequisite: or concurrent:A B E 306 orA S M 320

A S M 422 **Environmental Systems for Agricultural Buildings** (3) Planning and layout of environmental control systems for agricultural production and storage buildings; functional planning of agricultural buildings.
Effective: Summer 1994
Prerequisite: A S M 221

A S M 424 **Selection and Management of Agricultural Machinery** (3) Function and operation of field and farmstead machines; energy, quality, and loss considerations; selection and utilization; precision agriculture technology.
Effective: Spring 2008
Prerequisite: or concurrent:A B E 306 orA S M 320

A S M 425 **Physical Principles in Agricultural Processing** (3) Dimensions and units, mass and energy balances, fluid flow, heat transfer in the context of specific agricultural process applications.
Effective: Spring 2010
Prerequisite: A S M 221

A S M 426 **Management of Safety and Health Issues in Production Agriculture and Related Businesses** (3) Management of safe workplaces and workers, hazard identification, employee training, legal responsibilities, and program development for farms and related businesses.
Effective: Summer 2002
Prerequisite: A S M 326

A S M 428 **Electric Power and Instrumentation in Agriculture** (3) Basic principles and applications of electric circuits for power distribution, electric motors, automatic controls, and instrumentation used in agriculture.
Effective: Spring 2001
Prerequisite: A S M 221, A S M 310

A S M 429W **Agricultural Systems Analysis and Management** (3) Theory of systems thinking; optimization and quantitative techniques for analysis of agricultural production and processing systems.
Effective: Spring 2010
Prerequisite: A S M 422, A S M 425

A S M 490 **Agricultural Systems Management Seminar** (1) Senior seminar to prepare Agricultural Systems Management graduates for positions in business, industry, government service and to foster continuing professional growth. .
Effective: Spring 2001
Prerequisite: sixth-semester standing

A S M 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1994
Prerequisite: prior approval of proposed assignment by instructor

A S M 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1994

A S M 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1994

Last Import from UCM: May 29, 2010 3:00 AM

Agricultural and Biological Engineering (A B E)

A B E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008 Ending: Summer 2010

A B E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008 Ending: Summer 2010

A B E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Agricultural and Extension Education (AEE)

AEE 100 **Agricultural Education Orientation** (2) Examination of agricultural and extension education; exploration of aptitude and interest in teaching, including early clinical practicum.
Effective: Summer 1999

AEE 201 (GS) **Interpersonal Skills for Tomorrow's Leaders** (3) Study of concepts of self identity, values and interpersonal relations as related to professional and personal life.
Effective: Summer 2008

AEE 205 **Teaching Agricultural and Environmental Science Competencies** (1 per semester, maximum of 2) Practicum to develop students' pedagogical and technical competence for teaching agricultural mechanics; agricultural business management; plant, animal, and soil science.
Effective: Summer 1999

AEE 295 **Observation of Teaching in Agriculture and Environmental Science** (1-3) Supervised observation of teacher and student activities in a selected high school; appraisal of related responsibilities of teachers of agriculture.
Effective: Summer 1999

AEE 296 **Independent Studies** (1-12) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1999

AEE 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1999

AEE 297A **Practical Parliamentary Procedure** (2) This course will emphasize the motions and procedures used in business meetings of civic organizations, boards, committees, corporations, and conventions.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AEE 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1999

AEE 311 **Developing Youth Leadership through Organization and Program Structure** (3) Basic strategies and procedures for effectively coordinating Supervised Occupational Experiences, Future Farmers of America, and Young Farmer Association activities in secondary and postsecondary schools.
Effective: Summer 1999

AEE 313 **School-Based Program Planning and Instructional Development** (2) Planning and developing courses of study, summer programs, advisory committees, and facilities for vocational agriculture.
Effective: Summer 1999
Prerequisite: AEE 100, AEE 295, AEE 311

AEE 330W **Communication in Agricultural and Natural Resource Careers** (3) The course explores the conventions of writing and speaking found in agricultural professions through the use of case studies.
Effective: Summer 1999
Prerequisite: ENGL 015

AEE 350 **Teaching Methods for Agricultural and Environmental Laboratories** (3) An introductory course that prepares students to instruct and manage students in laboratory settings.
Effective: Fall 2001

AEE 360 **Leadership Development for Small Groups** (3) Students will learn about leadership dynamics in small groups and how to be more influential in work settings.
Effective: Spring 2000

AEE 395 **Internship** (1-13) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.
Effective: Summer 1999
Prerequisite: prior approval of proposed assignment by instructor

AEE 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1999

AEE 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1999

AEE 400 **Educational Programs in Agriculture for Developing Countries** (3) Development and implementation of educational programs in agriculture in developing countries.
Effective: Summer 1999
Prerequisite: INTAG 100 orINTAG 481

AEE 412 **Methods of Teaching Agriculture and Environmental Science** (4) Instructional strategies and media; directing individual and group learning activities; assessing student performance and quality of instruction in vocational agriculture.
Effective: Fall 2001

AEE 413 **Program Planning and Instructional Development** (3-4) A course in planning, developing, and organizing school-based curriculum, summer programs, advisory councils, and facilities for environmental/ agricultural education.
Effective: Fall 2001

AEE 418 **Effective Laboratory Development for Agricultural and Environmental Science** (1-4) Current problems and practices; issues and policies; relationships involving other educational services and agencies.
Effective: Spring 2000

AEE 424 **Workforce Guidance in Agricultural Industry** (1-4) Opportunities and developments in agricultural industry, on-farm agricultural work, professional agricultural positions, and off-farm, nonprofessional agricultural occupations.
Effective: Spring 2000

AEE 426 **Adult Education in Agriculture and Natural Resources** (1-4) Organization, conduct, and appraisal of instruction in agriculture to include farming and off-farm agricultural occupations.
Effective: Summer 1999
Prerequisite: AEE 311

AEE 430 (RPTM 430) **Environmental Education Methods and Materials** (3) Methods and materials for developing, implementing, and evaluating environmental education programs within formal and non-formal educational settings.
Effective: Spring 2005
Prerequisite: AEE 100 orRPTM 325

AEE 434 **Agricultural and Environmental Development** (1-6) Intensive professional and technical treatment of various subject-matter fields to aid teachers in maintaining competence.
Effective: Summer 1999
Prerequisite: senior-year standing or experience as a teacher or extension agent

AEE 437 (AN SC 437) **Equine Facilitated Therapy** (3) Equine Facilitated Therapy uses equine-related activities to contribute positively to the wellbeing of people with disabilities.
Effective: Spring 2002

AEE 440 **Communication Methods and Media** (3) Mass media techniques for reporting and promoting extension and related programs, including message preparation, presentation, and strategy development.
Effective: Spring 2001
Prerequisite: 3 credits in communication

AEE 450 **Program Design and Delivery** (3) Principles, methods, and practices of extension education in agriculture, community resource development, family living, environmental affairs, 4-H, and youth programs.
Effective: Spring 2004
Prerequisite: 6 credits in social or behavioral sciences

AEE 460 **Foundations in Leadership Development** (3) This course explores historical and contemporary leadership theories, models and perspectives within social, cross-cultural, and political contexts.
Effective: Spring 2001
Prerequisite: AEE 360

AEE 465 **Leadership Practices: Power, Influences, and Impact** (3) Explores the leader role as it relates to issues of purpose, social responsibility, political influences, and legal constraints.
Effective: Spring 2000

AEE 490 **Colloquium** (1-3) Seminars consisting of a series of individual lectures by faculty, students, or outside speakers.
Effective: Summer 1999

AEE 495 **Internship in Agricultural and Extension Education** (1-15) Participation in the total program of instruction in agriculture in a selected high school.
Effective: Summer 1999
Prerequisite: AEE 412, AEE 413

AEE 495A **Student Teaching in AG** (1-12) Participation in the total program of instruction in agriculture in a selected high school.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AEE 412, AEE 413

AEE 495C **Student Teaching in Environmental Science** (1-12) Participation in the total program of instruction in agriculture in a selected high school.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AEE 412, AEE 413

AEE 495D **Internship - Leadership** (3) Participation in the total program of instruction in agriculture in a selected high school.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: AEE 412, AEE 413

AEE 495D **Internship in Agricultural and Extension Education** (1-15) Participation in the total program of instruction in agriculture in a selected high school.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: AEE 412, AEE 413

AEE 495D **Internship - Leadership** (1-15) Participation in the total program of instruction in agriculture in a selected high school.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AEE 412, AEE 413

AEE 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1999

AEE 496A **Introduction to Research Methods - McNair Scholars** (3) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AEE 496B **McNair Scholar Reserach** (3) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AEE 497 **Special Topics** (1-9) Formal courses given on topical or special interest subjects which may be offered infrequently.
Effective: Fall 1999

AEE 497A **An International Experience in Extension Education, Guanajuato Mexico** (1) Formal courses given on topical or special interest subjects which may be offered infrequently.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AEE 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1999

AEE 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Agriculture (AG)

AG 100 **Job Placement Skills and Strategies** (1) Strategies and skills designed to identify career/life goals and implement career decisions.
Effective: Fall 1983 Ending: Summer 2010

AG 100 (SC 101) **Job Placement Skills and Strategies** (1) Strategies and skills designed to identify career/life goals and implement career decisions.
Effective: Fall 2010 Future: Fall 2010

AG 113 **Exploring Careers in Agriculture** (1) Examination of career opportunities in agriculture with an exploration of the relationship between student interest and career decisions.
Effective: Spring 1984

AG 150S **Be a Master Student!** (2) Students explore agricultural issues and research methodologies through literature review, library searches, field studies, and critical thinking.
Effective: Summer 1999
Prerequisite: first- or second-semester standing

AG 160 (GH) **Introduction into Ethics and Issues in Agriculture** (3) The course explores ethical theories, concepts of critical thinking, and major ethical issues related to American agriculture.
Effective: Summer 1999

AG 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

AG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1998

AG 301W **Introduction to Agricultural Law** (3) A survey of the legal system and legal issues that typically arise in agricultural and agribusiness situations.
Effective: Fall 1987

AG 400 **Biometry/Statistics in the Life Sciences** (4) Application of statistical techniques to experimental and survey research in the life sciences.
Effective: Fall 1986
Prerequisite: 6 credits in the natural sciences

AG 451 (FOR 451) **Artificial Intelligence and Expert Systems for Agriculture and Natural Resource Management** (3) Application of artificial intelligence in agriculture and natural resources, with emphasis on expert systems.
Effective: Spring 1992
Prerequisite: one course in computer science or computer applications

AG 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

AG 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

AG 495 **Internship** (1-18) Independent study and supervised field experience related to the student's major. Written and oral critique of activity required.
Effective: Spring 1993
Prerequisite: approval of proposed assignment by instructor prior to advance registration deadline in semester preceding that semester in which the assignment is to be carried out

AG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1991

Last Import from UCM: May 29, 2010 3:00 AM

Agroecology (AGECO)

AGECO 121 (GN) **Plant Stress: It's Not Easy Being Green** (3) The many hazards faced by plants and the dynamic ways that plants respond to these problems are examined.
Effective: Spring 2005

AGECO 122 (GN) (METEO 122) **Atmospheric Environment: Growing in the Wind** (3) Dynamic effects of weather on ecosystems and habitation of Earth.
Effective: Summer 2006

AGECO 134 (GN) (R SOC 134) **Sustainable Agriculture Science and Policy** (3) The science, socio-economics, and politics of managing food and fiber production systems. Sustainability implications of current practices and future options.
Effective: Spring 2007

AGECO 144 (GN) **Principles and Practices of Organic Agriculture** (3) An introduction to the science, principles and practices of organic agricultural systems for food production.
Effective: Spring 2010

AGECO 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2005

AGECO 197A **Principles of Agronomic Field Operations** (2) Field based class to explore the practical aspects of agronomic crop production from planting to harvesting.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AGECO 201 **Introductory Agroecology** (3) Introduction to the processes and considerations that lead to the development of integrated solutions to crop production problem solving.
Effective: Spring 2005

AGECO 295 **Agroecology Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2005

AGECO 418 (AN SC 418, SOILS 418) **Nutrient Management in Agricultural Systems** (3) Comprehensive review of nutrient flow in animal agricultural systems, environmental regulations, and environmental stewardship practices.
Effective: Summer 2003

AGECO 438 (AGRO 438) **Principles of Weed Management** (4) Weedy plant taxonomy, biology and ecology of weedy plant populations, and integration of biological, chemical, cultural and biological controls.
Effective: Fall 2009
Prerequisite: 6 credits in plant sciences

AGECO 457 (CI ED 457) **Principles of Integrated Pest Management** (3) Integrated study of pest complexes and their management, emphasizing ecological principles drawing on examples from a range of agricultural, forestry and urban systems. This course is designed for sixth, seventh, and eighth semester students and graduate students.
Effective: Spring 2010
Prerequisite: Must take two or more of the following:ENT 313 and/orPPATH 405 and/orPPATH 318 and/orHORT 238

AGECO 461 **Emerging Issues in Agroecosystem Management** (3) A discussion-based capstone course that elucidates the interdisciplinary issues facing agriculture today.
Effective: Fall 2009
Prerequisite: SOILS 101

AGECO 490 **Agroecology Colloquium** (3) Students will be discussing topics related to the major and develop presentations in consultation with the course instructor.
Effective: Spring 2006
Prerequisite: 3 credits in agroecosystems science

AGECO 495 **Agroecology Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2005

AGECO 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2006

AGECO 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

AGECO 499 (IL) **Foreign Studies** (1-2 per semester/maximum of 4) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Agroecosystems Science (AGESS)

AGESS 460 **Integrated Pest Management Systems Design** (3) This course will provide students with the principles and concepts necessary to develop the components of Integrated Pest Management systems.
Effective: Fall 2009
Prerequisite: AGECO 201, AGRO 438, ENT 313, ENT 316, PPATH 405

AGESS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

Last Import from UCM: May 29, 2010 3:00 AM

Agronomy (AGRO)

AGRO 028 **Principles of Crop Management** (3) Biological and agronomic principles applied to production and management of major feed and forage crops of the northeastern United States.
Effective: Winter 1978
Prerequisite: 6 credits in biological science

AGRO 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1990

AGRO 410W **Crop Science** (4) Study of the relation of crop plants to their environment, crop ecology, and the physiology of crop growth.
Effective: Spring 1996
Prerequisite: AGRO 028, BIOL 102

AGRO 423 **Forage Crop Management** (3) Application of agronomic, ecological, and physiological principles to the production and management of pasture and forage crops.
Effective: Winter 1978
Prerequisite: AGRO 028

AGRO 425 **Field Crop Management** (3) Application of agronomic, ecological, and physiological principles to management systems for the efficient production of the major field crops.
Effective: Winter 1978
Prerequisite: AGRO 028

AGRO 438 (AGECO 438) **Principles of Weed Management** (4) Weedy plant taxonomy, biology and ecology of weedy plant populations, and integration of biological, chemical, cultural and biological controls.
Effective: Fall 2009
Prerequisite: 6 credits in plant sciences

AGRO 438B **Weed Identification** (1) Identification of 150 weeds common to the Northeastern United States.
Effective: Summer 1999
Prerequisite: 6 credits in plant sciences

AGRO 460 (BIOTC 460) **Advances and Applications of Plant Biotechnology** (3) This course provides a comprehensive overview and current status of plant biotech research. The course provides knowledge of plant systems that fall in the category of GMOs.
Effective: Spring 2009
Prerequisite: BIOL 230W orB M B 251

AGRO 489 **Supervised Experience in College Teaching** (1-3) Participate with instructors in teaching an undergraduate agronomy course; assist with teaching, evaluation, and development of instructional materials.
Effective: Summer 1996
Prerequisite: AGRO 028 approval of instructor

AGRO 490 (SOILS 490) **Colloquium** (1) Continuing written and oral presentations developed by students in consultation with the course instructor.
Effective: Fall 1993
Prerequisite: seventh-semester standing

AGRO 495 **Internship** (1-5) Supervised field experience related to the student's major.
Effective: Fall 1981
Prerequisite: approval of proposed assignment by instructor prior to registration.

AGRO 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

AGRO 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

Last Import from UCM: May 29, 2010 3:00 AM

Air Force (AIR)

GENERAL MILITARY COURSE

AIR 151 **The Foundations of the United States Air Force I** (2) Survey course designed to introduce students to Air Force opportunities, officership, professionalism, and military customs and courtesies, and communication skills.
Effective: Spring 2000

AIR 152 **The Foundations of the United States Air Force II** (2) Continued study of officership and leadership. Mission and organization of today's Air Force are discussed.
Effective: Spring 2000

AIR 251 **The Evolution of USAF Air and Space Power I** (2) Examines aspects of air and space power from the first balloons to the beginning of the Cold War era.
Effective: Spring 2000

AIR 252 **The Evolution of USAF Air and Space Power II** (2) Continued examination of air and space power from the Cold War era to the Persian Gulf War and beyond.
Effective: Spring 2000

PROFESSIONAL OFFICER COURSE

AIR 351 **Leadership Studies I** (3) Study of leadership, management fundamentals, and communication skills required of Air Force officers. Students apply these concepts using case studies.
Effective: Spring 2000

AIR 352 **Leadership Studies II** (3) Continued study of leadership includes professional knowledge, AF personnel evaluation systems, and leadership ethics. Students apply concepts using case studies.
Effective: Spring 2000

AIR 451 **National Security Affairs/Preparation for Active Duty I** (3) This course examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine.
Effective: Spring 2000

AIR 452 **National Security Affairs/Preparation for Active Duty II** (3) Topics focus on preparation for military service after commissioning and current issues affecting the Air Force way of life.
Effective: Spring 2000

Last Import from UCM: May 29, 2010 3:00 AM

American Studies (AM ST)

AM ST 050 (GH) **The Literature and Lore of Mining** (3) Experience and values of mining tradition: survey of the literature and lore, including field research.
Effective: Spring 2004

AM ST 083S (GH) **First-Year Seminar in American Studies** (3) Critical approaches to the interdisciplinary study of American culture.
Effective: Summer 1999

AM ST 100 (GH;US) **Introduction to American Studies** (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 100U (GH;US) **Introduction to American Studies** (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: third-semester standing

AM ST 100Y (GH;US) **Introduction to American Studies** (3) A study of selected attempts to identify and interpret movements and patterns in American culture.
Effective: Spring 2006
Prerequisite: third-semester standing

AM ST 103 (GH;US) **American Masculinities** (3) Introduction to aspects of masculinities and manhood in America.
Effective: Summer 2008

AM ST 104 (GH;US) (WMNST 104) **Women and the American Experience** (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.
Effective: Summer 2005

AM ST 105 (GH;US) (ENGL 105) **American Popular Culture and Folklife** (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2008

AM ST 105U (GH;US) **American Popular Culture and Folklife** (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AM ST 108 **The American Dream and the Vietnam War** (3) Interdisciplinary study of the Vietnam War experience ad it affected American culture; focus on legacies including gender, race, and ethnicity.
Effective: Spring 1992

AM ST 140Y (GH;US) (RL ST 140Y) **Religion in American Life and Thought** (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

AM ST 187 **American Studies Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2001
Prerequisite: first-semester standing

AM ST 187S **Revisiting Jefferson's Washington: Research/Writing/Presentation** (3) The in-situ seminar will teach hands-on and electronic research/writing skills in a collaborative/laptop setting.
Effective: Summer 1999

AM ST 187T **Revisiting Jefferson's Washington: Research/Writing/Presentation** (3) The in-situ seminar will teach hands-on and electronic research/writing skills in a collaborative/laptop setting.
Effective: Summer 1999

AM ST 193 (ENGL 193) **American Folk Song in English** (3) British songs in America; native repertoire, white and black; folk ballad; and musical development.
Effective: Fall 1993

AM ST 196 (GH;US) (ENGL 196, AMSTD 196) **Introduction to American Folklore** (3) A basic introduction to verbal and

non-verbal folklore stressing the basic procedures of collection, classification, and analysis.
Effective: Summer 2005

AM ST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

AM ST 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

AM ST 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

AM ST 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

AM ST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

AM ST 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 301 (GH) **American Civilization** (3) An interdisciplinary overview of major themes, works, and events, in American history and culture.
Effective: Fall 2007
Prerequisite: HIST 020 orHIST 021 or 3 credits in American Studies

AM ST 302 **Approaches to American Studies** (3) A survey of the American Studies movement and its scholarship, emphasizing changes in theories, methods, and topics.
Effective: Fall 2007
Prerequisite: AMSTD major or permission of program

AM ST 307 (GA;US) (ART H 307) **American Art** (3) History of art in the English colonies and the United States from the seventeenth century to the present.
Effective: Spring 2008

AM ST 320 **Pennsylvania Studies** (3) Study of selected topics on the history, society, and culture of Pennsylvania (May be repeated for credit).
Effective: Fall 2007
Prerequisite: HIST 012 or 3 credits of American Studies

AM ST 321 (US) **American Indian Studies** (3 per semester, maximum of 99) A study of American Indian history, societies and cultures (may be repeated for credit).
Effective: Fall 2007
Prerequisite: 3 credits of American Studies or ANTH 146 or HIST 153

AM ST 322 (US) **Ethnic America** (3) A study of the sources, contributions, and conflicts of ethnic groups in the American experience.
Effective: Fall 2007
Prerequisite: 3 credits of American Studies or HIST 158 or SOC 119.

AM ST 323 **American Folklore and Folklife** (3) A study of American folklore and folklife, including folkloristic approaches to verbal, gestural, social, and material expressions of culture.
Effective: Fall 2007
Prerequisite: 3 credits of American Studies

AM ST 324 **Popular Culture** (3) An examination of mass media and society and the impact of popular culture.
Effective: Fall 2007
Prerequisite: AM ST 105 or 3 credits of American Studies

AM ST 325 (PUBPL 325) **American Political Culture** (3) Study of political culture in the United States.
Effective: Fall 2007
Prerequisite: 3 credits of American Studies Political Science Public Policy or Sociology

AM ST 363 **American Music** (3) A survey of all styles and types of American music from 1620 to the present.

Effective: Fall 2007
Prerequisite: 3 credits of AMSTD and MUSIC

AM ST 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

AM ST 400 **Early America to 1765** (3) American society and culture in the colonial period.
Effective: Fall 2007
Prerequisite: 6 credits in American Studies or History

AM ST 401 **Revolution and Early Republic, 1765-1815** (3) American society and culture during the period of the Revolution and the Early Republic.
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History or 5th semester standing

AM ST 402 **Antebellum and Civil War Era, 1815-1876** (3) Social and cultural conditions, sectional rivalry, political crises, warfare, and Reconstruction from 1815 to 1876.
Effective: Fall 2007
Prerequisite: 6 credits in American Studies or History

AM ST 404 **Industrial America** (3) An analysis of American politics, literature, society, and economics from the 1870s to World War II.
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History

AM ST 405 **Cold War** (3) Examination of social and cultural currents in American life from World War II to 1990.
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History

AM ST 406 **Contemporary America** (3) A study of the historic and cultural currents of life in the United States during the recent past.
Effective: Fall 2007
Prerequisite: HIST 021 or 6 credits of American Studies

AM ST 410 (INART 410) **Early Pennsylvania Decorative Arts and Furniture** (3) The study of Pennsylvania and related furniture, pottery, paintings, and decorative arts of the seventeenth, eighteenth, and early nineteenth centuries.
Effective: Spring 2008

AM ST 412 **American Eras** (3) Examination in depth of various and distinctive American time periods; subtitle expresses specific content. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History

AM ST 415 (INART 415) **Nineteenth Century Pennsylvania Architecture and Restoration** (3) Interior and exterior design of early Pennsylvania architecture; understanding and evaluation of and experience in restoration.
Effective: Spring 2008
Prerequisite: AM ST 410

AM ST 417 **American Beliefs and Myths** (3) A study of symbols, beliefs, and myths in the American experience; subtitles express specific content. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits of American Studies

AM ST 421 (PHIL 401) **American Philosophy** (3) Survey of key figures and movements in American thought, including the Transcendentalists, the Pragmatists, and contemporary developments.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy or 6 credits of philosophy at the 200-level or 5th semester standing

AM ST 422 (RL ST 422) **Religion and American Culture** (3 per semester, maximum of 6) Selected topics, problems, or historical movements in American religion; relation between religion and American culture.
Effective: Summer 1996

AM ST 430 (US) (WOMST 430) **Women in American Society** (3) A historical study of women's roles and experiences in the United States.
Effective: Fall 2007
Prerequisite: 6 credits of American Studies Sociology or Women's Studies

AM ST 431 **National Character** (3) An examination of the characteristics of the American people and other national groups.
Effective: Fall 2007
Prerequisite: AM ST 301 or 6 credits in American Studies

AM ST 432 **Ethnicity and the American Experience** (3) Theoretical and conceptual framework of ethnic studies: examination of specific issues related to major American ethnic and racial groups.
Effective: Fall 2007

AM ST 435 **Americans at Work** (3) A study of occupational and organizational cultures in America.

Effective: Fall 2007
Prerequisite: 6 credits in American Studies or Labor and Industrial Relations or Sociology

AM ST 439 **American Regional Cultures** (3-6) An interdisciplinary study of the culture of a region of the United States, such as the south or the west.
Effective: Fall 2007
Prerequisite: seventh-semester standing

AM ST 441 (US) (KINES 441) **History of Sport in American Society** (3) Background, establishment, and growth of sport in America from colonial times to the present.
Effective: Fall 2007
Prerequisite: KINES 141 or 3 credits of United States history

AM ST 448 (ANTH 448) **Ethnography of the United States** (3) Ethnographic descriptions of various dimensions of life in the United States.
Effective: Fall 2007
Prerequisite: ANTH 045

AM ST 460 **American Art and Architecture of the Seventeenth and Eighteenth Centuries** (3) Survey of American painting, sculpture, decorative arts, and architecture of seventeenth and eighteenth centuries with special emphasis on non-British cultures.
Effective: Fall 2007

AM ST 461 **American Art and Architecture of the Nineteenth Century** (3) A survey of American painting, sculpture, decorative arts, and architecture of the nineteenth century.
Effective: Fall 2007

AM ST 462 **American Art and Architecture of the 20th Century** (3) A survey of American painting, sculpture, decorative arts, and architecture of the twentieth century.
Effective: Fall 2007

AM ST 472 (ENGL 434) **Topics in American Literature** (3) Focused study of a particular genre, theme, or problem in American literature. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits of ENGL ENLSH or LIT

AM ST 475 (US) (ENGL 431) **Black American Writers** (3 per semester, maximum of 6) A particular genre or historical period in the development of Black American literature.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030

AM ST 476 (ENGL 492, WMNST 491) **American Women Writers** (3) A study of selected American women writers.
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

AM ST 479 **American Expressive Forms** (3) Examination in depth of various and distinctive American expressive forms; subtitle expresses specific content. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

AM ST 480 **Museum Studies** (3) An introduction to the basic purposes, philosophies, and functions of a museum, with emphasis on the problems of museum administration. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

AM ST 481 **Historic Preservation** (3) A study of preservation practices and programs in America.
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

AM ST 482 **Public Heritage** (3) A study of public heritage practices and programs in America. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

AM ST 483 **Oral History** (3) A study of oral history techniques and issues in America.
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

AM ST 484 **Archives and Records Management** (3) A study of archives and records management in America.
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

AM ST 491W **American Themes, American Eras** (3-6) Interdisciplinary American culture course on major themes and eras such as the American Revolutionary Era or the 1930s.
Effective: Fall 2007
Prerequisite: seventh-semester standing

AM ST 493 (ENGL 493) **The Folktale in American Literature** (3) A survey of the literary uses of the folktale and legendary materials, with particular concentration on the literature of America.

Effective: Spring 1986
Prerequisite: ENGL 015 orENGL 030

AM ST 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

AM ST 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

AM ST 495 **Internship** (1-6) Supervised internship for undergraduate or graduate American Studies majors at a museum or another cultural, historical, or arts agency.
Effective: Fall 2007
Prerequisite: senior-level status for undergraduate students; 18 credits of course work in major for graduate students; approval of program required

AM ST 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

AM ST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

AM ST 497A **Community Based Learning: Writing Local Jewish History** (3) Students in this course will participate in community-based learning (CBL) in Berks County, PA and will also conduct and report research about CBL.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AM ST 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Animal Science (AN SC)

AN SC 037 **Horse and Man** (2) Relationship of horse and man; development of breeds; use, adaptability, and economic importance of the horse in today's society.
Effective: Summer 1984

AN SC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 100 **Animal Agriculture** (3) Magnitude, importance, and complexity of the beef, dairy, horse, poultry, sheep, and swine industries, with particular emphasis on Pennsylvania agriculture.
Effective: Spring 1985

AN SC 107 **Introduction to Equine Science and the Equine Industry** (2) Prepare students to proceed into further studies in equine science by providing background to communicate effectively with educators and industry.
Effective: Summer 2010

AN SC 110S **Contemporary Issues in Animal Biotechnology and Society** (1) An introductory survey of animal biotechnology in society, the role for biotechnology and how it will benefit society.
Effective: Spring 2003

AN SC 117 **Equine Marketing** (2) Principles of marketing and event planning including marketing systems, advertising, management systems, team building and other aspects of conducting a purebred livestock sale. Students learn through the planning and conducting of the annual Penn State Equine Science Showcase and Registered Quarter Horse Sale.
Effective: Spring 2009

AN SC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 201 **Animal Science** (4) Scope of animal and poultry science; genetic, physiological, nutritional, and health factors in food production.
Effective: Spring 2009

AN SC 207 (FD SC 207) **Animal Products Technology** (2) Composition, safety, palatability, preservation, and processing of foods from animals, impact of animal production, and handling practices on product properties.
Effective: Spring 2003

AN SC 208 (FD SC 208) **Animal Products Technology Laboratory** (1) Harvesting and processing of foods from animals; hands-on and demonstration exercises; industry procedures for processing meat, milk, and egg products.
Effective: Summer 2002
Prerequisite: or concurrent:AN SC 207

AN SC 211 **Introduction to Avian Biology** (3) Introduces the biology of birds; lectures, laboratories on anatomy and function, incubation, breeding, disease control, management techniques, and student projects.
Effective: Summer 1999
Prerequisite: or concurrent:BIOL 110 ; orBIOL 011, BIOL 012

AN SC 213 **Introduction to Animal Biotechnology** (3) An introduction to the multidisciplinary area of animal biotechnology: from molecular, genetic, genomics and development issues to their technological applications.
Effective: Spring 2009
Prerequisite: AN SC 201, BIOL 110, CHEM 110, CHEM 112

AN SC 215 (GS) **Pets in Society** (3) Introduction to the varied roles that companion animals play in human society and their impact on human activity and well-being.
Effective: Spring 2006

AN SC 217 **Introduction to Horse Judging** (2) Introductory analysis of halter and performance classes of stock-type horses, with emphasis on conformation, gaits, patterns, and oral reasons.
Effective: Spring 2006

AN SC 226 **Meat Selection and Grading** (2) Training in identifying, grading, and judging carcasses and wholesale cuts of meat and in selection and identification of specification cuts.
Effective: Spring 2010
Prerequisite: AN SC 201

AN SC 290W **Careers in Animal Agriculture** (1) A description and analysis of career opportunities in the animal sciences and allied industries.
Effective: Summer 1999

AN SC 291 **Externship with Animal Science Business** (1-2 per semester/maximum of 4) Students will obtain a one-week on site work experience with an animal-related agribusiness.
Effective: Summer 2010

AN SC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

AN SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1982

AN SC 297A **Dairy Judging** (1) Students will learn to evaluate dairy cattle by using the PDCA Scorecard and by presenting oral reasons to justify their placings of classes.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 297B **Introduction to Penn State Dairy** (1) A survey of dairy industry trends and Penn State's Dairy Science program.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 297B **Externship with Animal Science Businesses** (1) Students will spend one week during Christmas break or Spring break with a company representative. Students must prepare cover letter and resume and participate in the interview process. If selected, register for AN SC 297B. Maintain a daily log of activities during the one-week externship. The daily log will be typed and submitted with the typed first report. Present an oral presentation of the externship experience. Complete an evaluation of AN SC 297B.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 297C **Equine Events Management** (1) Management and coordination of equine shows and events, including program planning, staff and volunteer management, time management, publicity and promotion for fairs, shows, clinics, expos, and other events.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 297E **Introduction to Equine Science and the Equine Industry** (2) Blended course meeting on-line M 1:25-2:15. This course provides a strong basis for future studies in equine science. Topics include basics of equine evolution, history of use, breeds, colors, disciplines and tack, anatomy and physiology, and the equine industry.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 297E **Introduction to Equine Science** (2) This course is intended to provide a strong basis for students entering studies in equine science to help them communicate more effectively with educators and experts in the industry. Topics will include basics of equine evolution, history of use, breeds, colors, disciplines and tack, anatomy and physiology, basics of the equine industry including the organization, components and careers; and will prepare students to proceed into further studies in equine science. The course will feature presentations and interaction with industry professionals and instructors of higher level equine science courses at Penn State. This course is a web-based course using the ANGEL course management system and with a weekly on-line class meeting http://breeze.psu.edu/ANSC297E.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 300 (GN) **Integrated Animal Biology** (3) An integrated study of the biology of domestic animal growth and the underlying cellular, endocrine and immune systems involved.
Effective: Spring 1998
Prerequisite: BIOL 011 andBIOL 012 orBIOL 110 ; at least third-semester standing

AN SC 301 **Principles of Animal Nutrition** (3) Nutrients and their metabolism; the nutritional requirements of livestock; the nutritional value of various feeds; principles of ration formulation.
Effective: Summer 1999
Prerequisite: 3 credits in biochemistry or organic chemistry

AN SC 305 **Companion Animal Nutrition** (3) Principles of care and nutrition and contemporary importance of companion animals with emphasis on canine and feline species.
Effective: Spring 2009
Prerequisite: AN SC 201

AN SC 306 **Swine Production and Management** (3) Application of the principles of enterprise and facility development, operations management, quality control, public relations, marketing for the efficient operation of a swine production business.
Effective: Spring 2009
Prerequisite: AN SC 201

AN SC 308 **Sheep and Goat Production and Management** (4) Application of principles of nutrition, breeding, physiology, health, facilities, marketing, and product development, to animal production agriculture.
Effective: Spring 2009
Prerequisite: AN SC 201

AN SC 309 **Beef Cattle Production and Management** (4) Application of principles of nutrition, breeding, physiology, health, facilities, and marketing to produce and manage beef efficiently.
Effective: Spring 2009
Prerequisite: AN SC 201

AN SC 310 **Dairy Cattle Production and Management** (3) Principles of dairy management including the dairy industry and control points associated with nutrition, genetics, lactation, reproduction, and housing.
Effective: Spring 2009
Prerequisite: AN SC 201

AN SC 311 **Poultry Production and Management** (4) The application of fundamental concepts and preparation for careers in the economically integrated commercial poultry industry.
Effective: Fall 2009
Prerequisite: AN SC 201

AN SC 314 **Laboratory Methods in Rodent Research** (2) Application of methods and techniques in small animal research including handling, necropsy procedures; histology and molecular methods including genotying.
Effective: Spring 2009
Prerequisite: AN SC 201, AN SC 213

AN SC 315 **Small Animal Health and Disease** (3) Introduction to the principles of small animal health, including the recogniti recognition, prevention and control of common small animal diseases.
Effective: Spring 2006
Prerequisite: MICRB 106 orMICRB 201 or permission of program

AN SC 317 **Horse Handling and Training** (3) Responses of horses to various stimuli during the training period. Laboratory exercises involve extensive practice with young horses.
Effective: Summer 1999
Prerequisite: AN SC 327 and approved level of horsemanship

AN SC 322 **Principles of Animal Breeding** (3) The fundamental principles of genetics as applied to breeding farm animals.

Effective: Spring 1992

AN SC 322H **Principles of Animal Breeding** (3) The fundamental principles of genetics as applied to breeding farm animals.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 324 **Value Determination of Meat Animals** (3) Live animal and carcass evaluation of cattle, sheep, and swine to determine value of market animals and meat products.
Effective: Summer 1999

AN SC 327 **Horse Production and Management** (3) Principles of selection, breeding, feeding, management, and marketing of horses; emphasis on light horses.
Effective: Spring 2009
Prerequisite: AN SC 201

AN SC 331W **Applied Physiology of Reproduction in Farm Animals** (3) Physiological principles controlling reproductive patterns of cattle, horses, sheep, and swine; factors affecting fertility and methods for improving reproductive efficiency.
Effective: Spring 2009
Prerequisite: AN SC 201 ; 3 credits of physiology

AN SC 350 **Dairy Problem Solving** (2) Students will use dairy records to analyze herd performance in order to identify bottlenecks for higher productivity.
Effective: Summer 2008
Prerequisite: or concurrent:AN SC 310

AN SC 395 **Animal Science Internship** (1-12) Supervised field experience and study related to the student's major professional interest. Written and oral critique of activity required.
Effective: Spring 1985
Prerequisite: Animal Sciences majors; 6 credits in major plus approval of proposed assignment by instructor prior to advance registration deadline in semester preceding the semester in which the assignment is to be completed

AN SC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 397A **Beef Cattle Production** (3) Application of principles of nutrition, breeding, physiology, health, facilities, and marketing to produce and manage beef efficiently.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AN SC 400 **Application of Management Principles** (1) Students will learn to apply business management skills to the animal production environment through interactive discussions and assignments.
Effective: Summer 1998
Prerequisite: seventh-semester standing

AN SC 405 **Advanced Canine Nutrition and Management** (3) Application of biological principles to the care and nutrition of dogs; interactive discussions of contemporary nutrition and management issues.
Effective: Spring 2002
Prerequisite: AN SC 305 andAN SC 400 ; or permission of program

AN SC 407 **Advanced Horse Management** (3) Detailed study of anatomy and physiology of the horse as related to nutrition, reproduction, athletic ability, unsoundness and control of diseases and parasites. Detailed discussion of management practices, facility design and contemporary issues.
Effective: Summer 1999
Prerequisite: AN SC 327, AN SC 400

AN SC 410 **Advanced Dairy Herd Management** (4) Application of dairy herd management principles using case studies and actual dairy farm situations.
Effective: Spring 2004
Prerequisite: AN SC 310 . Prerequisite or concurrent:AN SC 400

AN SC 413 **Transgenic Biology** (3) The principles and concepts used to generate genetically engineered animals by pronuclear, knockout, and cloning methods; and applied biotechnology applications.
Effective: Summer 2002
Prerequisite: a course in Molecular Biology and/or Biochemistry and/or Genetics

AN SC 414 **Comprehensive Animal Biotechnology** (3) A comprehensive review of the multidisciplinary area of animal biotechnology examining historical developments, current progress, and future directions.
Effective: Spring 2003
Prerequisite: 3 credits in molecular biology genomics genetics or biotechnology courses

AN SC 417 **Horse Judging** (2) Evaluation and selection of halter and performance horses, and presentation of oral reasons.
Effective: Spring 2002

AN SC 418 (SOILS 418, AGECO 418) **Nutrient Management in Agricultural Systems** (3) Comprehensive review of nutrient flow in animal agricultural systems, environmental regulations, and environmental stewardship practices.
Effective: Summer 2003

AN SC 419W **Applied Animal Welfare** (3) Assessment of management practices impacting animal welfare; devoted to livestock species, companion animals, captive exotic species, and animals in research.
Effective: Spring 2009
Prerequisite: AN SC 201 or 6 credits of biology

AN SC 420 **Animal Nutrition and Feed Technology** (4) Feedstuff evaluation, quality control, handling, storage: life cycle feeding of beef cattle, dairy cattle, sheep, swine, horses, and poultry.
Effective: Spring 1994
Prerequisite: AN SC 301

AN SC 421 **Poultry Evaluation and Selection** (2) Introduction and application of standards and principles used to evaluate live poultry and poultry products.
Effective: Summer 2004
Prerequisite: permission of program

AN SC 422 **Dairy Cattle Evaluation and Selection** (3) Methods used in evaluation of production and type traits and their role in selecting dairy breeding stock domestically and internationally.
Effective: Summer 1998
Prerequisite: AN SC 322

AN SC 423 **Comparative Physiology of Domestic Animals** (3) A comparative approach to understanding body function in domesticated avian and mammalian species.
Effective: Summer 1999
Prerequisite: BIOL 110

AN SC 424 **Livestock Breeding Evaluation and Selection** (3) Evaluation and selection of beef cattle, sheep, swine, and horses; critical analysis of performance records and genetic evaluations.
Effective: Summer 1999
Prerequisite: AN SC 324

AN SC 425 (VB SC 425) **Principles of Avian Diseases** (3) Principles of pathogenesis and control of diseases in poultry and other avian populations. Case material used where appropriate.
Effective: Spring 2009
Prerequisite: AN SC 201, BIOL 110 4 credits in microbiology and 3 credits of anatomy and/or physiology

AN SC 426 **Advanced Judging and Selection** (2 per semester, maximum of 4) Development of critical thinking and communication skills through evaluation and selection of animals and animal products.
Effective: Summer 1998
Prerequisite: AN SC 322

AN SC 427 **Milk Secretion** (3) Development and physiology of the mammary gland and factors which affect the amount and composition of milk produced.
Effective: Spring 2009
Prerequisite: AN SC 201 3 additional credits in dairy science

AN SC 429 **Advanced Beef Cattle Production** (3) Application of scientific and business principles to practical production and management issues using case studies or selected live settings.
Effective: Summer 2010
Prerequisite: AN SC 309

AN SC 431W **Physiology of Mammalian Reproduction** (4) Physiological processes of reproduction in animals, including the use of current and emerging technologies.
Effective: Summer 1999
Prerequisite: 3 credits in animal physiology

AN SC 432 **Techniques in Livestock Reproduction** (2) Demonstration and practice in estrus detection, inseminating techniques, pregnancy detection, embryo recovery and transfer methods.
Effective: Fall 2008
Prerequisite: AN SC 431W

AN SC 437 (AEE 437) **Equine Facilitated Therapy** (3) Equine Facilitated Therapy uses equine-related activities to contribute positively to the wellbeing of people with disabilities.
Effective: Spring 2002

AN SC 442 **Quantitative Inheritance and Animal Breeding** (3) Genes in populations: additive and nonadditive gene effects; selection and mating systems.
Effective: Fall 1983
Prerequisite: 3 credits in genetics and breeding; 3 credits in statistics

AN SC 447 **Applied Equine Behavior** (3) Theory and application of behavior principles as they apply to horses in free-running and domestic situations.
Effective: Spring 2009
Prerequisite: AN SC 201, AN SC 327 and fifth-semester standing; or fifth-semester standing and six credits in biology; or permisssion of the instructor

AN SC 450 **Dairy Farm Management Systems** (3) Capstone course emphasizing integration of dairy farm management principles into whole farm systems.
Effective: Summer 1998
Prerequisite: AN SC 310, AN SC 400, AN SC 410

AN SC 457 **Equine Reproduction and Breeding Farm Management** (3) Advanced aspects of equine reproduction will be covered, including collection of semen, processing it for shipment, and insemination of mares.
Effective: Summer 2008
Prerequisite: AN SC 327, AN SC 407

AN SC 467 **Equine Nutrition and Feeding** (3) Equine gastrointestinal anatomy and physiology; energy and nutrient requirements for body functions; applied interrelationships between nutrition, health, and performance.
Effective: Summer 2008
Prerequisite: AN SC 301, AN SC 327

AN SC 479 (BIOL 479) **General Endocrinology** (3) Endocrine mechanisms regulating the morphogenesis, homeostasis, and functional integration of animals.
Effective: Fall 2009
Prerequisite: BIOL 141 orBIOL 472

AN SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

AN SC 496A **Teaching Assistant** (2) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 496A **Animal Sciences Teaching Assistant** (2) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 496H **AN SC Honors Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 496H **Animal Sciences Honors Independent Study** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

AN SC 497B **Advanced Turkey Management** (3) Basics of embryology, incubation, brooding, rearing, ventilation, nutrition, processing and carcass yield of domestic turkeys.
Effective: Summer 2010 Ending: Summer 2010

AN SC 497B **Animal Genomics** (3) Approaches and techniques used to sequence and analyze genomes and their application in animal breeding, production and technology.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 497B **Companion Animal Behavior** (3) Genetic, physiological and environmental bases of canine and feline behavior with applications to management, welfare and behavior modification.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 497C **Animal Biotech Lab** (2) Laboratory based course that exposes students to molecular biology techniques with applied emphasis on livestock agriculture and animal biotechnology.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 497C **Riding Instructor Training** (1) Management of equestrian riding lessons, teaching techniques, lesson plans, program planning, events coordination, time management and handling of mounted groups.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 497D **Dairy Challenge** (1) Students will complete whole farm evaluations to gain experience identifying limitations to productivity and profitability of dairies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AN SC 497D **Dairy Challenge** (1) Students will complete whole farm evaluations to gain experience identifying limitations to productivity and profitability of dairies.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 497E **Advanced Beef Production** (3) Advanced beef cattle management; application of scientific and business principles to practical beef cattle management using case studies. Must be 7th semester standing.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: AN SC 201 andAN SC 309

AN SC 497E **The Clocks That Time Us** (3) Biological clocks of varying time scales are found in all living organisms and directly control virtually every physiological and behavioral processes in the body. Consequently, the understanding of how clocks function is important to our understanding of biology itself. This class will examine the molecular, cellular and systems level mechanisms that animals utilize to adapt to rhythmic changes in the physical environment, in particular focusing on the mechanisms of biological clock functions as they relate to real world outcomes.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AN SC 497F **Advanced Swine Production** (2) An on-line course to provide the student with an in depth exposure to one or more aspects of swine production.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AN SC 306

AN SC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Effective: Fall 1992

AN SC 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NOTE: Also see course listed under Animal Nutrition, Poultry Science, and Veterinary Science.

Last Import from UCM: May 29, 2010 3:00 AM

Anthropology (ANTH)

ANTH 001 (GS;US;IL) **Introductory Anthropology** (3) Prehistoric and traditional peoples and cultures; traditional customs and institutions compared with those of modern society.
Effective: Summer 2005

ANTH 002 (GS) **Introduction to Archaeology** (3) Survey of basic approaches used by archaeologists to interpret basic prehistoric human cultural patterns.
Effective: Spring 2000

ANTH 008 (GS;IL) **Aztecs, Mayas, and Incas** (3) Comparative survey of the development of the pre-Columbian Latin American civilizations.
Effective: Summer 2005

ANTH 009 (GS;IL) **Rise of Civilization in the Old World** (3) Evolution of Old World complex societies, especially the first great civilizations of Mesopotamia, Egypt, China, and the Indus Valley.
Effective: Spring 2006

ANTH 010 (J ST 005) **Mediterraean Prehistory** (3) Archaeology of the circum-mediterranean area, from the Middle Pleistocene through the third millennium B.C., emphasizing the evolution of regional cultures.
Effective: Summer 1998

ANTH 011 (GS;IL) **Introductory North American Archaeology** (3) Introduction to archaeology of the North American Indians; sites, methods, and results of research interpreted in cultural history.
Effective: Summer 2005

ANTH 021 (GN) **Introductory Biological Anthropology** (3) The role of human biology and evolution in culture, society, and behavior.
Effective: Spring 2001

ANTH 022 (GN) **Humans as Primates** (3) The biological basis of human behavior within the context of primate biology, behavior, and evolution.
Effective: Spring 2009

ANTH 040 **Biocultural Evolution** (3) Examination of evolutionary models of the development of the human capacity for culture, and of culture as an adaptive mechanism.
Effective: Fall 1986

ANTH 040H **Biocultural Evolution** (3) Examination of evolutionary models of the development of the human capacity for culture, and of culture as an adaptive mechanism.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ANTH 045 (GS;US;IL) **Cultural Anthropology** (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.
Effective: Summer 2005

ANTH 045U (GS;US;IL) **Cultural Anthropology** (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ANTH 060 (GS;IL) (J ST 060, PL SC 060, SOC 060) **Society and Cultures in Modern Israel** (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

ANTH 083S (GS) **First-Year Seminar in Anthropology** (3) This seminar introduces students to anthropology as a scientific discipline with ties to other social and natural sciences.
Effective: Summer 1999

ANTH 146 (GS;US) **North American Indians** (3) An introduction to the cultures of the indigenous peoples of North America, north of Mexico, and the effect of contact.
Effective: Spring 2006

ANTH 152 **Hunters and Gatherers** (3) A comparative study of hunter/gatherer societies using both archaeological and ethnographic evidence.
Effective: Fall 1986

ANTH 187 **Anthropology Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2001

ANTH 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

ANTH 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 216 (GN;GS) **Sex and Evolution** (3) Introduction to evolutionary theory and its application to understanding human sexuality and sex differences.
Effective: Summer 2009

ANTH 241 (IL) **Peoples and Cultures of Highland New Guinea** (3) History, ecology, social, economic, religious, and political systems of the aboriginal peoples and cultures of highland New Guinea.
Effective: Spring 2007
Prerequisite: ANTH 001 orANTH 045

ANTH 242 (IL) **Peasant Societies** (3) A critical examination of anthropological approaches to the study of peasantry around the globe.
Effective: Summer 2005
Prerequisite: ANTH 001 orANTH 045

ANTH 285 (GS;IL) **Culture Contact** (3) Survey of changes in indigenous societies following contact with colonial powers.
Effective: Summer 2005
Prerequisite: ANTH 002, ANTH 045

ANTH 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

ANTH 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1987

ANTH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1986

ANTH 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ANTH 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 321W **Intellectual Background of Archaeology** (3) Introduction to primary sources on the development of archaeology as a scientific discipline.
Effective: Spring 1995
Prerequisite: ANTH 002, ANTH 045

ANTH 380 **Anthropology Museum Studies** (3) Introduction to the history, significance, and operation of anthropology museums.
Effective: Spring 2002

ANTH 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996

ANTH 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 401 **Human Evolution: The Material Evidence** (3) Human origins as seen in the fossil record and comparative biology of humans and their primate relatives.
Effective: Fall 1986
Prerequisite: ANTH 021

ANTH 405 **Primatology** (3) Nonhuman primate origins, evolution, comparative physical and behavioral characteristics, ecological context, phylogeny and taxonomy; and their importance in anthropology.
Effective: Spring 2001
Prerequisite: ANTH 021

ANTH 406W **Problems in Human Evolution** (3) Investigation of human evolution in terms of the history of ideas and contemporary research on genetic and evolutionary processes.
Effective: Summer 1996
Prerequisite: ANTH 021 or 3 credits in biology 3 credits in statistics

ANTH 408 **Anthropological Demography** (3) Analysis of demographic studies in traditional and very small populations.
Effective: Fall 2003
Prerequisite: 3 credits in anthropology

ANTH 410 **Osteology** (4) Introduction to the systematic study of the human skeleton from an evolutionary developmental biological perspective.
Effective: Spring 2007
Prerequisite: 3 credits in anthropology 3 credits in the biological sciences or concurrent enrollment inANTH 401 orANTH 501

ANTH 411 **Skeletal Forensic Anthropology** (3) An introduction to anthropological forensic science with an emphasis on what can be learned from human skeletons and archaeological recovery methods.
Effective: Spring 2007
Prerequisite: ANTH 021 orANTH 410 or Forensic Science major

ANTH 412 **Settlement Demography** (3) Examination of the demography and ecology of human settlement systems in the preindustrial past.
Effective: Summer 2008
Prerequisite: ANTH 408

ANTH 413 **Molecular Forensic Anthropology** (3) An introduction to the field of the application of DNA methods to estimating forensically useful phenotypes.
Effective: Summer 2006
Prerequisite: ANTH 021 or Forensic Science major

ANTH 420 (J ST 420) **Archaeology of the Near East** (3) Culture of the Near East and India from Paleolithic times through the Bronze Age.
Effective: Summer 1999
Prerequisite: ANTH 008, ANTH 009, ANTH 011 orANTH 012

ANTH 421 **Intro to Geospatial Science in Anthropology and Archaeology** (3) This course is a practical, data driven, introduction to applications of Geospatial tools in anthropological and archaeological research.
Effective: Summer 2009
Prerequisite: ANTH 001 orANTH 002

ANTH 422 **Meso-American Archaeology and Ethnography** (3) Survey of ethnohistorical and ethnographic patterns of Meso-American society; origin and development of ancient civilization in Mexico, Guatemala, and Honduras.
Effective: Spring 1999
Prerequisite: ANTH 008, ANTH 009, ANTH 011 orANTH 012

ANTH 423 **The Evolution of American Indian Culture** (3) Historic and archaeological sources used to trace American Indian lifestyles from the first immigrants to the period of Euro-American contact.
Effective: Spring 1999
Prerequisite: 3 credits in anthropology

ANTH 424 **Andean Ethnology and Archaeology** (3) Cultures of the Andes from earliest settlements to Inka Empire; includes discussion of life in modern Andean communities.
Effective: Spring 2002
Prerequisite: ANTH 002, ANTH 045

ANTH 426W **Archaeological Laboratory Analysis** (3) Scientific laboratory methods used in the analysis of ceramic and lithic artifacts.
Effective: Summer 2004
Prerequisite: ANTH 007, ANTH 008, ANTH 009 orANTH 011

ANTH 427W **Forensic Archaeology** (3) Application of archaeological techniques to crime scene investigations, with practical experience in field and laboratory contexts.
Effective: Summer 2007
Prerequisite: ANTH 002

ANTH 428 **Archaeological Methods and Theory** (3) Scientific methods as applied to archaeological data: evolution, ecology, diffusion, and cyclicism theory.
Effective: Spring 1999
Prerequisite: ANTH 007, ANTH 008, ANTH 009, ANTH 011 orANTH 012

ANTH 429 **Paleoethnobotany** (3) Introductory course in paleoethnobotany, the study of the interrelationships between

people of the past, natural environment, and plant resources.
Effective: Spring 2010
Prerequisite: ANTH 002

ANTH 431 **Advanced Geospatial Science for Anthropologists and Archaeologists** (3) This course is an intensive, data driven, treatment of the use of geographic information systems in anthropological and archaeological research.
Effective: Summer 2009
Prerequisite: ANTH 421

ANTH 432 **Environmental Archaeology** (3) Introductory course in Environmental Archaeology, with empahsis on method and theory in the subfields archaeobotany, pedoarchaeology, and zooarchaeology.
Effective: Spring 2010
Prerequisite: ANTH 002

ANTH 433 **Archaeological Ethics and Law** (3) Introductory course that examines prominent ethical and legal issues in archaeology integral to modern applied research and practice.
Effective: Spring 2010
Prerequisite: ANTH 002

ANTH 440 **South American Tribal Societies** (3) Ethnographic survey of tribal societies in South America. Special emphasis on non-Andean area.
Effective: Fall 1986

ANTH 441 (IL) **From Stone Ax to Uzi: Tradition and Change in the New Guinea Highlands** (3) This course explores cultural change and innovation among tribal peoples of Highland New Guinea from stone tool technology to globalization.
Effective: Fall 2009
Prerequisite: ANTH 045

ANTH 442 (IL) **Indians and Peasants of Mexico and Central America** (3) Indian culture and society in Mexico and Central America.
Effective: Summer 2005
Prerequisite: ANTH 001 orANTH 045

ANTH 444 **Primitive Warfare** (3) Critical overview of the ethnography and theory of primitive warfare.
Effective: Summer 2002
Prerequisite: ANTH 045 ; andANTH 002 orANTH 021

ANTH 445W **Ethnographic Film** (3) Comparisons of written and visual ethnography; critical assessment of ethnographic film; cross-cultural variation.
Effective: Summer 2000
Prerequisite: ANTH 001 orANTH 045

ANTH 446 **Mating and Marriage** (3) An examination of human mating mainly from the viewpoint of behavioral ecology, centering on the species-typical institution of marriage.
Effective: Summer 2006
Prerequisite: ANTH 045, ANTH 021

ANTH 447 (IL) **Peoples and Cultures of Africa** (3) Ethnographic survey of peoples and cultures of Africa.
Effective: Summer 2005
Prerequisite: AAA S 110 orANTH 045

ANTH 448 (AM ST 448) **Ethnography of the United States** (3) Ethnographic descriptions of various dimensions of life in the United States.
Effective: Fall 2007
Prerequisite: ANTH 045

ANTH 450 **Comparative Social Organization** (3) Social structure and cultural change among nonliterate societies.
Effective: Fall 1986
Prerequisite: ANTH 045

ANTH 450W **Comparative Social Organization** (3) Social structure and cultural change among nonliterate societies.
Effective: Summer 1996
Prerequisite: ANTH 045

ANTH 451 **Economic Anthropology** (3) Different approaches to the study of the economics of non-Western societies, emphasizing the interrelationships between noneconomic factors and economic behavior.
Effective: Fall 1986
Prerequisite: ANTH 045

ANTH 452 **Critical Readings in Social Organization** (3) Critical overview of approaches to kinship and social organization.
Effective: Fall 2001
Prerequisite: ANTH 045

ANTH 453 **Anthropology of Religion** (3) Traditional and modern religions and historical and contemporary religious movements from an anthropological perspective.
Effective: Fall 2003
Prerequisite: ANTH 001 orANTH 045

ANTH 454 **Political Anthropology** (3) Comparative study of institutions which control force in nonstate societies.

Effective: Fall 1986

ANTH 455 **Global Processes and Local Systems** (3) Ethnographic, comparative, historic, evolutionary treatment of global economic, political, and cultural processes and their consequences for local systems.
Effective: Fall 2001
Prerequisite: ANTH 045

ANTH 456 **Cultural Ecology** (3) Survey of the methods and concepts of cultural ecology, focusing on the interaction between cultural and geographical systems.
Effective: Fall 1986
Prerequisite: 3 credits in anthropology

ANTH 457 (US;IL) (J ST 457, SOC 457) **Jewish Communities: Identity, Survival, and Transformation in Unexpected Places** (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.
Effective: Summer 2006
Prerequisite: ANTH 001 orANTH 045, HEBR 010, J ST 010, SOC 001, SOC 005, SOC 007, SOC 015

ANTH 458 **Ethnographic Field Methods** (3) Course introduces students to ethnographic field methods, includes student projects and simple analyses that don't require statistical sophistication.
Effective: Spring 2009
Prerequisite: ANTH 045

ANTH 459 **Applied Anthropology** (3) A survey of the development of applied anthropology and the current issues facing anthropologists working in non-academic settings.
Effective: Summer 2002
Prerequisite: ANTH 045

ANTH 460 (BIOL 460) **Human Genetics** (3) The human genome, its variation, origins, and relation to disease and other traits.
Effective: Fall 2007
Prerequisite: BIOL 230W or 3 credits in genetics

ANTH 460H (BIOL 460H) **Human Genetics** (4) Gene mapping in humans; molecular basis of genetic disease; genomic structure; immunogenetics; and genetic evidence for human evolutionary history.
Effective: Fall 2001
Prerequisite: 3 credits in genetics orANTH 021 orBIOL 222 orBIOL 230W ; and 3 credits in statistics

ANTH 461 **Molecular Anthropology** (3) Provides framework to understand current issues in biology, genetics, and anthropology as they relate to the evolution of our species.
Effective: Spring 2005
Prerequisite: 3 credits in biological anthropology or 3 credits in biology

ANTH 462 **The Biometry of Human Reproduction** (3) A survey of statistical studies of human fertility and reproductive biology.
Effective: Spring 2008
Prerequisite: BIOL 177, STAT 451

ANTH 463 **Quantitative Analysis of Morphological Data** (3) The application of morphometric methods to anthropological data: phenotypes of organisms, artifacts, and traits.
Effective: Fall 2004
Prerequisite: ANTH 002 orANTH 021;STAT 200 ; 3 additional credits in anthropology

ANTH 464 (BIOL 464) **Sociobiology** (3) The study of the adaptive function of social behavior, the comparative analysis of social organization, and the ecology of sociality.
Effective: Fall 1986
Prerequisite: 6 credits in biology or anthropology

ANTH 465H **Fifteen Great Biology Papers** (3) Reading and discussion of the most influential papers in the history of biology that illustrate exceptional insight and elegant reasoning.
Effective: Spring 2003
Prerequisite: ANTH 021 or 3 credits in evolutionary biology or genetics and 3 credits in statistics

ANTH 466 **The Skull** (3) Survey of the mammalian skull from many perspectives including evolution, development, anatomy, function, and variability of the skull.
Effective: Spring 2003
Prerequisite: ANTH 021

ANTH 470H **Our Place in Nature** (3) An evolutionary and genetic consideration of our understanding of human beings as a part of the natural world.
Effective: Fall 2001
Prerequisite: 3 credits each in genetics evolutionary biology and statistics

ANTH 471H **Biology, Evolution, and Society** (3) Exploration of the genetic theory of evolution and development, its history and application within Biology and beyond.
Effective: Spring 2008
Prerequisite: ANTH 021, BIOL 222, BIOL 230, BIOL 322 orBIOL 460 ; 3 credits in statistics

ANTH 473 **Genetics of Human Disease** (3) Human genetic variation and evolution as reflected in disease patterns; methods for assessing and quantifying such disease patterns.

Effective: Spring 1995
Prerequisite: 3 credits in statistics; 3 credits in biology

ANTH 473W **Genetics of Human Disease** (3) Human genetic variation and evolution as reflected in disease patterns; methods for assessing and quantifying such disease patterns.
Effective: Summer 1995
Prerequisite: ANTH 021 or 3 credits in biology; 3 credits in statistics

ANTH 474 **Ecology of Gender** (3) Survey of the human biology and cultural ecology of gender.
Effective: Summer 1988
Prerequisite: ANTH 021 orBIOL 101

ANTH 476W (WMNST 476W) **Anthropology of Gender** (3) Cross-cultural construction of gender and sex roles; theories of gender construction; case studies and practical effects.
Effective: Spring 2001
Prerequisite: 3 credits in women's studies or anthropology

ANTH 477 (US;IL) **Language, Culture, and Society** (3) Relationships among language, culture and society, with an anthropological emphasis.
Effective: Spring 2007
Prerequisite: ANTH 045 orANTH 001

ANTH 478 (IL) **Cannibalism** (3) Explores the cultural institution of cannibalism, uses of the "cannibal" label, and cannibalism's meaning among those who practiced it.
Effective: Spring 2010
Prerequisite: ANTH 045

ANTH 492 **Intermediate Field Methods** (3-6) On-site experience in collecting archaeological, behavioral, or biological data.
Effective: Spring 2001
Prerequisite: ANTH 002

ANTH 493 **Field Techniques** (3-6) Training in techniques involving analyses of archaeological, behavioral, or biological data.
Effective: Spring 2001
Prerequisite: ANTH 002

ANTH 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

ANTH 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

ANTH 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2000
Prerequisite: prior approval of proposed assignment by instructor

ANTH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall ouside the scope of formal courses.
Effective: Fall 1986

ANTH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1986

ANTH 497A **Archaeological Ethics and Law** (3) Course introduces students to a variety of legal and ethical issues in archaeology that span local to international scales.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ANTH 497A **Ethnography of the Bari** (3) An exploration of the culture of the Bari people of Colombia and Venezuela from a largely ecological perspective. Particular attention is given to their subsistence strategy (a combination of slash-and-burn agriculture, fishing, and hunting): their history of warfare with surrounding peoples; and their reproductive ecology, especially that informed by their belief in "partible paternity," in which a child is held to be the product of all the men who had intercourse with the mother during her pregnancy.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: permission of program

ANTH 497B **Taphonomy and Paleoecology** (3) This course presents information on how animal bones are preserved and become fossils (taphonomy).
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ANTH 497B **The Evolution of Human** (3) The goal of this course is to bring students in contact with the primary literature

on human sexuality and sexual selection.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ANTH 497H **The Ancient Economy** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ANTH 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ANTH 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ANTH 499A (IL) (CAMS 499A) **Landscape Archaeology** (3) This course introduces student to the basics of archaeological surveys.
Effective: Summer 2010 Ending: Summer 2010

ANTH 499B (IL) (CAMS 499B) **GIS for Archaeologists** (3) This course gives students hands-on introduction to the use of GIS program in archaeological research.
Effective: Summer 2010 Ending: Summer 2010

ANTH 499C (IL) (CAMS 499C, J ST 499C, HIST 499C) **Archaeological Field School** (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010

ANTH 499D (IL) (CAMS 499D, J ST 499D, HIST 499D) **Conservation and Public Archaeology** (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

App Yth Fam&Comm Edu (AYFCE)

AYFCE 211 (GS;US;IL) (CAS 222, CIVCM 211) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

AYFCE 211S (GS;US;IL) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Spring 2011 Future: Spring 2011

AYFCE 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

AYFCE 295A **Observation of Cooperative Extension Service Programs** (1-2) Supervised observation of extension education in agriculture, community resource development; family living, 4-H programs; appraisal of responsibilities of extension professionals.
Effective: Spring 2011 Future: Spring 2011

AYFCE 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Future: Spring 2011

AYFCE 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Future: Spring 2011

AYFCE 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Future: Spring 2011

AYFCE 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Future: Spring 2011

AYFCE 438 (US) **Living in an Increasingly Diverse Society** (1-3) Students in this course will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning.
Effective: Spring 2011 Future: Spring 2011

AYFCE 439 **Contemporary Youth Issues** (3) This course focuses on empirically-supported interventions that promote resiliency and reduce risk for problem behaviors among youth in community settings.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: a minimum of six credits in courses that focus on youth and/or families

AYFCE 455 **Extension Youth Development Programs and Volunteer Management** (3) A study of 4-H/Extension youth programs and the variety of roles played by volunteer leaders.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 6 credits of social or behavioral sciences

AYFCE 470 **Consumer and Financial Skills** (3) Consumer and financial issues formal and non formal educators need to be informed about to function in today's society.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: Six credits of social and behavioral sciences and six credits of quantification (math)

AYFCE 495 **Internship in Youth and Family Education Programs** (6-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

AYFCE 495A **Internship in Youth and Family Education Programs** (6-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

AYFCE 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Future: Spring 2011

AYFCE 496A **Independent Studies - Youth and Family Education** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

AYFCE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Future: Spring 2011

AYFCE 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Future: Spring 2011

AYFCE 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2011 Future: Spring 2011

Last Import from UCM: May 29, 2010 3:00 AM

Applied Linguistics (APLNG)

APLNG 083S (GS;US;IL) **First-Year Seminar in Applied Linguistics** (3) Introduction to the application of theories of language to cognition, culture, gender, society, and second language acquisition.
Effective: Summer 2005

APLNG 200 (GH;IL) **Introduction to Language, Culture, and Social Interaction** (3) Introduction to the interrelationships among language, culture, and social interaction and their fundamental links to social identities and discourse communities.
Effective: Spring 2009

APLNG 210 **The Ecology of Global English** (3) This course explores how English language enables globalization processes and how globalization changes the structure, norms, and usage of English.
Effective: Spring 2009

APLNG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2004

APLNG 410 **Teaching American English Pronunciation** (3) Study and application of principles of North American English phonetics and theories of teaching pronunciation.
Effective: Fall 2001

APLNG 412 **Teaching Second Language Writing** (3) This course provides opportunities for exploring various perspectives on theory, research, and pedagogial applications in second language writing.
Effective: Summer 2003

APLNG 482Y (IL) **Introduction to Applied Linguistics** (3) Application of theories of language to psycholinguistics, philosophy of language, anthropological linguistics, sociolinguistics, bi/multilingualism, second language acquisition and teaching.
Effective: Spring 2006

APLNG 484 **Discourse-Functional Grammar** (3) Develop a working knowledge of the structure of English and apply such knowledge to research and/or classroom situations.
Effective: Fall 2004

APLNG 491 **Theory: Second Language Acquisition** (3) An investigation into current issues in the theoretical bases of second language acquisition.
Effective: Fall 2006

APLNG 493 (IL) **Teaching English as a Second Language** (3) Theory, research, and pedagogy that focus on the teaching of English to speakers of other languages in varied contexts.
Effective: Spring 2006

APLNG 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2001

APLNG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2002

Last Import from UCM: May 29, 2010 3:00 AM

Arabic (ARAB)

ARAB 001 **Elementary Modern Standard Arabic I** (4) Introduction to reading, writing, pronunciation, and aural comprehension of modern standard Arabic; simple grammatical forms; basic vocabulary.
Effective: Summer 1986

ARAB 002 **Elementary Modern Standard Arabic II** (4) Continuation of ARAB 001; development of additional skills in conversation, reading, and writing; grammar and vocabulary building; cultural components.
Effective: Spring 2009
Prerequisite: ARAB 001

ARAB 003 **Intermediate Modern Standard Arabic** (4) More complex grammatical forms; vocabulary building principles; continued development of skills in conversation, reading, writing; culturally-oriented readings and films.
Effective: Spring 2009
Prerequisite: ARAB 002

ARAB 051 **Elementary Intensive Arabic for Graduate Students I** (3) Intensive introduction to Modern Standard or Colloquial Arabic: first half of graduate sequence in elementary reading, writing, listening, cultures.
Effective: Summer 2008
Prerequisite: graduate standing

ARAB 052 **Elementary Intensive Arabic for Graduate Students II** (3) Intensive introduction to Modern Standard or Colloquial Arabic: second half of graduate sequence in elementary reading, writing, speaking, listening, cultures.
Effective: Summer 2008
Prerequisite: ARAB 051 and graduate standing

ARAB 053 **Intermediate Intensive Arabic for Graduate Students** (3) Continued intensive study of Modern Standard or Colloquial Arabic at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: ARAB 052 or equivalent and graduate standing

ARAB 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ARAB 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 110 (GH;IL) **Arab Language, Cultures, and Current Topics** (3) Fourth-semester Modern Standard Arabic: study of cultures through authentic discourse, texts, film; development of reading, writing, listening, speaking skills.
Effective: Spring 2008
Prerequisite: ARAB 003 or permission of program

ARAB 165 (IL) (HIST 165, RL ST 165) **Introduction to Islamic Civilization** (3) Islamic history, culture, and religious life c.600-1500 C.E.
Effective: Spring 2006

ARAB 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ARAB 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

ARAB 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 1995
Prerequisite: prior approval of proposed assignment by instructor

ARAB 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1986

ARAB 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Effective: Summer 1986

ARAB 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

ARAB 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ARAB 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ARAB 401 (IL) **Advanced Language & Cultures I** (3) Fifth-semester Modern Standard Arabic: reading more complex texts, films, further development of conversation, composition skills, Arab cultures, current issues.
Effective: Spring 2008
Prerequisite: ARAB 110 or approval of program

ARAB 402 (IL) **Advanced Language & Cultures II** (3) Sixth-semester Modern Standard Arabic: reading more complex texts, films, further development of conversation, composition skills, Arab cultures, current issues.
Effective: Spring 2008
Prerequisite: ARAB 401 or approval of program

ARAB 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

ARAB 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

ARAB 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1986

ARAB 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1986

ARAB 497A (CAMS 497A) **Introduction to Classical Arabic** (3) Introduction to the grammar of classical Arabic.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ARAB 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ARAB 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Architectural Engineering (A E)

A E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

A E 124S **Architectural Engineering Orientation** (1) Introduction to architectural engineering; lectures and discussions with special reference to the relation of architectural engineering to the building industry.
Effective: Fall 1999

A E 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

A E 202 **Introduction to Architectural Engineering Concepts** (3) Introduction to profession of architectural engineering, building envelope systems, sustainable design, fire protection systems, and engineering economics.
Effective: Spring 2007

A E 210 **Introduction to Architectural Structural Systems** (3) Qualitative study of architectural structural systems; historical development of structures; insights of structural analysis and synthesis; comparative structural types. This course is intended for Architecture students.
Effective: Fall 2005
Prerequisite: algebra trigonometry

A E 211 **Introduction to Environmental Control Systems** (3) Qualitative study of humans in macro- and micro-architectural environmental systems. This course is intended for Architecture students.
Effective: Fall 2005

A E 221 **Architectural Building Materials** (3) The structural and architectural use of building materials; commercial standardization, classification, and description as encountered in the building trades.
Effective: Fall 2005
Concurrent: A E 222

A E 222 **Working Drawings** (3) Materials and methods of construction used in residences, and preparation of working drawings for a small building.
Effective: Fall 2007
Prerequisite: EDSGN 130 orEDSGN 100 Concurrent: A E 221

A E 296 **Independent Studies** (1-18) Creative projects including research and design that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2009

A E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1985

A E 308 **Introduction to Structural Analysis** (4) Algebraic and graphical methods of analysis of determinate members, deflections; introduction to indeterminate analysis methods. Course includes practicums.
Effective: Spring 2008
Prerequisite: E MCH 211, E MCH 213

A E 309 **Architectural Acoustics** (3) Acoustical design for good hearing conditions and noise control; construction details, materials, acoustical properties of room shapes; sound absorption, transmission. Course includes practicums.
Effective: Fall 2005
Prerequisite: A E 221, A E 222, PHYS 213

A E 310 **Fundamentals of Heating, Ventilating, and Air Conditioning** (3) Fundamental principles and engineering procedures for the design of heating, ventilating, and air-conditioning systems, including energy utilization and constraints.
Effective: Fall 2007
Prerequisite: M E 201 ; Prerequisite or concurrent:A E 202

A E 311 **Fundamentals of Electrical and Illumination Systems for Building** (3) Fundamental principles, systems, and planning concepts for electrical and illumination systems in modern buildings.
Effective: Spring 2008
Prerequisite: or concurrent:E E 211, PHYS 212

A E 372 **Introduction to the Building Industry** (3) Introduction to the building industry; owner, designer responsibilities; documents, bidding procedures; design-construct contracts; project management; insurance, labor relations.
Effective: Fall 1983

Prerequisite: sixth-semester standing in Architectural Engineering

A E 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

A E 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

A E 401 **Design of Steel and Wood Structures for Buildings** (3) Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in steel and wood of simple buildings.
Effective: Fall 2005
Prerequisite: A E 221, A E 222, A E 308

A E 402 **Design of Concrete Structures for Buildings** (3) Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in concrete of simple buildings.
Effective: Fall 2005
Prerequisite: A E 221, A E 222, A E 308

A E 403 **Advanced Steel Design for Buildings** (3) Continuation of A.E. 401. Advanced analysis, design, and detail of the structural elements in wood and steel.
Effective: Fall 2005
Prerequisite: A E 401, A E 430

A E 404 **Building Structural Systems in Steel and Concrete** (3) Basic analysis, design, and detailing of steel and concrete structural elements for buildings, emphasizing systems design and comparisons. A E 404 is not permitted for AE Structural Option students or for Architecture students.
Effective: Summer 2006
Prerequisite: A E 221, A E 222, A E 308

A E 421 **Architectural Structural Systems I** (3) Qualitative and quantitative analysis and design of architectural structures, force flow; structure configurations; measurement and experiments; design studio critique.
Effective: Spring 1990
Prerequisite: A E 210 3 credits in mathematics

A E 422 **Architectural Structural Systems II** (3) Continuation of A E 421, with emphasis on structural configuration and construction assemblies.
Effective: Spring 1990
Prerequisite: A E 421

A E 424 **Environmental Control Systems I** (3) Fundamental principles and applications of environmental systems in buildings. This course is intended for Architecture students.
Effective: Fall 2005
Prerequisite: A E 211

A E 430 **Indeterminate Structures** (3) Classical methods of analysis for beams, frames, arches, and secondary stresses as applied to buildings; introduction to modern methods.
Effective: Summer 1984
Prerequisite: A E 308

A E 431 **Advanced Concrete Design for Buildings** (3) Continuation of A.E. 402. Advanced analysis, design, and detail of concrete masonry, prestressed and reinforced concrete.
Effective: Fall 2005
Prerequisite: A E 402, A E 430

A E 432 **Design of Masonry Structures** (3) Analysis and design of unreinforced and reinforced masonry: non-bearing walls, bearing walls, shear walls, masonry building systems.
Effective: Spring 2005
Prerequisite: A E 402 orC E 341

A E 439 **Modern Structural Systems** (3) Analysis and design of building structures of unusual types.
Effective: Summer 1981
Prerequisite: A E 401, A E 402, A E 430

A E 441W **Integration of Architectural Engineering Systems** (3) Analysis and synthesis of systems--structural, mechanical, electrical, sanitary, construction--considering interrelationship in performance, economics of total systems, computer programs.
Effective: Fall 1993
Prerequisite: A E 309, A E 310, A E 311, A E 401, A E 402

A E 444 **Micro CADD Applications for Buildings** (3) Application of microcomputer based CADD systems to architectural engineering problems including graphics, system customization, and AI programming techniques.
Effective: Spring 2008
Prerequisite: A E 222;CMPSC 201 orCMPSC 202

A E 454 **Advanced Heating, Ventilating, and Air Conditioning** (3) Engineering design and performance analysis procedures for complex commercial building systems, including energy conservation techniques; design project.
Effective: Fall 1986

Prerequisite: A E 310

A E 455 **Advanced Heating, Ventilating, and Air Conditioning System Design** (3) Design of several different systems for a course project building; control strategy; economic comparisons using life-cycle cost techniques.
Effective: Fall 1983
Prerequisite: A E 454

A E 456 **Solar Energy Building System Design** (3) Solar radiation, collectors, and thermal storage; design and analysis of a heating system using system-simulation computer program.
Effective: Summer 1984
Prerequisite: seventh-semester standing in Engineering

A E 457 **HVAC Control Systems** (3) Theory of automatic control. HVAC control applications. Control system components, control loops, development and documentation of control logic, control commissioning.
Effective: Summer 2006
Prerequisite: A E 454

A E 458 **Advanced Architectural Acoustics and Noise Control** (3) Advanced consideration of noise control in buildings; ventilating system noise and vibration; acoustic design variables.
Effective: Fall 1983
Prerequisite: A E 309

A E 461 **Architectural Illumination Systems & Design** (3) Lighting units & photometry; lighting equipment; design criteria, calculation methods; the design process; energy codes.
Effective: Fall 2005
Prerequisite: A E 311

A E 464 **Advanced Architectural Illumination Systems & Design** (3) Flux transfer theory; advanced lighting and control systems; emergency lighting; daylighting; visual performance issues; psychological aspects of lighting.
Effective: Fall 2005
Prerequisite: A E 461

A E 466 **Computer Aided Lighting Design** (3) Design and analysis for outdoor area; floodlighting; and interior applications, including design criteria; economic analysis; modeling algorithms; and visualization.
Effective: Fall 2005
Prerequisite: A E 444, A E 461

A E 467 **Advanced Building Electrical System Design** (3) Design of electrical systems for commercial and industrial facilities emphasizing design practice and integration with codes and standards.
Effective: Spring 2008
Prerequisite: A E 311, E E 211

A E 470 **Residential Building Design and Construction** (3) Managerial aspects; architectural and code considerations; cost estimating, design, and construction of structural, plumbing, HVAC, and electrical systems.
Effective: Spring 1989
Prerequisite: A E 372 orC E 331 ; seventh-semester standing in Architectural Engineering or Civil Engineering

A E 471 **Building Construction Assemblies** (3) Performance characteristics and special problems associated with assembly- erection procedures for building construction materials and components; case studies of failures.
Effective: Winter 1978
Prerequisite: A E 221, A E 222

A E 472 **Building Construction Planning and Management** (3) Construction organization and contracts; preconstruction services; estimating; scheduling; cash flow; site planning and preparation; building construction sequences; construction business presentations; value engineering.
Effective: Fall 2005
Prerequisite: seventh-semester standing in Architectural Engineering

A E 473 **Building Construction Management and Control** (3) Building construction project planning; construction cost, schedule, quality and safety control systems; project cost accounting; change management; construction company management.
Effective: Fall 2005
Prerequisite: A E 472

A E 474 **Building Construction Estimating** (3) Construction estimating and cost engineering fundamentals; quantity take off; pricing, bid preparation; estimating, cost accounting by computer.
Effective: Spring 2001
Prerequisite: A E 372

A E 475 **Building Construction Engineering I** (3) Project planning, supervision, inspection of architectural and structural operations in major buildings; mobilization, coordination of trades; offsite testing and fabrication.
Effective: Fall 2001
Prerequisite: A E 401 orA E 402

A E 476 **Building Construction Engineering II** (3) Construction of mechanical and electrical systems in major buildings; fire protection, sound control, elevatoring; trade coordination; manufacturers' developments; computer application.
Effective: Fall 1983
Prerequisite: A E 309, A E 475

A E 477 **Senior Building Construction Project** (3) Investigation of current or completed major construction project; studies of industry management problems; formal project presentation, critique.

Effective: Summer 1981
Prerequisite: A E 475, A E 476

A E 481W **Comprehensive Architectural Engineering Senior Project I** (4) Building project selection and preparation of overall plan; preliminary investigation of building design and construction issues; creation of individual Capstone Project Electronic Portfolio (CPEP) and project proposal required.
Effective: Fall 2005
Prerequisite: ARCH 441 fifth-year architectural engineering standing in major area of emphasis

A E 482 **Comprehensive Architectural Engineering Senior Project II** (4) Continuation of A E 481W. Engineering analysis of building systems; emphasis on analysis and design of building structural, mechanical, lighting/electrical, and construction related systems. Final written report, web-based project portfolio and verbal presentation are required.
Effective: Fall 2005
Prerequisite: A E 481W

A E 486 **Professional Engineering Practice** (3) A study of the influences which affect the practice of architectural engineering, particularly codes, ethics, legal considerations, and contract documents.
Effective: Fall 1983
Prerequisite: seventh-semester standing

A E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

A E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

A E 497B **Basics of Communications Systems** (1) The basics of telecommunications systems and system infrastructures in buildings.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

A E 497F **Load/Energy Simulation** (3) Developing models of the time depenent loads on building system on the basis of fundamental conservation of energy and heat transfer relationships; energy utilization modeling skills that allow alternative building system designs to be explored.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

A E 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Architectural Engineering Technology (AE T)

AE T 101 **Building Materials** (3) Structural and architectural use of building materials and construction assemblies.
Effective: Fall 1992

AE T 102 **Methods of Construction** (3) Materials and methods of construction used in buildings, as expressed in drawings.
Effective: Fall 1992
Prerequisite: AE T 101, EG T 101, EG T 102

AE T 103 **Plumbing and Fire Protection** (3) Layout of plumbing and fire protection in buildings to meet code and usage requirements.
Effective: Fall 1992
Prerequisite: or concurrent:AE T 102

AE T 113 **Site Planning** (2) Energy conservation through optimum site utilization, contours, cut and fill calculations, storm drainage, spot grading, and finish grading.
Effective: Fall 1992

AE T 121 **Introduction to Building Environmental Systems** (2) Introduction to building environmental systems technology terminology, concepts, and the design process.
Effective: Spring 1994

AE T 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AE T 204 **Heating, Ventilating, and Air Conditioning Layout** (3) Fundamental calculations and layout of systems in buildings.
Effective: Fall 1992
Prerequisite: AE T 103 . Prerequisite or concurrent:AE T 102

AE T 206 **Architectural Presentation** (2) Visual communication through architectural presentation drawings. Line, value, color, and composition.
Effective: Fall 1992
Prerequisite: E G 001 orE G 003

AE T 207 **Advanced Construction Methods** (3) Integration of materials and systems in working drawings.
Effective: Fall 1992
Prerequisite: fourth-semester standing

AE T 210 **Architectural Engineering Office Practice** (3) Procedures involved in production of contract documents, both drawings and specifications.
Effective: Fall 1992
Prerequisite: fourth-semester standing

AE T 210W **Architectural Engineering Office Practice Using Writing Skills** (3) Concepts, procedures, and writing-intensive activities to properly prepare site observation reports, cost estimates, contractual conditions, and outline and technical specification.
Effective: Spring 1994
Prerequisite: fourth-semester standing

AE T 212 **Building Lighting and Electrical Layout** (3) Layout of lighting and electrical distribution in buildings.
Effective: Fall 1992

AE T 214 **Steel Construction** (3) Strength of materials as applied to the design of simple steel structures.
Effective: Fall 1992
Prerequisite: AE T 102, MCH T 111

AE T 215 **Concrete Construction** (3) Fundamentals of design and construction of reinforced concrete structures.
Effective: Fall 1992
Prerequisite: AE T 102, MCH T 111

AE T 227 **Liquid Heating and Cooling Systems** (3) Water, steam, and refrigerant systems and components; pumps and piping; heat exchangers; fluid and component selection; power and controls.
Effective: Spring 2007
Prerequisite: AE T 121, MET 281

AE T 228 **Air Heating, Cooling, and Ventilating Systems** (3) Air systems and distribution components; fans and ductwork; heat exchange coils; dampers and controls; residential fired equipment operation.
Effective: Spring 1994
Concurrent: AE T 227

AE T 229 **Analysis of Building Environmental Systems** (3) Comprehensive analysis and application of building environmental systems with focus on selected areas; calculation and layout; computer modeling of systems.
Effective: Spring 1994
Prerequisite: fourth-semester standing

AE T 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

AE T 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

AE T 297A **Introduction to 3-D Architectural Drafting** (3) Build on the fundamentals of 2-D computer aided drafting skills to an intermediate/advanced level, using locally available 3-D software packages, through applications from the student's major course of study.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

AE T 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Architecture (ARCH)

ARCH 095 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

ARCH 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

ARCH 098 **Special Topics** (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ARCH 099 (IL) **Foreign Studies--Architecture** (1-15) Individual or group instruction conducted in a foreign country.
Effective: Summer 2005

ARCH 101 **Introduction to Architecture Studio** (3) Basic concepts/methods of architectural design; introduction/exploration of techniques of architectural communication/representation; structural, functional, and aesthetic dimensions of architecture are examined.
Effective: Summer 1999

ARCH 121 **Visual Communications I** (2) Development of two and three-dimensional graphic communications skills and techniques required for the practice of architecture.
Effective: Fall 2008

ARCH 122 **Visual Communications II** (2) Development of two-dimensional digital graphic communications skills and techniques required for the practice of architecture.
Effective: Summer 2008
Prerequisite: ARCH 121

ARCH 130A **Basic Design and Research I** (3-6) Multidimensional design and perceptual development. Formulation of abstracted concepts and logical visual models.
Effective: Spring 1996
Prerequisite: Architectural Engineering majors only

ARCH 131S **Basic Design Studio I** (4) An introduction to the basic concepts, methods, and skills of architectural design in a project-based, active learning, studio environment.
Effective: Summer 2008
Prerequisite: or concurrentARCH 121

ARCH 132 **Basic Design Studio II** (4) Continuation of ARCH 131S which further explores basic concepts, methods, and skills of architectural design with an emphasis on craftsmanship.
Effective: Summer 2008
Prerequisite: ARCH 121, ARCH 131S . Prerequisite or concurrent:ARCH 122

ARCH 195 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

ARCH 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

ARCH 198 **Special Topics** (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ARCH 199 (IL) **Foreign Studies--Architecture** (1-15) Individual or group instruction conducted in a foreign country.
Effective: Summer 2005

ARCH 203 **Materials and Building Construction I** (3) Instruction in the design and construction of buildings utilizing wood and steel.
Effective: Spring 2001
Prerequisite: third-semester standing in the Architecture curriculum

ARCH 204 **Materials and Building Construction II** (3) This course will continue the presentations of ARCH 203, with a

focus on concrete and masonry materials.
Effective: Spring 2001
Prerequisite: ARCH 203 fourth-semester standing in the Architecture curriculum

ARCH 210 (GA) **Introduction to Architecture and Planning Theories** (3) The course introduces architectural and urban theory by presenting and exploring key concepts through major texts from the Western tradition.
Effective: Spring 2009

ARCH 211 (GA) **Contemporary Design and Planning Theories II** (3) Continuation of ARCH 210, with an in-depth analysis and study of significant and current environmental constructs and issues.
Effective: Summer 1995
Prerequisite: ARCH 210

ARCH 231 **Architectural Design I** (6) Design of limited environments within defined constraints.
Effective: Spring 2007
Prerequisite: A&A 103 andA&A 104 second-year standing in architecture curriculum

ARCH 232 **Architectural Design II** (6) Design of limited environments within defined constraints.
Effective: Spring 2007
Prerequisite: ARCH 231 second-year standing in Architecture curriculum

ARCH 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

ARCH 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ARCH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ARCH 298 **Special Topics** (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ARCH 299 (IL) **Foreign Studies--Architecture** (1-15) Individual or group instruction conducted in a foreign country.
Effective: Summer 2005

ARCH 311W **Architectural and Planning Theories** (3) Architectural theory course with a strong focus on the reading and writing of essays about architecture and related fields.
Effective: Summer 2006
Prerequisite: fifth-semester standing in the Architecture curriculum

ARCH 311Z **Architectural and Planning Theories** (3) Architectural theory course with a strong focus on the reading and writing of essays about architecture and related fields.
Effective: Fall 1994

ARCH 312 **Critical Postcolonial and Contemporary Perspectives in South Asian Architecture** (3) This course will examine critical postcolonial and contemporary architectural issues in South Asia in the context of cultural globalization today.
Effective: Summer 2008

ARCH 316 (GA) **Analysis of Human Settlements: Cities** (3) Analysis of the interrelated factors which determined and shaped the various types of early cities through the nineteenth century.
Effective: Summer 1989

ARCH 317 **Theory of Modern Japanese Architecture** (3) Introduction to the development of modern Japanese architecture from the Meiji Restoration of 1868 to the present day.
Effective: Summer 2008

ARCH 331 **Architectural Design III** (6) Development of the design process through organizational methodologies, based on physical, functional, and social-behavioral determinants.
Effective: Spring 2007
Prerequisite: ARCH 232 faculty review third-year standing in Architecture curriculum

ARCH 332 **Architectural Design IV** (6) Development of the design process through organizational methodologies, based on physical, functional, and social-behavioral determinants.
Effective: Spring 2007
Prerequisite: ARCH 331 third-year standing in Architecture curriculum

ARCH 395 **Architecture Work Study** (6) Off-campus, non-group instruction under the direction of approved professionals in the field. Architecture majors only.
Effective: Spring 2001

ARCH 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

ARCH 398 **Special Topics** (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ARCH 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

ARCH 417 **The Language of Boundaries in Architecture and the Landscape** (3) This course examines the development and significance of boundaries in the construction of human space and time. Students who have taken other courses from Architecture Visual Arts, Geography, or Philosophy that treat some aspect of spatial perception, conception, construction, or visualiation, or who have completed equivalent study independently, may enroll with the permission of the program.
Effective: Summer 2009
Prerequisite: Students should have taken at least one of the following courses:ARCH 210, ARCH 130A, ARCH 131S, LARCH 060, LARCH 065, GEOG 020 orINART 003 or permission of program

ARCH 431 **Architectural Design V** (6) Continuation of ARCH 331 and 332, with design and research in program option areas.
Effective: Spring 2007
Prerequisite: ARCH 332 fourth-year standing in Architecture curriculum

ARCH 431A (IL) **Architectural Design V--Foreign Study** (6) A studio offered in Rome, Italy, which emphasizes urban planning and architectural design in an urban context.
Effective: Summer 2008
Prerequisite: ARCH 332

ARCH 432 **Architectural Design VI** (6) A continuation of ARCH 431, this course explores in greater depth urban planning and archiectural design in an urban context.
Effective: Spring 2009
Prerequisite: ARCH 431

ARCH 432A (IL) **Architectural Design VI--Foreign Study** (6) A continuation of ARCH 431, this course explores urban planning and architectural design in an urban context in Rome, Italy.
Effective: Summer 2008
Prerequisite: ARCH 431

ARCH 441 **Architectural Design Analysis** (3) Studies in principles and elements of design; planning for human use; the relationship of space to physical and social environment. Architectural Engineering majors only.
Effective: Spring 2008
Prerequisite: ARCH 130A

ARCH 442 **Architectural Design Analysis** (3) Continuation of ARCH 441, with emphasis on functional relationship of space, form, structure, and building groups. Architectural Engineering majors only.
Effective: Spring 2008
Prerequisite: ARCH 441

ARCH 443 **Architectural Design Analysis Inspection Trip** (1) Faculty guided trip to metropolitan areas to investigate noteworthy architecture and building construction and to visit professional offices.
Effective: Spring 2001
Prerequisite: fourth-year architectural engineering majors first priority others by faculty approval

ARCH 451 **Architectural Professional Practice** (3) A study of architectural practice in today's society: education, registration, office practice, codes, standards, construction industry, contracts, and legal documents.
Effective: Spring 2001
Prerequisite: seventh-semester standing in Architecture curriculum

ARCH 480 **Technical Systems Integration** (3) Presentations of buildings' analyses from a multiplicity of viewpoints: architectural, spacial, environmental, mechanical, construction assembly.
Effective: Summer 1994
Prerequisite: fifth-year standing in the Architecture curriculum or approval by the instructor

ARCH 481 **Digital Design Media** (3) Advanced course in digital modeling, rendering, animation and non-linear video for architectural investigations.
Effective: Summer 2006
Prerequisite: approval by instructor

ARCH 482 **MicroCAD** (3) Introductory course in Computer-Aided-Drafting applications with an emphasis on architectural office practices and architectural drawings production.
Effective: Summer 2006

ARCH 491 **Architectural Design VII-Thesis** (6) Problems in architectural planning and design; programming and/or implementation methodologies and applications for various environmental design scales.
Effective: Spring 2007
Prerequisite: ARCH 431 orARCH 432, ARCH 499A faculty review fifth-year standing in the Architecture curriculum

ARCH 492 **Architectural Design VIII-Thesis** (6) Continuation of ARCH 491 with concentration and specialization options.
Effective: Spring 2007
Prerequisite: ARCH 491 fifth-year standing in the Architecture curriculum

ARCH 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2007
Prerequisite: prior approval of proposed assignment by instructor

ARCH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1986

ARCH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1986

ARCH 497A **Digital Fabrication** (3) This course investigates both the conceptual and practical implications of digital fabrication in the process of design construction.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ARCH 497B **Green to Post-Green Environmental Thinking in the Twenty First Century** (3) Focusing on the effects of the environmental movement in art, architecture, and landscape design since the 1960's.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ARCH 498 **Special Topics** (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ARCH 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: seventh-semester standing

ARCH 499A (IL) **Foreign Study--Architectural Design VI** (6) Individual or group instruction conducted in a foreign country.
Effective: Spring 2007
Prerequisite: ARCH 332 fourth-year standing in the architecture curriculum

ARCH 499B (IL) **Architectural Analysis** (3) Comparative study of architectural elements and building types through on-site drawing, recording, measurement, sketching and decomposition activity.
Effective: Spring 2009
Prerequisite: ARCH 210 Concurrent: ARCH 499A ARCH 499C

ARCH 499C (IL) **Urban Studies Topics** (3) A presentation of the history of Rome through the medium of its maps and walking tours of the city.
Effective: Spring 2009
Prerequisite: ARCH 210 Concurrent: ARCH 499A ARCH 499B

Last Import from UCM: May 29, 2010 3:00 AM

Army (ARMY)

GENERAL MILITARY SCIENCE COURSE (NO OBLIGATION)

ARMY 101 **U.S. Army Organization and Functions** (2) Introduction to U.S. Army and ROTC: their organization, missions and functions; customs and traditions; leadership laboratory.
Effective: Summer 1996

ARMY 102 **The Military Profession: Leadership and Management Theory** (2) Introduction to leadership techniques and basic management skills; leadership laboratory.
Effective: Summer 1996

ARMY 203 **Army Operations: Tactics and the Principles of War** (2) Organization and operation of Army units; fundamentals of unit tactics; leadership laboratory.
Effective: Fall 1992

ARMY 204 **Land Navigation: Topographic Maps and Orienteering** (2) Military and topographic maps; methods of orienteering and land navigation; leadership laboratory.
Effective: Fall 1992

OFFICER PREPARATORY COURSE

ARMY 301 **Advanced Principles of Leadership and Management** (3) Principles of military leadership; military skills development; land navigation; physical fitness; leadership laboratory.
Effective: Fall 1992

ARMY 302 **Advanced Principles of Military Leadership and Combat Operations** (3) Leadership in the field; principles of offense, defense, and patrolling; physical fitness, leadership laboratory.
Effective: Fall 1992
Prerequisite: ARMY 301

ARMY 304 **Advanced Camp** (0) Six weeks of Army field training to prepare cadets for commissioning as second lieutenants.
Effective: Fall 1985
Prerequisite: ARMY 301, ARMY 302

ARMY 401 **Organizational Behaviors: Interrelationships of Directing Staffs and Staff Functions** (3) Leadership; command and staff functions; ethics and professionalism; military writing; leadership laboratory.
Effective: Fall 1992
Prerequisite: ARMY 302

ARMY 402 **Army Personnel Management and Logistics** (3) Leadership; army personnel management; logistics system; personnel counseling; military justice; Soviet military; personal affairs; training management; army life; leadership laboratory.
Effective: Fall 1992
Prerequisite: ARMY 302

ARMY 496 **Independent Studies** (1-9) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1988

Last Import from UCM: May 29, 2010 3:00 AM

Art (ART)

ART 001 (GA) **Introduction to the Visual Arts** (3) Introduction to the media, elements, function, making, and meaning of visual arts today and in diverse historical and cultural contexts.
Effective: Spring 2004

ART 002 (GA) **Interactive Learning and Web-Design** (3) Introduce students to research on-line, preparing verbal, visual and other elements for presentation of outcomes and posting them to the Internet.
Effective: Fall 2001

ART 003 (GA) **Visual Images on the Web** (3) Introduce students to using visual images for communication on the World Wide Web.
Effective: Fall 2001

ART 010 (GA) **Introduction to Visual Studies** (3) Introduction to visual studies; pictorial space and the principles of visual organization.
Effective: Fall 2004

ART 010S (GA) **Introduction to Visual Studies** (3) Introduction to visual studies; pictorial space and the principles of visual organization.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 017 (GA) **Introduction to Metal Arts** (3) Introduction for non-art majors to fundamental jewelry making and small-scale metalsmithing processes including fabrication, surface treatment, and finishing of metalwork.
Effective: Spring 2004

ART 020 (GA) **Introduction to Drawing** (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.
Effective: Spring 2004

ART 020S (GA) **Introduction to Drawing** (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 030 (GA) **Introduction to Sculpture** (3) Introduction to sculpture for non-art majors consisting of lectures/basic studio work coordinated to cover broad range of processes.
Effective: Fall 2004

ART 040 (GA) **Introduction to Printmaking** (3) Instruction and practice in elementary printmaking and papermaking processes.
Effective: Fall 2004

ART 050 (GA) **Introduction to Painting** (3) Introductory experience in making of art through painting media; designed for non-majors seeking a general overview of studio practice.
Effective: Fall 2004

ART 080 (GA) **Introduction to Ceramics** (3) Introduction to the concepts and techniques fundamental to the making of pottery and ceramic sculpture.
Effective: Spring 2004

ART 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

ART 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

ART 100 (GA) **Concepts and Creation in the Visual Arts** (3) A study of the personal and cultural foundations of artistic creation and practice of creative production in the art studio.
Effective: Spring 2004

ART 101 (GA) **Introduction to Web Design** (3) A beginning level course in Web Design, with emphasis on designing with standards to assure accessibility and effective communication.
Effective: Spring 2008

ART 110S **Ideas as Visual Images** (3) Introduction to the ideational relationships among subject, form, and content in visual images.
Effective: Fall 2002
Prerequisite: portfolio review

ART 111 **Ideas as Objects** (3) An introduction to the relationship between ideas and the creation of three-dimensional objects.
Effective: Fall 2002
Prerequisite: portfolio review

ART 120 **Beginning Drawing** (3) The study and practice of basic drawing as a way of understanding and communicating.
Effective: Fall 2002
Prerequisite: portfolio review

ART 122Y (US) **Commentary on Art** (3) An introduction to verbal commentary, both oral and written, about art. The development of critical and expressive skills given emphasis.
Effective: Spring 2006

ART 165 **Artistic Concepts of Space** (3) A studio course that utilizes lecture and varied media experiences to investigate space as artistic expression.
Effective: Spring 2007

ART 166 **Artistic Concepts of Form** (3) A studio course that utilizes lecture and varied media experiences to investigate form in artistic expression.
Effective: Spring 2007

ART 168 **The Digital Medium** (3) A studio course where the computer is introduced as an artistic media.
Effective: Spring 2007

ART 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

ART 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

ART 199 (IL) **Foreign Studies--Art** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART 201 **Intro to Digital Arts: Computer Graphics** (3) Art 201 is a course introducing digital art, design, and new media concepts using graphic applications on the computer.
Effective: Spring 2008

ART 203 **The Art of Web Design** (3) This course will focus on utilizing graphic formats ideal for web-based work and designing with web standards.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: ART 201

ART 203 **The Art of Web Design** (3) This course will focus on utilizing graphic formats ideal for web-based work and designing with web standards.
Effective: Spring 2011 Future: Spring 2011

ART 211 (US) **Introduction to Digital Art and Design Criticism** (3) An introduction to the language, aesthetics and cultural impacts of digital art and design in contemporary society.
Effective: Fall 2007

ART 211Y (US) **Introduction to Digital Art and Design Criticism** (3) An introduction to the language, aesthetics, and cultural impacts of digital art and design in contemporary society.
Effective: Spring 2010

ART 217 **Metal Art/Technology I** (3) Introduction to current and emerging metal art technologies and processes as medium for conceptual, aesthetic, and functional artworks.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions

portfolio review

ART 220 **Figure Drawing** (3) Drawing from life. Emphasis on developing the ability to comprehend and record the human figure.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 223 **Drawing: Techniques, Materials, and Tools** (3) Drawing with an emphasis on organization and the development of drawing skills through a variety of techniques, materials, and tools.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 230 **Beginning Sculpture** (3) An introduction to sculpture consisting of lectures, demonstrations, and basic studio work coordinated to cover a broad range of processes.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 240 **Beginning Printmaking** (3) An introduction to printmaking consisting of lectures, demonstrations, and studio work to cover a broad range of processes.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 250 **Beginning Oil Painting** (3) The materials and techniques of painting in oil and their uses in creative painting on panels and canvas.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 251 **Acrylic Painting** (3) Introduction to the materials and techniques of creative painting with acrylic paints.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 260 **Beginning Watercolor Painting** (3) Transparent watercolor painting on various papers; knowledge of materials, development of skills and creativity.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 265 **Artistic Concepts of Color** (3) A studio course that utilizes lecture and various media to investigate color as artistic expression.
Effective: Spring 2007
Prerequisite: ART 165, ART 166

ART 266 **Artistic Concepts of Light** (3) A studio course that utilizes lecture and varied media experiences to investigate light as artistic expression.
Effective: Spring 2007
Prerequisite: ART 165, ART 166

ART 269 **Methods and Materials I** (3 per semester/maximum of 9) A studio course that focuses on specific media or techniques reflecting varied faculty expertise.
Effective: Spring 2007
Prerequisite: ART 165, ART 166

ART 270 **Beginning Graphic Design** (3) A beginning graphic design studio/lecture course intended to introduce students to the practice of graphic design.
Effective: Spring 2001
Prerequisite: ART 110S, ART 111, ART 120

ART 280 **Beginning Ceramics** (3) The fundamentals of ceramics, throwing, hand-building, and glazing; acquainting the student with ceramic materials, techniques, and philosophy.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

ART 290 **Beginning Photography** (3) Fundamental techniques and approaches to the art of photography utilizing digital photographic technologies; digital cameral required.
Effective: Spring 2003

ART 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ART 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Effective: Fall 1983

ART 297A **Basic Photography** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

ART 297A **IDS Seminar** (3) This course is an introductory interdisciplinary seminar for IDS students.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 297B **Basic Photography** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

ART 299 (IL) **Foreign Study--Art** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART 300 **Studio Apprenticeship** (1-4 per semester/maximum of 8) Direct involvement in the creative process of the artist-teacher in the studio environment.
Effective: Fall 1993
Prerequisite: fifth-semester standing

ART 302 **Digital Portfolio Elements** (3) The creation of more involved digital projects that may ultimately be included in the students' digital portfolio.
Effective: Summer 2010
Prerequisite: ART 201 orART 203

ART 314 **Computer 3-D: Modeling, Rendering, and Animation** (4 per semester/maximum of 12) A studio course introducing 3-d computer generated artwork and content creation using modeling, rendering, and animation applications on the computer.
Effective: Spring 2008
Prerequisite: ART 201 and enrollment in the ART BA ART BFA Art Education Interdisciplinary Digital Studio (IDS) or Integrative Arts degree program

ART 315 **New Media Art: New Media Studio** (4) A studio course concentrating on digital art and new media authoring practices.
Effective: Spring 2008
Prerequisite: ART 201 and enrollment in the ART BA ART BFA Art Education Interdisciplinary Digital Studio (IDS) or Integrative Arts degree program

ART 316 **Video Art and Time-Based Media** (4 per semester/maximum of 8) A studio course concentrating on video art, new media, and experimental time based work.
Effective: Spring 2008
Prerequisite: ART 315

ART 317 **Metal Art/Technology II** (4 per semester/maximum of 8) Further exploration of current and emerging metal art technologies and processes as medium for conceptual, aesthetic, and functional artworks.
Effective: Fall 2006
Prerequisite: ART 217, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 318 **New Media Art: Game Art** (4 per semester/maximum of 8) A studio course concentrating on game art and new media authoring practices.
Effective: Summer 2007
Prerequisite: ART 314, ART 315

ART 319 **Physical Computing** (4 per semester/maximum of 8) A studio course concentrating on interactive physical systems using software/sensors that can sense and respond to the analog world.
Effective: Summer 2007
Prerequisite: ART 201 and enrollment in the ART BA ART BFA Art Education Interdisciplinary Digital Studio or Integrative Arts degree programs

ART 320 **Advanced Drawing** (4 per semester/maximum of 8) Drawing for art majors; emphasis on sustained individual approaches based on figurative and nonfigurative sources.
Effective: Fall 2006
Prerequisite: ART 220, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART 330 **Intermediate Sculpture: Metal Fabrication and Mixed-media** (4 per semester/maximum of 8) Development of technical and conceptual skills through metal fabrication, weld ing, and mixed-media processes.
Effective: Fall 2006
Prerequisite: ART 230, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts

degree program

ART 331 **Intermediate Sculpture: Metal Casting and Mold-Making** (4 per semester/maximum of 8) Development of technical and conceptual skills through metal casting and mold- making processes.
Effective: Fall 2006
Prerequisite: ART 230, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 338 **The Body: Issues and Objects** (4 per semester/maximum of 8) Creating representations of the human body and related objects as a means of sculptural expression.
Effective: Fall 2006
Prerequisite: ART 230, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 340 **Printmaking** (4 per semester/maximum of 8) Development of technical and expressive skills through selected problems in one or more of the print processes.
Effective: Fall 2006
Prerequisite: ART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 341 **Intermediate Printmaking: Intaglio/Relief** (4) Instruction and practice in the fundamentals of intaglio and relief printmaking processes in their relation to the fine arts.
Effective: Spring 2008
Prerequisite: ART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 342 **Intermediate Printmaking: Lithography/Serigraphy** (4) Instruction and practice in the fundamentals of the lithographic and serigraphic processes and their relationship to the meaning of the print.
Effective: Spring 2008
Prerequisite: ART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 343 **New Media Printmaking** (4 per semester/maximum of 8) A studio course concentrating on the integration of new media and traditional printmaking processes.
Effective: Fall 2006
Prerequisite: ART 201 orART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART 350 **Intermediate Painting** (4 per semester/maximum of 8) A variable offering in painting; course conditions defined on a rotating basis according to needs of individuals and groups.
Effective: Fall 2006
Prerequisite: ART 250, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 360 **Water-Based Media** (4 per semester/maximum of 8) Practice in traditional techniques of transparent watercolor and experiment with opaque water paints in both representational and abstract expressions.
Effective: Fall 2006
Prerequisite: ART 260, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 365 **Themes and Issues I** (3) An advanced studio course that emphasizes individual approach to theme oriented problem solving through traditional and non-traditional multi-media explorations.
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266

ART 366 **Themes and Issues II** (3) An advanced studio course that emphasizes individual approach to theme oriented problem solving through traditional and non-traditional multi-media explorations.
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266, ART 365

ART 380 **Intermediate Throwing** (4 per semester, maximum of 12) Intermediate ceramics course with focus on using wheel and throwing skills leading to personal expression in form, glazing, and firing.
Effective: Fall 2006
Prerequisite: ART 280, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART 381 **Intermediate Handbuilding** (4 per semester, maximum of 12) An intermediate ceramics course with a focus on handbuilding techniques, leading to personal expression in forming, glazing, and firing.
Effective: Fall 2006
Prerequisite: ART 280, ART H 111, ART H 112 and enrollment in the ART BA ART BFA ART Education or Integrative Arts degree program.

ART 390 **Introduction to Photochemical Photography** (4) Introduction to the fundamentals of black and white photochemical photography.
Effective: Spring 2003
Prerequisite: ART 110S, ART 111, ART 120, ART 290 and successful portfolio review

ART 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART 397A **Digital Hand** (4) Engineering, digital, and manual fabrication for artists.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART 399 (IL) **Foreign Study--Art** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART 402 **Portfolio Design and Professional Practices** (3) This course emphasizes the development of presentation skills for digital artists in audience/client interactions.
Effective: Summer 2010
Prerequisite: ART 302

ART 405 **Advanced Studio Art** (3 per semester/maximum of 9) Advanced work in drawing and painting, with an emphasis on individual development.
Effective: Spring 2008
Prerequisite: 6 credits of ART or A ED or graduate level status or permission of program

ART 409 (ART H 409) **Museum Studies** (3) An introduction to the professional activities that occur in art museums.
Effective: Summer 2004
Prerequisite: 6 credits of ART H ART and/or A ED

ART 411 (US) **Seminar in Contemporary Art** (3 per semester/maximum of 6) Trends in contemporary art investigated within the framework of studio visitations, museum tours, and through other related avenues of encounter.
Effective: Fall 2006
Prerequisite: ART 122Y, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 413 **Performance Art** (3) The development, production, and presentation of performance art works, and the study of performance art theory and history.
Effective: Spring 2000
Prerequisite: 4 credits of 300-level art or graduate level status or permission of instructor

ART 415 **Integrating Media: Convergence in Practice** (4 per semester/maximum of 12) A studio course concentrating on the integration of new media technologies in contemporary art practice.
Effective: Fall 2006
Prerequisite: ART 315

ART 416 **Advanced Web and Net Art: Multimedia Publishing** (4 per semester/maximum of 12) A studio course concentrating on multimedia online "net art" practice and Web publishing.
Effective: Spring 2008
Prerequisite: ART 203, ART 315 and 8 credits of 300-level new media

ART 417 **Metal Art/Technology III** (4 per semester/maximum of 12) Advanced exploration of current and emerging metal art technologies and proces ses as medium for conceptual, aesthetic, and functional artworks.
Effective: Spring 2005
Prerequisite: ART 317

ART 419 **Advanced New Media: Capstone** (4 per semester/maximum of 8) A new media and digital arts capstone course concentrating on the integration of art and technology in advanced thesis projects.
Effective: Summer 2007
Prerequisite: ART 315, ART 203 orART 416 and 12 credits of 300/400-level new media senior or graduate standing

ART 421 **Drawing** (4 per semester/maximum of 12) Drawing for advanced students, with total emphasis on sustained individual approaches.
Effective: Summer 1992
Prerequisite: ART 320

ART 422 **Advanced Figure Drawing** (4 per semester/maximum of 8) Concentrated work in recording and understanding the human figure.
Effective: Fall 1998
Prerequisite: ART 220 8 credits of 300-level art courses

ART 430 **Advanced Sculpture** (4 per semester/maximum of 12) Advanced work in sculpture, with an emphasis on individual development.
Effective: Summer 1992
Prerequisite: ART 330, ART 331 12 credits of 300-level sculpture

ART 431 **Installation Art** (4) Study and production of original visual statements through installation work as an art form.
Effective: Spring 1998
Prerequisite: 4 credits of 300-level art or graduate level status

ART 440 **Advanced Printmaking** (4 per semester/maximum of 12) Individual projects in one or more of the printmaking processes. Emphasis is on developing a portfolio of prints.
Effective: Fall 1998
Prerequisite: 4 credits of 300-level printmaking courses 8 credits total of 300-level art courses

ART 445 **Handmade Papermaking** (4 per semester/maximum of 12) Papermaking will involve experimentation with methods of forming works of art with handmade paper and three-dimensional paper pulp pieces.

Effective: Spring 2009
Prerequisite: ART 110S, ART 111, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART 446 **Artists Books** (4) Study and production of original visual statements through the book as an art form.
Effective: Spring 2009
Prerequisite: ART 110S, ART 111, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART 447 **Photo Based Printmaking** (4) Study and production of original visual statements through photographic based printmaking as an art form.
Effective: Spring 2000
Prerequisite: ART 240 4 credits of 300-level Art courses or graduate level status

ART 450 **Advanced Painting** (4 per semester/maximum of 12) Development of the artist through a series of commitments; each semester serves as a contractual agreement along professional lines.
Effective: Summer 1992
Prerequisite: ART 350

ART 455 **Advanced Painting Critique** (4 per semester/maximum of 8) The painter in relation to his peers and his profession.
Effective: Fall 1983
Prerequisite: senior or graduate standing

ART 460 **Advanced Water-Based Media** (4 per semester/maximum of 8) Further practice in the use of watercolor and related media.
Effective: Fall 1983
Prerequisite: ART 360

ART 465 **Individual Approaches I** (3) An advance studio where students are expected to explore personal themes and individual concepts in their art work.
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266, ART 365, ART 366

ART 466W **Individual Approaches II** (6) An advance studio/lecture addressing the preparation for potential employment and/or entrance into graduate studies.
Effective: Summer 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266, ART 365, ART 366, ART 465

ART 468 **The Intermediate Digital Medium** (3) An advanced studio course using the computer as an artistic media.
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 168

ART 469 **Methods and Materials II** (3 per semester/maximum of 9) A studio course that focuses on specific media or techniques reflecting varied faculty expertise.
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 269

ART 475 (US) (ART H 475) **Contemporary Women Artists** (3) An interdisciplinary course that investigates women artists who were integral to the production of contemporary art primarily in the Americas, Europe, and Asia.
Effective: Spring 2009
Prerequisite: fifth-semester standingART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 476 (ART H 476) **History and Theory of Digital Art** (3) History and theories of contemporary digital art emphasizing humanistic approaches to technology.
Effective: Spring 2007
Prerequisite: ART H 100 orART H 112 orART H 307 orART H 325 orART H 326 orART 211

ART 480 **Advanced Ceramic Arts** (4 per semester/maximum of 12) Individual exploration of ceramic materials and construction leading to graduate study or career development as a professional potter.
Effective: Summer 1992
Prerequisite: ART 380

ART 481 **Ceramic Materials and Glaze Calculation** (3) The study of raw materials and their use in formulating clays and glazes.
Effective: Fall 2006
Prerequisite: ART 280, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

ART 490 **View Camera Photography** (4) Experience with diverse camera formats and applications; particular emphasis on view camera.
Effective: Summer 2002
Prerequisite: ART 390

ART 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

ART 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an

individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ART 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ART 497A **Digital Moldmaking** (4) Moldmaking for ceramics using computer aided design and digital fabrication.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 497A **Painting, Living and Healing in the Quantum Field** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART 497B **Pattern and Decoration** (4) Exploration of Pattern and Decoration as it relates to Abstraction and Function. Ceramic Materials and techniques will be used.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 497C **Art and Life: Where They Intersect** (4) The connection between life and art will be explored with mixed media and seminar and studio practices.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 497D **Painting, Emotional Intelligence and Health** (3) Course addresses the question "Why Make Art?" And the reason why art outlives empire.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART 499 (IL) **Foreign Studies--Art** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Art Education (A ED)

A ED 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 101S **Introduction to Art Education** (3) This course introduces students to issues, concepts, and ideas in Art Education.
Effective: Summer 2002

A ED 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 201W **History and Philosophy of Art Education in Schools and Cultural Institutions** (3) Introduction to historical, philosophical, and sociological foundations art education in schools and cultural institutions, museums, and community organizations.
Effective: Spring 2003

A ED 211 (GA) **Interpreting Art Experience: Social and Behavioral Perspectives** (3) Examination of psychological, cultural, aesthetic, philosophical and educational perspectives on creation and response to art in children, adolescents and adults.
Effective: Summer 2002

A ED 212 **Interpreting Art Experience: Educational Implications** (1) In-depth study of the educational implications of the information on art making and response introduced in A ED 211.
Effective: Summer 2002
Prerequisite: A ED 101S, A ED 201W Concurrent: A ED 211

A ED 225 (GA;US) **Diversity, Pedagogy, and Visual Culture** (3) Issues of diversity in art, education, visual culture, and pedagogy.
Effective: Summer 2005

A ED 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

A ED 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

A ED 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 303 **The Visual Arts in the Elementary School** (3) Basic concepts of current art education theory and practice for the elementary teacher.
Effective: Spring 1993

A ED 322 **Visual Culture and Educational Technologies** (3) The course provides a foundation for innovative integration of digital technologies in art making, viewing, and teaching.
Effective: Spring 2009
Prerequisite: A ED majors only

A ED 323 **Visual Culture and Art Education** (3) The study and creation of contemporary art forms as visual culture critiques provide curricular and pedagogical approaches to art education.
Effective: Spring 2009
Prerequisite: A ED majors only

A ED 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

A ED 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

A ED 401 **Curricula, Pedagogy, and Assessment in Art Education** (3) Preparation of curricula, pedagogical, and assessment strategies for elementary/secondary school and museum art education programs.

Effective: Summer 2002
Prerequisite: A ED 101S, A ED 201W, A ED 211, A ED 212, A ED 225, A ED 322, A ED 323

A ED 440 **Cultural Institutions** (3) Role of the educator and educational programming in museums and other cultural institutions.
Effective: Spring 2003
Prerequisite: ANTH 100 or 3 credits of Art History courses from department list;A ED 401

A ED 488 **Cultural Institutions Practicum** (1-3) Supervised field experience in a museum or other cultural institution, including planning, implementation, and evaluation of an educational project.
Effective: Summer 2002
Prerequisite: ANTH 100 or 3 credits of art history courses from department list;A ED 401 Concurrent: A ED 490

A ED 489 **Advanced Practicum** (3) Supervised observation, unit planning, and teaching in Saturday Morning Arts School: analysis of creative expressions and art programs for learners.
Effective: Spring 2003
Prerequisite: A ED 401 Concurrent: A ED 490

A ED 490 **Capstone Course in Art Education** (3) Synthesis of preservice art education coursework; introduction to professional practices and standards; completion of teaching and learning portfolio.
Effective: Spring 2009
Prerequisite: admission to Teacher Preparation Program and successful completion of all required courses in the major except Student Teaching or final internship. Prerequisite or concurrent:A ED 488 for majors in the Museums and Cultural Institutions option Concurrent: A ED 489 majors in the Schools option

A ED 494 **Schools and Museums** (3) Museum education: issues, theories of aesthetic education and practices in schools, museums, and community art centers.
Effective: Winter 1978
Prerequisite: 12 credits in art education art art history or education

A ED 494H **Schools and Museums** (3) Museum education: issues, theories of aesthetic education and practices in schools, museums, and community art centers.
Effective: Fall 2007
Prerequisite: 12 credits in art education art art history or education

A ED 495 **Internship in Art Experiences** (15) Comprehensive instruction in craft, health, cultural, museum, studio, gallery or social agency. Students supervised by University personnel and arts personnel.
Effective: Spring 1989
Prerequisite: A ED 440 ; seventh- or eighth-semester standing

A ED 495A **Art Education Student Teaching Practicum** (7) The elementary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing Concurrent: A ED 495B

A ED 495B **Art Education Student Teaching Practicum** (8) The secondary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing Concurrent: A ED 495A

A ED 495C **Art Education Student Teaching Practicum** (7) The elementary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing; Concurrent: A ED 495D

A ED 495D **Art Education Student Teaching Practicum** (8) The secondary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing Concurrent: A ED 495A

A ED 495E **Internship in Museums and Cultural Institutions** (15) Twelve week, full time supervised internship in education in museums or other cultural institutions.
Effective: Summer 2006
Prerequisite: A ED 440 seventh- or eighth-semester standing.

A ED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

A ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

A ED 497E (C I 497E, HIST 497E) **Consuming Child** (3) Explores linkage between new ideas about childhood and commercial/media culture since the Enlightenment through sponsored guest presentations and readings.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

A ED 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2006

Last Import from UCM: May 29, 2010 3:00 AM

Art History (ART H)

ART H 001S (GA) **First-Year Seminar** (3) An introduction to the field of art history, through an examination of a selected issue in a seminar setting.
Effective: Fall 2000

ART H 100 (GA;IL) **Introduction to Art** (3) An approach to the understanding of art through a critical analysis of selected works of architecture, painting, and sculpture. Students who have passed ART H 110 may not schedule this course.
Effective: Spring 2006

ART H 111 (GA;IL) **Ancient to Medieval Art** (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.
Effective: Spring 2006

ART H 111U (GA;IL) **Ancient to Medieval Art** (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART H 112 (GA;IL) **Renaissance to Modern Art** (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.
Effective: Spring 2006

ART H 112U (GA;IL) **Renaissance to Modern Art** (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART H 120 (GA;IL) **Asian Art and Architecture** (3) A selective overview of the art and architecture of India, Southeast Asia, China, Korea, and Japan.
Effective: Summer 2005

ART H 130 (GA;US;IL) **African, Oceanic, and Native American Art** (3) A selective overview of the history of African, Oceanic, and Native American art.
Effective: Summer 2005

ART H 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART H 197A **Introduction to Pre-Columbian Art and Architecture** (3) Relying on a thematic organization, this course examines the art and architecture produced in Pre-Columbian Mesoamerica and South America.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART H 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART H 199 (IL) **Foreign Study--Art History** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART H 201 (GA;IL) **Ancient to Medieval Architecture** (3) A survey of Prehistoric, Ancient Near Eastern Egyptian, Greek, Roman, Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic architecture.
Effective: Spring 2006

ART H 202 (GA;US;IL) **Renaissance to Modern Architecture** (3) A survey of Renaissance, Baroque, Rococo, Romantic, Victorian, Modern, Post-Modern, and Contemporary architecture in Europe and America.
Effective: Spring 2006

ART H 225 (GA;GH) (ENGL 225, WMNST 225) **Sexuality and Modern Visual Culture** (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

ART H 250 (PHOTO 201) **A Chronological Survey of Photography** (3) A survey of photography's place and influence in a

social, cultural, and historical context.
Effective: Spring 2006

ART H 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ART H 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ART H 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART H 299 (IL) **Foreign Study--Art History** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ART H 300H **Honors Course in Art History** (3-12) Readings, discussion, oral and written reports on selected topics in art history.
Effective: Fall 1983
Prerequisite: fifth-semester standing all-University and art history average of B and invitation by Department Honors Committee

ART H 301 (GA;IL) **Egyptian and Mesopotamian Art** (3) Art of the Ancient Near East, including Egypt, Mesopotamia, and neighboring civilizations.
Effective: Spring 2006

ART H 302 (GA;IL) **Art of the Early Middle Ages** (3) A survey of the art of Western Europe from the Early Christian era through the Ottonian Empire, c.300-1050 A.D.
Effective: Spring 2006

ART H 303 (GA;IL) **Italian Renaissance Art** (3) The major arts in Italy from the thirteenth century A.D. through the Renaissance; emphasis on sculpture and painting.
Effective: Spring 2006

ART H 304 (GA;IL) **Southern Baroque Painting** (3) Seventeenth-century painting in Italy, France, and Spain. Emphasis will be on Italy as the vanguard country.
Effective: Spring 2006 Ending: Summer 2010

ART H 304 (GA;IL) **Italian, Spanish, and Spanish Colonial Baroque Art and Architecture** (3) A survey of painting, sculpture, and architecture in Italy, Spain, and the Spanish Americas from 1600-1750.
Effective: Fall 2010 Future: Fall 2010

ART H 305 (GA;IL) **European Art from 1780-1860** (3) A survey of painting and sculpture in Europe 1780-1860, from the origins of Neoclassicism through Romanticism and Realism.
Effective: Spring 2006

ART H 306 (GA;IL) **English Art** (3) An introduction to the history of art in England by examining selected themes and issues.
Effective: Spring 2006

ART H 307 (GA;US) (AM ST 307) **American Art** (3) History of art in the English colonies and the United States from the seventeenth century to the present.
Effective: Spring 2008

ART H 311 (GA;IL) **Greek and Roman Art** (3) Greek and Roman art, with emphasis on painting and sculpture.
Effective: Spring 2006

ART H 312 (GA;IL) **Romanesque and Gothic Art** (3) Survey of the architecture, sculpture, and painting of the Christian church in western Europe from 1000 to 1500.
Effective: Spring 2006

ART H 313 (GA;IL) **Northern Renaissance Art** (3) Art in northern Europe in the fifteenth and sixteenth centuries, emphasizing painters such as Van Eyck, Durer, and Bruegel.
Effective: Spring 2006

ART H 314 (GA;IL) **Art in the Age of Rembrandt** (3) Dutch and Flemish painting in the seventeenth century.
Effective: Spring 2006

ART H 315 (GA;IL) (ASIA 315) **Architecture and Art of South and Southeast Asia** (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.
Effective: Summer 2010

ART H 320 (GA;IL) **Chinese Art** (3) A general survey of the great periods of Chinese art from the Shang dynasty until the modern period.
Effective: Summer 2005

ART H 324 (GA;IL) **Rococo Art** (3) Eighteenth-century art in western Europe, with emphasis on artists such as Watteau, Fragonard, Falconet, Le Gros, Tiepolo, Guardi, Neumann.
Effective: Spring 2006

ART H 325 (GA;IL) **Impressionism to Surrealism** (3) A survey of European painting and sculpture from ca. 1850 to ca. 1940.
Effective: Spring 2006

ART H 330 (GA;IL) **Islamic Architecture and Art** (3) Survey of the art and architecture of Islamic lands from the late seventh century until the eighteenth century.
Effective: Summer 2005

ART H 335 (GA;IL) (AAA S 335) **African Art** (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.
Effective: Summer 2005

ART H 340 (GA;IL) **Japanese Art** (3) This course will examine the art and architecture of Japan, its relationship to Chinese art, and its influence on European art.
Effective: Summer 2005

ART H 350W **Undergraduate Seminar in the History of Art** (3-6) An introduction to original research, methodology, analysis, and writing on a scholarly level.
Effective: Summer 1992
Prerequisite: fifth-semester standing 6 credits in art history at the 300 level or above

ART H 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART H 397A **African American Art Since 1900** (3) Explores the sense of double consciousness and the construction of identity in 20th-century African American art.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART H 397B **Art Since 1940** (3) An international survey of avant-garde painting, sculpture, performance art, photography and video mde from 1940 to the present.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART H 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART H 399 (IL) **Foreign Study--Art History** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005
Prerequisite: ART H 100 orART H 110 orART H 111 orART H 112

ART H 401 (IL) **Greek Art and Architecture** (3-9) Developments in Greek art and architecture, tenth century B.C. to first century B.C.; emphasis on the importance of Greek sanctuaries.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 311

ART H 402 (IL) **The Illuminated Manuscript** (3) Specific stylistic periods in manuscript painting from A.D. 500-1500 in Western Europe and Byzantium.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 302 orART H 312

ART H 404 (US) **The Art of Colonial America** (3) A survey of the visual arts in the North American colonies from the

explorer artists to the American Revolution.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 307

ART H 405 (US;IL) **Pioneers of Modern Architecture** (3 per semester/maximum of 6) Selected period or theme in the development of modern architecture during the nineteenth and/or early twentieth centuries.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 307

ART H 409 (ART 409) **Museum Studies** (3) An introduction to the professional activities that occur in art museums.
Effective: Summer 2004
Prerequisite: 6 credits of ART H ART and/or A ED

ART H 410 **Taste and Criticism in Art** (3) History and literature of art criticism demonstrating the varied philosophic, cultural, iconographic, technical, and visual approaches.
Effective: Summer 1999
Prerequisite: 6 credits of art history

ART H 411 (IL) **Roman Art** (3-9) Roman sculpture and painting from Augustus to Constantine.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 311

ART H 412 (IL) **The Gothic Cathedral** (3) Specific aspects of Romanesque and Gothic church architecture of western Europe, especially France and England, between 1000-1500.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201, ART H 302 orART H 312

ART H 414 (IL) **Italian Baroque Painting** (3) Survey of Italian Baroque painting from sixteenth-century proto-Baroque masters to painters of the late Baroque and Rococo periods.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 304

ART H 415 (US) **The Skyscraper** (3) Origin and evolution of the skyscraper as seen against the background of cultural conditions and technological factors.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 307

ART H 416 (US) **American Painting: 1876-1913** (3) Art in the United States between 1876 and 1913; emergence of an American art and transition to the modern styles.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 307

ART H 420 (IL) **Russian Architecture** (3) Russian architecture from the first Orthodox churches of the late tenth century to the end of the Soviet Union.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 112, ART H 201 orART H 202

ART H 422 (IL) **Studies in Medieval Sculpture** (3-9) Specific studies of western European sculpture, 300-1500, with attention to sources, styles, type, and iconography.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201, ART H 302 orART H 312

ART H 423 (IL) **Studies in Italian Renaissance Art** (3-9) Specific studies of Italian Renaissance art, including the work of artists such as Leonardo da Vinci, Michaelangelo, and Raphael.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 303

ART H 424 (IL) **Masters of Northern Baroque Art** (3) Seventeenth-century painters in Flanders and Holland, including the works of artists such as Rubens, Rembrandt, and Vermeer.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 314

ART H 426 (US;IL) **Iconoclasm: Powerful Images and their Destruction** (3) Iconoclasm: exploring the political, religious, and social motivations behind the destruction of powerful imagery throughout history.
Effective: Summer 2009
Prerequisite: 3 credits of Art History in any area

ART H 429 (IL) **Studies in Baroque Art** (3) Selected topics in the painting, sculpture, and architecture of seventeenth-century Italy, France, Flanders, Holland, and Spain.
Effective: Spring 2009
Prerequisite: 6 credits in art history (ART H)

ART H 430 **Goya and His Times** (3) The art of Francisco de Goya from the Rococo eighteenth century to the beginnings of Romanticism.
Effective: Summer 1999
Prerequisite: ART H 100, ART H 112, ART H 305 orART H 324

ART H 432 **Problems in Iconology** (3-9) The investigation of content and meaning in major monuments of the history of art.
Effective: Summer 1999
Prerequisite: 6 credits of art history

ART H 435 (IL) **Studies in Modern Art** (3-6) Lectures focusing on a selected movement of nineteenth- or twentieth-century art.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 305, ART H 307 orART H 325

ART H 440 (IL) (ASIA 440) **Monuments of Asia** (3-9 per semester/maximum of 9) An exploration of major Asian sites and monuments through a focus on their historical and cultural significance.
Effective: Summer 2010
Prerequisite: ART H 100 orART H 120 orART H 315 orART H 320 orART H 330 orART H 340

ART H 442 (IL) **Late Antique and Early Christian Art** (3) Survey of the architecture, painting, and minor arts of Christian society from the beginning to the mid-sixth century.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 302

ART H 450 (US;IL) **The History of Photography** (3) The history of photography from 1839, with particular emphasis on the relationship with the plastic arts.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 305, ART H 307 orART H 325

ART H 452 (IL) **Byzantine Art** (3) Monumental and minor arts of Byzantium and related areas from the reign of Justinian to the Turkish conquest of Constantinople.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 302

ART H 454 (IL) **Spanish Baroque Art** (3) Survey of seventeenth-century Spanish painting and sculpture, with an emphasis on Velasquez, Murillo, Ribera, and Zurbaran.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 304

ART H 456 **Gian Lorenzo Bernini and the Architecture of the Full Baroque in Rome** (3) In-depth investigation into the architectural works and conceptual practices of Bernini and his contemporaries, with accentuation of specific monuments.
Effective: Summer 1999 Ending: Fall 2010
Prerequisite: ART H 100, ART H 112 orART H 202

ART H 456 (IL) **Renaissance and Baroque Palaces** (3) This course examines palace architecture and decoration in Italy, France, England, and Germany from 1450-1700.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ART H 100 orART H 112 orART H 202 orART H 303 orART H 304

ART H 458 (IL) **Baroque Capitals of Europe** (3) This course examines the architecture and urbanism of European capital cities from 1600-1800.
Effective: Spring 2010
Prerequisite: ART H 100 orART H 112 orART H 202 orART H 304 orART H 314

ART H 464 (IL) **French Baroque Painting** (3) Examination of seventeenth-century French painting, including Italian influences; the provincial, Classical, and official styles in France.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 304

ART H 470 (US) **American Painting and Sculpture Since 1940** (3) Painting and sculpture in the United States from the origins of Abstract Expressionism through the present.
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 307 orART H 325

ART H 475 (US) (ART 475) **Contemporary Women Artists** (3) An interdisciplinary course that investigates women artists who are integral to the production of contemporary art primarily in the Americas, Europe, and Asia.
Effective: Spring 2009
Prerequisite: Fifth semester standingART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

ART H 476 (ART 476) **History and Theory of Digital Art** (3) History and theories of contemporary digital art emphasizing humanistic approaches to technology.
Effective: Spring 2007
Prerequisite: ART H 100 orART H 112 orART H 307 orART H 325 orART H 326 orART 211

ART H 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ART H 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ART H 497A (IL) **Ancient Egyptian Art and Architecture** (3) An examination of selected monuments of Ancient Egyptian art and architecture.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ART H 100 orART H 111 orART H 201 orART H 301

ART H 497A **Oceanic Art** (3) Survey of the sculpture, textile, architecture and other traditional artforms of Oceania, covering the areas of Melanesia, Micronesia and Polynesia.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART H 497B (US;IL) **The Shock of the New: Provocation and Challenge in European Art 1400-1650** (3) A team-taught, interdisciplinary exploration of provocative challenges to tradition in the visual arts, music and literature, 1400-1650.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ART H 100 orART H 112 orART H 202 orART H 303 orART H 304 orART H 313 orART H 314

ART H 497B **Rome: A City on Film-History, Fantasy, and Realism from 1896-2010** (3) Viewing and critical analysis of films from the silent era to the present; examines the representation of Rome.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ART H 497C **Art and Empire: Aztec, Inca, Spanish** (3) An analysis of the Aztec, Inca and Spanish empires' use of visual culture as an imperial strategy, 1400-1600.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ART H 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ART H 499 (IL) **Foreign Study--Art History** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Arts and Architecture (A&A)

A&A 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 100 (GA;IL) **Introduction to International Arts** (3) An interdisciplinary, multicultural introduction to the arts of the world.
Effective: Summer 2005

A&A 101 **Art and Design Theory I** (3) Provides arts and design students an interdisciplinary introduction to critica critical, theoretical, and historical understandings of the arts and design.
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture Concurrent: A&A 102S

A&A 102S **Art and Design Studio I** (3) Provides students with an interdisciplinary introduction to studio work in the arts and design.
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture. Concurrent: A&A 101

A&A 103 **Art and Design Theory II** (3) Provides arts and design students an interdisciplinary introduction to critica critical, theoretical, and historical understandings of the arts and design.
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture. Concurrent: A&A 104

A&A 104 **Art and Design Studio II** (3) Provides students with an interdisciplinary introduction to studio work in the arts and design.
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture. Concurrent: A&A 103

A&A 110 **Interdisciplinary Digital Media Studio I** (3) Provides arts and design students an interdisciplinary studio-based exploration of critical, theoretical, and historical understandings of digital media.
Effective: Summer 2006
Prerequisite: Prerequisite or concurrent:A&A 101, A&A 102S Concurrent: A&A 103 A&A 104 or

A&A 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

A&A 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 210 **Focused Realization Studio** (3) Provides students the opportunity for the realization of more focused interdisciplinary studio explorations in the digital arts and design disciplines.
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: A&A 101, A&A 102S, A&A 103, A&A 104, A&A 110

A&A 210 **Focused Realization Studio** (3) Provides students the opportunity for the realization of more focused interdisciplinary studio explorations in the digital arts and design disciplines.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: A&A 110

A&A 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

A&A 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2004

A&A 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

A&A 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 310 **Creative Collaboration Studio** (3) Provides students with an advanced studio exploration of interdisciplinary collaborative projects in the digital arts and design disciplines.
Effective: Summer 2006

Prerequisite: A&A 210, ART 211W

A&A 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

A&A 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

A&A 401 **International Arts Minor Final Project** (1-3) The final project required for the International Arts Minor.
Effective: Summer 2004
Prerequisite: A&A 100 and completion of at least 12 credits toward the International Arts Minor

A&A 410 **Interdisciplinary Digital Studio Capstone I** (4) Provides arts and design students an opportunity to conceptualize a digital arts and design undergraduate thesis.
Effective: Summer 2006
Prerequisite: A&A 310 Prerequisite or concurrent:ART H 476

A&A 411 **Interdisciplinary Digital Studio Capstone II** (4) Provides arts and design students an opportunity to implement a digital art and design undergraduate thesis.
Effective: Summer 2006
Prerequisite: A&A 410

A&A 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

A&A 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

A&A 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2004

A&A 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

A&A 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Asian American Studi (AAS)

AAS 100 (GH;US) **Introduction to Asian American Studies** (3) An introduction to the history, literature, and culture of Asian America.
Effective: Spring 2010

AAS 428 (US) (ENGL 428) **Asian American Literatures** (3 per semester/maximum of 6) A seminar on the literatures and cultures of Asian America, with attention to forms of geographic, historical, and ethnic diversity.
Effective: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Asian Studies (ASIA)

ASIA 004 (GH;IL) (CMLIT 004) **Introduction to Asian Literatures** (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Future: Fall 2010

ASIA 083S **Asian Studies First Year Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2010

ASIA 100 (GH;IL) **What is Asia?** (3-6 per semester/maximum of 6) An introduction to the history, literatures, politics, and cultures of Asia.
Effective: Fall 2009

ASIA 197 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

ASIA 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASIA 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2010

ASIA 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

ASIA 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASIA 300H **Honors Thesis** (3) Individual projects involving research, reading, and writing; preparation of a thesis in Asian Studies.
Effective: Summer 2010
Prerequisite: Participation in the Schreyer Honors College

ASIA 315 (GA;IL) (ART H 315) **Architecture and Art of South and Southeast Asia** (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.
Effective: Summer 2010

ASIA 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

ASIA 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

ASIA 401 **East Asian Studies** (3-6) An interdisciplinary, variable content, lecture-discussion course on the history, culture, politics, and international relations of China, Japan, and Korea.
Effective: Spring 2010
Prerequisite: 6 credits from courses in the East Asian Studies program

ASIA 404 (IL) (CMLIT 404) **Topics in Asian Literature** (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 3 credits in literature or related field appropriate to this course

ASIA 405Y (IL) **Seminar in Asian Studies** (3-6 per semester/maximum of 6) An advanced, writing-focused seminar in Asian Studies.
Effective: Fall 2009
Prerequisite: ASIA 100

ASIA 440 (IL) (ART H 440) **Monuments of Asia** (3-9 per semester/maximum of 9) An exploration of major Asian sites and monuments through a focus on their historical and cultural significance.
Effective: Summer 2010

Prerequisite: ART H 100 orART H 120 orART H 315 orART H 320 orART H 330 orART H 340

ASIA 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2010

ASIA 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

ASIA 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

Last Import from UCM: May 29, 2010 3:00 AM

Astronomy and Astrophysics (ASTRO)

ASTRO 001 (GN) **Astronomical Universe** (3) The development of modern understanding of the astronomical universe from planets and stars to galaxies and cosmology. Student who have passed ASTRO 005, ASTRO 006, or ASTRO 010 may not take this course for credit.
Effective: Fall 2009

ASTRO 001H (GN) **Astronomical Universe** (3) The development of modern understanding of the astronomical universe from planets and stars to galaxies and cosmology. Students who have passed ASTRO 005, ASTRO 006, or ASTRO 010 may not take this course for credit.
Effective: Fall 2009

ASTRO 005 (GN) **The Sky and Planets** (3) The development of our modern understanding of the visible sky and planetary systems. Students who have passed ASTRO 001 or ASTRO 010 may not take this course for credit.
Effective: Summer 2008
Prerequisite: Students who have passed ASTRO 001 or ASTRO 010 may not take this course.

ASTRO 006 (GN) **Stars, Galaxies, and the Universe** (3) The development of our modern understanding of stars, galaxies, and the astronomical universe. Students who have passed ASTRO 001 or ASTRO 010 may not take this course for credit.
Effective: Summer 2008
Prerequisite: Students who have passed ASTRO 001 and ASTRO 010 may not take this course.

ASTRO 010 (GN) **Elementary Astronomy** (2) Introductory survey of modern astronomy from planets and stars to galaxies and the universe. Students who have passed ASTRO 001, ASTRO 005, or ASTRO 006 may not take this course for credit. Students may not receive General Education credit for ASTRO 010 unless they also take ASTRO 011.
Effective: Fall 2009

ASTRO 011 (GN) **Elementary Astronomy Laboratory** (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.
Effective: Fall 2004
Prerequisite: or concurrent:ASTRO 001 orASTRO 010

ASTRO 011S (GN) **Elementary Astronomy Laboratory** (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:ASTRO 001 orASTRO 010

ASTRO 020S **First-Year Astronomy Seminar** (2) Introduction to the study of modern astronomy through discussions, activities, and writing.
Effective: Summer 1999

ASTRO 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ASTRO 120 (GN) **The Big Bang Universe** (3) Exploration of cosmology, birth, and ultimate fate of the universe; origin of galaxies, quasars, and dark matter. For non-science majors.
Effective: Spring 2002
Prerequisite: ASTRO 001 orASTRO 010

ASTRO 130 (GN) **Black Holes in the Universe** (3) The predicted properties of black holes and the astronomical evidence for their existence are investigated in the context of modern ideas about space, time, and gravity.
Effective: Spring 2004
Prerequisite: ASTRO 001 orASTRO 010

ASTRO 140 (GN) **Life in the Universe** (3) The problem of the existence of life beyond Earth is investigated, drawing from recent research in astronomy and other fields. For non-science majors.
Effective: Spring 2002
Prerequisite: ASTRO 001 orASTRO 010

ASTRO 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ASTRO 291 (GN) **Astronomical Methods and the Solar System** (3) Physical processes and observational techniques in astronomical systems, characteristics of the sun, planets, and moons.
Effective: Spring 2002
Prerequisite: PHYS 211

ASTRO 292 (GN) **Astronomy of the Distant Universe** (3) Observed properties and astrophysical understanding of stars, stellar evolution, galaxies, the large-scale universe, and cosmology.
Effective: Spring 2002

Prerequisite: ASTRO 291

ASTRO 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1991

ASTRO 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1991

ASTRO 320 (GN) **Observational Astronomy Laboratory** (2) Basic observational astronomy techniques introduced through observational exercises, lab experiments, and lectures on relevant statistical techniques.
Effective: Spring 2008
Prerequisite: or concurrent:ASTRO 291

ASTRO 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ASTRO 400H **Honors Seminar** (1 per semester, maximum of 2) Presentations of various branches and modes of modern astrophysical research, based on lectures, visits to telescopes and facilities, and discussions.
Effective: Spring 2003
Prerequisite: ASTRO 292

ASTRO 410 **Computational Astrophysics** (3) Applications of numerical methods and computer programming to astrophysics, including stellar physics and cosmology.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 121;PHYS 212, PHYS 213 andPHYS 214

ASTRO 414 **Stellar Structure and Evolution** (3) Theory of Stellar structure and evolution including energy generation and transport and an examination of stellar models.
Effective: Summer 2010
Prerequisite: ASTRO 292, MATH 230, PHYS 212, PHYS 213, PHYS 214, PHYS 237

ASTRO 420W **Planets and Planetary System Formation** (3) Solar system properties, star formation, protoplanetary disks and planet formation, solar system model, extrasolar planets, and astrobiology.
Effective: Summer 2004
Prerequisite: ASTRO 292

ASTRO 440 **Introduction to Astrophysics** (3) Theoretical investigation of physical processes in astronomical objects and systems; modern physical interpretation of astronomical phenomena.
Effective: Spring 1994
Prerequisite: MATH 230, PHYS 237

ASTRO 451 **Astronomical Techniques** (3) Practical methods of modern observational astronomy, detectors, filters, instrumentation for both ground-based and space observations, and data analysis.
Effective: Fall 2008
Prerequisite: PHYS 212, PHYS 213, PHYS 214

ASTRO 475W **Stars and Galaxies** (3) Astronomical studies concerning the distribution and evolution of stars and gas in our and other galaxies.
Effective: Fall 1993
Prerequisite: ASTRO 292

ASTRO 480 **Nebulae, Galaxies, and Cosmology** (3) Emission-line spectroscopy, structure and evolution of galaxies, physics of galactic nuclei and quasars, observational cosmology.
Effective: Spring 2002
Prerequisite: ASTRO 292, PHYS 212, PHYS 213, PHYS 214

ASTRO 485 **Introduction to High-Energy Astronomy** (3) The study of black holes, neutron stars, white dwarfs, supernova remnants, and extragalactic objects through x-ray and gamma ray observations.
Effective: Spring 1994
Prerequisite: PHYS 237

ASTRO 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1991

ASTRO 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1991

ASTRO 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Behavioral Sciences (BE SC)

BE SC 302 **Perspectives in Psychology** (3) Study of issues and concepts in psychology intended for non-majors; behavior, development, perception, personality, conflict, and learning.
Effective: Fall 1983

BE SC 370 **Community Psychology** (3) Introduction to concepts and terminology of community psychology with discussion of historical development. Community mental health issues will be analyzed.
Effective: Fall 1983

BE SC 376 **Introduction to Human Service Organizations** (3) A course designed to acquaint the student with the role of various social agencies.
Effective: Fall 1983

BE SC 395 **Behavioral Science Internship** (3-12) Internship in human service organizations providing for application of academic knowledge, reading, and discussion.
Effective: Spring 2001
Prerequisite: 90 credits with at least 16 credits in the major

BE SC 407 **Small Groups Counseling** (3) Intensive survey of research and theory on behavior in small groups, with emphasis on interdependence, cooperation, and attitude change.
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

BE SC 408 **Group Facilitation and Leadership Skills** (3) Skill training in group facilitation and leadership based on analyses of roles and interpersonal dynamics plus differences among impact population.
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

BE SC 410 **Human Relations** (3) Analysis and theoretical principles of semantics and complex human relations in the family, industry, and informal organizations.
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

BE SC 459 **BASIC COUNSELING SKILLS** (3) Behavioral, cognitive, and expressive methods of assessing and enhancing life-coping skills.
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

BE SC 461 **Theories and Models of Counseling** (3) A survey of the various methods of counseling as well as the theories behind them.
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

BE SC 464 (US) (WMNST 464) **Feminine/Masculine** (3) Study of sex role learning; investigating feminine/masculine labeling; implications for contemporary society.
Effective: Spring 2008
Prerequisite: general psychology or general sociology

BE SC 468 **Industrial Psychology: Significant Issues** (3) A survey of major sociopsychological issues involved in the study of worker behavior and the industrial organization.
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

BE SC 494 **Senior Thesis** (3-9) Problem formulation, literature search, research design, data collection, analysis of results, and final write-up of a substantial research project.
Effective: Spring 2001
Prerequisite: permission of program

BE SC 494H **Senior Thesis** (3-9) Problem formulation, literature search, research design, data collection, analysis of results, and final write-up of a substantial research project.
Effective: Fall 2007
Prerequisite: permission of program

BE SC 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 1983

BE SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1983

Berks-Lehigh Valley (BKLV)

BKLV 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2001

BKLV 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

BKLV 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2001

BKLV 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

BKLV 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BKLV 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2001

BKLV 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

BKLV 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

BKLV 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2001

BKLV 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

BKLV 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Biobehavioral Health (BB H)

BB H 019 **Health and Disease** (1) Essentials of communicable and chronic disease control.
Effective: Spring 2005

BB H 019S **Health and Disease** (1) Essentials of communicable and chronic disease control.
Effective: Spring 2005

BB H 043 **Drugs in Society** (1) An exploration of the health-related aspects of drug use and abuse.
Effective: Spring 2005

BB H 045 **Alcohol Awareness Education** (1) A course designed to raise awareness relative to the use and abuse of beverage alcohol.
Effective: Spring 2005

BB H 046 **Introduction to Health Aspects of Human Sexuality** (1) An examination of health concerns related to sexuality and sexual behavior.
Effective: Spring 2005

BB H 046S **Introduction to Health Aspects of Human Sexuality** (1) An examination of health concerns related to sexuality and sexual behavior.
Effective: Spring 2005

BB H 048 (GHA) **Values and Health Behavior** (1.5) Examination of issues that impact the social, emotional, and physical well-being of college students through a values and decision-making process.
Effective: Fall 2003

BB H 101 (GHA) **Introduction to Biobehavioral Health** (3) Introduction to an interdisciplinary study of health, examining the interaction of biological processes and behavior on health.
Effective: Spring 2000

BB H 101H (GHA) **Introduction to Biobehavioral Health** (3) Introduction to interdisciplinary study of health, examining the interaction of biological processes and behavior on health.
Effective: Summer 1998

BB H 119 (GHA) **Behavior, Health, and Disease** (3) Principles of health promotion, disease prevention, and treatment of acute and chronic illness. This course is designed for non-BB H majors.
Effective: Spring 2002

BB H 143 (GHA) **Drugs, Behavior, and Health** (3) Health aspects of use and abuse of licit and illicit drugs; related social problems and prevention. Designed for non-BB H majors.
Effective: Spring 2002

BB H 145 **Peer Alcohol Educator Training** (2) Study of alcohol physiology and issues related to alcohol use on campus. Skill for peer alcohol educators will be covered.
Effective: Spring 1998

BB H 146 (GHA) **Introduction to Health and Human Sexuality** (3) An examination of human sexuality as it relates to health.
Effective: Summer 2002

BB H 148S **Coping with College: A First Year Transition Seminar** (2) Exploration of effective learning strategies, university resources, academic requirements and planning, career development issues in discussion-centered environment.
Effective: Summer 1999

BB H 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010

BB H 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2009

BB H 203 (PSYCH 260) **Neurological Bases of Human Behavior** (3) An introduction to biopsychology, emphasizing the structure and function of the human brain.
Effective: Spring 2007

BB H 251 (US) **Straight Talks I: Advanced Sexual Orientation/Gender Identity Peer Education** (3) Exploration of social justice issues, diversity leadership, and group facilitation skills related to lesbian, gay, bisexual, transgender, and ally issues.
Effective: Summer 2005

BB H 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1996

BB H 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

BB H 297A **Straight Talks II** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BB H 297C **Strategies for Addressing the Obesity/Diabetes Epidemic** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BB H 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2009

BB H 301 **Values and Ethics in Human Development Professions** (3) Examines bases for choices among values in personal and professional relations in human development processes and supporting services.
Effective: Spring 1998

BB H 301H **Values and Ethics in Human Development Professions** (3) Examines bases for choices among values in personal and professional relations in human development processes and supporting services.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BB H 302 (US) (AAA S 302) **Diversity and Health** (3) Examine the relationship of diverse personal and sociocultural factors to health, like socioeconomic class, race-ethnicity, gender, age, and sexual orientation.
Effective: Spring 2007
Prerequisite: PSYCH 100 orSOC 001

BB H 305 (IL) **Introduction to Global Health Issues** (3) Course will develop awareness of contemporary issues in global health.
Effective: Summer 2010
Prerequisite: BB H 101

BB H 310 **Research Strategies for Studying Biobehavioral Health** (3) Surveys the various research methodologies used in biomedical research, including case, epidemiological, quasiexperimental and experimental approaches.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BB H 101, STAT 200

BB H 310W **Research Strategies for Studying Biobehavioral Health** (3) Surveys the various research methodologies used in biomedical research, including case, epidemiological, quasiexperimental and experimental approaches.
Effective: Fall 1994 Ending: Summer 2010
Prerequisite: BB H 101, STAT 200

BB H 311 **Interdisciplinary Integration in Biobehavioral Health** (3) A review of literature relevant to the concepts and findings of different scientific domains as they apply to biobehavioral health.
Effective: Spring 2007
Prerequisite: BB H 101, BIOL 110, PSYCH 100

BB H 315 (US) **Gender and Biobehavioral Health** (3) Interdisciplinary study of gender, examining the interaction of biological, behavioral, and sociocultural factors on health differentials throughout the lifespan.
Effective: Summer 2005
Prerequisite: BB H 101

BB H 316 **Foundations and Principles of Health Promotion** (3) Basic exposure and skills development in theory and practice in health promotion.
Effective: Fall 2002
Prerequisite: BB H 101

BB H 324 **HealthWorks Peer Education Training** (3) Designed to train new HealthWorks peer educators, this course addresses behavior theories, promotion strategies, and college health issues.
Effective: Spring 2010

BB H 346 **Peer Sexual Health Promotion** (3) Provides information, process, and program presentation skills to peer/ sexuality educators for promotion of sexual health among diverse groups.
Effective: Spring 1998

BB H 368 **Neuroanatomy, Behavior, and Health** (3) The neuroanatomical bases of behavior, health, and disease.
Effective: Spring 2007
Prerequisite: BB H 101;BI SC 004, BIOL 141 orPSYCH 260

BB H 390 **Global Health Fieldwork Experience** (3) Designed to help students prepare for and complete fieldwork experience in global health setting.
Effective: Summer 2010
Prerequisite: BB H 305 andBB H 440 with grades of C or better

BB H 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010

BB H 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2009

BB H 402 (IL) **African Health & Development** (3) Course will address African health and development strategies in the context of health promotion programs.
Effective: Summer 2010
Prerequisite: BB H 305

BB H 407 (IL) **Global Health Equity** (3) Health, social disparities, and equity in the global environment.
Effective: Summer 2010

BB H 410 **Developmental and Health Genetics** (3) Discussion of genetic influences on development and the interrelationships between genetics and health.
Effective: Spring 2008
Prerequisite: BIOL 133 orBIOL 222;STAT 200, STAT 220 orSTAT 250

BB H 411 **Research and Applications in Biobehavioral Health** (3) Research methods, multi-level analyses, and applications in biobehavioral health.
Effective: Spring 2001 Ending: Fall 2010
Prerequisite: BB H 101, BB H 310W, STAT 200

BB H 411W **Research and Applications in Biobehavioral Health** (3) Research methods, multi-level analyses, and applications in biobehavioral health.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BB H 101, BB H 310, STAT 200

BB H 416 **Health Promotion II: Planning, Implementation, and Evaluation** (3) Planning, implementation, and evaluation of health promotion, prevention, and intervention programs; emphasizing evaluation.
Effective: Spring 2000 Ending: Summer 2010
Prerequisite: BB H 310W, BB H 316

BB H 416 **Health Promotion II: Planning, Implementation, and Evaluation** (3) Planning, implementation, and evaluation of health promotion, prevention, and intervention programs; emphasizing evaluation.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BB H 310, BB H 316

BB H 417 **Advanced Applications in Health Promotion** (3) Advanced learning experience in health promotion applications in which students will actively participate in planning, implementing, evaluating health programs.
Effective: Spring 2000
Prerequisite: BB H 416

BB H 420 **Developing Stress Management Programs** (3) Planning, developing, and implementing strategies for stress management programs for health education professionals in school, community, and corporate settings.
Effective: Spring 1998

BB H 422 **Safety Education** (3) Principles and practices of accident prevention; home, school, highway, work, and public places.
Effective: Spring 1997
Prerequisite: HL ED 060 3 credits in psychology

BB H 432 **Biobehavioral Aspects of Stress** (3) Comprehensive discussion on the mechanisms of stress-induced diseases.
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: BB H 101, BIOL 141, BB H 310W or equivalent

BB H 432 **Biobehavioral Aspects of Stress** (3) Comprehensive discussion on the mechanisms of stress-induced diseases.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BB H 101, BIOL 141, BB H 310 or equivalent

BB H 440 (US;IL) (H P A 440) **Principles of Epidemiology** (3) Theory of epidemiology and significant case studies; potential applications to health care.
Effective: Fall 2008
Prerequisite: BB H 101 orBIOL 110 orH P A 310;STAT 200 orSTAT 250

BB H 444 **Health Issues in Employee Assistance Programs** (3) An introduction to health promotion strategies in employee assistance programs.
Effective: Spring 1998
Prerequisite: KINES 060, KINES 443

BB H 446 **Human Sexuality as a Health Concern** (3) Examination of human sexuality as a integral part of basic health education and health care for persons of all ages.
Effective: Fall 2001
Prerequisite: BB H 101

BB H 451 **Pharmacological Influences on Health** (3) Biological and behavioral aspects of therapeutic and recreational drug use and misuse, and their relationships to health.
Effective: Fall 2001
Prerequisite: BB H 101

BB H 452 (NURS 452, WMNST 452) **Women's Health Issues** (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.
Effective: Spring 2001
Prerequisite: BB H 101, BIOL 141

BB H 453 **Orientation to the Health Education Practicum** (1) Orientation to and preparation for the health field experience.
Effective: Spring 1998
Prerequisite: sixth-semester standing

BB H 458 (WMNST 458) **Critical Issues in Reproduction** (3) Examination and analysis of the new reproductive technologies from the standpoint of medical ethics, feminism, and sociocultural influences.
Effective: Spring 2007
Prerequisite: BIOL 141 orPSYCH 100

BB H 468 **Neuroanatomical Bases for Disorders of Behavior and Health** (3) An examination of the anatomical/cellular/molecular bases for human central nervous system disorders and their impacts on victims/families/caregivers.
Effective: Spring 2007
Prerequisite: BB H 368, BB H 469 orPSYCH 260

BB H 469 (BIOL 469) **Neurobiology** (3) Comprehensive examination of neuroanatomy and physiology designed to integrate the principles of neurochemistry, neuroendocrinology and molecular biology.
Effective: Fall 1994
Prerequisite: BIOL 240W

BB H 470 (BIOL 470) **Functional and Integrative Neuroscience** (3) Neurobiological function in motivated behaviors, motor and sensory function, learning and memory, development, sexual differentiation, and pathology.
Effective: Summer 1995
Prerequisite: BIOL 469

BB H 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1995

BB H 494H **Senior Honors Thesis** (1-6) Independent study related to a student's interests directed by a faculty supervisor and culminating in the production of a thesis.
Effective: Summer 2005
Prerequisite: approval of honors thesis advisor

BB H 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1995

BB H 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1995

BB H 497A **Clinic Volunteer Training** (2-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BB H 497B **Health Works** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject

that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BB H 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2009

Last Import from UCM: May 29, 2010 3:00 AM

Biochemistry and Molecular Biology (B M B)

B M B 001 (GN) **Understanding the Bases of Human Disease** (3) A broad survey of the molecular and cellular factors that contribute to an understanding of selected human diseases.
Effective: Fall 2004

B M B 001S (GN) **Understanding the Bases of Human Disease** (3) A broad survey of the molecular and cellular factors that provide an explanation for an understanding of human disease.
Effective: Spring 2001

B M B 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B M B 211 **Elementary Biochemistry** (3) An overview of biochemistry that includes properties of biomolecules, bioenergetics, metabolism, nutrition, genetics, and molecular biology.
Effective: Summer 2007
Prerequisite: CHEM 110;CHEM 202 orCHEM 210

B M B 212 **Elementary Biochemistry Laboratory** (1) Selected experiments to illustrate major biochemical principles and techniques.
Effective: Summer 2000
Prerequisite: or concurrent:B M B 211

B M B 221 **Applied Biochemistry** (2) Application and correlation of biochemical events to physiological-nutritional processes in specialized cells, fluids, and whole animals. Students may not receive credit for both B M B 221 and 401.
Effective: Summer 2000
Prerequisite: B M B 211

B M B 251 (MICRB 251) **Molecular and Cell Biology I** (3) Biomolecules, genetic mechanisms, organization of cells and their organelles, DNA replication, protein synthesis, membranes, the cell nucleus, energy conversion.
Effective: Summer 2007
Prerequisite: CHEM 112

B M B 251H **Molecular and Cell Biology I** (3) Biomolecules, genetic mechanisms, organization of cells and their organelles, DNA replication, protein synthesis, membranes, the cell nucleus, energy conversion.
Effective: Summer 2007
Prerequisite: CHEM 112

B M B 252 (MICRB 252) **Molecular and Cell Biology II** (3) Continuation of B M B/MICRB 251; cytoskeleton, cell growth, division, adhesion, signalling, germ cells, differentiation, immune system, nervous system, plant cells.
Effective: Spring 1995
Prerequisite: B M B 251

B M B 252H **Molecular and Cell Biology II** (3) Continuation of B M B 251H; cytoskeleton, cell growth, division, adhesion, signaling, germ cells, differentiation, immune system, nervous system, plant cells.
Effective: Summer 2005
Prerequisite: B M B 251H

B M B 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2009

B M B 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B M B 400 **Molecular Biology of the Gene** (2-3) Biochemistry of genetic phenomena, including the structure, replication and dynamics of genes and chromosomes, their expression and regulation.
Effective: Fall 2008
Prerequisite: BIOL 222 orBIOL 322;BIOL 230W orB M B 251;CHEM 212

B M B 401 **General Biochemistry** (3) Principles of the structure and function of biological molecules, including carbohydrates, lipids, membranes, proteins, and enzymes. Students may not receive credit for both CHEM 476 and B M B 401.
Effective: Fall 2009
Prerequisite: CHEM 212;B M B 251 orBIOL 230

B M B 401H **General Biochemistry** (3) Principles of the structure and function of biological molecules, including carbohydrates, lipids, membranes, proteins, and enzymes. Students may not receive credit for both CHEM 476 and B M B 401H.
Effective: Fall 2009
Prerequisite: CHEM 212;B M B 251 orBIOL 230W

B M B 402 **General Biochemistry** (3) Comprehensive survey of the pathways and regulation of intermediary metabolism.
Effective: Fall 2007
Prerequisite: B M B 401 orCHEM 476

B M B 402H **General Biochemistry** (3) Comprehensive survey of the pathways and regulation of intermediary metabolism.
Effective: Summer 2005
Prerequisite: B M B 401H

B M B 403 **Biochemistry Laboratory** (1) An introduction to techniques of experimental biochemistry, illustrating principles covered in B M B 402.
Effective: Spring 2010
Prerequisite: or concurrent:B M B 402

B M B 406 **Molecular Biology** (3) A discussion of current aspects of cell molecular biology with a laboratory emphasizing current biotechnology techniques.
Effective: Fall 2007
Prerequisite: BIOL 222 orBIOL 322;BIOL 230W orB M B 251;CHEM 039

B M B 408 **Laboratory Instructional Practice** (1-2) Participation in the instruction of undergraduate laboratory courses, including classroom preparation; discussion of principles and objectives of each exercise.
Effective: Spring 1995
Prerequisite: 10 credits in biochemistry and molecular biology and permission of the department

B M B 411 **Survey of Biochemistry and Molecular Biology Literature** (1) An introduction to readings and oral presentations in biochemistry and molecular biology.
Effective: Spring 1995
Prerequisite: B M B 401;B M B 400 orB M B 402

B M B 428 **Physical Chemistry with Biological Applications** (3) Chemical thermodynamics and kinetics with applications to biological problems.
Effective: Summer 2007
Prerequisite: CHEM 203 orCHEM 212;PHYS 203 orPHYS 251 ; 3 credits in cell biology

B M B 430 (ENT 430, BIOL 430) **Developmental Biology** (3) Molecular and genetic analyses of mechanisms involved in differentiation and determination in biological systems.
Effective: Summer 1994
Prerequisite: BIOL 222;B M B 252 orBIOL 230

B M B 432 (MICRB 432, VB SC 432) **Advanced Immunology: Signaling in the Immune System** (3) The study of signaling pathways that regulate the immune response.
Effective: Fall 2007
Prerequisite: B M B 400, MICRB 410

B M B 433 (VB SC 433) **Molecular and Cellular Toxicology** (3) In-depth coverage of processes by which drugs/chemicals interact with biological systems and the experimental approaches used to study these interactions.
Effective: Fall 2007
Prerequisite: B M B 401

B M B 435 (VB SC 435, MICRB 435) **Viral Pathogensis** (2) A study of the molecular, immunological and pathological aspects of viral diseases as well as laboratory methods of diagnosis.
Effective: Fall 2007
Prerequisite: MICRB 201;B M B 251 andB M B 252 orBIOL 110 andBIOL 230W

B M B 437 **Physiological Biochemistry** (2) Physiological aspects of biochemistry, with emphasis on mammalian metabolism, specialized tissue and fluid functions, detoxification mechanisms, energetics, and physiological interrelationships.
Effective: Spring 1995
Prerequisite: B M B 402

B M B 442 (MICRB 442) **Laboratory in Proteins, Nucleic Acids, and Molecular Cloning** (3) Laboratory in enzyme purifications and assay techniques; nucleic acid isolation and characterization, including plasmid preparation.
Effective: Spring 2009
Prerequisite: B M B 251, BIOL 230W orMICRB 201;CHEM 202 orCHEM 210 . Prerequisite or concurrent:B M B 211 orB M B 401

B M B 443W **Laboratory in Protein Purification and Enzymology** (3) Laboratory in protein isolation methodology, enzyme kinetics, and physico- chemical properties of proteins.
Effective: Spring 2009
Prerequisite: B M B 442, B M B 401

B M B 444 **Laboratory in Carbohydrates and Lipids** (1) Laboratory in the isolation, quantification, and characterization of carbohydrates and lipids.
Effective: Spring 2009
Prerequisite: B M B 442, B M B 401

B M B 445W **Laboratory in Molecular Genetics I** (2) Laboratory in molecular techniques in gene analysis and microbial genetics, emphasizing in vitro methodologies.
Effective: Spring 2009
Prerequisite: B M B 442, B M B 400, MICRB 202

B M B 446 **Laboratory in Molecular Genetics II** (1) Laboratory in gene analysis and microbial genetics, emphasizing in

vivo methodologies.
Effective: Spring 2009
Prerequisite: B M B 442, B M B 400, MICRB 202

B M B 450 (MICRB 450) **Microbial/Molecular Genetics** (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: BIOL 222, MICRB 201

B M B 450 (MICRB 450) **Microbial/Molecular Genetics** (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BIOL 222 orBIOL 322, MICRB 201

B M B 460 (MICRB 460) **Cell Growth and Differentiation** (3) Mechanisms and regulation of protein trafficking, organelle biosynthesis, cell development, signaling and cell cycle control. Emphasizes experimental design and analysis.
Effective: Spring 2006
Prerequisite: B M B 252

B M B 464 **Molecular Medicine** (3) An exploration of the impact of advances in molecular biology on understanding disease mechanisms, medical diagnosis, and therapeutics.
Effective: Spring 1999
Prerequisite: B M B 251

B M B 465 **Protein Structure and Function** (3) A study of the relationship between structure and function of proteins; internet analysis to predict structure and function is included.
Effective: Fall 2007
Prerequisite: BIOL 230W

B M B 474 **Analytical Biochemistry** (3) Physical/chemical theory and techniques that emphasize purification and characterization of biological macromolecules, including proteins, lipids and nucleic acids.
Effective: Fall 2008
Prerequisite: Prerequisite or concurrent:B M B 428 orCHEM 450

B M B 480 (MICRB 480) **Tumor Viruses and Oncogenes** (3) Oncogenes, DNA and RNA tumor viruses, and relevant experimental techniques with emphasis on molecular basis of carcinogenesis and gene regulation.
Effective: Spring 2001
Prerequisite: or concurrent:MICRB 415, MICRB 435 orMICRB 460

B M B 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1995

B M B 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

B M B 497A **Practical Applications of Enzymology** (1) Focus on understanding enzymes and enzyme activity well enough to deal with their use in real-world situations.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B M B 497B **Comparative Genomics: Illuminating the Dark Matter of Genomes** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B M B 497C **Metals in Biology** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B M B 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

B M B 498A (MICRB 498A) **Antibiotics: Development and Resistance** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B M B 498A (MICRB 498A) **Antibiotics: Development and Resistance** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B M B 498B **Cell Biology Methods** (1) Advanced laboratory in the visualization and analysis of organelles, genetic mechanisms, and metabolic processes in eukaryotes.

Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MICRB 202, MICRB 252, MICRB 442

B M B 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Bioengineering (BIOE)

BIOE 100S **Bioengineering Seminar** (1) First-year seminar to introduce the role of engineering in biomedical research and in instrument development for the medical device industry.
Effective: Fall 2001

BIOE 199 **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

BIOE 201 **Cell and Molecular Bioengineering** (3) An analytical study of molecular and cellular phenomena including functional and metabolic interactions.
Effective: Spring 2009
Prerequisite: BIOL 141, CHEM 112, MATH 141 . Prerequisite or concurrent:PHYS 212

BIOE 299 **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

BIOE 301 **Analysis of Physiological Systems** (3) Linear systems analysis applied to electrical networks and lumped parameter models of physiological control systems.
Effective: Spring 2007
Prerequisite: BIOL 141, PHYS 212, MATH 250 orMATH 251 Concurrent: BIOE 302

BIOE 302 **Physiological Simulation Laboratory** (1) Computer laboratory designed to illustrate applications of control systems theory to physiological systems.
Effective: Spring 2009
Prerequisite: or concurrent:BIOE 301;CMPSC 200 orCMPSC 201

BIOE 303 **Bio-continuum Mechanics** (3) Mechanical properties of fluids and solids with applications to tissue mechanics and vascular system.
Effective: Spring 2007
Prerequisite: BIOL 141, E MCH 210, MATH 230, MATH 251

BIOE 313 **Bioengineering Thermodynamics** (3) Chemical processes, including material and energy balances and phase equilibria, with emphasis on biological applications.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 112, MATH 230, MATH 251

BIOE 399 **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

BIOE 401 **Introduction to Bioengineering Research and Design** (3) Challenges and constraints of bioengineering research and design. Emphasis on immunoresponse, tissue mechanics, biological transport phenomena, and biomaterials.
Effective: Spring 2007
Prerequisite: BIOE 201, BIOE 303 Concurrent: BIOE 404

BIOE 402 **Biomedical Instrumentation and Measurements** (3) Biomedical measurements, including consideration of techniques, equipment, and safety.
Effective: Spring 2008
Prerequisite: MATH 250 orMATH 251;BIOE 301 orE E 210 orE E 212 orPHYS 402

BIOE 403 **Biomedical Instrumentation Laboratory** (1) Biomedical measurements laboratory including measurement of biopotentials, experiments in medical imaging techniques, and use of cardiovascular and pulmonary system instrumentation.
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:BIOE 402

BIOE 404 **Data Analysis and Experiment Design** (1) Statistical measures of data, and selection of experiment sample size to meet criteria.
Effective: Summer 2006
Prerequisite: BIOE 302 Concurrent: BIOE 401

BIOE 406 **Medical Imaging** (3) Physical principles and clinical applications of medical imaging methods.
Effective: Summer 2000
Prerequisite: PHYS 212

BIOE 409 **Biofluid Mechanics** (3) The fundamental relations in fluid mechanics and their application to biofluids including steady/unsteady flows, diseased states, devices and biorheology.
Effective: Summer 2006
Prerequisite: MATH 230, MATH 251, BIOE 303

BIOE 410 **Biomedical Applications of Microfluidics** (3) Study of fluid mechanics at small length scales. Low Reynolds number flow, electrokinetic flows, bioseparations in microfluidic devices.
Effective: Fall 2007

Prerequisite: BIOE 303 orM E 320

BIOE 413 **Bioengineering Transport Phenomena** (3) An integrated study of the fundamentals of mass transport processes with emphasis on the analysis of physiological systems.
Effective: Summer 2007
Prerequisite: BIOE 303, BIOE 313 orCHEM 450

BIOE 419 **Artificial Organs and Prosthetic Devices** (3) Analysis of function and consideration of design concerns for biomedical implants, including prosthetic joints, electrical stimulators, and cardiovascular pumps.
Effective: Fall 2007
Prerequisite: MATH 250 orMATH 251 . Prerequisite or concurrent:BIOL 141 orBIOL 472

BIOE 423 **Reaction Kinetics of Biological Systems** (3) Chemical kinetics and reaction equilibria with applications to the analysis of physiological function and the design of synthetic organs.
Effective: Spring 2007
Prerequisite: BIOL 141, BIOE 313 orCH E 210 . Prerequisite or concurrent:BIOE 413 orCH E 302 andCH E 413

BIOE 440 **Clinical Corelations** (1) Engineering analysis applied to common disease states and therapies.
Effective: Summer 2000
Prerequisite: BIOE 402

BIOE 443 (MATSE 403) **Biomedical Materials** (3) Describe properties of materials and composites and their in vivo interactions.
Effective: Spring 2007
Prerequisite: MATSE 201

BIOE 444 (IL) (MATSE 404) **Surfaces and the Biological Response to Materials** (3) Focus is on special properties of surface as an important causative and mediating agent in the biological response to materials.
Effective: Summer 2007
Prerequisite: CHEM 111, CHEM 113

BIOE 450W **Bioengineering Senior Design** (3) Application of engineering and physiological principles to design of artificial organs and life supportive devices.
Effective: Spring 2009
Prerequisite: BIOE 403, BIOE 440, ENGL 202C senior standing

BIOE 490 **Colloquium** (1) Technical presentations related to research and industry concerns, and by students doing senior projects.
Effective: Summer 2000
Prerequisite: or concurrent:BIOE 450W

BIOE 494H **Honors Thesis** (1-3) Independent study research and design, leading towards honors thesis.
Effective: Summer 2006
Prerequisite: Permission of program.

BIOE 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

BIOE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

BIOE 497G **Tissue Engineering: Concepts, Calculations, and Applications** (3) Introduction to interdisciplinary tissue engineering concepts, associated biochemical and biomechanical engineering calculations, and cardiovascular, musculoskeletal, and other tissue application examples.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BIOE 497K **Bioengineering Mechanics and Techniques Laboratory** (3) Experimental laboratory that includes measurements related to biomechanical phenomena (e.g. tissue viscoelasticity and blood flow) and cellular growth.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: BIOE 201 andBIOE 303

BIOE 499 **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

Last Import from UCM: May 29, 2010 3:00 AM

Bioethics & Med Huma (BMH)

BMH 490 **Bioethics and Medical Humanities Capstone Course** (3) Students will integrate knowledge from their BMH minor through discussion and writing a paper on some aspect of medical humanities.
Effective: Summer 2005
Prerequisite: PHIL 132

Last Import from UCM: May 29, 2010 3:00 AM

Bioinformatics (BIIFM)

BIIFM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2004

Last Import from UCM: May 29, 2010 3:00 AM

Biological Engineering (B E)

B E 001S **Growing Your Future--First-Year Seminar** (1) Introduce students to University life, the agricultural/biological/engineering program and profession; prepare them to succeed in academic life at Penn State.
Effective: Fall 2008
Prerequisite: first-year status

B E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2008

B E 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2008

B E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

B E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2010 Future: Fall 2010

B E 300 **Biological Systems** (3) Structure, function, and energy transformation of biological systems that affect solutions to engineering problems. Effects of engineering activities on ecosystems.
Effective: Fall 2008
Prerequisite: CHEM 110 andPHYS 211

B E 301 **Mathematical Modeling of Biological and Physical Systems** (3) Modeling tools, quantification of processes, linear and non-linear systems of equations, numerical methods, matrix operations, applied to biological and physical systems.
Effective: Fall 2008
Prerequisite: or concurrent:MATH 251

B E 302 **Transport Processes for Biological Systems** (3) Engineering applications of the fundamentals of fluid mechanics, heat transfer, and diffusion, to biological systems at scales ranging from microbial to ecological.
Effective: Fall 2008
Prerequisite: B E 300, B E 301, M E 300, C E 360 orM E 320

B E 303 **Structural Systems in Agriculture** (2) Engineering analysis and design of structural systems in agriculture; topics: loads, connectors, analysis and design of structural members and systems.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: B E 301, E MCH 213

B E 303 **Structural Systems in Agriculture** (3) Engineering analysis and design of structural systems in agriculture; topics: loads, connectors, analysis and design of structural members and systems.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B E 301, E MCH 213

B E 304 **Engineering Properties of Food and Biological Materials** (3) Composition, structure, and properties relationships. Measurement of mechanical thermal, chemical and biological properties, their variability, and use in engineering calculations.
Effective: Fall 2008
Prerequisite: E MCH 213 . Prerequisite or concurrent:B E 300;C E 360 orM E 320;MATH 251

B E 305 **Agricultural Measurements and Control Systems** (3) Principles of measurements, instruments, controls, and data acquisition systems, with emphasis on agricultural applications.
Effective: Fall 2008
Prerequisite: PHYS 212

B E 306 **Engineering Principles of Agricultural Machines** (2) Application of engines, motors, and power transmission systems to agricultural production and processing machinery. Functional design and analysis of equipment.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: B E 301, E MCH 212, E MCH 213

B E 306 **Machines for Agricultural and Biological Processing** (3) Application of machine systems to agricultural production and biological processing machinery. Functional design and analysis of equipment.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B E 301, E MCH 212, E MCH 213

B E 307 **Principles of Soil and Water Engineering** (2) Utilization and engineering of soil-water resources; including rainfall- runoff, soil-water movement, erosion/sediment transport and flow processes.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: C E 360 orM E 320

B E 307 **Principles of Soil and Water Engineering** (3) Utilization and engineering of soil-water resources; including rainfall- runoff, soil-water movement, erosion/sediment transport and flow processes.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: C E 360 orM E 320

B E 308 **Engineering Elements of Biochemistry and Microbiology** (3) Introduction to basic biochemistry and microbiology as well as industrial and environmental applications.
Effective: Fall 2008
Prerequisite: CHEM 110

B E 391 (GWS) (A S M 391) **Contextual Integration of Communication Skills for the Technical Workplace** (2) To develop corporate communication skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: Junior level standing in B E or A S M

B E 392 (GWS) (A S M 392) **Contextual Integration of Leadership Skills for the Technical Workplace** (2) To develop corporate leadership skills in technically focused students in a contextual manner.
Effective: Fall 2008
Prerequisite: B E 391 junior level standing in B E or A S M

B E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2010 Future: Fall 2010

B E 461 **Design of Fluid Power Systems** (3) Hydraulic systems, hydrostatic transmissions, electro-hydraulic systems in application to agricultural production and processing systems.
Effective: Fall 2008
Prerequisite: B E 306 orM E 360;C E 360 orM E 320

B E 462 **Design of Wood Structures** (3) Structural properties of wood; design of wood structural elements; design of wood structural systems; design of post-frame buildings.
Effective: Fall 2008
Prerequisite: B E 303, A E 308 orC E 340

B E 465 **Food and Biological Process Engineering** (3) Reactor design, kinetics, fluid flow, thermal processes, and other topics applied to the design of systems for the food and biological process industry.
Effective: Fall 2008
Prerequisite: B E 302

B E 466W **Biological Engineering Design** (3) This course focuses on a industry sponsored design project offered in conjunction with the College of Engineering Learning Factory.
Effective: Summer 2010
Prerequisite: B E 391 ; senior level standing in B E

B E 467 **Design of Stormwater and Erosion Control Facilities** (3) Design of best management practices for stormwater management, erosion and sediment control as applied to the agriculture-urban interface.
Effective: Fall 2008
Prerequisite: B E 307 orC E 361

B E 468 **Microbiological Engineering** (3) Application of basic engineering principles and designs in biochemical and biological processes.
Effective: Fall 2008
Prerequisite: B E 308 orB M B 211 andMICRB 201;PHYS 211 orPHYS 250

B E 469W **Optimization of Biological Production and Processing Systems** (3) Engineering and biological principles combined with economics and mathematical techniques to evaluate and optimize biological production and processing systems.
Effective: Fall 2008
Prerequisite: B E 302 and one B E 460 level course

B E 475 **Food Engineering Equipment Design** (3) Engineering analysis and operation of pilot-plant equipment, i.e., spray, freeze and deep bed dryers, evaporators, freezing tunnels, distillation columns.
Effective: Fall 2008
Prerequisite: B E 465

B E 477 **Land-Based Waste Disposal** (3) Analysis, design, and management of land-based systems for recycling and disposal of municipal, industrial, and agricultural wastes.
Effective: Fall 2008
Prerequisite: B E 307 orC E 370 orA S M 327

B E 487 **Watershed Modeling for Water Quality Design** (3) Application of common watershed models used to investigate design alternatives for flow and quality effects.
Effective: Summer 2010
Prerequisite: B E 307 orC E 361

B E 490W **Agricultural and Biological Engineering Colloquium** (1) Identification and analysis of the opportunities for professional development in the agricultural and biological engineering profession.
Effective: Fall 2008
Prerequisite: sixth-semester or higher standing in Agricultural and Biological Engineering

B E 494 **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Fall 2008

B E 494H **Senior Honors Thesis** (1-6) Senior honors thesis.
Effective: Fall 2008
Prerequisite: junior or senior status in the University Scholar's program

B E 495 **Agricultural Engineering Internship** (1-6) Independent study and supervised cooperative education experience related to the student's career objective.
Effective: Fall 2008

B E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2008

B E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

B E 497A **Biological Engineering Design Project** (3) Engineering design groups with industry representative to conceptualize, design, build and demonstrate a solution to a posed problem.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B E 497B **Biomass Energy Systems** (3) Discuss fundamental theories, applied technologies used in production and conservation of biomass into fuels, power, heat and other valued products.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Biological Science (BI SC)

BI SC 001 (GN) **Structure and Function of Organisms** (3) An exploration of how cellular structures and processes contribute to life and how life displays unity even in its diversity. Students who have passed BIOL 027, 110, or 141 may not schedule this course.
Effective: Fall 2004

BI SC 002 (GN) **Genetics, Ecology, and Evolution** (3) The study of how living organisms inherit their traits, how plants and animals evolved, and how they now interact. Students who have passed BIOL 033, 110, 220W, or 222 may not schedule this course.
Effective: Spring 2003

BI SC 003 (GN) **Environmental Science** (3) Kinds of environments; past and present uses and abuses of natural resources; disposal of human wastes; prospects for the future. Students who have passed BIOL 220 or any other upper-level ecology course in biology may not schedule this course.
Effective: Fall 2003

BI SC 004 (GN) **Human Body: Form and Function** (3) A general survey of structure and function--from conception, through growth and reproduction, to death. Students who have passed BIOL 129 and 141 may not schedule this course.
Effective: Spring 2002

Last Import from UCM: May 29, 2010 3:00 AM

Biology (BIOBD)

BIOBD 250 **Pre-Med Seminar** (1) Presentation and discussion of requirements, approaches, and expectations for a career in medicine.
Effective: Summer 1996
Prerequisite: third-semester standing

Last Import from UCM: May 29, 2010 3:00 AM

Biology (BIOL)

BIOL 003 **Peer Learning in Biology** (1) Group and learning skills to facilitate the understanding of complex biological processes.
Effective: Spring 2006
Prerequisite: Concurrent enrollment in biology or life science course and permission of program.

BIOL 011 (GN) **Introductory Biology I** (3) An introduction to fundamental biological topics (including cells, energy transduction, genetics, evolution, organismal structure/function, ecology) for non-majors biology-related fields.
Effective: Fall 2003

BIOL 012 (GN) **Introductory Biology II** (1) Laboratory exercises demonstrating principles of biology.
Effective: Summer 1992
Prerequisite: or concurrent:BIOL 011

BIOL 110 (GN) **Biology: Basic Concepts and Biodiversity** (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Fall 2003

BIOL 110H (GN) **Honors Biology: Basic Concepts and Biodiversity** (4) Honors study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Spring 2006

BIOL 110L (GN) **Biology: Basic Concepts and Biodiversity** (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Summer 1994

BIOL 110P (GN) **Biology: Basic Concepts and Biodiversity** A study of the evolution of the major groups of organisms including the fundamental concepts of biology.
Effective: Summer 1994

BIOL 110S (GN) **Biology: Basic Concepts and Biodiversity** (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.
Effective: Summer 1999

BIOL 110T (GN) **Biology: Basic Concepts and Biodiversity** (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BIOL 120A (GN;US;IL) **Plants, Places, and People** (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 120B (GN;US) **Plants, Places, and People** (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 120C (GN;IL) **Plants, Places, and People** (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.
Effective: Spring 2008

BIOL 127 (GN) **Introduction to Plant Biology** (3) Cellular structure and organization; physiological processes; classification; reproduction and development; relationship of plant groups. Students who have passed BIOL 240W may not schedule this course.
Effective: Spring 2008

BIOL 129 (GN) **Mammalian Anatomy** (4) Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.
Effective: Fall 2003

BIOL 129L (GN) **Mammalian Anatomy** (4) Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.

Effective: Fall 2003

BIOL 129P (GN) **Mammalian Anatomy** Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.
Effective: Fall 1998

BIOL 133 (GN) **Genetics and Evolution of the Human Species** (3) Human heredity and evolution, individual and social implications. The course is for non-majors; students who have passed BIOL 222, 230W, B M B 251 or any upper-division biology course may not schedule this course.
Effective: Spring 2008

BIOL 141 (GN) **Introductory Physiology** (3) Explanation of the normal structure and function of the animal body, with special emphasis on human body systems. Students who have passed BIOL 472 may not schedule this course.
Effective: Fall 2003

BIOL 142 **Physiology Laboratory** (1) Experiments demonstrating basic physiological principles, with special reference to man.
Effective: Fall 1998
Prerequisite: or concurrent:BIOL 141

BIOL 155 (GN) **Introduction to the Biology of Aging** (3) Examination of human aging from a biological perspective. Population demographics, physiological and pathological changes, and healthy lifestyles are discussed. Students who have passed BIOL 409 may not schedule this course.
Effective: Spring 2008

BIOL 177 (GN) **Biology of Sex** (3) Basic structure and function of the human reproductive system. Physiology of gametogenesis, fertilization, contraception, gestation, parturition, lactation, and sexual behavior.
Effective: Spring 2008

BIOL 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BIOL 200 **Introduction to Pharmacological Concepts** (3) Presents basic concepts of pharmacology; includes major drug classifications, pharmaceutical preparations, and biological implications relevant to these therapeutic agents.
Effective: Spring 1995

BIOL 220M (GN) **Honors Biology: Populations and Communities** (4) Honors study of the major physical, chemical, and biological factors constituting environment and their dynamic interaction with organisms forming ecosystems.
Effective: Summer 2005
Prerequisite: BIOL 110

BIOL 220W (GN) **Biology: Populations and Communities** (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement. Effective: Fall 2004
Prerequisite: BIOL 110

BIOL 220X (GN) **Biology: Populations and Communities** (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
Effective: Fall 2004
Prerequisite: BIOL 110

BIOL 222 **Genetics** (3) Variation and heredity in plants and animals, including man; relationships of genetical knowledge to evolution and breeding practices.
Effective: Spring 1995
Prerequisite: 3 credits in biological sciences

BIOL 223 **Laboratory in Genetics** (1) Principles of genetics illustrated with Drosophila breeding experiments and with demonstrations of plant and animal materials.
Effective: Spring 2008
Prerequisite: BIOL 133 orBIOL 222

BIOL 230M (GN) **Honors Biology: Molecules and Cells** (4) Honors study of cellular phenomena including molecular genetics and metabolic interactions.
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

BIOL 230W (GN) **Biology: Molecules and Cells** (4) A study of cellular phenomena including molecular genetics and metabolic interactions. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the

W requirement. Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

BIOL 240M (GN) **Honors Biology: Function and Development of Organisms** (4) Honors study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

BIOL 240W (GN) **Biology: Function and Development of Organisms** (4) A study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)
BIOL 220W GN, 230W GN, and 240W GN each carry only 1 credit to "Writing"; all three courses must be taken to meet the W requirement. Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

BIOL 251 **Peer Leadership in Biology** (1) Leadership training in guiding others to learn, communicate, and apply biological principles.
Effective: Spring 2006
Prerequisite: 8 credits in biology or life science courses and permission of program

BIOL 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

BIOL 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

BIOL 297B **Pathophysiology** (3) Covers the alteration of basic physiological processes associated with the disease state.
Effective: Summer 2010 Ending: Summer 2010

BIOL 297C **Pharmacology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

BIOL 297D **Integrated Pharmacology** (3) Review basic concepts of pharmacology and relate them to pathophysiological changes associated with the disease.
Effective: Summer 2010 Ending: Summer 2010

BIOL 322 **Genetic Analysis** (3) A discussion of the mechanisms of heredity in prokaryotes and eukaryotes with emphasis on analysis and modes of inference.
Effective: Fall 2007
Prerequisite: at least two of the following courses:BIOL 220W, BIOL 230W, BIOL 240W orMICRB 201

BIOL 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BIOL 400 **Teaching in Biology** (1-3) This course will train biology teaching assistants to teach in the laboratory/ recitation setting with emphasis on critical thinking skills. Enrollment will be limited to students of at least fifth semester standing that have been accepted as teaching assistants for biology.
Effective: Fall 2006
Prerequisite: Enrollment will be limited to students of at lease fifth semester standing who are or have been accepted as teaching assistants in a life science course.

BIOL 401 **Genetic Analysis of Model Systems** (3) Survey of tools and techniques available for genetic analysis with bacteria, Neurospora, yeast, Drosophila, C. elegans, Arabidopsis, maize, mice, and humans.
Effective: Spring 2001
Prerequisite: BIOL 230W andB M B 400 orB M B 401 ; or concurrent:B M B 401

BIOL 402W **Biological Experimental Design** (3) Discussion of experimental design, analysis and presentation, with a practicum providing for student design, analysis and presentation of biological experiments. Students may not take this course if they have taken BIOBD 350W.
Effective: Fall 2007
Prerequisite: at least two of the following three courses:BIOL 220W, BIOL 230W, BIOL 240W;STAT 250

BIOL 403 **Laboratory Methods for Genetic Analysis** (2) Survey of tools and techniques available for genetic analysis with bacteria, Neurospora, yeast, Drosophila, C. elegans, Arabidopsis, maize, mice, and humans.
Effective: Spring 1999
Prerequisite: BIOL 230W Concurrent: B M B 400 or B M B 401

BIOL 404 **Cellular Mechanisms in Vertebrate Physiology** (3) This course considers cellular mechanisms governing physiological aspects of vertebrate cell signaling and their adaptation to particular organismal functions.
Effective: Spring 2001
Prerequisite: B M B 251 orBIOL 230W

BIOL 405 **Molecular Evolution** (3) Introduction to concepts and techniques of analysis of molecular sequence data from an evolutionary point of view.
Effective: Fall 1994
Prerequisite: BIOL 222 orBIOL 230W

BIOL 406 **Symbiosis** (3) This course covers a variety of different types of symbiotic relationships between unicellular symbionts and plants, fungi, or animals.
Effective: Summer 1998
Prerequisite: BIOL 110;BIOL 220W, BIOL 230W orBIOL 240W

BIOL 407 **Plant Developmental Anatomy** (3) This course will examine the development of basic vascular plant anatomical structures including leaves, stems, roots, and flowers.
Effective: Fall 2005
Prerequisite: BIOL 240W

BIOL 408 **Contributions of Women to the Biological Sciences: Past and Present** (3) A study of the contributions that women scientists have made and continue to make in the biological sciences.
Effective: Spring 2005
Prerequisite: BIOL 220W, BIOL 230W orBIOL 240W

BIOL 409 **Biology of Aging** (3) Mechanisms of the aging process, with special reference to man. Unfavorable progressive changes in molecules, cells, systems, and organisms.
Effective: Summer 1984
Prerequisite: 6 credits in biology

BIOL 410 **Molecular Basis of Plant Development** (3) A discussion of how genetic engineering is applied to understanding and modifying plant development.
Effective: Summer 1999
Prerequisite: BIOL 222, BIOL 240W;B M B 211 orB M B 400, B M B 401

BIOL 411 **Medical Embryology** (3) Develops an understanding of human reproductive physiology, embryological processes, their time frames, and the development of major human body systems. The course emphasizes clinical correlations and the medical consequences of developmental abnormalities.
Effective: Summer 1998
Prerequisite: 6 credits of biology

BIOL 412 **Ecology of Infectious Diseases** (3) This course examines how ecological processes impact upon the epidemiology of infectious diseases.
Effective: Fall 2004
Prerequisite: BIOL 220W orH P A 440

BIOL 413 **Cell Signaling and Regulation** (3) Introduction to the themes of cellular signaling and regulation through critical review of primary literature.
Effective: Spring 1998
Prerequisite: BIOL 240W

BIOL 414 **Taxonomy of Seed Plants** (3) Basic principles and procedures in the practice of angiosperm systematics.
Effective: Fall 1994
Prerequisite: BIOL 240W

BIOL 415 **Ecotoxicology** (3) Major concepts and controversies in the interdisciplinary field of ecological toxicology; toxicity analysis, remediation, and case studies of environmental pollution.
Effective: Spring 1995
Prerequisite: BIOL 110, BIOL 220W;FOR 308 orW F S 209

BIOL 416 **Biology of Cancer** (3) This course intends to illustrate biological basis of cancer development, and discusses aspects on prevention, detection, and treatment of cancer.
Effective: Spring 1999
Prerequisite: BIOL 222 orBIOL 230W

BIOL 417 **Invertebrate Zoology** (4) Function and form of major invertebrate phyla.
Effective: Fall 1994
Prerequisite: BIOL 110

BIOL 419 **Ecological and Environmental Problem Solving** (3) Overview of processes involved in solving environmental problems. Provides students with toolkit for understanding ecological and environmental problems.
Effective: Spring 2004
Prerequisite: BIOL 220W

BIOL 420 (GEOSC 420) **Paleobotany** (3) Classification, morphology, phylogeny, and stratigraphic occurrence of fossil plants; practicum includes field trips and study of paleobotanical techniques and specimens.
Effective: Spring 2005
Prerequisite: any 3 credit introductory course in historical geology or plant biology

BIOL 421 (VB SC 421) **Comparative Anatomy of Vertebrates** (4) The comparative anatomy of representative vertebrate animals discussed from a descriptive and an evolutionary viewpoint.
Effective: Spring 2008
Prerequisite: BIOL 240W

BIOL 422 **Advanced Genetics** (3) Chromosomal mechanism of heredity; cytoplasmic and polygenic inheritance, chemical

genetics, genomics, and experimental evolution.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: one genetics or genetic based course includingBIOL 133, BIOL 222, BIOL 322 orBIOL 230W

BIOL 422W **Advanced Genetics** (3) Chromosomal mechanism of heredity; cytoplasmic and polygenic inheritance, chemical genetics, and experimental evolution.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: BIOL 133 orBIOL 222 orBIOL 230W

BIOL 423 **Introductory Palynology** (4) Morphology, taxonomy, stratigraphy, and paleoecology of fossil palynomorphs; practicum--study of modern pollen and spores and analysis of sedimentary rocks.
Effective: Fall 2001
Prerequisite: any 3-credit introductory course in historical geology or plant biology

BIOL 424 **Seeds of Change: The Uses of Plants** (3) Interdisciplinary approach to the biology, chemistry, history, and culture of the interactions between plants and people.
Effective: Spring 2009
Prerequisite: BIOL 110;BIOL 220W, BIOL 230W orBIOL 240W

BIOL 425 (PPATH 425) **Biology of Fungi** (4) A survey of the biological diversity of fungi, stressing evolution, ecololgy, disease, morphology, life histories, and importance to human affairs.
Effective: Spring 2002
Prerequisite: fifth-semester or graduate standing in a biological sciences major with six credits completed in the major

BIOL 426 **Developmental Neurobiology** (3) Overview of basic developmental processes as they apply to the central nervous system.
Effective: Spring 2004
Prerequisite: BIOL 141 orBIOL 240

BIOL 427 **Evolution** (3) Selected topics on the evolution of life.
Effective: Spring 1995
Prerequisite: BIOL 220W, BIOL 230W

BIOL 428 **Population Genetics** (3) Mathematical formulation of evolution by natural selection, genetic equilibrium under selection, mutation, migration, random drift.
Effective: Spring 2001
Prerequisite: BIOL 220W, STAT 250;MATH 111 orMATH 141

BIOL 429 **Animal Behavior** (3) Physiological mechanisms, ecological relevance, and adaptive significance of animal behavior.
Effective: Spring 1999
Prerequisite: BIOL 110, BIOL 220W

BIOL 430 (B M B 430, ENT 430) **Developmental Biology** (3) Molecular and genetic analyses of mechanisms involved in differentiation and determination in biological systems.
Effective: Summer 1994
Prerequisite: B M B 252 ; orBIOL 222, BIOL 230W

BIOL 431 **Comparative Plant Morphology** (4) Origin, structure, development, reproduction, and evolutionary relationships of plants and fungi.
Effective: Fall 1994
Prerequisite: BIOL 240W

BIOL 432 **Developmental Genetics** (3) An advanced course in developmental biology, focusing on the use of genetics techniques to study fundamental questions of animal development.
Effective: Summer 1998
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

BIOL 435 **Ecology of Lakes and Streams** (3) Physical, chemical, and biological characteristics of freshwater environments, with special emphasis on factors regulating productivity in freshwater ecosystems.
Effective: Fall 1994
Prerequisite: BIOL 220W

BIOL 436 **Population Ecology and Global Climate Change** (3) Ecological responses of individuals, populations, and communities to environmental variation, with emphasis on climate change.
Effective: Spring 2004
Prerequisite: BIOL 220

BIOL 437 **Histology** (4) Microscopic structure of the tissue of the animal body.
Effective: Fall 1994
Prerequisite: BIOL 230W

BIOL 438 **Theoretical Population Ecology** (3) Theoretical discussions of demographics, population and metapopulation growth models, life histories, and species interactions such as competition, predation, host-parasitoid relationships.
Effective: Fall 2007
Prerequisite: BIOL 220W, MATH 140, STAT 250

BIOL 439 **Practical Bioinformatics** (3) Practical aspects of retrieving and analyzing biological information residing in common databases.
Effective: Spring 2004
Prerequisite: BIOL 230 orB M B 251

BIOL 440 **Embryology** (4) Origin and development of the various tissues and organs of the animal body.
Effective: Fall 1994
Prerequisite: BIOL 240W

BIOL 441 **Plant Physiology** (3) Classical and current concepts in plant constituents, mineral nutrition, water relations, respiration, photosynthesis, photoperiodism, plant hormones, growth, and development.
Effective: Spring 1995
Prerequisite: BIOL 230W, BIOL 240W

BIOL 442 **Plant Physiology** (3) Techniques and fundamentals of classical and current experimental plant physiology, with emphasis in those areas studied in BIOL 441. Laboratory.
Effective: Spring 1998
Prerequisite: BIOL 240W, BIOL 407 orBIOL 441

BIOL 443 **Evo-devo: Evolution of Developmental Mechanisms** (3) How evolution of animals and plants can be traced to changes in the regulation and/or interactions of genes controlling development.
Effective: Spring 2004
Prerequisite: BIOL 240

BIOL 444 **Field Ecology** (3) This field course will explore the flora and fauna of the mid-Atlantic area.
Effective: Fall 2007
Prerequisite: BIOL 220W

BIOL 446 **Physiological Ecology** (3) The physiological abilities of plants and animals to adapt to their abiotic environment.
Effective: Fall 1994
Prerequisite: BIOL 220W, BIOL 240W

BIOL 448 **Ecology of Plant Reproduction** (3) Analysis of the ecology, evolution, and natural history of angiosperm reproduction, including pollination, fruit-set, dispersal, and relevant plant- animal interactions.
Effective: Fall 1994
Prerequisite: BIOL 220W

BIOL 450W **Experimental Field Biology** (3-5) A practical introduction to modern experimental techniques for ecological study of terrestrial, marine, and fresh water habitats.
Effective: Fall 2007
Prerequisite: BIOL 220W, BIOL 240W

BIOL 454 **Herpetology** (2) The biology of reptiles and amphibians.
Effective: Fall 1994
Prerequisite: BIOL 110

BIOL 459 (BIOTC 459, HORT 459) **Plant Tissue Culture and Biotechnology** (3) Principles and techniques for the in vitro culture, propagation, and genetic manipulations of plant cells.
Effective: Fall 1999
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

BIOL 460 (ANTH 460) **Human Genetics** (3) The human genome, its variation, origins, and relation to disease and other traits.
Effective: Fall 2007
Prerequisite: BIOL 230W or 3 credits in genetics

BIOL 460H (ANTH 460H) **Human Genetics** (4) Gene mapping in humans; molecular basis of genetic disease; gnomic structure; immunogenetics; and genetic evidence for human evolutionary history.
Effective: Fall 2001
Prerequisite: 3 credits in genetics orANTH 021 orBIOL 222 orBIOL 230W ; and 3 credits in statistics

BIOL 461 **Contemporary Issues in Science and Medicine** (3) Current/classical issues relating to health, research, agriculture, environment, and biotechnology. Active exploration of the impact of science on society.
Effective: Spring 2003
Prerequisite: A 400-level Biology course.

BIOL 463 **General Ecology** (3) Illustrates science of ecology, from individual, population, and community- level perspectives, discusses applications of this science to issues of conservation of biodiversity.
Effective: Spring 2002
Prerequisite: BIOL 220

BIOL 464 (ANTH 464) **Sociobiology** (3) The study of the adaptive function of social behavior, the comparative analysis of social organization, and the ecology of sociality.
Effective: Spring 1987
Prerequisite: 6 credits in biology or anthropology

BIOL 465 **General Cytology** (3) Structure and function of organelles of plant and animal cells, mitosis, meiosis, cytological techniques.
Effective: Fall 1988
Prerequisite: 12 credits in biology and/or molecular and cell biology

BIOL 466 **Laboratory in Cytology** (1) Laboratory exercises concerning aspects of cell structure and function and cytological equipment and techniques discussed in BIOL 465.
Effective: Fall 2000
Prerequisite: or concurrent:BIOL 465

BIOL 469 (BB H 469) **Neurobiology** (3) Comprehensive examination of neuroanatomy and physiology designed to integrate the principles of neurochemistry, neuroendocrinology, and molecular biology.
Effective: Spring 1995
Prerequisite: BIOL 240W

BIOL 470 (BB H 470) **Functional and Integrative Neurosciences** (3) Neurobiological function in motivated behaviors, motor and sensory functions, learning and memory development, sexual differentiation, and pathology.
Effective: Summer 1995
Prerequisite: BIOL 469

BIOL 471 **Molecular Neurobiology/Cell Biology Laboratory** (3) Introduction to modern molecular and cellular methodologies. The course is designed to integrate the principles of molecular cell biology with neurochemistry and neuroendocrinology.
Effective: Summer 1995
Prerequisite: BIOL 469

BIOL 472 **Mammalian Physiology** (3) Mechanisms concerned with normal animal function, with special emphasis on humans.
Effective: Summer 2007
Prerequisite: BIOL 240W, CHEM 203

BIOL 473 **Laboratory in Mammalian Physiology** (2) Laboratory experiments demonstrating fundamentals in physiology.
Effective: Summer 1985
Prerequisite: or concurrent:BIOL 472

BIOL 474 (GEOSC 474) **Astrobiology** (3) In depth treatment of principles/concepts of biochemical evolution, the origin/evolution of life; evaluation of distribution of life in the universe.
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

BIOL 477 **Biology of Human Sexuality** (3) Biological aspects of human sexual development, response, expression, function, and dysfunction among individuals of various ages and life experiences.
Effective: Spring 2008
Prerequisite: BIOL 177

BIOL 479 (AN SC 479) **General Endocrinology** (3) Endocrine mechanisms regulating the morphogenesis, homeostasis, and functional integration of animals.
Effective: Fall 2009
Prerequisite: BIOL 141 orBIOL 472

BIOL 482 **Coastal Biology** (3-4) Marine organisms, their interactions with each other, and their relationships with several coastal habitats.
Effective: Spring 2010
Prerequisite: BIOL 220W

BIOL 492 **Senior Seminar in Biology** (1) Discussion of selected topics from recent biological literature; reports on current research or internship experiences.
Effective: Fall 2007
Prerequisite: 18 credits in Biology; seventh-semester standing

BIOL 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2010

BIOL 495 **Internship in Biology** (3-12) Practical off-campus experience in Biology under the supervision of a professional and a faculty member.
Effective: Fall 2007

BIOL 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

BIOL 496A **Exercise Physiology** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BIOL 496B **Metabolic Physiology** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BIOL 496C **Junior/Senior Research in Behrend Biology** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BIOL 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject

which may be topical or of special interest.
Effective: Fall 1983

BIOL 497A **Environmental Science and Conservation Biology: A Field Course in the Biodiversity of Costa Rica** (4) Using a course model of pre-trip, field-trip, and post-trip activities students gain an in-depth interdisciplinary and international understanding of environmental science and conservation biology.
Effective: Summer 2010 Ending: Summer 2010

BIOL 497A **Biology of RNA** (3) This course explores the role of RNA in the emergence of life, evolution of RNA function and relevance of RNA-based mechanisms to health.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: BIOL 230W

BIOL 497A **Evolution of Infectious Diseases** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 220W

BIOL 497B **Human Dimensions of Health Care** (3) Health care from the point of view of patients, their families, and health care providers by on-site experience in family and community medicine settings.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

BIOL 497B **Biology of Reproduction** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 240W

BIOL 497D **Pathobiology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 230W, BIOL 240W and 6th semester standing

BIOL 497E **Evolution of the Vertebrates** (3) Covers the evolution of vertebrate animals, with emphasis on adaptation and convergence within and among living representatives of each group.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 220W andBIOL 240W

BIOL 498 (ENT 498) **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1993

BIOL 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

BIOL 499A (IL) **Tropical Field Ecology** (3) An intensive introduction to tropical biodiversity to be taught in Belize, Central America.
Effective: Summer 2005
Prerequisite: BIOL 220W

Last Import from UCM: May 29, 2010 3:00 AM

Biomedical Engineering Technology (BE T)

BE T 101 **Introduction to Medical Equipment Maintenance** (1) Introduction to the field of clinical engineering and the management of medical equipment and systems.
Effective: Spring 2008

BE T 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

BE T 201 **Medical Equipment & Systems I** (5) Introduction to the field of biomedical engineering technology, electrical wiring devices, theories of measurement, cardiovascular systems and ECG monitor operation.
Effective: Fall 2008
Prerequisite: EET 105

BE T 202 **Medical Electronics II** (4) Introduction to electronic devices used in medical equipment: BJTs, JFETs, MOSFETs, amplifier configurations, personal computer hardware, networking, and DICOM fundamentals.
Effective: Fall 2008
Prerequisite: BE T 201, BE T 205

BE T 203 **Biomedical Equipment Laboratory (Internship)** (4) Practical experience, within or related to the hospital environment, on a variety of biomedical instruments.
Effective: Fall 2008
Prerequisite: BE T 204W, BE T 202, BI SC 004 orBIOL 141 and it must be the last class taken for the degree

BE T 204W **Medical Equipment and Systems II** (5) Principles of medical equipment: operation, application; circuit and block diagrams; preventive maintenance inspections; and troubleshooting with report writing and presentations.
Effective: Fall 2008
Prerequisite: BE T 201, BE T 205

BE T 205 **Medical Electronics I** (3) A study of diodes, power supplies, operational amplifiers, specialized high power devices, 555 timer and tuned amplifiers.
Effective: Fall 2008
Prerequisite: EET 105

BE T 210 **Servicing Medical Equipment** (3) Methods and strategies for servicing medical equipment, systems and electronics components.
Effective: Spring 2008
Prerequisite: BE T 201

BE T 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

BE T 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

BE T 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Biotechnology (BIOTC)

BIOTC 416 (MICRB 416) **Microbial Biotechnology** (2) Fundamentals of applied biotechnology; the use of microorganisms in the synthesis of biologically-important and industrially-useful products.
Effective: Spring 2009
Prerequisite: MICRB 201, MICRB 202;B M B 442 orMICRB 442

BIOTC 459 (BIOL 459, HORT 459) **Plant Tissue Culture and Biotechnology** (3) Principles and techniques for the in vitro culture, propagation, and genetic manipulations of plant cells.
Effective: Spring 2003
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

BIOTC 460 (AGRO 460) **Advances and Applications of Plant Biotechnology** (3) This course provides a comprehensive overview and current status of plant biotech research. The course provides knowledge of plant systems that fall in the category of GMOs.
Effective: Spring 2009
Prerequisite: BIOL 230W, B M B 251 or equivalent

BIOTC 479 **Methods in Biofermentations** (3) Bioprocessing principles and development; uses and operation of biofermentors; determination of biomass; problems of scale-up.
Effective: Spring 2009
Prerequisite: MICRB 201, MICRB 202;B M B 251, B M B 252, B M B 442

BIOTC 489 (V SC 489) **Animal Cell Culture Methods** (3) An overview of animal cell culture methodology and its practical application in bioprocess technology.
Effective: Spring 1996
Prerequisite: MICRB 201, MICRB 202;BIOL 230W orB M B 251

Last Import from UCM: May 29, 2010 3:00 AM

Business Administration (B A)

B A 100 (GS) **Introduction to Business** (3) A comprehensive view of the contemporary environment of business.
Effective: Summer 2008

B A 100S (GS) **Introduction to Business** (3) A comprehensive view of the contemporary environment of business.
Effective: Fall 2009

B A 195 **Cooperative Practicum with Business Offices** (3-6) Cooperative practical work with business offices under the supervision of the instructor.
Effective: Summer 1990

B A 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

B A 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B A 241 **Legal Environment of Business** (2) Examines the legal system's role and impact regarding business transactions, liability issues, and ownership of intellectual property. Students earning credit for B A 241 may not earn credit toward Smeal College baccalaureate degree for B Law 243 and/or B A 243.
Effective: Summer 2003

B A 242 **Social and Ethical Environment of Business** (2) Explores the social and ethical environment of business and ethical decision making in a business context.
Effective: Summer 2003

B A 243 **Social, Legal, and Ethical Environment of Business** (4) Explores the ethical, political, social, legal and regulatory, technological, and demographic diversity environment of business. A student may not receive credit toward graduation for both B LAW 243 and B A 243.
Effective: Fall 1994

B A 250 **Small Business Management** (3) Analysis of problems of the small firm, particularly for the student who wishes to venture into business.
Effective: Spring 2008
Prerequisite: 3 credits in economics

B A 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

B A 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

B A 297A **Career Planning Strategies** (1) Job search process, positions and career paths, self-assessment, goal-setting, projects, and networking with companies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B A 297A **Career Planning Strategies** (1) Job search process, positions and career paths, self-assessment, goal-setting, projects, and networking with companies.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B A 297B **Social Entrepreneurship and Community Leadership** (3) Introductory course for high school students focusing on introducing business leadership and entrepreneurship principles to profit and nonprofit organizations whose products and services are designed to create social value.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B A 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B A 301 **Finance** (2) This course provides an overview of finance. The primary focus is on financial decision making in

organizations - also known as corporate finance. In addition to corporate finance, the course also covers the two other primary areas of finance: financial markets and institutions, and investments.
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200

B A 301H **Finance** (2) This course provides an overview of finance. The primary focus is on financial decision making in organizations - also known as corporate finance. In addition to corporate finance, the course also covers the two other primary areas of finance: financial markets and institutions, and investments.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200

B A 302 **Supply Chains** (2) Introduction to key elements and strategic importance of supply chain networks.
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004, MIS 204;SCM 200 orSTAT 200

B A 302H **Supply Chains** (2) Introduction to key elements and strategic importance of supply chain networks.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ACCTG 211, ECON 002, ECON 004, MIS 204;SCM 200 orSTAT 200

B A 303 **Marketing** (2) Introduction to customer behavior and research, service/product development, pricing and promotion in diverse and international marketing contexts.
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200;B A 241 andB A 242 orB A 243

B A 303H **Honors Core Marketing** (2) Junior Core Marketing - Honors Section.
Effective: Spring 2009
Prerequisite: ACCTG 211, B A 243 orB A 241 andB A 242, ECON 002, ECON 004, ENGL 015, MATH 110 orMATH 140, MIS 204, SCM 200 orSTAT 200

B A 304 **Management and Organization** (2) Introduction to key concepts for the design and management of organizations.
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200

B A 304H **Honors Core Management** (2) Junior Core Business Management - Honors Section.
Effective: Spring 2009
Prerequisite: ACCTG 211, B A 243 orB A 241, B A 242, ECON 002, ECON 004, ENGL 015, MATH 110 orMATH 140, MIS 204, SCM 200 orSTAT 200

B A 321 **Contemporary Skills for Business Professionals** (1-3) Technological and interpersonal skills for the contemporary business professional, stressing collaborative learning, electronic inquiry and communications, critical thinking, and problem solving.
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002 orECON 004, MIS 204, SCM 200 orSTAT 200 . Prerequisite or concurrent:ENGL 202D;MATH 022, MATH 110 orMATH 140

B A 322 **Individual and Interpersonal Effectiveness for the Business Professional** (1-3) Effectiveness of the business professional in team settings, especially the capacity to execute both technologically and cooperatively through group exercises.
Effective: Summer 1997
Prerequisite: B A 321

B A 323 **Regional Economies of Pennsylvania** (3) Study of the people, the policies, and the organizations that form the local and regional business environment of Pennsylvania.
Effective: Summer 1997
Prerequisite: fifth-semester standing

B A 335 **Real Estate Fundamentals** (3) Examination of real estate and market forces affecting it; finance, sales, and brokerage operations.
Effective: Spring 2008

B A 336 **Real Estate Practice** (3) Examination of real estate practice; listing agreements; appraisal; financing; property management and insurance; investment; fair housing laws and ethical practices.
Effective: Spring 2008
Prerequisite: B A 335

B A 342 **Socially Responsible, Sustainable and Ethical Business Practice** (3) Course examines actions taken by corporations that impact global citizenship, environmental sustainability, and the economic stability of international societies. It further looks at relationships, rights, and responsibilities between businesses, business decision-makers and their stakeholders.
Effective: Summer 2010
Prerequisite: MGMT 301, MGMT 301W orB A 304 ; Prerequisite or concurrent:FIN 301 orB A 301;MKTG 301 orB A 303;SCM 301 orB A 302

B A 364Y (US;IL) **International Business and Society** (3) Business organizations and the sociocultural environment; current issues; corporate responsibility; international and multinational business environments.
Effective: Spring 2008
Prerequisite: ENGL 202D, MGMT 301

B A 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or

internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

B A 395A **Practicum in Business Administration** (1) Professional and guided work experience in business administration with private or public organizations. May be taken only as an elective.
Effective: Spring 1990
Prerequisite: fifth-semester standing

B A 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

B A 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

B A 411 **Analyzing Business and Industry** (3) Prepares students to read, interpret, and analyze financial statements effectively in order to evaluate business entities and their industries.
Effective: Summer 2003
Prerequisite: ACCTG 211, B A 301, B A 302, B A 303, B A 304

B A 412H **Honors Integration and Research** (2-3) The integration of the business core into a detailed financial, strategy and market analysis of actual companies selected by student teams.
Effective: Summer 2003 Ending: Fall 2010
Prerequisite: B A 301, B A 302, B A 303, B A 304 or any two of these with the other two taken concurrently.

B A 412H **Honors Integration and Research** (2-3) The integration of the business core into a detailed financial, strategy and market analysis of actual companies selected by student teams.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ACCTG 211;FIN 301 orB A 301;SCM 301 orB A 302;MKTG 301 orB A 303;MGMT 301 orB A 304

B A 420 **Planning for Internship, Collaborative Project, and Research in Business** (1) Planning, preparation, and decision making for students enrolling in either B A 495A, 495B, or 495C courses in their final semester.
Effective: Summer 2002
Prerequisite: B A 321 and sixth-semester standing

B A 421 **Project Management and Planning for Business** (1-2) Planning and preparation for field experience internship, senior thesis, or group project supplemented with exercises in project management.
Effective: Spring 2003
Prerequisite: B A 322

B A 422W **Strategic Business Planning** (3) Presentations and discussion of contemporary business issues by students and visiting professionals; emphasis on effective business communications.
Effective: Spring 2008
Prerequisite: B A 421, MGMT 301, MKTG 301, FIN 301 . Prerequisite or concurrent:B A 495A, B A 495B orB A 495C

B A 427 **Risk and Decisions** (3) Conceptualizing decisions involving risk, analyzing choices, estimating the risk, and communicating the analysis.
Effective: Spring 2007
Prerequisite: MATH 110 orMATH 140 and eitherSCM 200 orSTAT 200

B A 454H **Business Honors Thesis/Project** (3) An opportunity to pursue an advanced research thesis or project to integrate studies within Business Administration.
Effective: Spring 2008
Prerequisite: HONOR 301 senior standing and permission of the program

B A 462 **Business Strategy** (3) Interpretation of business concept in the analysis of problems related to the successful management of a company, institution, or organization.
Effective: Spring 2008
Prerequisite: FIN 301, MGMT 301, MKTG 301

B A 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

B A 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

B A 495A **Internship in Business** (3-9) Guided professional practicum in business administration involving an internship with a business organization; practice of business skills in field setting.
Effective: Spring 2003
Prerequisite: B A 322, B A 420

B A 495B **Collaborative Project in Business** (3-9) Guided professional practicum in business administration involving a group project; application of business skills in collaborative setting.
Effective: Spring 2003

Prerequisite: B A 322, B A 420

B A 495C **Undergraduate Research in Business** (3-9) Guided student research in business administration; application of analytical or research techniques to business problems.
Effective: Spring 2003
Prerequisite: B A 322, B A 420

B A 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

B A 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

B A 497B (E R M 497B) **Introduction to Sustainable Business** (3) An introduction to sustainable business strategies and practices.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B A 497F **Nittany Lion Fund Manager** (3) In this course students manage the Nittany Lion Fund, an investor-owned, student-managed investment fund.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

B A 497F **Nittany Lion Fund Manager** (3) In this course students manage the Nittany Lion Fund, an investor-owned, student-managed, investment fund.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B A 499 (IL) **Foreign Study--Business Administration** (1-18) Study in selected countries of business institutions, functions, and current business problems.
Effective: Spring 2007
Prerequisite: ACCTG 211;ECON 002, ECON 004;SCM 200

Last Import from UCM: May 29, 2010 3:00 AM

Business Law (B LAW)

B LAW 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

B LAW 243 **Legal Environment of Business** (3) Social control through law: courts, basic policies underlying individual and contractual rights in everyday society. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 243.
Effective: Summer 1997
Prerequisite: third-semester standing

B LAW 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

B LAW 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

B LAW 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

B LAW 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

B LAW 340 **Business Law** (3) Course examines topics such as commercial paper, secured transactions, bankruptcy, suretyship, professionals' libility, malpractice, and related topics.
Effective: Spring 2008

B LAW 341 **Business Law I: Introduction to Contracts, Liability Issues, and Intellectual Property** (3) An introduction to the business environment emphasizing business contracts, liability issues arising from business relations, including those in the internet realm and intellectual property issues. Alternative dispute resolution and global perspectives will be integrated throughout.
Effective: Summer 2010
Prerequisite: MGMT 301, MGMT 301W orB A 304 ; Prerequisite or concurrent:FIN 301 orB A 301;MKTG 301, MKTG 301W orB A 303;SCM 301 orB A 302

B LAW 346 **Agency, Employment & Business Structure** (3) An examination of the laws governing agency relationships, employment, and the various structures of commercial enterprises.
Effective: Spring 2005
Prerequisite: B A 301 orFIN 100

B LAW 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

B LAW 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

B LAW 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

B LAW 410 **Criminal Law in the Business Community** (3) The basic principles of criminal law as they affect society and the business community.
Effective: Spring 1996
Prerequisite: B A 243 orB LAW 243

B LAW 424 (R EST 424) **Real Estate Law** (3) Analyze contemporary law applicable to various types of ownership interests and rights, methods of transferring ownership, and use of real property.
Effective: Spring 2005
Prerequisite: B LAW 346

B LAW 425 (R EST 425) **Environmental Law, Property, and Commerce** (3) Examines the impacts of major federal environmental laws on business relations and property interests.
Effective: Summer 1995
Prerequisite: B A 243, B LAW 243 orE R M 151

B LAW 444 **Advanced UCC and Commercial Transactions** (3) All articles of the Uniform Commercial Code, banking relationships, debtor- creditor law, and bankruptcy law.
Effective: Spring 2005
Prerequisite: B A 241 orB A 243 andACCTG 211 andB A 301 orFIN 100

B LAW 445 **Intellectual Property & Competition Law** (3) Copyrights, trademarks, patents, and trade secrets followed by related topics in the regulation of competition.
Effective: Spring 2005
Prerequisite: B LAW 346

B LAW 471 (CRIMJ 471) **Legal Rights, Duties, Liabilities of Criminal Justice Personnel** (3) Civil law issues within a justice agency and between criminal justice agencies and members of the public.
Effective: Spring 2008
Prerequisite: CRIMJ 100

B LAW 473 (CRIMJ 473) **Criminal Procedure and Evidence in the Business Community** (3) Law of evidence and proof, constitutional constraints on police procedures (arrest, search, etc.) in society and the business community.
Effective: Spring 2008
Prerequisite: CRIMJ 100

B LAW 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

B LAW 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

B LAW 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

B LAW 497 **Special Topics** (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

B LAW 497A **Legal & Regulatory Environment of Business Relationships** (3) In this course, the legal construct of the employment environment is evaluated, especially the employer-employee relationship.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

B LAW 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

B LAW 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Business Logistics (B LOG)

B LOG 410 **Transport Economics and Policy** (3) Advanced study of the principles of transportation economics and their application and the impacts of transport policy choices.
Effective: Spring 2007
Prerequisite: SCM 320

Last Import from UCM: May 29, 2010 3:00 AM

Chemical Engineering (CH E)

CH E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

CH E 100S **Exploring Chemical Engineering First-Year Seminar** (1) The exploration of Chemical Engineering and available career opportunities.
Effective: Summer 2007

CH E 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CH E 210 **Introduction to Material Balances** (3) An integrated approach to the study of material balances and industrial chemical processes important in chemical engineering.
Effective: Spring 2009
Prerequisite: or concurrent:MATH 251

CH E 210H **Introduction to Material Balances (Honors)** (3) An integrated approach to honor-level study of material balances and industrial chemical processes important in chemical engineering.
Effective: Spring 2009
Prerequisite: or concurrent:MATH 251

CH E 220 **Introduction to Chemical Engineering Thermodynamics** (3) Chemical process applications of energy balances, equations of state, thermodynamic properties of real fluids, second law of thermodynamics, cycles.
Effective: Spring 2009
Prerequisite: or concurrent:MATH 230

CH E 220H **Introduction to Chemical Engineering Thermodynamics (Honors)** (3) Chemical process applications of energy balances, equations of state, thermodynamic properties of real fluids, second law of thermodynamics, cycles.
Effective: Spring 2009
Prerequisite: or concurrent:MATH 230

CH E 294 **Research Project** (1-12) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996

CH E 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1996

CH E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

CH E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CH E 300 **Professional Development Seminar** (1) Lectures and discussion by visiting engineers and faculty on chemical engineering, job selection, patents, licensing, ethics, and other professional problems.
Effective: Spring 2006
Prerequisite: fifth-semester standing

CH E 320 **Phase and Chemical Equilibria** (3) Pure component phase properties, solution properties, equilibria among phases, equilibrium stage separations, chemical reaction equilibria.
Effective: Spring 2007
Prerequisite: CH E 210, CH E 220

CH E 330 **Process Fluid Mechanics** (3) An integrated study of the fundamentals and the quantitative design techniques involving flow of fluids in chemical processes.
Effective: Spring 2009
Prerequisite: CH E 210, MATH 230

CH E 330H **Process Fluid Mechanics (Honors)** (3) An integrated study of the fundamentals and the quantitative design techniques involving flow of fluids in chemical processes.
Effective: Spring 2009
Prerequisite: CH E 210, MATH 230

CH E 340 **Introduction to Biomolecular Engineering** (3) Introduction to concepts and principles of biomolecular engineering, with emphasis on biotechnology and pharmaceutical industries.

Effective: Summer 2007
Prerequisite: CH E 210, B M B 251, CHEM 212

CH E 350 **Process Heat Tranfer** (3) An integrated study of the fundamentals and the quantitative design techniques involving heat transfer in chemical processes.
Effective: Spring 2009
Prerequisite: CH E 220 ; Prerequisite or concurrent:CH E 330

CH E 360 **Mathematical Modeling in Chemical Engineering** (3) Mathematical model formulation for chemical and physical processes, including applications of ordinary differential equations and numerical methods.
Effective: Spring 2006
Prerequisite: MATH 230, CH E 330 ; prerequisite or concurrent:CH E 350

CH E 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

CH E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

CH E 410 **Mass Transfer Operations** (3) Introduction to principles and applications of mass transfer, with focus on the design of equilibrium stage and continuous contacting separation processes.
Effective: Spring 2006
Prerequisite: CH E 320, CH E 330, CH E 350

CH E 430 **Chemical Reaction Engineering** (3) Chemical reaction rates and equilibria, reactors, reactor design; emphasis on industrial chemical processes.
Effective: Spring 2006
Prerequisite: CH E 320, CH E 330, CH E 350, CH E 360

CH E 432 (F SC 432) **Petroleum Processing** (3) A study of physical and chemical processes to convert crude oil into desired products with an outlook from present to future.
Effective: Summer 2007
Prerequisite: CHEM 210

CH E 435 (F SC 435) **Industrial Organic Chemistry** (3) Chemistry and processes for producing organic chemicals and materials in existing and emerging new manufacturing sectors of organic chemical industry.
Effective: Summer 2007
Prerequisite: CHEM 210

CH E 438 **Bioprocess Engineering** (3) Introduction to the biotechnology field including consideration of upstream and downstream processing of biochemicals.
Effective: Summer 2007
Prerequisite: CHEM 212

CH E 441 **Polymer Processing** (3) Application of principles of heat, mass, and momentum transfer to the analysis of polymer processing problems.
Effective: Spring 2006
Prerequisite: CH E 330, CH E 350 orMATSE 443

CH E 442 (MATSE 448) **Polymer Processing Technology** (3) Basic principles of polymer melt processing are reviewed and subsequently applied to the most important industrial processing operations.
Effective: Fall 2006
Prerequisite: MATSE 447 orCH E 330

CH E 446 **Transport Phenomena** (3) Fundamental treatment of mass, heat, and momentum transfer; emphasis on transport properties and mathematical models of chemical engineering transport processes.
Effective: Spring 2006
Prerequisite: CH E 330, CH E 350, CH E 360 ; prerequisite or concurrent:CH E 410

CH E 446H **Transport Phenomena** (3) Fundamental treatment of mass, heat, and momentum transfer; emphasis on transport properties and mathematical models of chemical engineering transport processes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CH E 330, CH E 350, CH E 360 ; prerequisite or concurrent:CH E 410

CH E 448 **Advanced Mass Transfer Operations** (3) Diffusion and mass transfer as applied to stagewise and continuous contact operations, including equipment design.
Effective: Spring 2006
Prerequisite: CH E 410

CH E 449 **Bioseparations** (3) Analysis and design of separation processes for the purification of biological molecules.
Effective: Spring 2006
Prerequisite: CH E 410

CH E 450 **Process Dynamics and Control** (3) Analysis of time-dependent variables in chemical process plants; reactor design and control; computer applications.
Effective: Spring 2006
Prerequisite: Prerequisite or concurrent:CH E 410, CH E 430

CH E 452 **Chemical Process Safety** (3) This course provides an overview of Process Safety in the Chemical Industry, focusing on the nature of chemical plant addidents.
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:CH E 410, CH E 430

CH E 453 **Advanced Chemical Engineering Thermodynamics** (3) Physical and chemical equilibria in multicomponent systems, including chemically reacting and heterogeneous systems.
Effective: Spring 2006
Prerequisite: CH E 320

CH E 455 **Advanced Chemical Reactor Design** (3) Application of kinetics to reactor design: nonideal and nonisothermal reactors; scale-up techniques; adsorption and heterogeneous catalysis.
Effective: Spring 2006
Prerequisite: CH E 430

CH E 465 **Design Projects in Chemical Engineering** (1-6) Problems in design and/or synthesis of chemical engineering processes and/or systems, including a final report on project results.
Effective: Spring 2006
Prerequisite: CH E 410, CH E 430

CH E 470 **Design of Chemical Plants** (3) Lectures and practicum on methods and calculations, including economic evaluations for the design of chemical plants; formal technical report required.
Effective: Spring 2006
Prerequisite: CH E 410, CH E 430

CH E 480M **Chemical Engineering Laboratory (Honors)** (3) Data interpretation and analysis from student-operated experiments on pilot-plant equipment. Individual written and oral technical reports.
Effective: Spring 2008
Prerequisite: ENGL 202C ; prerequisite or concurrent:CH E 410, CH E 430

CH E 480W **Chemical Engineering Laboratory** (3) Data interpretation and correlation from student-operated experiments on pilot-plant equipment. Individual written and oral technical reports.
Effective: Spring 2006
Prerequisite: ENGL 202C ; prerequisite or concurrent:CH E 410, CH E 430

CH E 494 **Research Projects in Chemical Engineering** (1-6) An original problem, including a search of the literature, experimental investigation, and preparation in formal thesis form.
Effective: Fall 2007
Prerequisite: Permission of program

CH E 494H **Research Projects in Chemical Engineering (Honors)** (1-6) An original problem, including a search of the literature, experimental investigation, and preparation in formal thesis form.
Effective: Spring 2008
Prerequisite: Permission of program

CH E 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1996

CH E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

CH E 497A **Polymers and Complex Fluids** (3) Introduction to the field of complex fluids, or "fluids with stuff in them" polymer melts and solutions (rubber cement, mucus, molten plastics, Silly Putty, DNA), self-assembled fluids (soap suspensions, foams, micromulsions, cell membranes, and colloidal suspensions (milk, paint, ink, blood).
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 466

CH E 497A **Chemical Energy Technology** (3) A survey of current and alternative chemical energy sources and conversion approaches.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CH E 210 andCH E 220

CH E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

Last Import from UCM: May 29, 2010 3:00 AM

Chemistry (CHEM)

CHEM 001 (GN) **Molecular Science** (3) Selected concepts and topics designed to give non-science majors an appreciation for how chemistry impacts everyday life. Students who have received credit for CHEM 003, 101, or 110 may not schedule this course.
Effective: Summer 2007

CHEM 003 (GN) **Molecular Science With Laboratory** (3) Selected concepts and topics designed to give non-science majors an appreciation for how chemistry impacts everyday life. Students who have received credit for CHEM 001, 101, or 110 may not schedule this course.
Effective: Summer 2007

CHEM 020 **Environmental Chemistry** (3) Applications of chemistry to environmental problems, including air, water, thermal pollution; pesticides; drugs and birth control agents; food additives; etc. For non-chemistry majors; chemistry majors will not receive credit.
Effective: Summer 2007

CHEM 021 **Environmental Chemistry Laboratory** (1) Introduction of basic laboratory techniques and data analysis used in environmental chemistry.
Effective: Summer 2007
Concurrent: CHEM 020

CHEM 101 (GN) **Introductory Chemistry** (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110.
Students may take only one course for General Education credit from CHEM 101 GN or CHEM 110 GN. Effective: Fall 2009
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

CHEM 101S (GN) **Introductory Chemistry** (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

CHEM 106 (GN) **Introductory and General Chemistry** (5) Introductory chemistry and chemical principles for students who are required to take additional chemistry, e.g., CHEM 112, but are unprepared for CHEM 110.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Summer 2007
Prerequisite: satisfactory performance on the Math FTCAP test--i.e. placement beyond the level of MATH 022; orMATH 022 orMATH 041

CHEM 108 **Problem Solving in Chemistry** (1) Techniques, strategies, and skills for solving problems in general chemistry for students potentially at risk in CHEM 110.
Effective: Summer 2007
Prerequisite: recommendation by FTCAP an advisor or the program Concurrent: CHEM 110

CHEM 110 (GN) **Chemical Principles I** (3) Basic concepts and quantitative relations. Students may take only one course for General Education credit from CHEM 110 or CHEM 101.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Students may take only one course for General Education credit from CHEM 101 GN or CHEM 110 GN. Effective: Fall 2009
Prerequisite: satisfactory performance on the Chemistry and Math FTCAP tests-- i.e. placement beyond the level of CHEM 101 and MATH 022; orCHEM 101 andMATH 022 orMATH 041

CHEM 110H (GN) **Chemical Principles I** (3) Basic concepts and quantitative relations. Students may take only one course for General Education credit from CHEM 110 or CHEM 101.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: satisfactory performance on the Chemistry and Math FTCAP tests-- i.e. placement beyond the level of CHEM 101 and MATH 022; orCHEM 101 andMATH 022 orMATH 041

CHEM 111 (GN) **Experimental Chemistry I** (1) Introduction to quantitative experimentation in chemistry.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Summer 2007
Prerequisite: or concurrent:CHEM 110 orCHEM 106

CHEM 111S (GN) **Experimental Chemistry I** (1) Introduction to quantitative experimentation in chemistry.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:CHEM 110 orCHEM 106

CHEM 112 (GN) **Chemical Principles II** (3) Continuation of CHEM 110, including an introduction to the chemistry of the elements.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Spring 2009
Prerequisite: CHEM 110 orCHEM 106

CHEM 112H (GN) **Chemical Principles II** (3) Continuation of CHEM 110, including an introduction to the chemistry of the elements.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 110 orCHEM 106

CHEM 113 (GN) **Experimental Chemistry II** (1) Continuation of CHEM 111, with emphasis on topics related to CHEM 112.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Summer 2007
Prerequisite: CHEM 111 . Prerequisite or concurrent:CHEM 112

CHEM 113B (GN) **Experimental Chemistry II--Bioscience** (1) A continuation of CHEM 111 with emphasis on topics related to CHEM 112 in the context of bioscience.
GN To receive Natural Sciences General Education (GN) credit for certain chemistry courses requires both lecture and laboratory courses be taken. These courses are: (CHEM 106 or CHEM 110 or CHEM 110H) and CHEM 111; (CHEM 112 or CHEM 112H) and (CHEM 113 or CHEM 113B). Effective: Summer 2007
Prerequisite: CHEM 111 . Prerequisite or Concurrent:CHEM 112

CHEM 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CHEM 202 **Fundamentals of Organic Chemistry I** (3) Introduction to organic chemistry, with emphasis on the properties of organic compounds of biochemical importance. Because of duplication of subject matter, students may not receive credit for both CHEM 202 and CHEM 210.
Effective: Summer 2007
Prerequisite: CHEM 101 orCHEM 110 orCHEM 106

CHEM 203 **Fundamentals of Organic Chemistry II** (3) Introduction to organic chemistry, with emphasis on the identification of organic compounds by characteristic chemical reactions and by spectroscopy. The course involves both lecture and laboratory. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.
Effective: Summer 2007
Prerequisite: CHEM 202

CHEM 210 **Organic Chemistry I** (3) Principles and theories; nomenclature; chemistry of the functional groups; applications of spectroscopy. Because of duplication of material, students may not receive credit for both CHEM 210 and 202.
Effective: Summer 2007
Prerequisite: CHEM 112

CHEM 210H **Organic Chemistry I** (4) Principles and theories; nomenclature; chemistry of the functional groups; applications of spectroscopy. Because of duplication of material, students may not receive credit for both CHEM 210 and 202.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 112

CHEM 212 **Organic Chemistry II** (3) Continuation of CHEM 210. Emphasis is placed on the role of organic reactions in biological chemistry.
Effective: Summer 2007
Prerequisite: CHEM 210

CHEM 212H **Organic Chemistry II** (3) Continuation of CHEM 210. Emphasis is placed on the role of organic reactions in biological chemistry.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 210

CHEM 213 **Laboratory in Organic Chemistry** (2) Basic laboratory operations; synthesis and chemical or instrumental analysis. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.
Effective: Summer 2007
Prerequisite: CHEM 210 . Prerequisite or concurrent:CHEM 212

CHEM 213B **Laboratory in Organic Chemistry--Bioscience** (2) Basic laboratory operations; synthesis and chemical or instrumental analysis of materials of biological significance. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.
Effective: Summer 2007
Prerequisite: CHEM 210 . Prerequisite or concurrent:CHEM 212

CHEM 213H **Laboratory in Organic Chemistry** (2) Basic laboratory operations; synthesis and chemical or instrumental analysis. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.

Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 210 . Prerequisite or concurrent:CHEM 212

CHEM 221 **Quantitative Analysis** (4) Traditional methods of gravimetric, volumetric, and electrochemical analysis, emphasizing acid-base, solubility, and oxidation-reduction equilibria.
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 113

CHEM 227 **Analytical Chemistry** (4) Analytical methods used in the biological and physical sciences with special e emphasis on acid-base and complexation equilibria, electrochemistry, and the fundamental principles of spectroscopy and separations.
Effective: Summer 2007
Prerequisite: CHEM 113 andMATH 140

CHEM 233 (GH;GN) (ENGL 233) **Chemistry and Literature** (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature throughout history, and the relationship of science to society, culture, and values.
Effective: Summer 2007

CHEM 294 **Special Problems and Research** (1-4 per semester, maximum of 12) Designed for freshman or sophomore students who are prepared to undertake special problems and research by arrangement with a faculty member.
Effective: Summer 2007

CHEM 294H **Special Problems and Research - Honors** (1-4 per semester, maximum of 12) Designed for freshman or sophomore students who are prepared to undertake special problems and research by arrangement with a faculty member.
Effective: Summer 2008
Prerequisite: permission of instructor

CHEM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1991

CHEM 301 **Environmental Chemistry and Analysis** (3) Chemical principles, interpretation, and methods of analysis for groundwater, water supply, wastewater treatment, stream pollution.
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 113

CHEM 310 **Introductory Inorganic Chemistry** (3) Conceptual and descriptive aspects of inorganic chemistry, focusing on structures, bonding, and properties.
Effective: Spring 2010
Prerequisite: CHEM 112

CHEM 316 **The Professional Chemist** (1) Industrial employment opportunities and challenges; graduate and professional school opportunities; tailoring the chemistry curriculum to career goals.
Effective: Summer 2007
Prerequisite: fourth-semester standing in chemistry

CHEM 395 **Chemistry Teacher Assistant Training** (1-2) Instruction and practice in the role of the teaching assistant in the undergraduate chemistry laboratory.
Effective: Fall 1981

CHEM 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CHEM 400 **Chemical Literature** (1) Instruction in use of the library and of the literature of chemistry.
Effective: Summer 2007
Prerequisite: 12 credits of chemistry

CHEM 402 **Chemistry in the Environment** (3) Chemistry of the atmosphere, natural waters, and the land surface with particular focus on human influence on processes occurring therein.
Effective: Summer 2007
Prerequisite: CHEM 212 . Prerequisite or concurrent:CHEM 450 orCH E 320

CHEM 406 (NUC E 405) **Nuclear and Radiochemistry** (3) Theory of radioactive decay processes, nuclear properties and structure, nuclear reactions, interactions of radiation with matter, biological effects of radiation.
Effective: Summer 2007
Prerequisite: CHEM 452 orPHYS 237 orNUC E 301

CHEM 408 **Computational Chemistry** (3) Introduction to numerical and nonnumerical computer uses in physical science.
Effective: Summer 2007
Prerequisite: Prerequisite or concurrent:CHEM 452

CHEM 410 **Inorganic Chemistry** (3) Conceptual and descriptive aspects of nontransition elements, covering structural, thermodynamic, and kinetic features.
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 202 orCHEM 210 . Prerequisite or concurrent:CHEM 450 orCHEM 452

CHEM 412 **Transition Metal Chemistry** (3) Structure and bonding of compounds containing transition metals.
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 202 orCHEM 210 . Prerequisite or concurrent:CHEM 450 orCHEM 452

CHEM 413W **Chemistry of the Elements** (4) Theoretical and descriptive chemistry of the elements; laboratory synthesis and measurements in inorganic, coordination, and transition metal chemistry.
Effective: Summer 2007
Prerequisite: CHEM 213

CHEM 423 **Chemical Spectroscopy** (3) Modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis.
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: CHEM 452, CHEM 457

CHEM 423W **Chemical Spectroscopy** (4) Modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 452, CHEM 457

CHEM 425 **Chromatography and Electrochemistry** (3) Gas, liquid, and other forms of chromatography; important techniques of electrochemistry.
Effective: Summer 2007
Prerequisite: CHEM 450 andCHEM 457

CHEM 427W (FRNSC 427W) **Forensic Chemistry** (4) Analytical and instrumental methods used in the forensic sciences with special emphasis on the analysis and characterization of trace evidence.
Effective: Spring 2008
Prerequisite: CHEM 213 andCHEM 227

CHEM 430 **Structural Analysis of Organic Compounds** (3) Spectroscopic methods as tools in gross and detailed structural analysis and interpretation within the framework of modern theory.
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: CHEM 213

CHEM 430 **Structural Analysis of Organic Compounds** (3) Spectroscopic methods as tools in gross and detailed structural analysis and interpretation within the framework of modern theory.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 210 andCHEM 213 Concurrent: CHEM 213

CHEM 431W **Organic and Inorganic Preparations** (3) Preparation, purification, and characterization of both organic and inorganic compounds by modern methods.
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: CHEM 213

CHEM 431W **Organic and Inorganic Preparations** (4) Preparation, purification, and characterization of both organic and inorganic compounds by modern methods.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 213

CHEM 440 **Instrumental Analysis** (3) General instrumental theory and methods used in common atomic and molecular analyses.
Effective: Summer 2007
Prerequisite: CHEM 450 andCHEM 221

CHEM 441 **Elemental Analysis and Instrumental Design Laboratory** (1) An introduction to the use of modern instruments for problems in chemical structure and analysis.
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 440

CHEM 443 **Electrochemistry and Chromatography Laboratory** (1) An introduction to the use of modern instruments for problems in chemical structure and analysis.
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 440

CHEM 445 **Atomic and Molecular Spectroscopy Laboratory** (1) An introduction to the use of modern instruments for problems in chemical structure and analysis.
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 440

CHEM 446 **X-Ray Crystallography** (3) Theoretical and practical aspects of structure determination using x-ray diffraction, from crystal growth to structure solution.
Effective: Summer 2007
Prerequisite: CHEM 210

CHEM 448 **Surface Chemistry** (3) Surface chemistry, emphasizing the physical and chemical aspects of surfaces important for applications in colloids, catalysis, microelectronics and biocompatibility.
Effective: Summer 2007
Prerequisite: CHEM 450 andCHEM 452

CHEM 450 **Physical Chemistry - Thermodynamics** (3) Introduction to physical chemistry with primary emphasis on

chemical thermodynamics and its molecular interpretation.(Graduate credit not allowed for students majoring in Biochemistry and Molecular Biology, Chemistry, or Chemical Engineering.)
Effective: Summer 2007
Prerequisite: CHEM 112 andMATH 141, PHYS 211 orPHYS 212

CHEM 452 **Physical Chemistry - Quantum Chemistry** (3) Introduction to physical chemistry with primary emphasis on molecular structure, spectroscopy, and chemical kinetics. (Graduate credit not allowed for students majoring in Biochemistry and Molecular Biology, Chemistry, or Chemical Engineering.)
Graduate credit not allowed for student majoring in BioChemistry, Chemistry, or Chemical Engineering. Effective: Summer 2007
Prerequisite: CHEM 112 andMATH 141 andPHYS 211 orPHYS 212

CHEM 457 **Experimental Physical Chemistry** (2) Laboratory experiments designed to illustrate the principles of physical chemistry and teach techniques of error analysis and the presentation of quantitative data. (Graduate credit not allowed for students majoring in Biochemistry and Molecular Biology, Chemistry, or Chemical Engineering.)
Graduate credit not allowed for student majoring in BioChemistry, Chemistry, or Chemical Engineering. Effective: Summer 2007
Prerequisite: or concurrent:CHEM 450 orCH E 320

CHEM 459W **Advanced Experimental Physical Chemistry** (4) Laboratory experiments and projects for students interested in advanced study in physical chemistry.
Effective: Summer 2010
Prerequisite: CHEM 450, CHEM 457 Prerequisite or concurrent:CHEM 452

CHEM 460 **Advanced Thermodynamics** (3) Chemical thermodynamics, with applications to pure phases, solutions, and chemical reactions.
Effective: Spring 2009
Prerequisite: CH E 220 orCHEM 450

CHEM 462 **Advanced Quantum Chemistry** (3) Introduction to quantum chemistry, with emphasis on atomic and molecular structure.
Effective: Summer 2007
Prerequisite: CHEM 452

CHEM 464 **Chemical Kinetics and Dynamics** (3) Introduction to chemical kinetics and molecular dynamics.
Effective: Spring 2009
Prerequisite: CHEM 450 orCH E 220 andCHEM 452

CHEM 466 **Molecular Thermodynamics** (3) Introduction to physical chemistry with a primary emphasis on the statistical and molecular interpretation of thermodynamics.
Effective: Summer 2007
Prerequisite: CHEM 450 orCH E 220

CHEM 472 **General Biochemistry I** (3) Basic structure and function of cellular components; principles of enzyme kinetics and regulation.
Effective: Summer 2007
Prerequisite: CHEM 212

CHEM 474 **Organic Synthesis** (3) Theory and methodology of organic synthesis applied to complex organic molecules.
Effective: Spring 2007
Prerequisite: CHEM 039

CHEM 476 **Biological Chemistry** (3) Fundamentals of Biochemistry for Chemists. Students cannot receive credit for both CHEM 476 and B M B 401 or B M B 402.
Effective: Fall 2009
Prerequisite: CHEM 212 andCHEM 450 Concurrent: CHEM 452

CHEM 494 **Chemical Research** (1-10 per semester/maximum of 20) Experimental investigation of an original research problem. Preparation of a formal thesis is optional. (Credit not allowed for graduate students in Biochemistry, Chemistry or Chemical Engineering.)
Effective: Summer 2007

CHEM 494H **Chemical Research** (1-10 per semester/maximum of 20) Experimental investigation of an original research problem. Preparation of a formal thesis is optional. (Credit not allowed for graduate students in Biochemistry, Chemistry or Chemical Engineering.)
Effective: Fall 2007

CHEM 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2007
Prerequisite: prior approval of proposed assignment by instructor

CHEM 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1988

CHEM 496A **Synthesis of Polymerization Catalysts** (3) Undergraduate research into the synthesis of sulfur-containing organic molecules for the preparation of polymeric compounds with controlled molecular masses and chain architecture.

Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CHEM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1982

CHEM 497A **Organic Reaction Mechanisms** (3) This course focuses on the study and analysis of selected electron-pushing mechanisms of organic reactions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CHEM 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Chinese (CHNS)

CHNS 001 **Elementary Chinese I** (4) Introductory study of Chinese language, with audio-lingual practice of Mandarin Chinese and attention to structure and the writing system.
Effective: Spring 2010 Ending: Fall 2010

CHNS 001 **Level One Chinese A** (4) Introductory study of Chinese language, with audio-lingual practice of Mandarin Chinese and attention to structure and the writing system.
Effective: Spring 2011 Future: Spring 2011

CHNS 002 **Elementary Chinese II** (4) Continued audio-lingual practice of Mandarin Chinese, further study of structure, practice in reading and writing Chinese.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 001

CHNS 002 **Level One Chinese B** (4) Continued audio-lingual practice of Mandarin Chinese, further study of structure, practice in reading and writing Chinese.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 001

CHNS 003 **Intermediate Chinese** (4) Continued audio-lingual practice of Mandarin Chinese, more extensive practice in reading and writing; study of Chinese culture.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 002

CHNS 003 **Level Two Chinese A** (4) Continued audio-lingual practice of Mandarin Chinese, more extensive practice in reading and writing; study of Chinese culture.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 002

CHNS 051 **Elementary Intensive Chinese for Graduate Students I** (3) Intensive introduction to Mandarin Chinese: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: graduate standing

CHNS 052 **Elementary Intensive Chinese for Graduate Students II** (3) Intensive introduction to Mandarin Chinese: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: CHNS 051 and graduate standing

CHNS 053 **Intermediate Intensive Chinese for Graduate Students** (3) Continued intensive study of Mandarin Chinese at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: CHNS 052 or equivalent and graduate standing

CHNS 083S (IL) **Chinese First-year Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2010
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

CHNS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

CHNS 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 110 (IL) **Conversation, Reading, and Composition** (4) Readings in selected modern Chinese literature (short stories, plays, essays, poems) and other texts; practice in conversation and simple composition.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 003

CHNS 110 (IL) **Level Two Chinese B** (4) Readings in selected modern Chinese literature (short stories, plays, essays, poems) and other texts; practice in conversation and simple composition.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 003

CHNS 120 (GH;IL) **Introduction to Chinese Literature and Culture** (3) Chinese cultural productions, classical through contemporary; literature and film; changing cultural settings in multiple Chinese-speaking locations. Taught in English.
Effective: Spring 2010

CHNS 121 (GH;IL) **Chinese Film and New Media** (3) Survey of Chinese film and new media in the twentieth century and

beyond, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

CHNS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

CHNS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

CHNS 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

CHNS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2010

CHNS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

CHNS 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

CHNS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

CHNS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

CHNS 401 (IL) **Advanced Conversation** (4) Emphasis on oral proficiency through discussions of aspects of contemporary Chinese culture.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 110

CHNS 401 (IL) **Level Three Chinese A** (4) Emphasis on oral proficiency through discussions of aspects of contemporary Chinese culture.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 110

CHNS 402 (IL) **Advanced Reading** (4) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Chinese culture.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 401 OR EQUIVALENT

CHNS 402 (IL) **Level Three Chinese B** (4) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Chinese culture.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 401 OR EQUIVALENT

CHNS 403W **Practical Written Communication: Chinese for Professional and Academic Purposes** (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.
Effective: Spring 2010
Prerequisite: CHNS 401

CHNS 452 (IL) **Contemporary China: Culture and Trends** (3 per semester/maximum of 6) Survey of aspects of the contemporary Chinese-speaking world. Includes readings from Chinese newspapers, magazines, and fiction. Topics may vary each semester.
Effective: Spring 2010

Prerequisite: CHNS 401

CHNS 453 (IL) **Chinese Film** (3 per semester/maximum of 6) Selected films and directors representing various aspects of Chinese culture and cinema. Topics may vary each semester. Taught in Chinese.
Effective: Spring 2010
Prerequisite: CHNS 401

CHNS 454 (IL) **Introduction to Classical Chinese** (3 per semester/maximum of 6) Basic patterns and structures of Classical Chinese to the first millennium B.C. to the 19th century.
Effective: Spring 2010
Prerequisite: CHNS 401 or equivalent (such as study abroad credit)

CHNS 455 (IL) **Masterpieces of Traditional Chinese Literature** (3) Survey of traditional Chinese literature, including poetry, historical narratives, philosophical texts, and drama and novel.
Effective: Spring 2010
Prerequisite: CHNS 401 or equivalent

CHNS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

CHNS 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

CHNS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2010

CHNS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

CHNS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

CHNS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

Last Import from UCM: May 29, 2010 3:00 AM

Civ & Comnity Engage (CIVCM)

CIVCM 211 (GS;US;IL) (CAS 222, YFE 211) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Future: Fall 2010

CIVCM 211S (GS;US;IL) (YFE 211, CAS 222) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Civil Engineering (C E)

C E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

C E 100S **Topics and Contemporary Issues in Civil and Environmental Engineering: First-Year Seminar** (1) First-Year Seminar exploring a specific topic or contemporary issue in civil and environmental engineering.
Effective: Fall 1999

C E 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1994

C E 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

C E 209 **Fundamentals of Surveying** (2) Fundamental surveying measurements, traverse computations, coordinate geometry, mapping, CAD applications. Intended for architectural engineering students. (The lecture will be taught concurrently with C E 211.)
Effective: Summer 1996
Prerequisite: E G 130, MATH 141

C E 254 (GHA;US) **Personal & Occupational Safety** (3) Students will learn about principles of safety in work and personal settings.
Effective: Spring 2008

C E 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1992

C E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

C E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

C E 310 **Surveying** (3) Fundamental surveying measurements, traverse computations, coordinate geometry, mapping, GPS and GIS, circular and parabolic curves, earthwork, boundary surveys, CAD applications.
Effective: Fall 2001
Prerequisite: ED&G 100, MATH 141

C E 321 **Highway Engineering** (3) Highway engineering principles, vehicle and driver characteristics; geometric and pavement design; highway drainage; traffic engineering, capacity analysis, and signal timing.
Effective: Fall 2001
Prerequisite: C E 310

C E 332 **Professionalism, Economics & Construction Project Delivery** (3) Introduction to engineering management process; economic analysis; pricing; contract documents; estimating; ethics; professional practice and engineering economy.
Effective: Fall 2007

C E 333W **Construction Management I** (3) Components of a construction organization, managerial terminology and documents, labor laws and relations, insurance and safety.
Effective: Spring 2008

C E 335 **Engineering Mechanics of Soils** (3) Soil compositions, classification, subsurface exploration, ground water flow, stress analysis, compaction, soil behavior, bearing capacity, lateral earth pressure, slope stability.
Effective: Spring 2008
Prerequisite: E MCH 213;A E 221 orGEOSC 001

C E 336 **Materials Science for Civil Engineers** (3) Introduction to civil engineering materials; their structure and behavior: relationship between structure and behavior.
Effective: Spring 2008
Prerequisite: E MCH 213 Stat 401

C E 337 **Civil Engineering Materials Laboratory** (1) Laboratory investigating the physical and mechanical properties of civil engineering materials; soils, aggregates, concrete; steel; wood; and polymers.
Effective: Spring 2007
Prerequisite: C E 335 orC E 336 or concurrent

C E 340 **Structural Analysis** (3) Analysis of statically determinate and indeterminate trusses, beams, and frames; reactions, axial forces, shears, moments, deflections. Introduction to influence lines.
Effective: Spring 2008
Prerequisite: E MCH 213 . Prerequisite or concurrent:CMPSC 201 orCMPSC 202

C E 341 **Design of Concrete Structures** (3) Design of reinforced concrete beams, slabs, and columns, with emphasis on ultimate-strength methods; prestressed concrete; building and bridge applications.
Effective: Fall 2001
Prerequisite: C E 340 . Prerequisite or concurrent:C E 336

C E 342 **Design of Steel Structures** (3) Design of steel tension members, beams, columns, beam-columns, and connections; elastic and plastic methods; design applications.
Effective: Fall 2001
Prerequisite: C E 336, C E 340

C E 360 **Fluid Mechanics** (3) Mechanics of fluids; flow in conduits and around bodies, friction and energy loss, fluid measurements.
Effective: Spring 2008
Prerequisite: E MCH 212

C E 370 **Introduction to Environmental Engineering** (3) Nature and scope of environmental issues; air, water, land impacts; fundamentals and processes of pollution control.
Effective: Summer 2007
Prerequisite: CHEM 110;MATH 111 orMATH 141

C E 371 **Water and Wastewater Treatment** (3) Water treatment; water storage; design of water distribution and wastewater systems; pumping stations.
Effective: Spring 2002
Prerequisite: C E 360, C E 370

C E 396 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1993

C E 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2004

C E 397A **Geotechnical Engineering for A E Majors** (4) Soils, soils stresses, consolidation and settlement, strength and groundwater flow.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

C E 400 **Seminar** (1-3) No description.
Effective: Fall 1992

C E 410W **Sustainable Residential Subdivision Design** (3) Residential subdivision process; site selection; conservation and neo- traditional design; utility design and layout; best management practices for erosion and stormwater.
Effective: Fall 2001
Prerequisite: A E 372 orC E 332 ; seventh-semester standing in Architectural or Civil Engineering

C E 421W **Transportation Design** (3) Design of streets and highway facilities; emphasis on geometric elements, intersections and interchanges, roadway drainage, and pavement design.
Effective: Spring 2002
Prerequisite: C E 321

C E 422 **Transportation Planning** (3) Transportation systems planning, programming, and management; modeling and simulation, data collection, analysis, and forecasting.
Effective: Spring 2002
Prerequisite: 3 credits in probability or statistics

C E 423 **Traffic Operations** (3) The highway capacity manual, concepts and analyses, freeway operations, signalized and unsignalized intersections, signal coordination, traffic impact studies.
Effective: Spring 1997
Prerequisite: C E 321

C E 424 **Optimization in Civil Engineering Systems** (3) Mathematical modeling; linear programming; dynamic programming; network optimization, including network flows, shortest paths, scheduling; decision-making; civil engineering systems applications.

Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202

C E 432 **Construction Project Management** (3) Fundamentals of project management, construction scheduling using the CPM technique, construction project preplanning, and control of quality, safety, and costs.
Effective: Fall 2007
Prerequisite: C E 332

C E 435 **Foundation Engineering** (3) Bearing capacity, settlement, and structural design of shallow foundations; lateral earth pressure; retaining and sheet-pile walls; introduction to deep foundations
Effective: Fall 2001
Prerequisite: C E 335 . Prerequiste or concurrent:C E 341

C E 436 **Construction Engineering Materials** (3) Design, production, application, specification, and quality control of construction materials unique to civil engineering.
Effective: Fall 2001
Prerequisite: C E 336, STAT 401

C E 438W **Construction Engineering Capstone Design** (3) Construction project integrating geotechnical reports; materials specifications; quality control; equipment; estimation; scheduling; design details: excavations, foundations, retaining walls, formwork, pavements.
Effective: Fall 2007
Prerequisite: C E 432 andC E 435 orC E 436

C E 441 **Structural Design of Foundations** (3) Design of concentrically and eccentrically loaded square, rectangular, and combined footings; analysis and design of mat foundations; retaining walls; piles caps; flexible retaining design, and caissons.
Effective: Summer 2009
Prerequisite: C E 335, C E 341 Concurrent: C E 342

C E 445 **Advanced Structural Analysis** (3) Analysis of trusses and frame stiffness matrix method of analysis. Analysis of indeterminate beams, trusses, and frames using classical methods.
Effective: Spring 2008
Prerequisite: CET 430

C E 447 **Structural Analysis by Matrix Methods** (3) Analysis of truss and frame structures using flexibility and stiffness methods of matrix analysis. Computer applications.
Effective: Fall 1992
Prerequisite: C E 340

C E 448W **Advanced Structural Design** (3) Wind, snow, seismic, bridge loads; building design using steel, concrete, and prestressed concrete; advanced steel connections; capstone project; computer applications.
Effective: Spring 2002
Prerequisite: C E 341, C E 342, C E 435

C E 449 **Advanced Structural Design** (3) Special systems, frames and bracing in steel, wood and reinforced or precast concrete. Introduction to composite construction.
Effective: Spring 2008
Prerequisite: CET 430, CET 431, CET 432

C E 450 **Law and Technology** (3) Introduction to legal aspects of engineering and technology, including intellectual property (patents, copyrights) and products liability.
Effective: Spring 2008

C E 454 **Safety** (3) This course will focus on safety issues as they relate to OSHA.
Effective: Spring 2008
Prerequisite: permission of program

C E 456 **Planning and Scheduling** (3) Theory and practice used in planning and scheduling projects; defining task and resources, creating logic diagrams, and monitoring the projects.
Effective: Spring 2008
Prerequisite: C E 333W, CET 435, I E 303

C E 458 **Construction Management II** (3) Procedures in construction organization including procurement, ethics, field supervision, legal and managerial problems, personnel, cost accounting, and construction business practices.
Effective: Spring 2008
Prerequisite: C E 333W, C E 456

C E 461 **Water-resource Engineering** (3) Qualitative and quantitative description of the hydrologic cycle, flood and drought frequency analysis, climate and land use change impacts, risk analysis and uncertainty, water resource management at regional, national and global scale.
Effective: Spring 2010
Prerequisite: C E 360

C E 462 **Open Channel Hydraulics** (3) Free surface flow in rivers, canals, steep chutes, stilling basins, and transitions.
Effective: Spring 2002
Prerequisite: C E 360

C E 465W **Water Resources Capstone Course** (3) Hydraulic design of river structures and open channels including supercritical and spatially varied flow; hydrologic/hydraulic computer modeling; design project.

Effective: Fall 2007
Prerequisite: C E 361 . Prerequisite or concurrent:C E 462

C E 471 **Environmental Sanitation** (3) Public health engineering applications related to communicable diseases, water supply, wastewater disposal, solid wastes, air pollution, food, vectors, and radiation.
Effective: Fall 1992
Prerequisite: seventh-semester standing 3 credits in biology 3 credits in chemistry

C E 472W **Environmental Engineering Capstone Design** (3) Principles and design of unit operations for water; domestic and industrial wastewater treatment; equipment selection and application.
Effective: Spring 2002
Prerequisite: C E 370, C E 371

C E 473 **Water Quality Management** (3) Water quality criteria and standards; fate and impact of pollutants in aquatic systems; technology available for wastewater renovation.
Effective: Fall 1992
Prerequisite: seventh-semester standing

C E 475 **Water Quality Chemistry** (3) Chemistry applicable to the understanding and analysis of water quality, pollution, and treatment.
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: C E 370, CHEM 110, CHEM 111

C E 475 **Water Quality Chemistry** (4) Chemistry applicable to the understanding and analysis of water quality, pollution, and treatment.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: C E 370, CHEM 110, CHEM 111

C E 476 **Solid and Hazardous Wastes** (3) Characteristics and treatment of solid wastes and hazardous wastes.
Effective: Spring 2002
Prerequisite: C E 370, C E 371

C E 479 **Environmental Microbiology Laboratory** (1) Introductory microbiology course; application of diagnostic microbiological techniques to the characterization of wastewater enrichment cultures and pure cultures.
Effective: Fall 1992 Ending: Fall 2010
Prerequisite: MICRB 400 seventh-semester standing

C E 479 **Environmental Microbiology for Engineers** (3) Intro microbiology for engineers; microbe structure, function, and diversity; environmental ecosystems; diagnostic labs.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 111, C E 370

C E 488C **Capstone Project - Construction** (4) This course consists of a project either selected by the students with approval or assigned by the instructor.
Effective: Spring 2008
Prerequisite: eighth-semester Structural Design and Construction Engineering Technology student. Previous or concurrent:CET 430, CET 431, CET 432, CET 435, C E 456

C E 488D **Capstone Project - Structural Design** (4) This course consists of a structural design project either selected by the students with approval or assigned by the instructor.
Effective: Spring 2008
Prerequisite: eighth-semester Structural Design and Construction Engineering Technology student. Previous or concurrent:CET 430, CET 431, CET 432 andCET 435

C E 494 **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Fall 1992

C E 494H **Honors Senior Thesis** (1-6) Investigation of an original project in the area of Civil Engineering.
Effective: Summer 2006

C E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1992

C E 496A **Housing Competition Project** (1) Student teams will work on a project for the NAHB Housing Competition. Travel involved. Contact Instructor.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

C E 497A **Enviornmental Microbiology** (2) Introductory microbiology course for engineers comprised of the fundamentals of microbiology, and application of these fundamental principles to environmental systems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C E 497C **Analysis of Transportation Policy: The Larson Lectures** (3) Analysis of different areas of transportation policy, including: current transportation challenges, strategic planning and performance measurement; financing; energy and climate issues; changing patterns of travel demand; public transportation and passenger rail; freight transportation, intelligent transportation systems, and safety.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Civil Engr Tech (CET)

CET 242 **Civil Engineering Materials - Concrete and Bituminous** (2) Properties and tests for aggregates, portland cement, fresh and hardened concrete, concrete mix designs. Bituminous Materials: properties, mixtures and tests.
Effective: Spring 2008
Prerequisite: MATH 022, MATH 026

CET 308 **Construction Methods and Materials** (3) The study of the methods and materials used in the construction industry.
Effective: Spring 2008
Prerequisite: MATH 022, MATH 026, ED&G 100 orEG T 101 andEG T 102

CET 343 **Soils & Fluid Mechanics** (3) Fundamentals of fluid mechanics; Hydrostatics, pipe & open channel flow. Soil mechanics; properties, classification, compaction, stresses, shearing and lateral pressures.
Effective: Spring 2008
Prerequisite: MATH 140 Statics Concurrent: Strength of Materials

CET 361 **Fluid Flow** (3) Fluid flow theory; hydrostatics; dimensional analysis and similitude; pipe flow; flow measurement; open channels; flow forces; fluid machinery.
Effective: Spring 2008
Prerequisite: MATH 140 Statics Dynamics

CET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CET 430 **Structural Analysis** (3) Analysis of determinate structures; use of influence lines; deflection of structures; classical methods of analysis of statically indeterminate structures.
Effective: Spring 2008
Prerequisite: Statics Strength of MaterialsMATH 140

CET 431 **Structural Design-Steel** (3) Design of steel beams, columns, truss members, decks, bar joists and selected connections.
Effective: Spring 2008
Prerequisite: Statics Strength of MaterialsMATH 140 Concurrent: CET 430

CET 432 **Structural Design-Reinforced Concrete** (3) Design of reinforced concrete beams, columns, slabs, and selected framing systems for bending and shear. Introduction to formwork design.
Effective: Spring 2008
Prerequisite: Statics Strength of MaterialsMATH 140 Concurrent: CET 430

CET 434 **Foundations** (3) Analysis and design of footings, piling, retaining walls; consideration of contruction problems involving soils and foundations of structures.
Effective: Spring 2008
Prerequisite: CET 343, CET 430, CET 432

CET 435 **Construction Estimating** (3) Methods and techniques used in estimating construction cost; practice in takeoffs, costing and final bid preparation; microcomputer applications/class projects.
Effective: Spring 2008
Prerequisite: ED&G 100, ET 200, C E 333W

CET 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

CET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 001 (GH) **Greek and Roman Literature** (3) Selected readings within a chronological and thematic context of significant and influential masterworks of Greece and Rome.
Effective: Spring 2004

CAMS 002 (GH;IL) **Literature of the Ancient Near East** (3) Reading and study of literary works from the Ancient Near East, especially from Mesopotamia and Ancient Egypt.
Effective: Summer 2005

CAMS 004 (GH;US;IL) (RL ST 004, J ST 004) **Jewish and Christian Foundations** (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.
Effective: Summer 2005

CAMS 005 (GH;IL) (HIST 005) **Ancient Mediterranean Civilizations** (3) Survey of the history and cultures of ancient Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.
Effective: Spring 2008

CAMS 010 (GH;IL) **Mesopotamian Civilization** (3) Cultural, technological, literary, political, and economic achievements of peoples who occupied the region of Mesopotamia (4,000-331 B.C.E.), in historical context.
Effective: Spring 2006

CAMS 012 (GH;IL) (J ST 012, RL ST 012) **Lands of the Bible** (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

CAMS 012U (GH;IL) (J ST 012U, RL ST 012U) **Lands of the Bible** (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAMS 015 (GH) **Wonders of the Ancient World** (3) Overview of ancient world by focusing on the famed "Seven Wonders" and similar achievements from 3000 B.C.E.-1st Century C.E.
Effective: Spring 2003

CAMS 020 (GH) **Egyptian Civilization** (3) The culture, history, literature, and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.
Effective: Fall 2005

CAMS 025 (GH;IL) **Greek Civilization** (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.
Effective: Summer 2005

CAMS 025U (GH;IL) **Greek Civilization** (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAMS 033 (GH;IL) **Roman Civilization** (3) Origin of the Romans; sociopolitical development; food, homes, education, marriage, family life, amusements, private and public worship.
Effective: Summer 2005

CAMS 034 **Latin Literature in English Translation** (3) Readings in the major Latin authors (Plautus, Terence, Lucretius, Catullus, Horace, Vergil, Livy, Tacitus, Petronius); their influence on later literature.
Effective: Spring 1998

CAMS 044 (GH;IL) (RL ST 044) **Ancient Near Eastern and Egyptian Mythology** (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Summer 2005

CAMS 044U (GH;IL) **Ancient Near Eastern and Egyptian Mythology** (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAMS 045 (GH;IL) **Classical Mythology** (3) Introduction to Greek and Roman divinities, heroes and heroines; survey of the major myths and their influence on Western culture.
Effective: Summer 2005

CAMS 050 (GH) **Words: Classical Sources of English Vocabulary** (3) An introduction to English word forms stressing the most frequently occurring Latin and Greek elements and their derivatives.
Effective: Fall 2004

CAMS 070 (GH;IL) (J ST 070, RL ST 070) **Prophecy: The Near East Then and Now** (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

CAMS 083S (GH;IL) **First-Year Seminar in Classics and Ancient Mediterranean Studies** (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Summer 2005

CAMS 083T (GH;IL) **First-Year Seminar in Classics and Ancient Mediterranean Studies** (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAMS 090 (GH;IL) (J ST 090, RL ST 090) **Archaeology of Jerusalem: Past and Present** (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

CAMS 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 100 (GH;IL) (HIST 100) **Ancient Greece** (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Spring 2006

CAMS 101 (GH;IL) (HIST 101) **The Roman Republic and Empire** (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

CAMS 102 (GH;IL) (HIST 102, J ST 102, RL ST 102) **Canaan and Israel in Antiquity** (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

CAMS 104 (GH) (HIST 104) **Ancient Egypt** (3) The history and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.
Effective: Summer 2002

CAMS 105 (GH;IL) **History of the Ancient Near East** (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.
Effective: Summer 2005

CAMS 105U (GH;IL) **History of the Ancient Near East** (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAMS 109Y (GH;IL) **Writing Systems of the World** (3) Writing intensive overview of the world's writing systems throughout history.
Effective: Spring 2007

CAMS 110 (GH;US;IL) (J ST 110, RL ST 110) **Hebrew Bible: Old Testament** (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

CAMS 111 (GH;IL) (J ST 111, RL ST 111) **Early Judaism** (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

CAMS 120 (GH) (J ST 120, RL ST 120) **New Testament** (3) Introduction to the history, literature, and religion of early

Christianity in the Jewish-Hellenistic setting.
Effective: Spring 2004

CAMS 124 (GH;US;IL) (J ST 124, RL ST 124) **Early and Medieval Christianity** (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

CAMS 133 (GH) (J ST 133, RL ST 133) **Archaeology of the Levant and Ancient Israel** (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.
Effective: Spring 2004

CAMS 134 (GH;IL) (J ST 134, RL ST 134) **Archaeology of Biblical Israel** (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

CAMS 140 (GH;IL) **Classical Archaeology--Ancient Greece** (3) Literary sources and material evidence for society; culture of the inhabitants of Greece in ancient times.
Effective: Summer 2005

CAMS 150 (GH;IL) **Classical Archaeology--Ancient Rome** (3) Literary sources for the development of Roman civilization in relation to the relevant archaeological discoveries.
Effective: Summer 2005

CAMS 151 (HEBR 151, J ST 151) **Introductory Biblical Hebrew** (3) Fundamentals of Biblical Hebrew grammar, syntax, and vocabulary.
Effective: Summer 2005

CAMS 152 (HEBR 152, J ST 152) **Intermediate Biblical Hebrew** (3) Intermediate study of Biblical Hebrew grammar, syntax, and vocabulary.
Effective: Summer 2005
Prerequisite: CAMS 151

CAMS 180 (GH;IL) (HIST 180) **Ancient Warfare** (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.
Effective: Summer 2006

CAMS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

CAMS 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2005

CAMS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 200 (GH) (PHIL 200) **Ancient Philosophy** (3) Examines the thought and influence of major Western thinkers from the pre-Socratics to the neo-Platonists, emphasizing Plato and Aristotle.
Effective: Fall 2003

CAMS 250U (GH;IL) **Honors Classics in Literature and Film** (3) This honors course explores the Classical Tradition as it thrives in the literature of later epochs and film.
Effective: Summer 2010

CAMS 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1997

CAMS 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2001
Prerequisite: prior approval of proposed assignment by instructor

CAMS 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1997

CAMS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1996

CAMS 297H (J ST 297H) **Genesis 1-3** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAMS 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2005

CAMS 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

CAMS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2005

CAMS 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2005

CAMS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 400W **Comparative Study of the Ancient Mediterranean World** (3) Comparative study of ancient Mediterranean civilizations.
Effective: Spring 2001
Prerequisite: 3 credits in Classics and Ancient Mediterranean Studies

CAMS 405 (IL) **Law & Economy in the Ancient Near East** (3) This course is an overview of the legal and economic texts and institutions in the Ancient Near East.
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses.

CAMS 410 **Classical Epic** (3) Homer, Hellenistic Epic, and Vergil; influences on later epic.
Effective: Spring 1998

CAMS 411W **Classical Drama** (3) Masterpieces of Greek tragedy (Aeschylus, Sophocles, Euripides) and comedy (Aristophanes, Menander); their influence on Roman writers.
Effective: Spring 2001

CAMS 420 **Introductory Targumic Aramaic** (3) Fundamentals of Aramaic grammar, syntax, and vocabulary.
Effective: Spring 2007

CAMS 421 **Introductory Syriac** (3) Fundamentals of Syriac grammar, syntax, and vocabulary.
Effective: Spring 2007

CAMS 440W **Studies in Classical and Ancient Mediterranean Archaeology** (3-6) Selected topics in the literary sources and material evidence for classical and ancient Mediterranean society.
Effective: Summer 2000
Prerequisite: 3 credits from:ANTH 002, ART H 311, CAMS 010, CAMS 020, CAMS 025, CAMS 033, CAMS 140, CAMS 150, HIST 100, HIST 101

CAMS 442 (IL) (KINES 442) **Sport in Ancient Greece and Rome** (3) An examination of the continuity of sport in Greek and Roman societies.
Effective: Spring 2008
Prerequisite: CAMS 025, CAMS 033, CAMS 140, CAMS 150, CAMS 100, CAMS 101 orKINES 141

CAMS 470 (IL) **Languages and Cultures of the Ancient Near East** (3) This course is an overview of the languages and cultures that populated the Ancient Near East.
Effective: Spring 2009

Prerequisite: 6 credits in any undergraduate CAMS courses.

CAMS 471 **Sumerian** (3) Introduction to the Sumerian language and the cuneiform writing system.
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS course.

CAMS 472 **Akkadian** (3) Introduction to the Akkadian language (Babylonian & Assyrian) and the cuneiform writing system.
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses

CAMS 480 (J ST 480) **Greeks and Persians** (3) Development and achievements of the Achaemenid kingdom; relationships between Persians and Greeks.
Effective: Spring 2001
Prerequisite: CAMS 010, CAMS 025 orCAMS 100

CAMS 490 **Ancient Mediterranean Languages** (3-6) Variable topic study of an ancient language of the Mediterranean basin and related areas, other than Greek, Latin, or Hebrew.
Effective: Spring 2001
Prerequisite: GREEK 003 orLATIN 003

CAMS 492 **Intermediate Field Methods** (3-6) On-site experience in archaeological fieldwork in the ancient Mediterranean region.
Effective: Spring 2000
Prerequisite: approval by field school director

CAMS 493 **Intermediate Field Analysis** (3-6) On-site experience in archaeological analysis in the ancient Mediterranean region.
Effective: Spring 2000
Prerequisite: approval by field school director

CAMS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1997

CAMS 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2001

CAMS 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1999

CAMS 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 1996

CAMS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

CAMS 497A (ARAB 497A) **Introduction to Classical Arabic** (3) Introduction to the grammar of classical Arabic.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAMS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAMS 499A (IL) (ANTH 499A) **Landscape Archaeology** (3) This course introduces students to the basics of archaeological surveys.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499B (IL) **GIS for Archaeologists** (3) This course gives students a hands-on introduction to the use of GIS programs in archaeological research.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499C (IL) (J ST 499C, HIST 499C) **Archaeological Field School** (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499D (IL) (J ST 499D, HIST 499D, ANTH 499D) **Conservation and Public Archaeology** (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010

CAMS 499E (IL) (HIST 499E, RL ST 499E) **Petra, the Spice Route, and the Decapolis Cities in Roman Palestine** (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

College Student Affs (CSA)

CSA 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2009

CSA 297A **First Year Seminar for Discover House** (1) DISCOVER House is a living-learning opportunity for students who wish to explore more than one academic option before deciding on a major. In addition to the typical social and informational programming provided for first-year students, this innovative residential life experience includes special programs and advising to support students in investigating academic majors and careers.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CSA 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2009

CSA 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2009

Last Import from UCM: May 29, 2010 3:00 AM

Comm Env &Devlop (CED)

CED 152 **Community Development Concepts and Practice** (3) Concepts and practice of community development.
Effective: Spring 2007
Prerequisite: R SOC 011 orSOC 001;ECON 004

CED 201 (AG EC 201) **Introductory Environmental and Resource Economics** (3) Apply principles of economics to analyze environmental protection policies and natural resource use decision. Examine contemporary policy issues.
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG BM 101 orECON 002

CED 201 **Introductory Environmental and Resource Economics** (3) Apply principles of economics to analyze environmental protection policies and natural resource use decision. Examine contemporary policy issues.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: AG BM 101 orECON 002

CED 230 **Development Issues in the Global Context** (3) Exploration of issues related to economic development in national and international contexts, where key interrelationships between and among developed and developing regions are made explicit.
Effective: Spring 2007
Prerequisite: ECON 002, ECON 004, R SOC 011 orSOC 001

CED 309 **Land Use Dynamics** (3) Theory of land use and land use decision-making.
Effective: Spring 2007
Prerequisite: ECON 002 or equivalent;GEOG 160

CED 404 (AG EC 404) **Methods in Natural Resource and Environmental Economics** (3) Students will learn empirical research methodology in the areas of environ- mental and natural resource economics.
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG EC 201 orECON 302, ECON 428

CED 404 **Survey Research Methods** (3) Students will learn empirical research methodology in the areas of environmental and natural resource economics.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CED 201 orECON 302, ECON 428

CED 409 **Land Use Planning and Procedure** (3) General land use planning laws and procedures.
Effective: Spring 2007
Prerequisite: 6 credits of B LAW CED ECON E R M E RRE PL SC R EST SOC S T S (any combination)

CED 410 **The Global Seminar** (3) Exploration of critical global issues relevant to sustainable development and the environment. Collaborative with other universities worldwide.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004;R SOC 011 orSOC 001

CED 417 (R SOC 417) **Power, Conflict, and Community Decision Making** (3) Impact of institutions on human interdependence and behavior, the structure of power, and community decision making and public policy.
Effective: Spring 2010
Prerequisite: R SOC 011 orSOC 001

CED 420 (US;IL) (R SOC 420, WMNST 420) **Women in Developing Countries** (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.
Effective: Fall 2009
Prerequisite: 5th semester standing or above

CED 425 **International Community and Economic Development** (3) International community and economic development.
Effective: Spring 2007
Prerequisite: CED 152

CED 427W (S T S 427W, SOC 427W) **Society and Natural Resource** (3) Analysis of the relationships between societal development and enhancement and natural resources.
Effective: Summer 2008
Prerequisite: R SOC 011 orSOC 001

CED 429 **Natural Resource Economics** (3) Optimal management of resources; roles of markets and other institutions; resources and economic development; public policy.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 302

CED 431W **Economic Analysis of Environmental and Resource Policies** (3) Economic analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques; resource damage assessment.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 302

CED 450 (IL) **International Development, Renewable Resources, and the Environment** (3) Theories of agricultural and economic development, with particular attention to interactions between development, renewable resources, and the

environment.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 6 credits in agricultural economics or economics

CED 470 **Comparative Community Development** (3) Crosscultural community development projects and the problems encountered in each of the different cultural contexts.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 6 credits in social or behavioral science

CED 475 **CED Integrated Capstone Experience** (3) An experiential-learning course that provides a capstone learning experience for seniors graduating from the Community, Environment and Development major.
Effective: Spring 2007
Prerequisite: senior status only

CED 495A **Internship in Community, Environment, and Development** (1-15) Supervised field experience in an environmental setting.
Effective: Fall 2009
Prerequisite: prior approval of program

CED 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2009

CED 497 **Special Topics** (1-18) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2009

CED 497A **Community, Local Knowledge & Democracy** (3) Understanding community decision making citizen-expert interactions and methods for resolving semmingly intractable local issues.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002 andECON 004

CED 497A **Social Demographic Methods** (3) Measurement and analysis of population dynmaics and social trends such as fertility, mortality, migration, families and households, and economic wellbeing.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CED 497B **Land Use** (3) Introduces Policy-relevant issues related to land use change: examinating historical trends, patterns and development, human and environment potential impacts.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CED 497H **Community, Local Knowledge, and Democracy** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Commonwealth College (CWC)

CWC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Summer 2000

CWC 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

CWC 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2000

CWC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

CWC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CWC 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Summer 2000

CWC 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2007

CWC 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

CWC 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2000

CWC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

CWC 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Communication Arts and Sciences (CAS)

CAS 083S (GS) **First-Year Seminar in Speech Communication** (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.
Effective: Fall 2003

CAS 084S (GH) **First-Year Seminar in Communication Arts and Sciences** (3) Introduction to significant issues surrounding effective human communication; humanities emphasis.
Effective: Summer 2002

CAS 100 (GWS) **Effective Speech** (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.
Effective: Fall 2003

CAS 100A (GWS) **Effective Speech** (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.
Effective: Fall 2003

CAS 100B (GWS) **Effective Speech** (3) Principles of communication, implemented through group problem solving, with some attention to formal speaking and message evaluation.
Effective: Fall 2003

CAS 100C (GWS) **Effective Speech** (3) Principles of communication, implemented through analysis and evaluation of messages, with some attention to formal speaking and group discussion.
Effective: Fall 2003

CAS 100H (GWS) **Effective Speech** (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAS 100H (GWS) **Effective Speech** (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAS 100S (GWS) **Effective Speech** (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.
Effective: Fall 2003

CAS 101 (GS) **Introduction to Human Communication** (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.
Effective: Fall 2003

CAS 126 **Developmental Listening** (3) Introduction to effective strategies of listening, with an emphasis on studying, note taking, test taking, and research paper writing.
Effective: Fall 2003

CAS 175 (GH) **Persuasion and Propaganda** (3) An introductory examination of how symbols have been used to create belief and action in revolutionary, totalitarian, and democratic settings.
Effective: Spring 2003

CAS 195 **Careers in Communication** (1) An introduction to a variety of careers in the field of communication arts and sciences.
Effective: Summer 2002

CAS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2003

CAS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAS 200 (US;IL) **Language, Culture, and Communication** (3) Introduction to language, language development, cultural

literacy, culture, and intercultural communication.
Effective: Summer 2005

CAS 201 (GH) **Rhetorical Theory** (3) History and theory of public advocacy and civic discourse.
Effective: Spring 2003

CAS 201S (GH) **Rhetorical Theory** (3) History and theory of public advocacy and civic discourse.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAS 202 (GS) **Introduction to Communication Theory** (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.
Effective: Spring 2003

CAS 202S (GS) **Introduction to Communication Theory** (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAS 203 (GS) **Interpersonal Communication** (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.
Effective: Fall 2003

CAS 203S (GS) **Interpersonal Communication** (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAS 204 **Communication Research Methods** (3) Overview of the skills necessary to evaluate commonly reported communication research.
Effective: Spring 2003

CAS 205 **The Voice and Its Use** (3) Emphasis on procedures to improve vocal effectiveness in personal and professional communication; not offered at University Park campus.
Effective: Spring 2003

CAS 206 (GH) **Mediation and Communication** (3) Presentation of the history, theory, and practice of mediation as a means of resolving conflict through communication.
Effective: Fall 2007

CAS 211 **Informative Speaking** (3) Planning, organizing, adapting, and presenting informative speeches and oral reports on technical/scholarly projects, both by manuscript reading and extemporaneously.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 212 **Professional Public Speaking** (3) Organizing, adapting and presenting ideas in public informative, persuasive, technical and ceremonial speeches.
Effective: Spring 2008
Prerequisite: CAS 100

CAS 213 **Persuasive Speaking** (3) Planning, organizing, and adapting techniques of persuasion to achieve personal and public goals; engaging in critical assessment of persuasive messages.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 214W **Speech Writing** (3) Writing speeches for delivery in political, professional, and ceremonial settings; emphasis on composition and language for oral presentation.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 215 **Argumentation** (3) Theory of argument: gathering of evidence, analysis of proposition, case building, cross-examination, refutation, composition and delivery of argumentative speech.
Effective: Spring 2003

CAS 216 **Parliamentary Procedure** (2) Practice in presiding over and participating in meetings conducted under rules of order.
Effective: Spring 2003

CAS 222 (GS;US;IL) (CIVCM 211, YFE 211) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Future: Fall 2010

CAS 250 **Small Group Communication** (3) Skill development in the areas of group discussion, leadership, and teamwork.
Effective: Fall 2003

CAS 252 **Business and Professional Communication** (3) Interviewing, briefing, conferring, and decision making; analyzing and evaluating formal and informal patterns of communication in organizations.
Effective: Spring 2003

CAS 253 **Health Communication** (3) To introduce students to principles of health message design and the general theories and models used to guide these efforts.
Effective: Spring 2006

CAS 271 (US;IL) **Intercultural Communication** (3) Introduction to intercultural communication. Focus on topics such as language, identity, prejudice, and intergroup relations on a domestic/ international level.
Effective: Summer 2005

CAS 280W **Storytelling and Speaking** (3) Principles of oral performance from storytelling to the printed page; includes oral performance of stories, speeches, prose, drama, and poetry.
Effective: Spring 2003

CAS 283 **Communication and Information Technology I** (3) Introduction to communication technology and information management; intended for students in the Liberal Arts.
Effective: Fall 2003

CAS 294 **Research Topics** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2003
Prerequisite: prior approval of assignment by instructor

CAS 295 **Internship** (1-16) Supervised nongroup instruction, including field experiences, practicums, or internships. Written and oral critique of activity required.
Effective: Fall 2003
Prerequisite: prior approval of proposed assignment by instructor

CAS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2003

CAS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2003

CAS 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2003

CAS 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAS 302 **Social Influence** (3) Explores how humans influence others through communication.
Effective: Summer 2002

CAS 311 **Methods of Rhetorical Criticism** (3) Principles for the analysis and evaluation of public discourse.
Effective: Summer 2002

CAS 321 **Rhetoric and Law** (3) A survey of the literature on the role of rhetoric in law, including trial advocacy, appellate argument, and judicial reasoning.
Effective: Spring 2008

CAS 340 **Communication and Civility** (3) Communication behaviors contributing to civil and uncivil discourse; their implications in business, public life, across cultures and in interpersonal relationships.
Effective: Spring 2008

CAS 352 **Organizational Communication** (3) This course examines the function and structure of communication in both formal and informal situations.
Effective: Spring 2003

CAS 360 **Communication for Teachers** (3) Analysis of dynamics of instructor-student communication implemented through structured exercises in instructor listening, verbal and nonverbal message- making.
Effective: Spring 2008
Prerequisite: CAS 100

CAS 373 **The Rhetorics of War and Peace** (3) This course explores how war and peace are advocated.
Effective: Summer 2009

CAS 375 **Rhetoric and Public Controversy** (3) Survey of important events in the history of public address, including speeches, debates, and persuasive campaigns and movements.
Effective: Summer 2002

CAS 383 **Culture and Technology** (3) This course will examine the area of cyberculture as it relates to communication studies.
Effective: Summer 2002

CAS 395 **Forensics Practicum** (1-2 per semester/maximum of 16) Provides students in forensics the opportunity for supervised participation in the activity in class and in intercollegiate competition.
Effective: Fall 2003

CAS 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2002

CAS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CAS 402 **Speech and Human Behavior** (3) General semantics, thought, and human behavior; not offered at University Park campus.
Effective: Spring 2003

CAS 403 **Interpersonal Communication Theory and Research** (3) Examining behavior within interpersonal encounters, with emphasis on both theoretical/applied explanations for how and why people act during such interactions.
Effective: Spring 2003
Prerequisite: CAS 203

CAS 404 **Conflict Resolution and Negotiation** (3) Theories and strategies important for conceptualizing, developing, and managing conflict negotiation, mediation, and third-party intervention.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 405 **Family Communication Theory and Research** (3) Explores the nature and functions of communication in family life; emphasis on meaning, patterns, and styles of family communication.
Effective: Summer 2002
Prerequisite: CAS 101, CAS 202

CAS 406H **Honors Course in Communication Arts and Sciences** (3) Individual study and seminar in selected areas or issues of speech communication.
Effective: Spring 2003
Prerequisite: an all-University average of B; approval of the departmental Honors Committee

CAS 411 **Rhetorical Criticism** (3) Principles of rhetorical criticism examined through analysis of selected texts and critics.
Effective: Spring 2003
Prerequisite: CAS 201 orCAS 100

CAS 415 **Rhetoric of Film and Television** (3) Rhetorical analysis of the artistic forms and cultural structures of film and television; intensive study of selected examples.
Effective: Spring 2003
Prerequisite: CAS 100 orCOMM 150

CAS 420 **Rhetorical Theory** (3) Ancient, medieval, Renaissance, Enlightenment, and contemporary theories of rhetoric.
Effective: Spring 2003
Prerequisite: CAS 201

CAS 421 **Communication and Aging** (3) Concentrates on the pivotal role that communication plays in the social process of aging.
Effective: Summer 2007
Prerequisite: Three credits of CAS

CAS 422 (US) (AAA S 422) **Contemporary African American Communication** (3) A focused study on the continuities between African and African American culture and communication.
Effective: Summer 2005
Prerequisite: CAS 100

CAS 426W **Communication Ethics** (3) Ethical issues in public and private communication; role of communication in expressing and realizing individual and social values.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 438 **Rhetoric of Documentary** (3) Rhetorical analysis of the documentary in film, television, and other media; historical and critical analysis of functions and form.
Effective: Spring 2003
Prerequisite: CAS 201

CAS 450W **Group Communication Theory and Research** (3) Selected theories of problem solving through group discussion emphasizing participation and leadership.
Effective: Spring 2003
Prerequisite: CAS 100 orCAS 250

CAS 452 **Organizational Communication Theory and Research** (3) Explores the nature and functions of communication in organizations; emphasis on concepts, tools, and skills for effective management of communication.
Effective: Spring 2003
Prerequisite: CAS 202 orCAS 252

CAS 452W **Organizational Communication Theory and Research** (3) Explores the nature and functions of communication in organizations; emphasis on writing and exploring concepts, tools, and skills for effective management of communication.
Effective: Spring 2004
Prerequisite: CAS 202 orCAS 252

CAS 453 **Health Communication Theory and Research** (3) Principles of communication about health across the lifespan and within health-care contexts.
Effective: Spring 2006
Prerequisite: CAS 100

CAS 455 (US) (WMNST 455) **Gender Roles in Communication** (3) Explores the literature on gender research in the discipline of human communication.
Effective: Summer 2005
Prerequisite: CAS 202

CAS 470 **Nonverbal Communication** (3) Examining ways nonverbal messages, such as gestures, posture, vocal intonation, and facial expressions, affect us on a daily basis.
Effective: Spring 2003
Prerequisite: 6 credits in Communication Arts and Sciences

CAS 471 (US;IL) **Intercultural Communication Theory and Research** (3) Intercultural and cross-cultural communication research theory and practice as applied within and across national boundaries.
Effective: Summer 2005
Prerequisite: CAS 271

CAS 471U (US;IL) **Intercultural Communication Theory and Research** (3) Intercultural and cross-cultural communication research theory and practice as applied within and across national boundaries.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CAS 271

CAS 475 **Studies in Public Address** (3) History and criticism of public discourse; intensive analysis of selected public addresses and social movements.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 478 **Contemporary American Political Rhetoric** (3) Analysis of selected speeches, debates, and persuasive campaigns and movements in recent American political history.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 480 **Group Performance of Literature** (3) Applying storytelling skills and performance theory to the group presention of literature; criticism of literature through group presentations.
Effective: Spring 2003
Prerequisite: CAS 100

CAS 483 **Communication and Information Technology II** (3) Theory and application of interactive internet-based communication and information management; for students who want a Liberal Arts approach.
Effective: Fall 2003
Prerequisite: CAS 283

CAS 494 **Research Topics** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2003
Prerequisite: prior approval of proposed assignment by instructor

CAS 494H **Research Topics** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Summer 2008
Prerequisite: prior approval of proposed assignment by instructor

CAS 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2003
Prerequisite: prior approval of proposed assignment by instructor

CAS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2002

CAS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2002

CAS 497A **Global Health Campaigns** (3) Theory and experiences with health, persuasive, and intercultural communication; analyze current and to design future health campaigns internationally.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CAS 253

CAS 497A **New Media and Democracy** (3) This course will discuss 'new' media in the context of democratic citizenship, networked publics, cyberactivism, citizen journalism, and peer- to-peer production.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAS 497H **Introduction to Research Topics and Methodologies in Communication Arts andSciences** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAS 497H **Introduction to Research Topics and Methodologies in Communication Arts andSciences** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2002

CAS 498A **Communication for a Position Classroom Environment** (3) This course is designed for upper level undergraduate and beginning graduate level students, focuses on a variety of communication behaviors that affect the level of positive interaction in the classroom.
Effective: Summer 2010 Ending: Summer 2010

CAS 498A **Freedom of Expression** (3) Theories, doctrines, statutes, and cases related to the First Amendment guarantee of freedom of speech.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CAS 498A **Isses in Freedom of Speech** (3) Theories, doctrines, statutes, and cases related to the First Amendment guarantee of freedom of speech.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CAS 499 (IL) **Foreign Studies** (1-9) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Communication Sciences and Disorders (CSD)

CSD 100 (GHA;US) **Preventing Vocal Abuse, Misuse, and Disorders** (1.5) Principles of the voice mechanisms, preventing vocal abuse, and promoting vocal health across the life span.
Effective: Summer 2005

CSD 101 (GHA;US) **Preventing Hearing Loss** (1.5) Assessment, intervention, and prevention of hearing loss caused by loud music and recreational and industrial noise.
Effective: Summer 2005

CSD 146 (US;IL) **Introduction to Communication Sciences and Disorders** (3) Classification of speech, language, and hearing disorders, diagnostic and treatment procedures; skills and responsibilities of the speech-language pathologist and audiologist.
Effective: Summer 2005

CSD 218 **American Sign Language I** (3) Introduction to sign language; provides basic receptive and expressive skills; includes out-of-class practice.
Effective: Fall 2003

CSD 230 **Introduction to Audiology** (3) Basic measurement procedures, evaluation, and screening of hearing loss using pure-tone and speech audiometry, immittance, and physiological measurements.
Effective: Spring 2005

CSD 245 **Professional Programs and Relationships** (2) Organization and administration of speech pathology and audiology programs in various professional settings; personal, professional, and community relationships and responsibilities.
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: or concurrent:CSD 146

CSD 245 **Professional Programs and Relationships** (2) Organization and administration of speech pathology and audiology programs in various professional settings; personal, professional, and community relationships and responsibilities.
Effective: Fall 2010 Future: Fall 2010

CSD 269 (US;IL) **Deafness and Society** (3) Explores the economic, social, psychological, and political aspects of the deaf culture and its interaction with the majority hearing culture.
Effective: Summer 2005

CSD 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2003

CSD 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2003

CSD 300 (US;IL) **Developmental Considerations in the Assessment and Treatment of Language Disorders** (3) Using a developmental framework to interpret problems in child language acquisition.
Effective: Summer 2005 Ending: Summer 2010

CSD 300 (US;IL) **Developmental Considerations in the Assessment and Treatment of Language Disorders** (3) Using a developmental framework to interpret problems in child language acquisition.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 146

CSD 301 **Acoustic Principles in Communication Sciences and Disorders** (3) Explores the fundamental concepts of acoustics as applied to individuals with communicative disabilities; special emphasis is placed on the acoustic analysis of speech.
Effective: Fall 2003 Ending: Summer 2010

CSD 301 **Acoustic Principles in Communication Sciences and Disorders** (3) Explores the fundamental concepts of acoustics as applied to individuals with communicative disabilities; special emphasis is placed on the acoustic analysis of speech.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 146

CSD 311 **Clinical Phonetics** (3) Introducton to phonetic transcription of speech emphasizing articulatory phonetics of American English, its dialects, and disordered speech; extensive transcription experiences.
Effective: Fall 2003

CSD 318 **American Sign Language II** (3) Review of basic signing, plus continued development of signing skills.
Effective: Fall 2003
Prerequisite: CSD 218

CSD 331 **Anatomy and Physiology for Speech and Hearing** (3) Structure and function of the physical systems involved in speech and hearing, including respiration, phonation, articulation, perception, and neurology.
Effective: Fall 2003

CSD 395W **Clinical Observations in Communication Disorders** (1) Systematic observation of therapy and diagnostic sessions in speech-language pathology and audiology.
Effective: Fall 2003
Prerequisite: CSD 146

CSD 433 **Aural Rehabilitation** (3) Methods for improving receptive skills of persons with hearing impairments; clinical observation and practice.
Effective: Fall 2003
Prerequisite: CSD 230

CSD 442 **Introduction to Disorders of Articulation and Phonology** (3) Etiology, diagnosis, and treatment of articulation disorders.
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146, CSD 311, CSD 331

CSD 442 **Introduction to Disorders of Articulation and Phonology** (3) Etiology, diagnosis, and treatment of articulation disorders.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300, CSD 311 plus 3 additional CSD credits at the 300-level

CSD 444 **Introduction to Organic Disorders of Speech and Language** (3) Etiology, diagnosis, and principles of treatment of stuttering, and of speech- language disorders having organic bases.
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146, CSD 331

CSD 444 **Introduction to Organic Disorders of Speech and Language** (3) Etiology, diagnosis, and principles of treatment of stuttering, and of speech- language disorders having organic bases.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 301, CSD 331 plus 3 additional credits in CSD at the 300-level

CSD 451 **An Introduction to Augmentative and Alternative Communication** (3) Examination of assessment and intervention issues in augmentative and alternative communication techniques with persons with severe communication disorders.
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146, CSD 300

CSD 451 **An Introduction to Augmentative and Alternative Communication** (3) Examination of assessment and intervention issues in augmentative and alternative communication techniques with persons with severe communication disorders.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300 plus 6 additional CSD credits at the 300-level

CSD 459W **Principles of Clinical Management in Communication Disorders** (3) Survey of principles and practices for diagnosing, interviewing, counseling, treating, reporting, and programming in Communication Disorders.
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146

CSD 459W **Principles of Clinical Management in Communication Disorders** (3) Survey of principles and practices for diagnosing, interviewing, counseling, treating, reporting, and programming in Communication Disorders.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300, CSD 230 plus 3 additional credits in CSD at the 300-level

CSD 462 (US;IL) **Clinical Bases of Language Disorders** (3) Description of pathological language and cognitive development, and principles of assessment and remediation among individuals with communication disorders.
Effective: Summer 2005 Ending: Summer 2010
Prerequisite: CSD 300

CSD 462 (US;IL) **Clinical Bases of Language Disorders** (3) Description of pathological language and cognitive development, and principles of assessment and remediation among individuals with communication disorders.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300 plus 6 additional credits in CSD at the 300-level

CSD 494H **Senior Honors Thesis** (1-6) Independent study related to a student's interests directed by a faculty super supervisor and culminating in the production of a thesis.
Effective: Spring 2006
Prerequisite: Approval of honors thesis advisor.

CSD 495A **Speech Therapy Practicum** (1-6) Demonstration and practice in examination, diagnosis, and treatment of speech problems.
Effective: Fall 2003
Prerequisite: CSD 395W, CSD 442

CSD 495B **Audiology Practicum** (1-5) Demonstration and practice in examination, diagnosis, and treatment of hearing impairment problems.
Effective: Fall 2003
Prerequisite: CSD 395W, CSD 433

CSD 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2003

CSD 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2003

CSD 497H **Genetics and Communication Sciences and Disorders** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CSD 497K **Pre-Practicum and Observation Experiences in CSD** (2) This course will focus on knowledge and skills necessary for students to participate in clinical practicum. Observations, goal-setting, ethical practices will be discussed.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Communications (COMM)

COMM 001 **Newspaper Practicum** (1 per semester/maximum of 8) A newspaper/print media practicum. Credits do not fulfill Communication major credits in all programs.
Effective: Spring 2008

COMM 002 **Newspaper Editorial Staff** (2-3 per semester, maximum of 12) A newspaper/print media practicum. Credits do not fulfill Communication d major credits in all programs.
Effective: Spring 2008
Prerequisite: COMM 001

COMM 003 **Radio Practicum** (1 per semester/maximum of 8) A broadcast media practicum. Credits do not fulfill Communication major credits in all programs.
Effective: Spring 2008

COMM 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

COMM 100 (GS) **The Mass Media and Society** (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.
Effective: Spring 2002

COMM 100S (GS) **The Mass Media and Society** (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.
Effective: Fall 2005

COMM 110 (GH) **Media and Democracy** (3) This course considers the role of the mass media with regard to developing civic awareness and engagement in democratic societies.
Effective: Spring 2009

COMM 118 (GS) **Introduction to Media Effects** (3) Examination of individuals' selection, uses and perceptions of media and the effects of media on individuals' attitudes, beliefs, and behaviors.
Effective: Spring 2007

COMM 120 **Advertising and Society** (3) History and structure of advertising in American society; the role of advertising in the economic and communications systems; regulation. May not be used to fulfill requirements of any major in the School of Communications.
Effective: Fall 1986

COMM 150 (GA) **The Art of the Cinema** (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Spring 2007

COMM 150H (GA) **The Art of the Cinema** (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Spring 2007

COMM 150S (GA) **The Art of the Cinema** (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.
Effective: Fall 2005

COMM 160 **Basic News Writing Skills** (1) Grammar, punctuation, spelling, and word usage skills required of journalists.
Effective: Summer 2003

COMM 170 **Introduction to the Sports Industry** (3) The course provides a basic understanding of how the principles of business apply in the industry of sports.
Effective: Spring 2009

COMM 180 (GS) **Survey of Electronic Media and Telecommunications** (3) The development of electronic media and telecommunications, emphasizing social, economic, political and global impact.
Effective: Fall 2006

COMM 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1993

COMM 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

COMM 205 (US) (WMNST 205) **Women, Minorities, and the Media** (3) Analysis of historical, economic, legal, political, and social implications of the relationship between women, minorities, and the mass media.
Effective: Summer 2005

COMM 215 **Basic Photography** (3) An introduction to photography, emphasizing both technical skills and aesthetics with both the camera and in the darkroom.
Effective: Spring 2008 Ending: Fall 2010

COMM 215 **Basic Photography for Communications** (3) An introduction to photography, emphasizing both technical skills and aesthetics with both the camera and in the darkroom.
Effective: Spring 2011 Future: Spring 2011

COMM 230W **Writing for Media** (3) The application of creativity to the practical concerns of narrative script and radio/television spot writing.
Effective: Spring 2008
Prerequisite: ENGL 015 andENGL 202

COMM 241 **Graphic Design** (3) Introduction to basic design principles, critical analysis of visual material, and solving graphics problems utilizing traditional and digital production tools.
Effective: Spring 2008 Ending: Fall 2010

COMM 241 **Graphic Design for Communications** (3) Introduction to basic design principles, critical analysis of visual material, and solving graphics problems utilizing traditional and digital production tools.
Effective: Spring 2011 Future: Spring 2011

COMM 242 **Basic Video/Filmmaking** (3) Introduction to basic motion picture techniques, emphasizing practical experience in filmmaking.
Effective: Fall 2005
Prerequisite: COMM 150 and second third or fourth semester standing

COMM 250 (GA) **Film History and Theory** (3) Exploration of film theory and criticism in the context of aesthetic, technological, and economic evolution of film history.
Effective: Spring 2004
Prerequisite: COMM 150

COMM 250H (GA) **Film History and Theory** (3) Exploration of film theory and criticism in the context of aesthetic, technological, and economic evolution of film history.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: COMM 150

COMM 251 **The Nature of Media** (3) A theoretical, cultural, and philosophical study of print and non-print media, including their histories, possibilities, limitations, and interrelationships.
Effective: Spring 2008

COMM 260W **News Writing and Reporting** (3) News and news values; legal and ethical problems of reporting; writing and reporting news for the mass media.
Effective: Spring 2004
Prerequisite: ENGL 015 orENGL 030;COMM 160 ; third-semester standing and typing proficiency

COMM 261 (GH) **The Literature of Journalism** (3) Representative nonfiction by writers such as Susan Sheehan, George Orwell, Joan Didion, Alice Walker, Truman Capote, C. D. B. Bryan, Russell Baker.
Effective: Spring 2001

COMM 261H (GH) **The Literature of Journalism** (3) Representative nonfiction by writers such as Susan Sheehan, George Orwell, Joan Didion, Alice Walker, Truman Capote, C.D.B. Bryan, Russell Baker.
Effective: Summer 2005

COMM 269 **Photojournalism** (3) Photography as a medium for communication; creating photographs and photoessays for newspapers and magazines; camera and darkroom techniques.
Effective: Fall 1986 Ending: Summer 2010
Prerequisite: COMM 260W orCOMM 320

COMM 269 **Photojournalism** (3) Photography for communication in print and online; creating photographs for newspapers, magazines and the Web; digital camera and software skills.

Effective: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:COMM 260W orCOMM 320

COMM 270 **Introduction to Multimedia Production** (3) Introduction to multimedia project activities to explore image editing, layout, the integration of texts and images and web architecture.
Effective: Summer 2002

COMM 282 **Television Field Production** (3) Explore the particularities of single camera pre-production and production and analog and digital videotape editing.
Effective: Spring 2010

COMM 283W **Introduction to Audio and Video Communications** (3) Introduction to audio and video studio procedures and techniques within the context of human communication.
Effective: Fall 1990 Ending: Summer 2010

COMM 283W **Television Studio Production** (3) Students will learn the technical aspects of multi-camera studio television production.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 282

COMM 287 **Voice Training for the Media** (3) This course emphasizes voice training technqiues. It is designed to help students expand their vocal capabilities and vocal performance skills in different media.
Effective: Spring 2008

COMM 292 (GH) **Introduction to Media & Politics** (3) This course explores the intersection of media and politics, introducing students to the critical analysis of mediated political discourse.
Effective: Spring 2008

COMM 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

COMM 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1986

COMM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1986

COMM 297A **American Journalism, Principles and Traditions** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 297E **Introduction to Radio and TV Production** (3) Students introduced to techniques and fundamentals of reporting and editing audio stories; and of presenting themselves and stories on television.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

COMM 300H **Research and Writing for the Mass Media** (3) This course helps students explore paradigms and theoretical frameworks in communications research.
Effective: Fall 2006
Prerequisite: fourth-semester standing; admission to the Schreyer Honors College

COMM 304 **Mass Communication Research** (3) Introduction to research methods in a mass communications.
Effective: Spring 2009
Prerequisite: STAT 200 ; and 3 credits fromCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 315 **Applications for Media Writing** (3) Tutorial and practice in various kinds or journalistic and commercial writing, emphasizing basic skills.
Effective: Spring 2008
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

COMM 320 **Introduction to Advertising** (3) Advertising management in business, including communication theory; common industry practices; basics of copy, media, and budget decision; and environmental influences. A student may not receive credit for both COMM 320 and MKTG 322.
Effective: Spring 1989

Prerequisite: fourth-semester standing

COMM 320H **Introduction to Advertising** (3) Advertising management in business, including communication theory; common industry practices; basics of copy, media, and budget decision; and environmental influences. A student may not receive credit for both COMM 320 and MKTG 322.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: fourth-semester standing

COMM 331 **Visual Communication Theory and Analysis** (3) This course explores visual theory pertaining to movies, television production, and graphic design, emphasizing semiotics, the psychology of vision, and reception theory.
Effective: Spring 2008
Prerequisite: COMM 150

COMM 332 **Reporting** (3) Practice in researching and gathering material for and preparation of news stories for print media.
Effective: Spring 2008
Prerequisite: COMM 260W

COMM 333 **Film History for Filmmakers I: The Development of the Cinema to 1960** (3) History of the art, industry, economics, culture, and technology of cinema from its origins to 1960.
Effective: Summer 2010
Prerequisite: COMM 150 Film-Video major

COMM 337 **Theory and Practice of Production** (3) Analysis and theory of production process combined with projects exploring alternative and documentary forms.
Effective: Fall 1996 Ending: Fall 2010
Prerequisite: COMM 242

COMM 337W **Theory and Practice of Production** (3) Writing-intensive course addressing the analysis, theory and film and video production process of alternative and documentary forms.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 242

COMM 338 **Intermediate Narrative Production** (3) Exploration of narrative film or video techniques and aesthetics through the completion of short exercises and projects.
Effective: Summer 2010
Prerequisite: COMM 242 and Film-Video major

COMM 339 **Intermediate Alternative Production** (3) Exploration of alternative film or video production techniques and aesthetics through the completion of short exercises and projects.
Effective: Summer 2010
Prerequisite: COMM 242 and Film-Video major

COMM 340 **Production Technology and Technique Topics I** (3) Intensive practical experience and studies of camera, lighting, audio, and editing.
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 242

COMM 340 **Intermediate Cinematography and Editing Techniques** (3) Exploration of film and video production techniques through the use of camera, lighting, audio and digital post-production equipment.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 242 Film-Vido major

COMM 342W **Intermediate Film and Video Production I** (6) A comprehensive approach to the film and video production process including writing for the screen, directing, and film and video production. Exploration through the production of nonsynchronous 16mm film and video projects. Designed primarily for Film/Video Majors.
Effective: Spring 1993 Ending: Fall 2010
Prerequisite: COMM 242

COMM 342W **Idea Development and Media Writing** (3) Introduction to various modalities of idea development and written expression for media production.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 242 and Film-Video Major

COMM 345 **Production and Direction** (3) An intermediate-level course on directing and production technique for film.
Effective: Summer 1996 Ending: Spring 2011
Prerequisite: COMM 242

COMM 346 **Writing for the Screen I** (3) A beginning course in narrative Screenwriting emphasizing analysis, creativity, and critiquing skills necessary for the development of storytelling.
Effective: Spring 1999 Ending: Fall 2010
Prerequisite: COMM 242

COMM 346 **Writing for the Screen I** (3) A beginning course in narrative Screenwriting emphasizing analysis, creativity, and critiquing skills necessary for the development of storytelling.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 342W

COMM 347 **Intermediate Video/Filmmaking** (3) Exploration of narrative, documentary, and experimental forms through the production of 16mm film and video projects.
Effective: Spring 2007 Ending: Spring 2011

Prerequisite: COMM 337

COMM 350 (IL) **Comparative Media Cultures** (3) Intercultural examination of economic, political, philosophical, and historical forces that shape various societies' newsgathering routines and content.
Effective: Spring 2008
Prerequisite: COMM 251

COMM 360 **Radio Reporting** (3) Reporting, writing, producing, and presenting radio news programs, focusing on the development of news judgment and writing skills.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: or concurrent:COMM 260W

COMM 360 **Radio Reporting** (3) Reporting, writing, producing, and presenting radio news programs, focusing on the development of news judgment and writing skills.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 260W

COMM 363 **Desktop Publishing** (3) Practical and theoretical approach to visual communication production in newspaper journalism, advertising, public relations, and other communication industries.
Effective: Spring 2008
Prerequisite: COMM 215 orCOMM 241

COMM 370 **Public Relations** (3) Public understanding of organizations and institutions; identification and analysis of public; media relations; public relations practice.
Effective: Spring 2001
Prerequisite: fourth-semester standing

COMM 371 **Visual and Video Communication** (4) A study of the technical and aesthetic factors in visual production, including visualization, composition, lighting, sound, performance, and project management.
Effective: Spring 2008
Prerequisite: COMM 251

COMM 374 **Audio Communication** (3) Theory and practice in studio recording and broadcasting techniques, including continuity/news writing, control room operation and audio production.
Effective: Fall 2008
Prerequisite: COMMS 251 orCOMM 100 and permission of program

COMM 381 **Telecommunications Regulation** (3) Overview of the regulation of electronic media.
Effective: Spring 2002
Prerequisite: COMM 180;ECON 002 orECON 014

COMM 383 **Production Administration** (3) Management, production, and analysis of video programming for mass and submass audiences. Emphasis on single-camera field production.
Effective: Spring 1993
Prerequisite: COMM 283W

COMM 384 **Telecommunications Promotion and Sales** (3) Principles of marketing services applied to telecommunications and information products/services; models of customer-focused selling and their applications to media time sales.
Effective: Fall 2001
Prerequisite: COMM 180 orCOMM 320

COMM 385 **Broadcast and Cable Programming** (3) Framework, principles, and strategies for the programming of Broadcast television, Cable television, and radio stations.
Effective: Fall 2001
Prerequisite: COMM 180

COMM 386 **Telecommunications History** (3) Historical development of telecommunications systems in the United States, including telegraph, telephone, radio, television, and the internet.
Effective: Fall 2001

COMM 387 **Introduction to Broadcast/Cable Management** (3) Introduction to basic principles of management as they apply in electronic media industries.
Effective: Spring 2001
Prerequisite: COMM 180;ECON 002 orECON 014

COMM 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Fall 2007

COMM 401 **Mass Media in History** (3) Relationship of news media to social, economic, and political developments in the Western world.
Effective: Fall 1986

COMM 403 **Law of Mass Communications** (3) Nature and theories of law; the Supreme Court and press freedom; legal problems of the mass media.
Effective: Fall 1986

COMM 403H **Law of Mass Communications** (3) Nature and theories of law; the Supreme Court and press freedom; legal problems of the mass media.
Effective: Spring 2006

COMM 405 **Political Economy of Communications** (3) Structure and functions of American and other mass communications systems and their relationship to political and economic systems.
Effective: Fall 1986
Prerequisite: ECON 002

COMM 405H **Political Economy of Communications** (3) Structure and functions of American and other mass communications systems and their relationship to political and economic systems.
Effective: Spring 2006
Prerequisite: ECON 002

COMM 406 **Electronic News Gathering and Editing** (3) Intermediate level skills in creating and editing television news packages.
Effective: Spring 2008
Prerequisite: COMM 315 orCOMM 283W

COMM 407 **Advertising in the American Economy** (3) Economic organization and the nature of economic institutions; evolution of advertising; its performance in the American economy.
Effective: Summer 1992
Prerequisite: ECON 002

COMM 408 (S T S 408) **Cultural Foundations of Communications** (3) Examination of oral, scribal, print, industrial, and electronic cultures; analysis of impact of technology on communications and social structure.
Effective: Spring 2009
Prerequisite: select 3 credits fromCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320, COMM 370 ; or 3 credits of S T S

COMM 409 **News Media Ethics** (3) Ethical problems in the practice of journalism; principal public criticisms of news media; case study approach.
Effective: Fall 2006

COMM 409H **News Media Ethics** (3) Ethical problems in the practice of journalism; principal public criticisms of news media; case study approach.
Effective: Fall 2006

COMM 410 (IL) **International Mass Communications** (3) The role of international media in communication among and between nations and people. Complement to COMM 419.
Effective: Spring 2009
Prerequisite: select 3 credits from the followingCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 411 **Cultural Aspects of the Mass Media** (3) The mass media as creators and critics of mass culture in American life; relationships between the media and mass culture.
Effective: Spring 2009
Prerequisite: 6 credits in the arts or the humanities; and 3 credits selected from the followingCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 411H **Cultural Aspects of the Mass Media** (3) The mass media as creators and critics of mass culture in American life; relationships between the media and mass culture.
Effective: Spring 2009
Prerequisite: 6 credits in the arts or the humanities; and 3 credits selected from the followingCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 260W, COMM 320 orCOMM 370

COMM 412 **Sports, Media and Society** (3) Sport and media relationship in American culture.
Effective: Summer 2006

COMM 413 **The Mass Media and the Public** (3) Nature of mass communications, relationships between mass media and public, media influences on opinion; social pressures on the media.
Effective: Spring 2009
Prerequisite: 3 credits selected from the following:COMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 413W **The Mass Media and the Public** (3) Social-level and political theories of the relationships between media and public; media influences on public opinion; social pressure on the media; political communications.
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: select 3 credits from the followingCOMM 100, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 413W **The Mass Media and the Public** (3) Social-level and political theories of the relationships between media and public; media influences on public opinion; social pressure on the media; political communications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: select 3 credits from the followingCOMM 100, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370 and select 3 credits from the following:COMM 304, COMM 420

COMM 414 **Media Management** (3) Theoretical bases and practical approaches for management and administration of communications projects, organizations, and resources.
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

COMM 415 **Advanced Photography** (3) Advanced applications in documentary photography emphasizing the narrative qualities of imagery, and utilizing digital technologies.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: COMM 215

COMM 415 **Advanced Photography for Communications** (3) Advanced applications in documentary photography emphasizing the narrative qualities of imagery, and utilizing digital technologies.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 215 orCOMM 269 and permission of program

COMM 417 **Ethics and Regulation in Advertising and Public Relations** (3) Ethical issues in practice of advertising and public relations; legal and regulatory issues; case studies.
Effective: Spring 2007
Prerequisite: COMM 320 orCOMM 370

COMM 418 **Media Effects: Theory and Research** (3) Investigation of social and psychological effects of media messages and technologies via theories and empirical evidence pertaining to processes of effects.
Effective: Spring 2007
Prerequisite: COMM 118 andCOMM 304 or equivalent

COMM 419 (US;IL) **World Media Systems** (3) Comparative study of modern media systems of mass communications in selected foreign countries.
Effective: Spring 2009
Prerequisite: select 6 credits in the arts or the humanities; and 3 credits from the following:COMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 419H (US;IL) **World Media Systems** (3) Comparative study of modern media systems of mass communications in selected foreign countries.
Effective: Spring 2009
Prerequisite: select 6 credits in the arts or the humanities; and 3 credits from the following:COMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

COMM 420 **Research Methods in Advertising and Public Relations** (3) Primary and secondary research methods used in the development of solutions to advertising and public relations problems.
Effective: Summer 2002
Prerequisite: COMM 320 orCOMM 370;STAT 200

COMM 421W **Advertising Creative Strategies** (3) Planning, designing, writing advertisements; introduction to graphics and production techniques and processes; layout and copywriting practice and critiques.
Effective: Spring 2004
Prerequisite: COMM 320

COMM 422 **Advertising Media Planning** (3) Analysis, selection, and scheduling of advertising media; examination of algorithms, technologies, and software used in media planning.
Effective: Fall 1986
Prerequisite: COMM 320

COMM 424 **Advertising Campaigns** (3) Advertising campaign problems from the viewpoint of the national advertiser and advertising agency; production of a complete advertising campaign.
Effective: Spring 2007
Prerequisite: COMM 420 orCOMM 304;COMM 421W, COMM 422

COMM 425 **Advertising Message Strategy** (3) Advanced work in developing message strategies for advertising campaigns; presentation and defense of strategic plans; extensive practice in creating advertisements.
Effective: Spring 2001
Prerequisite: COMM 421W, COMM 422

COMM 426 **International and Intercultural Strategic Communication** (3) Advertising and public relations in the international and intercultural arenas; multicultural strategic communications strategies.
Effective: Summer 2006
Prerequisite: COMM 320 orCOMM 370

COMM 427 **Client/Agency Relations** (3) Building and maintaining client/agency relationships in advertising, public relations and direct response agency business functions.
Effective: Summer 2006
Prerequisite: Advertising Option - Prerequisite or concurrent - One can be taken concurrently:COMM 421, COMM 422 . Public Relations Option - Prerequisite:COMM 471 Prerequisite or concurrent:COMM 473

COMM 430 **Mass Media and Politics** (3) Study of mass media as institutions and the effects of the mass media on politics, public policy, and citizens.
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

COMM 433 **Film History for Filmmakers II: The Development of the Cinema from 1960 to the Present** (3) History of the art, industry, economics, culture, and technology of cinema from 1960 to the present.
Effective: Summer 2010

Prerequisite: COMM 333

COMM 436 **Advanced Audio Production** (3) Advanced concepts and techniques of audio production in analog and digital formats with hands-on experience in recording, mixing and editing.
Effective: Spring 2008
Prerequisite: COMM 374

COMM 437 **Narrative Video/Filmmaking** (3) Intensive exploration of narrative form through the production of a fiction film or video.
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 337

COMM 437 **Advanced Documentary Production** (3 per semester/maximum of 6) Advanced exploration of documentary production techniques and aesthetics through the completion of a short video project.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 337W, COMM 340, COMM 342W

COMM 438 **Non-Fiction Video/Filmmaking** (3) Intensive exploration of documentary traditions through the production of a non-fiction video or film.
Effective: Summer 2002 Ending: Fall 2010
Prerequisite: COMM 337 seventh-semester standing

COMM 438 **Advanced Narrative Production** (3 per semester/maximum of 6) Advanced exploration of narrative production techniques and aesthetics through the completion of a short film or video project.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 338, COMM 340, COMM 342W

COMM 439 **Alternative Film/Video Production** (3) Intensive exploration of non-narrative form through the production of a film or video.
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 337

COMM 439 **Advanced Alternative Production** (3 per semester/maximum of 6) Advanced exploration in experimental and animation forms through the production of a film or video project.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 339, COMM 340, COMM 342W

COMM 440 **Advanced Production Technology and Technique** (3) Intensive practical experience and studies of camera, lighting, audio, and editing.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: COMM 347

COMM 440 **Advanced Cinematography and Lighting Techniques** (3) Advanced exploration in camera, lighting, audio, and color-grading techniques, emphasizing technical skills as well as aesthetics.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339 or permission of program

COMM 441 **Advanced Graphic Design** (3) Theory and practice designing graphic visual communication in commercial, non- commercial, and fine art formats for print and on-line media.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: COMM 241 orCOMM 371

COMM 441 **Advanced Graphic Design for Communications** (3) Theory and practice designing graphic visual communication in commercial, non- commercial, and fine art formats for print and on-line media.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 241 orCOMM 371

COMM 442 **Advanced Audio Video Production** (3) Advanced techniques in video production applied to narrative, non-narrative and short documentary formats.
Effective: Spring 2008
Prerequisite: COMM 345

COMM 444 **Advanced Post-Production Techniques** (3) This course offers intensive practical experience in editing, motion graphics and sound mixing techniques, emphasizing both technical skills and aesthetics.
Effective: Summer 2010
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339

COMM 445 **Directing for the Screen II** (3) An advanced course in directing for both narrative and documentary film and video.
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 345

COMM 445 **Directing Workshop** (3) An advanced aesthetic and skill production course in directing for the screen.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339

COMM 446 **Writing for the Screen II** (3) An advanced course in screenwriting that further develops elements of storytelling technique.
Effective: Spring 1994
Prerequisite: COMM 346

COMM 448 **Advanced Cinematography and Sound Workshop** (3) Intensive practical experience and studies of camerawork, lighting, and audio production.
Effective: Fall 1986 Ending: Fall 2010
Prerequisite: COMM 342

COMM 448 **Advanced Group Production I** (3) A two semester advanced production course emphasizing intensive collaborative film-video production from script through post-production.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339 and permission of program

COMM 449 **Advanced Film and Video Projects** (1-6) Applied theory/technique of synchronous sound film and video production; supervised experience in major production. Individual and group-directed study of in-depth projects.
Effective: Spring 2001 Ending: Fall 2010
Prerequisite: COMM 437

COMM 449 **Advanced Group Production II** (3) Continuation of advanced production course emphasizing intensive collaborative film-video production from script through post-production.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 448

COMM 450 **Analysis of Film Practice** (3) Course is oriented towards video and filmmakers; analyses of how ideas and creative concepts are connected to the production process.
Effective: Summer 1993
Prerequisite: COMM 242, COMM 250

COMM 451 **Topics in American Film** (3 per semester, maximum of 6) Critical and historical studies of American films. Analysis of directing, cinematography, editing, screenwriting, and acting.
Effective: Summer 1989
Prerequisite: COMM 250

COMM 452 **Topics in International Cinema** (3 per semester, maximum of 6) Critical and historical studies of topics in non-American film. Analysis of theory, direction, cinematography, editing, and screenwriting.
Effective: Summer 1989
Prerequisite: COMM 250

COMM 453 (IL) (CMLIT 453) **Narrative Theory: Film and Literature** (3) Comparative study of the aesthetics and techniques of film and literature; close analyses of masters of each art form.
Effective: Fall 2006
Prerequisite: COMM 150 or 3 credits in literature

COMM 454 **Documentary in Film and Television** (3 per semester, maximum of 6) Study of representative films from various documentary movements, examining form, technique, trends, and audience objectives.
Effective: Spring 2001
Prerequisite: fourth-semester standing

COMM 455 **Advanced Film Theory and Criticism** (3 per semester, maximum of 6) Close examination of classic and contemporary film theory and critical perspectives.
Effective: Summer 1989
Prerequisite: COMM 250

COMM 456 **Media Criticism and Theory** (3) Critical and theoretical approaches to the analysis of media and communication.
Effective: Spring 2008
Prerequisite: COMM 371

COMM 457 **Media Audiences and Contexts** (3) Survey of the ways media attempt to influence audience reception and how audiences hold sway over media content.
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

COMM 458 **Media Law and Ethics** (3) The study and practice of key issues in media law and ethics, including libel law, conflict of interest, truth in advertising.
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

COMM 459 **Cultural Effects of Interactive and Online Media** (3) Study of the global social impact and rhetorical limitations of converging media, emphasizing cross-cultural media influences.
Effective: Spring 2008
Prerequisite: COMMS 251

COMM 460W **Reporting Methods** (3) Techniques in reporting news and trends at the local, regional, and county levels. Emphasis on both deadline and interpretive reporting.
Effective: Fall 1990
Prerequisite: COMM 260W

COMM 461 **Professional Journalism Seminar** (3 per semester/maximum of 6) Problems of research, content, and form in journalistic specializations; topics of specialization announced each semester course is offered.
Effective: Spring 1988
Prerequisite: COMM 260W

COMM 462 **Feature Writing** (3) Reporting and writing the human interest article for newspapers and magazines.
Effective: Spring 2008
Prerequisite: COMM 260W

COMM 463 **Newspaper Design** (3) This course will cover newspaper design. Students will learn to solve design problems, edit photos, and work with industry software.
Effective: Spring 2009
Prerequisite: COMM 160, COMM 260, COMM 467 or permission of program

COMM 464W **Editorial, Opinion and Commentary Writing** (3) Introduces techniques of editorial, opinion and commentary writing.
Effective: Spring 2008
Prerequisite: COMM 260W

COMM 465 **Television Reporting** (3) Television news reporting and production.
Effective: Spring 2008
Prerequisite: COMM 360

COMM 466 **Public Affairs Broadcasting** (3) Producing radio and television magazine programs featuring individually-produced mini-documentaries and public affairs interviews.
Effective: Summer 1990
Prerequisite: COMM 383 orCOMM 465

COMM 467 **News Editing and Evaluation** (3) Concepts and procedures involved in processing news for various news media, but with emphasis on print media editing.
Effective: Spring 2001
Prerequisite: COMM 260W

COMM 468 **Graphic Applications in Print Communications** (3) Issues, concepts, and practice identified with contemporary design strategies for print journalism, advertising, and public relations.
Effective: Summer 1988
Prerequisite: COMM 260W orCOMM 320

COMM 469 **Photography for the Mass Media** (3) Development of an informed and critical approach to photocommunication; individual and team projects, seminars, and critiques.
Effective: Fall 1986
Prerequisite: COMM 269

COMM 470A **Convergent Media News Service: Newspaper Production** (3) Practicum emphasizing newsgathering and reporting for newspaper and for additional media formats.
Effective: Summer 2002
Prerequisite: COMM 260W

COMM 470B **Convergent Media News Service: TV** (3) Practicum emphasizing television news package production for periodic campus news program and for additional media formats.
Effective: Summer 2002
Prerequisite: COMM 260W

COMM 470C **Convergent Media News Service: Radio and Online Publications** (3) Practicum emphasizing streaming radio news package production or production of news pieces for online publications and for additional media formats.
Effective: Fall 2008
Prerequisite: COMM 242 orCOMM 374 andCOMM 260W

COMM 471 **Public Relations Media and Methods** (3) Analyzing media and audiences for public relations purposes; planning, designing, and writing public relations communications; press relations and publicity methods.
Effective: Spring 2004
Prerequisite: COMM 260W andCOMM 370

COMM 472 **Public Relations Event Planning** (3) Effective planning, organization, implementation and evaluation of events planning.
Effective: Spring 2008
Prerequisite: COMM 370

COMM 473 **Public Relations Campaigns** (3) Case studies and problems in publicity and public relations in industry, government, and institutions.
Effective: Spring 2007
Prerequisite: COMM 370, COMM 420 orCOMM 304 andCOMM 471

COMM 474 **Depth Reporting** (3) Exploration of strategies for developing indepth newspaper or magazine articles, with an emphasis on gathering information and long-form writing.
Effective: Spring 2004
Prerequisite: COMM 260W

COMM 475 **Issues for Newsroom Managers** (3) Newspaper and television management, the state of the industry and topics that prospective employees should know about.
Effective: Spring 2004
Prerequisite: COMM 260W

COMM 476 **Sports Writing** (3) Techniques in sports reporting and writing for newspapers and magazines.
Effective: Summer 2005

Prerequisite: COMM 260, COMM 460

COMM 477 **Sports Broadcasting** (3) Techniques of sports broadcasting for radio and television.
Effective: Summer 2005
Prerequisite: COMM 260, COMM 360

COMM 478 **Sports Information** (3) Techniques of effective media relations used in a sports information office.
Effective: Summer 2005
Prerequisite: COMM 260

COMM 479 **Telecommunication Networks** (3) Economic, regulatory/business issues in the design/operation of large-scale telecommunication networks such as telephone, cable, wireless, and computer networks.
Effective: Spring 2002
Prerequisite: COMM 180 andECON 002 orECON 014

COMM 480 **Television News** (3) Produce a weekly television newscast.
Effective: Summer 2007
Prerequisite: COMM 360, COMM 465 permission of program

COMM 481 **Advanced Multimedia Production** (3) Advanced work in multimedia production using web authoring, video editing, audio editing, image editing and animation software.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: COMM 270

COMM 481 **Advanced Multimedia Production** (3) Advanced work in multimedia production using web authoring, video editing, audio editing, image editing and animation software.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 270 orCOMM 260W plus one of the following:COMM 269, COMM 360, COMM 460, COMM 462 or permission of program

COMM 482 **Advanced Communication Workshop** (4) Conceptualization, planning, and execution of a visual product on a selected topic utilizing an intensive group project-oriented laboratory approach.
Effective: Spring 2008
Prerequisite: COMM 371

COMM 484 **Emerging Telecommunications Technologies** (3) Overview of technology of electronic media and related societal issues.
Effective: Spring 1992
Prerequisite: COMM 180

COMM 484H **Emerging Telecommunications Technologies** (3) Overview of technology of electronic media and related societal issues.
Effective: Spring 2005
Prerequisite: COMM 180

COMM 485 **Analysis of Broadcast-Cable Policy** (3) Analysis of current policy issues in Broadcast/Cable. Standards and methods for evaluating telecomm policy processes and outcomes.
Effective: Fall 2001
Prerequisite: COMM 381 orCOMM 483

COMM 487 **Telecommunication Administration** (3) Operation/administration decision-making for broadcasting, broadband, telecommunications, and information firms including sales, marketing, programming, customer service, technology adoption, finance and capital investment.
Effective: Spring 2002
Prerequisite: COMM 387

COMM 488 **Writers' Seminar** (3) Workshop designed for advanced students interested in professional writing, involving extensive mutual and self-criticism.
Effective: Spring 2008
Prerequisite: COMM 230W orCOMM 260W

COMM 489W **Media and Information Industries** (3) The structure, conduct and performance of firms and industries in the electronic media and information sectors.
Effective: Spring 2004
Prerequisite: COMM 387 or equivalent

COMM 490 **Issues in Electronic Commerce: Policy and Implementation** (3) Analysis of policy, strategic issues, and implications raised by the rapid growth of electronic commerce over the Internet.
Effective: Fall 2001
Prerequisite: COMM 180 for telecom major; permission of instructor for non-telecom majors

COMM 490A **Convergent Media Seminar** (3) This seminar examines media convergence issues, trends, and effects on society through discussions, presentations, and creation of a capstone project.
Effective: Summer 2002
Prerequisite: seventh- or eighth-semester standing and 3 credits ofCOMM 470A, COMM 470B orCOMM 470C

COMM 491 **International Telecommunications and Trade Policy** (3) Development in the law, policy, and business of international telecommunications; emphasis on multilateral forums--International Telecommunications Union and World Trade Organization.
Effective: Fall 2001
Prerequisite: COMM 180

COMM 492 **Internet Law and Policy** (3) Development in the law, policy, and business of Internet-mediated communications and commerce; emphasis on impact on existing legal, regulatory, and economic models.
Effective: Fall 2001
Prerequisite: COMM 180

COMM 493 **Entrepreneurship in the Information Age: Senior Seminar** (3) Provides students with knowledge/tools to take their innovation/technology idea through the business planning, capital, and operations budgeting processes.
Effective: Fall 2001
Prerequisite: COMM 387

COMM 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

COMM 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

COMM 495 **Internship** (1-3 per semester/maximum of 6) Supervised practicum with newspapers, broadcasting stations, public relations, and advertising agencies.
Effective: Spring 2008
Prerequisite: continuing student majors in the College of Communications; departmental approval

COMM 495A **Internship** (1-6 per semester/maximum of 6) Supervised practicum with newspapers, broadcasting stations, public relations, and advertising agencies.
Effective: Spring 2008
Prerequisite: continuing student majors in the College of Communications; departmental approval

COMM 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1986

COMM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1986

COMM 497A **Music Video Production** (3) Students will learn to blend pictures and sound by producing several advanced video pieces utilizing music and sound effects.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497B **Diversity Communications** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497C **Globalization and the Media** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497D **Media and Government** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497E **Campaigns, Elections and the Media** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497F **Perspectives on American Journalism** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497G **Joe Paterno: Communications & the Media** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497I **Group PR Projects** (3) An incorporation of in-class lessons and on-site activities at a PR agency near campus. Applies PR principles and practice to real-live activities. Students will prepare portfolio materials using actual events and accounts.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 497K **Wireless Communication** (3) This course was designed for students who would like to develop a broad perspective of the wireless industry and the various constituents. The course will provide a historical view of the influential people and watershed events that helped shape the wireless industry. In addition, the class will focus on wireless carrier profiles and the correlation between technology, spectrum, and handset providers. The class will also discuss technology evolution considerations and the potential impact WiMAX, Apple and Google may have on wireless devices, products and services.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

COMM 498B **Webcast Production** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 498D **Convergence Journalism** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 498E **Big 10 Network** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 498G **Advanced Radio News** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

COMM 499 (IL) **Foreign Study--Mass Communications** (1-12) Study of mass communication systems and practices in selected foreign countries.
Effective: Summer 2005
Prerequisite: departmental approval

Last Import from UCM: May 29, 2010 3:00 AM

Communications-Cl (COMMS)

COMMS 438 **Magazine Editing** (3) Study and practice of the editing and design of magazines and newsletters.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Community and Economic Development (CEDEV)

CEDEV 430 (AG EC 430) **Principles of Community Economic Development** (3) Concepts, strategies, and techniques of local economic analysis, planning, and development; case studies and decision-making exercises.
Effective: Spring 2004
Prerequisite: introductory course in economics

CEDEV 452 (R SOC 452) **Rural Organization** (3) Social organization and change in rural communities; use of sociological principles in analysis of rural problems and rural development.
Effective: Fall 2000
Prerequisite: 6 credits in rural sociology sociology or psychology

CEDEV 470 (R SOC 470) **Comparative Community Development** (3) Crosscultural community development projects and the problems encountered in each of the different cultural contexts.
Effective: Fall 2000 Ending: Summer 2010
Prerequisite: 6 credits in social or behavioral science

Last Import from UCM: May 29, 2010 3:00 AM

Comparative Literature (CMLIT)

CMLIT 001 (GH;IL) **Introduction to Western Literatures Through the Renaissance** (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Spring 2005

CMLIT 001U (GH;IL) **Introduction to Western Literatures Through the Renaissance** (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMLIT 001U (GH;IL) **Introduction to Western Literatures Through the Renaissance** (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMLIT 002 (GH;IL) **Introduction to Western Literatures Since the Renaissance** (3) Introductory comparative survey of European and American literatures, post-Renaissance through Modern, considering genre, themes, cultural, and literary values.
Effective: Summer 2005

CMLIT 003 (GH;IL) **Introduction to African Literatures** (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.
Effective: Summer 2005

CMLIT 003U (GH;IL) **Introduction to African Literatures** (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMLIT 004 (GH;IL) **Introduction to Asian Literatures** (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 004 (GH;IL) (ASIA 004) **Introduction to Asian Literatures** (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Future: Fall 2010

CMLIT 004U (GH;IL) **Introduction to Asian Literatures** (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMLIT 005 (GH;US;IL) **Introduction to Literatures of the Americas** (3) Comparative interpretation of the oral and written literary traditions of North, Central, and South America.
Effective: Summer 2005

CMLIT 006 (GH;IL) (PHIL 006) **Philosophy and Literature in Western Culture** (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Spring 2006

CMLIT 010 (GH;IL) **The Forms of World Literature: A Global Perspective** (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010 (GH;IL) **World Literatures** (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 010S (GH;IL) **The Forms of World Literature: A Global Perspective** (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 010S (GH;IL) **World Literatures** (3) The development of literature around the world--from epic, legend, lyric, etc. in

the oral tradition to modern written forms.
Effective: Fall 2010 Future: Fall 2010

CMLIT 011 (GH;IL) **The Hero in World Literature** (3) The figure of the hero/heroine examined in world literature as a vehicle for expressing social and cultural values.
Effective: Summer 2005

CMLIT 012 (GH;IL) **Introduction to World Drama and Performance** (3) The power, ethics, and excitement of drama and related forms of performance literature, presented in a global and comparative context.
Effective: Summer 2010

CMLIT 013 (GH;IL) **Virtual Worlds: Antiquity to the Present** (3) Virtual worlds from anicent to postmodern, in a comparative and global context that includes literature, film, and online multiplayer games.
Effective: Summer 2010

CMLIT 083S (GH;IL) **First-Year Seminar in Comparative Literature** (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Summer 2005

CMLIT 083T (GH;IL) **First-Year Seminar in Comparative Literature** (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMLIT 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1995

CMLIT 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMLIT 100 (GH;IL) **Introduction to Comparative Literature** (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 100 (GH;IL) **Reading Across Cultures** (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.
Effective: Fall 2010 Future: Fall 2010

CMLIT 101 (GH;US;IL) **The Theme of Identity in World Literature: Race, Gender, and Other Issues of Diversity** (3) Themes of gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Summer 2005 Ending: Summer 2010

CMLIT 101 (GH;US;IL) **Race, Gender, and Identity in World Literature** (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Fall 2010 Future: Fall 2010

CMLIT 101U (GH;US;IL) **Race, Gender, and Identity in World Literature** (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMLIT 105 (GH;IL) **The Development of Literary Humor** (3) Literary humor expressed as satire, comedy, and farce--from ancient times to the present--in an international and multicultural context.
Effective: Summer 2005

CMLIT 106 (GH;IL) **The Arthurian Legend** (3) The growth and development of the legend of King Arthur, from medieval Europe to modern Japan.
Effective: Summer 2005

CMLIT 107 (GH;IL) **The Literature of Exploration: Extraordinary Voyages from Antiquity to the Future** (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 107 (GH;IL) **Exploration, Travel, Migration, and Exile** (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.
Effective: Spring 2011 Future: Spring 2011

CMLIT 108 (GH;IL) **Myths and Mythologies** (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.
Effective: Summer 2005

CMLIT 108U (GH;IL) **Myths and Mythologies** (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMLIT 109 (GH;US;IL) **Native American Myths, Legends, and Literatures** (3) Myths, legends, and literatures of Native American cultures.
Effective: Spring 2006

CMLIT 110 (GH;US;IL) **Jewish Literature: An International Perspective** (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 110 (GH;US;IL) (J ST 131) **Jewish Literature: An International Perspective** (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Spring 2011 Future: Spring 2011

CMLIT 111 (GH;IL) **Introduction to Literatures of India** (3) Narrative, lyric, religious, oral, and dramatic literature, as well as film from India studied in translation from a global perspective.
Effective: Summer 2005

CMLIT 120 (GH;IL) **The Literature of the Occult** (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.
Effective: Spring 2006

CMLIT 120U (GH;IL) **The Literature of the Occult** (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMLIT 122 (GH;US;IL) **Global Science Fictions** (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.
Effective: Summer 2010

CMLIT 122U (GH;US;IL) **Global Science Fictions** (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMLIT 130 (GH;IL) **Banned Books: International and Comparative Perspectives** (3) The world of banned books, their history, and their politics, studied comparatively and internationally.
Effective: Summer 2010

CMLIT 131 (GH;IL) **Crime and Detection in World Literature** (3) Issues of ethics, truth, justice, and social order as embodied in crime and detective literature, presented in comparative contexts.
Effective: Summer 2010

CMLIT 132 (GH;IL) **Nobel Prize Literature** (3) Introduction to Nobel Prize winning literature and the culture of the prize in international and historical context.
Effective: Summer 2010

CMLIT 140 (GH;IL) **Literature and the Other Arts: International and Comparative Perspectives** (3) A comparative, international examination of the relationship between literature and non-literary art forms.
Effective: Summer 2010

CMLIT 141 (GH;US;IL) **Religion and Literature** (3) Major religious themes as expressed in literary masterpieces; sacred texts from various cultures read as literature.
Effective: Summer 2005

CMLIT 142 (GH;IL) **The Psychology of World Literature** (3) A comparative, psychological approach to world literature

from the perspectives of writer, narrative, character, and reader.
Effective: Summer 2010

CMLIT 143 (GH;US;IL) **Human Rights and World Literature** (3) Human rights violations discussed in tandem with their literary representation, presented in a global and comparative context.
Effective: Summer 2010

CMLIT 153 (GH;IL) **International Cultures Through Literature and Film** (3) Comparison of narrative techniques employed by literature and film in portraying different cultures; topics may vary each semester.
Effective: Summer 2005 Ending: Fall 2010

CMLIT 153 (GH;IL) **International Cultures: Film and Literature** (3) Comparison of narrative techniques employed by literature and film in portraying different cultures, topics may vary each semester.
Effective: Spring 2011 Future: Spring 2011

CMLIT 184 (GH;IL) (ENGL 184) **The Short Story** (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the Nineteenth and Twentieth Century.
Effective: Spring 2006

CMLIT 185 (GH;IL) (ENGL 185) **The Modern Novel in World Literature** (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 185 (GH;IL) (ENGL 185) **World Novel** (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2011 Future: Spring 2011

CMLIT 187 **Comparative Literature Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1995
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

CMLIT 189 (GH;IL) (ENGL 189) **The Founders of Modern Drama** (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 189 (GH;IL) (ENGL 189) **Modern Drama** (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2011 Future: Spring 2011

CMLIT 190 (GH;IL) **Literary and Cultural Theory: An Introduction** (3) A comparative introduction to literary and cultural theory, and its impact on the study of literature.
Effective: Summer 2010

CMLIT 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1995

CMLIT 199 (IL) **Foreign Study--Comparative Literature** (3-6) Course offered on comparative literary topics as part of a foreign-study program.
Effective: Summer 2005

CMLIT 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1995

CMLIT 295 **Internship** (1-18) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1997

CMLIT 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1995

CMLIT 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Effective: Summer 1995

CMLIT 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1995

CMLIT 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMLIT 300H **Honors Thesis** (3) Individual projects involving research, reading, and writing; preparation of an honors thesis in comparative literature or world literature.
Effective: Summer 1995
Prerequisite: Participation in the University Scholars program

CMLIT 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

CMLIT 399 (IL) **Foreign Study--Comparative Literature** (3-6) Special course offered on comparative literary topics as part of a foreign-study program.
Effective: Summer 2005
Prerequisite: third-semester standing

CMLIT 400Y (US;IL) **Senior Seminar in Literary Criticism and Theory** (3) Discussions of theories of literature, of literary criticism, and particularly of the distinct methods of comparative study; individual projects.
Effective: Spring 2006
Prerequisite: seventh-semester standing; 18 credits in literature

CMLIT 401Y (IL) **The Western Literary Heritage I** (3) Major literary movements and authors in the literature of the Western world from the beginnings through the early Renaissance.
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

CMLIT 402Y (US;IL) **The Western Literary Heritage II** (3) Major literary movements and authors in the literature of the Western world from the late Renaissance to the present time.
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

CMLIT 403 (US) (LTNST 403) **Varieties of Latina/o Cultural Expression** (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

CMLIT 403 (US) (LTNST 403) **Latino/a Literature and Culture** (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

CMLIT 404 (IL) **Literary Modes of Asia** (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 3 credits in literature or related field appropriate to this course

CMLIT 404 (IL) (ASIA 404) **Topics in Asian Literature** (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature or related field appropriate to this course

CMLIT 405 (US;IL) **Inter-American Literature** (3) This course examines the development of literature in Canada, the United States, Spanish America, the Caribbean area, and Brazil.
Effective: Spring 2006
Prerequisite: 3 credits in literature

CMLIT 406 (IL) **Women and World Literature** (3) Literature written by women, especially women from non-Western cultures; the spectrum of genres in which women writers have excelled.
Effective: Spring 2006
Prerequisite: 3 credits in literature or in women's studies

CMLIT 408 (IL) **Heroic Literature** (3) Traditional heroes, their traits and adventures; typical themes and examples chosen from the epics and sagas of world literature.
Effective: Spring 2006
Prerequisite: 3 credits in literature or folklore

CMLIT 410 (IL) **Problems in Translation** (3) Emphasizing literary translation, a study of the theoretical and practical problems encountered in the processes of translation, transmission, and interpretation.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 18 credits in a foreign language

CMLIT 410 (IL) **Literary Translation: Theory and Practice** (3) Emphasizing literary translation, a study of the theoretical and practical problems encountered in the processes of translation, transmission, and interpretation.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 18 credits in a foreign language

CMLIT 415 (GH;US;IL) **World Graphic Novels** (3) Critical analyses of form, genre, medium, and discourse of the graphic novel and its historical precedents in an international and comparative context.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 422 (IL) **African Drama** (3) Traditional and popular drama forms; modern anglophone and francophone drama; nationalism and social criticism in contemporary African drama.
Effective: Spring 2006

CMLIT 423 (IL) **African Novel** (3) From traditional oral narratives to modern autobiograhical, historical, satirical, sociological, and allegorical forms; novelist as social critic.
Effective: Spring 2006

CMLIT 429 (ENGL 429) **New Media and Literature** (3) New media literary genres; critical discussion of creative works in digital media.
Effective: Summer 2010

CMLIT 430 (IL) **Global Modernisms** (3) A comparative investigation of global Modernisms, with an emphasis on the relations between modernism, modernity, and modernization.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 435 (IL) **Cultures of Globalization** (3) Cultural and literary effects of the process of globalization, with an emphasis on world literatures and transnationalism.
Effective: Summer 2010
Prerequisite: 3 credits of literature

CMLIT 438 (IL) **Fantastic Worlds: International and Comparative Perspectives** (3) A comparative, international study of fantastic worlds in literature and visual culture.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 443 (US;IL) **Literary Relations of Germany with England and America** (3-9) Nature and extent of the literary relations of Germany and England; in alternate years, of Germany and America. A reading knowledge of German is recommended but not required. Conducted in English.
Effective: Spring 2006 Ending: Fall 2010

CMLIT 443 (US;IL) **Transatlantic Literature** (3 per semester/maximum of 6) Comparative literary and cultural relations across the Atlantic Ocean; may include Europe, Africa, the Americas, and/or the Caribbean.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature

CMLIT 446 (IL) **Postcolonial Literature and Culture** (3) Postcolonial literature and theory in a comparative and international context.
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

CMLIT 448 (IL) **Literary Cultures of Buddhism** (3) Comparative exploration of various Buddhist literary cultures, from the classical Indian subcontinent to modern movements like the Beats and dalit writing.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 449 (IL) **Literary Cultures of Islam** (3) Comparative discussion of the literary cultures of Islam from the seventh century to the present.
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

CMLIT 453 (IL) (COMM 453) **Narrative Theory: Film and Literature** (3) Comparative study of the aesthetics and techniques of film and literature; close analyses of masters of each art form.
Effective: Fall 2006
Prerequisite: COMM 150 or 3 credits in literature

CMLIT 455 (IL) **Ethics, Justice, and Rights in World Literature** (3) Concepts of ethics, justice, and rights, appearing in world literature and/or film.
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

CMLIT 459 **Topics in Theory** (3) Selected topics in this history of theory and literary criticism within a global, comparative context.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 470 (IL) **Old Masters of the Modern Novel** (3) Major novels of Joyce, Proust, Kafka, Thomas Mann, Nabokov, and others; their contributions to the art of the novel.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 3 credits in literature

CMLIT 470 (IL) **The Modern Novel** (3) Major novels of Joyce, Proust, Kafka, Thomas Mann, Nabokov, and others; their contributions to the art of the novel.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature

CMLIT 471 (IL) **Poetry and Poetics** (3) Theoretical and practical concepts in the comparative, global history of poetry and/or poetics.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 480 (IL) **The International Folktale** (3) Traditional tales from various parts of the world: their origin, characteristics, forms; their transmission as oral narrative and written literature.
Effective: Spring 2006
Prerequisite: 3 credits in literature or folklore

CMLIT 481 (IL) **Theory and Techniques of World Folklore** (3) Provides essential backgrounds to major folklore approaches and gives direction to the application of the most popular analytic methods.
Effective: Spring 2006
Prerequisite: 3 credits in literature

CMLIT 486 (IL) **Tragedy** (3) Development of tragic drama and its relationship to social background and philosophical theory.
Effective: Spring 2006

CMLIT 487 (IL) **Comedy** (3) Development of comic drama and its relationship to social background and philosophical theory.
Effective: Spring 2006

CMLIT 488 (IL) (ENGL 488) **Modern Continental Drama** (3) From Ibsen to the drama of today: Strindberg, Chekhov, Hauptmann, Pirandello, Ionesco, Beckett, Genet, and others.
Effective: Spring 2006
Prerequisite: ENGL 015 orENGL 030

CMLIT 490 **Video Game Studies** (3) A comparative look at the nature and history of video games as cultural artifacts, from Pond to online role-playing.
Effective: Summer 2010
Prerequisite: 3 credits in literature

CMLIT 491 (IL) **Literary Adaptation: International and Comparative Perspectives** (3) A comparative, international study of adapations between literature and other media (film, theater, photography, music).
Effective: Summer 2010
Prerequisite: 3 credits in literature or other fields relevant to this course

CMLIT 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1995

CMLIT 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

CMLIT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1995

CMLIT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1995

CMLIT 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1995

CMLIT 499 (IL) **Foreign Study--Comparative Literature** (3-6) Advanced courses offered on comparative literary topics as part of a foreign-study program.
Effective: Summer 2005
Prerequisite: 18 credits or equivalent in the appropriate foreign language; 6 credits in literature or related field appropriate to this course

Comparative and International Education (CI ED)

CI ED 401 (IL) (EDTHP 401) **Introduction to Comparative Education** (3) Origins, nature, scope, basic literature, and methodology of comparative education. Study of sample topics.
Effective: Fall 2007
Prerequisite: 5th semester standing or higher

CI ED 440 (EDTHP 440) **Introduction to Philosophy of Education** (3) Introduction to the examination of educational theory and practice from philosophical perspectives, classical and contemporary.
Effective: Fall 2007
Prerequisite: EDTHP 115

CI ED 444 (WL ED 444) **Language, Culture and the Classroom: Issues for Practitioners** (3) Critical understanding of cultural linguistic diversity to facilitate the inclusion of English Language Learners in a globalized classroom.
Effective: Fall 2007
Prerequisite: WL ED 300 orWL ED 400

CI ED 457 (AGECO 457) **Principles of Integrated Pest Management** (3) Integrated study of pest complexes and their management, emphasizing ecological principles drawing on examples from a range of agricultural, forestry and urban systems. This course is designed for sixth, seventh, and eighth semester and graduate students.
Effective: Spring 2010
Prerequisite: Must take two or more of the following:ENT 313 and/orPPATH 405 and/orPPATH 318 and/orHORT 238

CI ED 470 (ADTED 470) **Introduction to Distance Education** (3) An introduction to the history, theory, organization, technologies, and instructional procedures used in American and foreign distance education.
Effective: Summer 1995

CI ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1998

CI ED 497A (EDTHP 497A) **Immigration, Ethnicity and the Schools** (3) This class is an introduction to theories and empirical research on various immigrant and race/ethnic groups and their schooling.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Computer Engineering (CMPEH)

CMPEH 301 **Introduction to Microcomputers** (2) Basic microcomputer architecture, application, programs, and interfacing.
Effective: Fall 1997
Prerequisite: CMPSC 201 junior standing

CMPEH 449 **VLSI Digital Circuits** (3) Modern approaches to using VLSI technology; logic circuits, cell layout and design on CAD systems.
Effective: Spring 2008

CMPEH 472 **Microprocessors** (4) Principles of microprocessors, hardware architecture, assembly language, programming, interfacing, and applications of microprocessors will be studied.
Effective: Spring 2008
Prerequisite: CMPEN 271, CMPEN 275, E E 310

Last Import from UCM: May 29, 2010 3:00 AM

Computer Engineering (CMPEN)

CMPEN 111S **Computers and Computer Hardware** (1) A brief orientation to University life and resources and an introduction to computers and computer hardware.
Effective: Spring 2009

CMPEN 270 **Digital Design: Theory and Practice** (4) Introduction to digital systems and their design. Topics include combinational and sequential devices and circuits, modern design tools and design practices.
Effective: Summer 2008
Prerequisite: PHYS 212

CMPEN 271 **Introduction to Digital Systems** (3) Introduction to logic design and digital systems. Boolean algebra, and introduction to combinatorial and sequential circuit design and analysis.
Effective: Spring 2008
Concurrent: PHYS 212

CMPEN 275 **Digital Design Laboratory** (1) Introduction to digital design techniques.
Effective: Spring 2008
Concurrent: CMPEN 271 ; PHYS 212

CMPEN 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

CMPEN 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

CMPEN 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CMPEN 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

CMPEN 331 **Computer Organization and Design** (3) Introduction to major components of a computer system, how they function together in executing a program, how they are designed.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPEN 271;CMPSC 121 orCMPSC 201

CMPEN 331 **Computer Organization and Design** (3) Introduction to major components of a computer system, how they function together in executing a program, how they are designed.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CMPEN 271 orCMPEN 270;CMPSC 121 orCMPSC 201

CMPEN 351 **Microprocessors** (3) Microprocessor architecture; memory system design; assembly language programming; interrupts; the stacks and subroutines; memory and I/O inter- facing; serial I/O and data communications; microprocessors applications.
Effective: Spring 2008
Prerequisite: CMPEN 271;CMPEN 275

CMPEN 352W **Embedded Systems Design** (3) Design/development of embedded systems for data acquisition, process control, and special-purpose computing systems; peripheral interfacing, serial/parallel communications and bus systems.
Effective: Spring 2008
Prerequisite: CMPEN 351

CMPEN 362 (E E 362) **Communication Networks** (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPEN 271; Concurrent: STAT 401 or STAT 414 or STAT 418 STAT 301 or STAT 318 or

CMPEN 362 (E E 362) **Communication Networks** (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CMPEN 270 orCMPEN 271 Concurrent: STAT 401 or STAT 414 or STAT 418 STAT 301 or STAT 318 or

CMPEN 371 **Advanced Digital Design** (3) Theory, design, and implementation of digital circuits based on combinational and sequential circuits; implementation of designs using hardware description language.
Effective: Spring 2008
Prerequisite: CMPEN 271;CMPEN 275;CMPSC 121 orCMPSC 201

CMPEN 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or

internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

CMPEN 396 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010

CMPEN 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010

CMPEN 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

CMPEN 411 **VLSI Digital Circuits** (3) Basic building blocks of CMOS design, design rules, chip planning, layout design, system power and timing, simulation of VLSI structures.
Effective: Spring 2008
Prerequisite: CMPEN 371 orCMPEN 471;E E 310

CMPEN 416 (E E 416) **Digital Integrated Circuits** (3) Analyses and design of digital integrated circuit building blocks, including logic gates, flip-flops, memory elements, analog switches, multiplexers, and converters.
Effective: Spring 2008
Prerequisite: E E 310

CMPEN 417 (E E 417) **Digital Design Using Field Programmable Devices** (3) Field programmable device architectures and technologies; rapid prototyping using top down design techniques; quick response systems.
Effective: Spring 2008
Prerequisite: CMPEN 331

CMPEN 431 **Introduction to Computer Architecture** (3) Introduction to computer architecture. Memory hierarchy and design, CPU design, pipelining, multiprocessor architecture.
Effective: Spring 2008
Prerequisite: CMPEN 331 orCMPEN 371

CMPEN 431H **Honors Introduction to Computer Architecture** (3) Honors course in principles of computer architecture: memory hierarchies and design, I/O organization and design, CPU design and advanced processors.
Effective: Spring 2008
Prerequisite: CMPEN 331

CMPEN 441 **Operating Systems** (3) Resource management in computer systems. Process scheduling, memory management, file system design, I/O management, Unix operating system.
Effective: Spring 2008
Prerequisite: CMPSC 360

CMPEN 454 (E E 454) **Fundamentals of Computer Vision** (3) Introduction to topics such as image formation, segmentation, feature extraction, matching, shape recovery, object recognition, and dynamic scene analysis.
Effective: Spring 2008
Prerequisite: MATH 230 orMATH 231;CMPSC 121 orCMPSC 201

CMPEN 455 (E E 455) **Digital Image Processing** (3) Overview of digital image processing techniques and their applications, image sampling, enhancement, restoration, and analysis; computer projects.
Effective: Spring 2008
Prerequisite: E E 353 orE E 350;CMPSC 121 orCMPSC 201

CMPEN 461 **Communication Networks** (3) Data transmission, encoding, link control techniques, network architecture, design, protocols, and multiple access.
Effective: Spring 2008
Prerequisite: CMPEN 271;E E 380

CMPEN 471 **Logical Design of Digital Systems** (3) Basic switching theory and design of digital circuits, including combinational, synchronous sequential, and asynchronous sequential circuits.
Effective: Spring 2008
Prerequisite: CMPEN 331

CMPEN 471H **Honors Logical Design of Digital Systems** (3) Honors course in basic switching theory and design of digital circuits, including combinational, synchronous sequential and asynchronous sequential circuits.
Effective: Spring 2008
Prerequisite: CMPEN 331

CMPEN 472 **Microprocessors and Embedded Systems** (3) Microprocessors: architecture, design, assembly language, programming, interfacing, bus structure, and interface circuits and their use in embedded systems.
Effective: Spring 2008
Prerequisite: CMPEN 331

CMPEN 472H **Honors Microprocessors and Embedded Systems** (3) Honors course in microprocessors: architecture, design, assembly language, programming, interfacing, bus structure, and interface circuits and their use in embedded systems.

Effective: Spring 2008
Prerequisite: CMPEN 331

CMPEN 473 **Microcomputer Laboratory** (3) Design of digital systems using microprocessors.
Effective: Spring 2008
Prerequisite: CMPEN 472

CMPEN 475 **Functional Verification** (3) Introduce concepts, methods, and technology for effective functional verification of modern electronic systems.
Effective: Summer 2008
Prerequisite: CMPEN 331

CMPEN 480 **Computer Engineering Design** (3) Engineering design and modeling, engineering economy, project planning, capstone project selections, and technical communication skills.
Effective: Spring 2008
Prerequisite: CMPEN 352W;CMPEN 431

CMPEN 481 **Computer Engineering Project** (3) Group or individual design projects in the area of computer engineering.
Effective: Spring 2008
Prerequisite: CMPEN 480

CMPEN 482W **Computer Engineering Project Design** (3) Computer engineering design project, project management, documentation, reporting, and group and individual communication skills.
Effective: Spring 2008
Prerequisite: E E 310;E E 353;CMPSC 473;ENGL 202C

CMPEN 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

CMPEN 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

CMPEN 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

CMPEN 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

CMPEN 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CMPEN 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Computer Engineering Technology (CMPET)

CMPET 005 **Engineering Methods in Engineering Technology** (1) Introduction to experimental and computer methods in engineering technology; applications of experimental concepts through student involvement in computer exercises.
Effective: Fall 2007
Prerequisite: EET 101, MATH 081

CMPET 117 **Digital Electronics** (3) Fundamentals of digital circuits, including logic circuits, boolean algebra, Karnaugh maps, counters, and registers.
Effective: Fall 2008
Prerequisite: EET 105

CMPET 120 **Digital Electronics Laboratory** (1) Laboratory study of digital electronics circuits.
Effective: Fall 2008
Prerequisite: EET 105 Concurrent: CMPET 117

CMPET 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

CMPET 211 **Embedded Processors and DSP** (3) Introduction to micro-controllers and embedded controllers with applications, including concepts of digital signal processing.
Effective: Fall 2008
Prerequisite: CMPET 117, CMPET 120

CMPET 240 **Microprocessor Interfacing** (5) Examination of the devices used in microprocessor systems to communicate with external digital and analog systems.
Effective: Fall 2007
Prerequisite: EET 210;CMPET 211

CMPET 241 **Advanced Microprocessor Systems** (4) Development of an understanding of microprocessor principles and systems through a study of current 8- and 16-bit microprocessors.
Effective: Fall 2007
Prerequisite: CMPET 211

CMPET 242 **Microprocessor Systems Design and Analysis** (3) Experience in designing, constructing, and testing a complete microcomputer system and its practical application to control.
Effective: Fall 2007
Prerequisite: CMPET 211

CMPET 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1993

CMPET 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

CMPET 301 **Algorithmic Processes for Electrical Systems** (3) Algorithms, languages, notations and applications of object- and procedure- oriented languages to electrical and electronic problem solving.
Effective: Fall 2007
Prerequisite: CMPET 211 Concurrent: MATH 141 or MATH 210

CMPET 333 **Computer Networking** (3) Introduction to Local Area Networks (LANs) and Wide Area Networks (WANs), including transmission mediums, protocols, topologies, software, and hardware.
Effective: Fall 2007
Prerequisite: EET 216, CMPET 301

CMPET 355 **Intermediate Microprocessors and Microcomputers** (3) Microprocessor architecture and assembly language programming. Hardware and software of basic microprocessors. Input/output structure in microcomputers.
Effective: Fall 2007
Prerequisite: EET 221, CMPET 301, EET 341

CMPET 400 **Computer Architecture, Organization, and Design** (4) Instruction sets, formating, sequencing, and addressing modes; central processing unit design; computer peripheral, I/O, memory organization, and computer communications.
Effective: Fall 2007
Prerequisite: CMPET 403

CMPET 401 **Data Communication and Networking** (3) Signal representations, communication techniques, interfacing, serial and parallel communication, modems, error detection, LAN and WAN protocols.
Effective: Spring 2008
Prerequisite: CSE 271 orEE T 117

CMPET 402 **Data Communication and Networking Laboratory** (1) Network operating systems, LAN and WAN protocols, serial and parallel communications, modems, FAX, and other interfacing methods.
Effective: Spring 2001
Prerequisite: or concurrent:CMPET 401

CMPET 403 **Switching Circuit Design** (4) Analysis and design of advanced combinational and sequential circuits using IC logic devices and PLD's while promoting the use of software development tools.
Effective: Spring 2008
Prerequisite: CMPEN 271 orEET 117;CMPEN 275 orEET 120

CMPET 412 **Microcomputers** (4) Design, architecture, programming, and interfacing of microprocessors, enhanced by lab experiments.
Effective: Spring 2008
Prerequisite: CMPEN 271 orEET 117;CMPEN 275 orEET 120

CMPET 456 **Advanced Microprocessors, High Level Interfacing** (3) Operating systems; systems programming; high-level application programming; high-level hardware and software protocols; serial and parallel digital communications.
Effective: Spring 2007
Prerequisite: CMPET 355

CMPET 457 **Software Engineering** (3) Application of modern techniques in software development, including program design based on new methods and tools.
Effective: Spring 2007
Prerequisite: CMPET 355

Last Import from UCM: May 29, 2010 3:00 AM

Computer Information Systems (CINSY)

CINSY 311 **Introduction to Computing Concepts** (3) Computing concepts for information processing and computer technologies associated with information management; microcomputer applications, programming in modern language support concepts.
Effective: Summer 2000

CINSY 406 **Microcomputer Technology and Application** (3) Introduction to fundamental components of microcomputer technologies and applications.
Effective: Spring 1995
Prerequisite: CINSY 311

CINSY 408 **Introduction to Object-Oriented Programming and Design** (3) An introduction to object-oriented design and program development; application of concepts will occur using a programming language.
Effective: Spring 2000
Prerequisite: CINSY 311

CINSY 410 **Hypertext Markup Language** (3) The study of WEB applications using HTML; course will cover basic design and applications for the WEB.
Effective: Spring 2000
Prerequisite: CINSY 311

CINSY 411 **Topics in Computer Information Systems** (3) Covers new trends and concepts in information/processing technology and their applications and impact on computer information systems.
Effective: Fall 1987
Prerequisite: permission of program coordinator

CINSY 421 **Multimedia Technologies** (3) Introduces multimedia technologies and concepts; various applications of multimedia technologies will be introduced
Effective: Summer 1995
Prerequisite: CINSY 311

CINSY 425 **Graphical Interface Design and Applications** (3) Study of interface design with special emphasis on design for information system applications; application concepts will occur using programming language.
Effective: Spring 2000
Prerequisite: CINSY 311

CINSY 427 **WEB Programming** (3) Introduction to WEB design, programming, applications, and techniques for WEB development.
Effective: Spring 2000
Prerequisite: CINSY 311, CINSY 410

CINSY 431 **Business Programming with COBOL** (3) Introduction to the syntax and grammer of COBOL language with emphasis on applications to business data processing.
Effective: Fall 1987
Prerequisite: CINSY 311

CINSY 436 **File Management and COBOL** (3) Creation and maintenance of sequential and direct access files, report writing and other advanced programming techniques.
Effective: Fall 1987
Prerequisite: CINSY 431

CINSY 441 **Data Communications** (3) Introduces data communications concepts, evolution, and applications. Computer networking methods and their components will be covered in this course.
Effective: Fall 1987
Prerequisite: CINSY 431 or permission of program coordinator

CINSY 446 **Database Management** (3) Designed to provide students with explanation, comparison of techniques, methodology of systems, limitations, application of various database management systems.
Effective: Spring 2001
Prerequisite: CINSY 408, CINSY 431 or 3 credits in programming

CINSY 451 **Applied Software Project** (3) A project in the design, specification, and programming of a system in an application area.
Effective: Fall 1987
Prerequisite: permission of program coordinator

CINSY 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1999

Last Import from UCM: May 29, 2010 3:00 AM

Computer Science (CMPSC)

CMPSC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

CMPSC 097A **Creating Web Pages with HTML and JavaScript** (3) Creating web pages with HTML and JavaScript.
Effective: Summer 2010 Ending: Summer 2010

CMPSC 097A **Creating Web Pages with HTML and JavaScript** (3) Creating web pages with HTML and JavaScript.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMPSC 097A **Creating Web Pages with HTML and JavaScript** (3) Creating web pages with HTML and JavaScript includes HTML, JavaScript, FT Telnet, basic Linux commancs, editor and other Linux features. Experience may wave coruse with department approval.
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011

CMPSC 097A **Creating Web Pages with HTML and JavaScript** (3) Creating web pages with HTML and JavaScript includes HTML, JavaScript, FT Telnet, basic Linux commancs, editor and other Linux features. Experience may wave coruse with department approval.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMPSC 097A **Creating Web Pages with HTML and JavaScript** (3) Creating web pages with HTML and JavaScript includes HTML, JavaScript, FT Telnet, basic Linux commancs, editor and other Linux features. Experience may wave coruse with department approval.
Effective: Fall 2011 Ending: Fall 2011 Future: Fall 2011

CMPSC 100 **Computer Fundamentals and Applications** (3) Introduction to computer fundamentals and applications to data processing environments.
Effective: Spring 1995
Prerequisite: 2 entrance units in mathematics

CMPSC 101 (GQ) **Introduction to C++ Programming** (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.
Effective: Spring 2008
Prerequisite: 2 entrance units in mathematics

CMPSC 101S (GQ) **Introduction to C++ Programming** (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 2 entrance units in mathematics

CMPSC 102 **Introduction to VB Programming** (3) Problem solving in M I S environment; high-level language programming; control structures, functions, parameters, recursion, arrays, records/structures; verification; debugging; documentation.
Effective: Summer 2008
Prerequisite: 2 entrance units in mathematics

CMPSC 109 **Introduction to Data Processing with COBOL** (3) Study of the COBOL programming language and its applications in industry.
Effective: Spring 2008
Prerequisite: 3 credits of programming

CMPSC 111S **Logic for Computer Science** (1) An introduction to logic and its application to problem solving and computer science.
Effective: Spring 2009

CMPSC 121 (GQ) **Introduction to Programming Techniques** (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.
Effective: Summer 2008 Ending: Summer 2010
Prerequisite: 2 entrance units in mathematics

CMPSC 121 (GQ) **Introduction to Programming Techniques** (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 or prerequisite or concurrentMATH 140

CMPSC 121H (GQ) **Introduction to Programming Techniques** (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 or prerequisite or concurrentMATH 140

CMPSC 122 **Intermediate Programming** (3) Object-oriented programming, recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), the basics of algorithmic analysis, and an introduction to the principles of language translation.
Effective: Spring 2008
Prerequisite: CMPSC 121

CMPSC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

CMPSC 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMPSC 200 (GQ) **Programming for Engineers with MATLAB** (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Spring 2008
Prerequisite: MATH 140 Concurrent: MATH 141

CMPSC 201 (GQ) **Programming for Engineers with C++** (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Spring 2008
Prerequisite: MATH 140 Concurrent: MATH 141

CMPSC 201S (GQ) **Programming for Engineers with C++** (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 140 Concurrent: MATH 141

CMPSC 202 (GQ) **Programming for Engineers with FORTRAN** (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.
Effective: Spring 2008
Prerequisite: MATH 140 Concurrent: MATH 141

CMPSC 203 (GQ) **Introduction to Spreadsheets and Databases** (4) Design, use, and programming of spreadsheets and data bases with applications from a range of disciplines.
Effective: Spring 2008
Prerequisite: 2 entrance units in mathematics

CMPSC 221 **Object Oriented Programming with Web-Based Applications** (3) This course will continue with object-oriented programming and will introduce graphics, virtual machines, programming language concepts and web-based programming using Java.
Effective: Spring 2008
Prerequisite: CMPSC 122

CMPSC 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

CMPSC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2008

CMPSC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

CMPSC 297A **Web Programming Seminar** (1) Introduction to creating dynamic web page and team projects learning and using web-based programming languages.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 221;CAS 100A orCAS 100B (concurrently) or permission of program

CMPSC 297E **Introduction to Programming for the Web** (3) The over goal of this course is designed to teach you how to create your first Windows applications using Visual Basic 2008, and the .NET Framework 3.5 How to master essential Visual Basic programming skills like structured exception handling, string handling, and event handling. Learning how to write data validation routines to creating bulletproof applications Discovering essential .NET classes, such as Math, Array,

and StringBuilder, and the typed collection classes. How to gain the debugging skills to track down elusive coding errors How to create and use business and database classes so your applications are object-oriented.
Effective: Summer 2010 Ending: Summer 2010

CMPSC 297E **Introduction to Programming for the Web** (3) The over goal of this course is designed to teach you how to create your first Windows applications using Visual Basic 2008, and the .NET Framework 3.5. How to master essential Visual Basic programming skills like structured exception handling, string handling, and event handling. Learning how to write data validation routines to creating bulletproof applications. Discoverng essential .NET classes, such as Math, Array, and StringBuilder, and the typed collection classes. How to gain the debugging skills to track down elusive coding errors. How to create and use business and database classes so your applications are object-oriented.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMPSC 297E **Introduction to Web Programming** (3) This course introduces the student to PHP programming.
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011

CMPSC 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

CMPSC 302 **Intermediate VB Programming** (3) OO programming, visual programming, classes, objects, ADTs, inheritance, recursion, regular expressions, user-defined controls, documentation, testing, verification, productivity tools.
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 121

CMPSC 311 **Introduction to Systems Programming** (3) Unix system programming in C; organization of programs and data; program analysis and support tools; software standards; common system functions.
Effective: Spring 2008
Prerequisite: CMPSC 221

CMPSC 312 **Computer Organization and Architecture** (3) Data representation, digital logic, instruction set/control logic, machine/ assembly languages, advanced architectures, memory hierarchy, I/O devices, overall system design.
Effective: Spring 2008
Prerequisite: CMPSC 121 or equivalent

CMPSC 313 **Assembly Language Programming** (3) Program design, addressing modes, subroutines, parameter passing, stacks, bit manipulation, text processing, DOS functions, macros, I/O, high level language interfaces.
Effective: Spring 2008
Prerequisite: CMPSC 312

CMPSC 335 **Fundamentals of Communication Networks** (3) Introduction to the composition of communciation networks, including trans- mission mediums and protocols, transfer methods, topologies and software, and communications hardware.
Effective: Spring 2008
Prerequisite: 3 credits of programming

CMPSC 360 **Discrete Mathematics for Computer Science** (3) Discrete mathematics and foundations for modern computer science. Topics include sets, relations, logic, algorithms, graphs, finite state machines and regular expressions.
Effective: Spring 2008
Concurrent: CMPSC 122

CMPSC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

CMPSC 397A **Intermediate Programming for the Web** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Summer 2010 Ending: Summer 2010

CMPSC 397A **Intermediate Web Programming** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMPSC 397A **Intermediate Programming for the Web** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011

CMPSC 397A **Intermediate Programming for the Web** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMPSC 397B **Advanced Programming for the Web** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: CSE 297A andCSE 297C

CMPSC 397B **Advanced Programming for the Web** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011
Prerequisite: CSE 297A andCSE 297C

CMPSC 397B **Advanced Programming for the Web** (3) Covers forms, databases, email, cookies, oft-used libraries.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CSE 297A andCSE 297C

CMPSC 397C **SQL Databases for the Web** (3) This overview of the course teaches you the concepts and terms for working with relational database and SQL. It also teaches you the knowledge of the following: How to use the Management Studio to work with a SQL Server database Master the SQL that you will use every day Learn how to design and create a database Master advanced SQL features.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMPSC 397C **SQL Databases for the Web** (3) This overview of the course teaches you the concepts and terms for working with relational database and SQL. It also teaches you the knowledge of the following: How to use the Management Studio to work with a SQL Server database Master the SQL that you will use every day Learn how to design and create a database Master advanced SQL features.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMPSC 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

CMPSC 402 **UNIX and C** (3) UNIX operating system, functions, libraries, programming style, operators and variables, data types, control statements, pointers, arrays, strings, lists, input/output, macros.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 121 or equivalent

CMPSC 402 **UNIX and C** (3) UNIX OS including file system, utilities, and shell scripting; C programming, including I/O, pointers, arrays, dynamic memory, macros, and libraries.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 121

CMPSC 409 **Advanced Data Processing with COBOL** (3) Introduction to advanced COBOL features, file structures, and programming techniques and information processing.
Effective: Spring 2008
Prerequisite: CMPSC 109

CMPSC 425 **Advanced Object-Oriented Programming** (3) Advanced object-oriented programming paradigm, exception handling, application programming interface, secure programming, network programming, threads and synchronization.
Effective: Spring 2010
Prerequisite: CMPSC 122

CMPSC 426 **Object-oriented Design** (3) Object-oriented design methodologies and programming.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 422

CMPSC 426 **Object-oriented Design** (3) Object-oriented analysis and design; design patterns such as creational, structural, and behavioral patterns; UML; and unified process.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 425, CMPSC 462

CMPSC 428 **Introductory Ada and Program Design** (3) Structured program design using Ada; strong typing, data abstraction, packages, subprograms, separate compilation, visibility, exceptions, generic units.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 121 or equivalent

CMPSC 428 **Programming in Ada** (3) Structured program design using Ada; strong typing, data abstraction, packages, subprograms, separate compilation, visibility, exceptions, generic units.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 121

CMPSC 430 **Database Design I** (3) Relational database model, query languages, integrity, reliability, and normal forms for design.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462;MATH 315

CMPSC 430 **Database Design** (3) Relational database model, query languages, integrity, reliability, normal forms for design.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 462

CMPSC 431 **Database Management Systems** (3) Database system concepts: file organizations and retrieval algorithms; the three data models (relational, hierarchical, and network) and their database implementations.
Effective: Spring 2008
Prerequisite: CMPSC 221;ENGL 202C

CMPSC 431W **Database Management Systems** (3) Database system concepts: file organizations and retrieval algorithms; the three data models (relational, hierarchical, and network) and their database implementations.
Effective: Spring 2008
Prerequisite: CMPSC 221;ENGL 202C

CMPSC 436 **Communications and Networking** (3) Data transmission, basic signaling, data encoding, error control, communication protocols, security, network topologies, routing, switching, internetworking, emerging high speed networks.
Effective: Spring 2008
Prerequisite: CMPSC 312

CMPSC 437 **Network Operations and Management** (3) Study of local area network (LAN) and wide area network (WAN) topologies, operations, and management.
Effective: Spring 2008
Prerequisite: CMPSC 335

CMPSC 438 **Computer Network Architecture and Programming** (3) Network architectures, communication protocols, internetworking, network security, client-server computing, web application development, programming with APIs.
Effective: Spring 2010
Prerequisite: CMPSC 312, CMPSC 425

CMPSC 441 **Introduction to Artificial Intelligence** (3) History of AI, problem solving, search techniques, knowledge representation, LISP, learning.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 122 or equivalent;CMPSC 462

CMPSC 441 **Artificial Intelligence** (3) Problem solving, search techniques including local search and genetic algorithms, knowledge representation, planning, learning, and neural networks.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 122;MATH 315

CMPSC 442 **Artificial Intelligence** (3) Introduction to the theory, research paradigms, implementation techniques, and philosophies of artificial intelligence.
Effective: Spring 2008
Prerequisite: CMPSC 122 or equivalent Concurrent: CMPSC 465

CMPSC 443 **Introduction to Computer and Network Security** (3) Introduction to theory and practice of computer security with an emphasis on Internet and operating system applications.
Effective: Spring 2008
Prerequisite: CMPSC 473, CMPEN 362

CMPSC 446 **Computer Vision** (3) Image formation, segmentation, filtering, edge detection, texture analysis, shape from shading, color, stereo matching, and dynamic scene analysis.
Effective: Spring 2008
Prerequisite: MATH 230 orMATH 231;CMPSC 121 orCMPSC 201

CMPSC 450 **Concurrent Scientific Programming** (3) Problems of synchronization, concurrent execution, and their solution techniques. Design and implementation of concurrent software in a distributed system.
Effective: Spring 2008
Prerequisite: CMPSC 121, CMPSC 201 orCMPSC 202;MATH 220;MATH 230 orMATH 231

CMPSC 451 (MATH 451) **Numerical Computations** (3) Algorithms for interpolation, approximation, integration, nonlinear equations, linear systems, fast FOURIER transform, and differential equations emphasizing computational properties and implementation. Students may take only one course for credit from CSE/MATH 451 and CSE/MATH 455.
Effective: Spring 2008
Prerequisite: 3 credits of programming;MATH 230 orMATH 231

CMPSC 452 **Numerical Analysis I** (3) Algorithm efficiency and accuracy, function interpolation and polynomial approximation, numerical differentiation and integration, initial-value problems, and approximation of eigenvalues.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 121 or equivalent;MATH 430

CMPSC 452 **Numerical Analysis** (3) Algorithm efficiency and accuracy, function interpolation and polynomial approximation, numerical differentiation and integration, initial-value problems, and approximation of eigenvalues.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 220

CMPSC 455 (MATH 455) **Introduction to Numerical Analysis I** (3) Floating point computation, numerical rootfinding, interpolation, numerical quadrature, direct methods for linear systems. Students may take only one course for credit from CMPSC (MATH) 451 and CMPSC (MATH) 455.
Effective: Spring 2008
Prerequisite: MATH 220;MATH 230 orMATH 231 ; and 3 credits of programming

CMPSC 456 (MATH 456) **Introduction to Numerical Analysis II** (3) Polynomials and piecewise polynomial approximation; matrix least square problems; numerical solution of eigenvalue problems; numerical solutions of ordinary differential equations.
Effective: Spring 2008
Prerequisite: CMPSC 455

CMPSC 457 **Computer Graphics Algorithms I** (3) Coordinate systems, clipping, curves and regions, geometric transformations, parallel and projective projections, hidden line and surface removal, interactive techniques, animation.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 422;MATH 430

CMPSC 457 **Computer Graphics Algorithms** (3) Graphics systems/hardware, color models, transformations, projections,

clipping, hidden line/surface removal, aliasing, parametric curves/surfaces, 3D modeling animation.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 122;MATH 220

CMPSC 458 **Fundamentals of Computer Graphics** (3) Fundamentals of computer graphics: input/output devices, transformation, projection, clipping, hidden line/surface elimination.
Effective: Spring 2008
Prerequisite: CMPSC 311;MATH 220;MATH 230 orMATH 231

CMPSC 459 **Scientific Visualization** (3) Visualization techniques for data analysis and presentation. Applying visualization and perceptual theory. Using extending platform independent visualization software.
Effective: Spring 2008
Prerequisite: CMPSC 122

CMPSC 460 **Principles of Programming Languages** (3) Design and implementation of high level programming languages and survey of programming language paradigms.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 312;CMPSC 462;CMPSC 469

CMPSC 460 **Principles of Programming Languages** (3) Design and implementation of high level programming languages and survey of language paradigms including imperative, functional, and object-oriented programming.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 312;CMPSC 462;CMPSC 469

CMPSC 461 **Programming Language Concepts** (3) Fundamental concepts of programming language design, specifications, and implementation; programming language paradigms and features; program verification.
Effective: Spring 2008
Prerequisite: CMPSC 221;CMPSC 360

CMPSC 461H **Honors Programming Language Concepts** (3) Honors course in fundamental concepts of programming language design, specification, and implementation; programming language paradigms and features; program verification.
Effective: Spring 2008
Prerequisite: CMPSC 465

CMPSC 462 **Data Structures** (3) Asymptotic notations, lists, stacks, queues, trees, balanced trees, self- adjusting data structures, hash tables, priority queues, bionomial heaps.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 122 or equivalent; Concurrent: MATH 315

CMPSC 462 **Data Structures** (3) In-depth theoretical study of data structures such as balanced trees, hash tables, priority queues, B-trees, binomial heaps, and Fibonacci heaps.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 360 Concurrent: MATH 315

CMPSC 463 **Design and Analysis of Algorithms** (3) Recurrences, algorithms design techniques, searching, sorting, selection, graph algorithms, NP-completeness, approximation algorithms.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462;MATH 315 ; some knowledge of basic probability

CMPSC 463 **Design and Analysis of Algorithms** (3) Recurrences, algorithms design techniques, searching, sorting, selection, graph algorithms, NP-completeness, approximation algorithms, local optimization algorithms.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 462 Concurrent: MATH 414 or STAT 301

CMPSC 464 **Introduction to the Theory of Computation** (3) Computability/Complexity: finite automata, regular & context-free languages, Turing machines, Church-Turing Thesis, undecidability, reducibility, completeness, time/space complexity, P versus NP.
Effective: Fall 2009
Prerequisite: CMPSC 465

CMPSC 465 **Data Structures and Algorithms** (3) Fundamental concepts of computer science: data structures, analysis of algorithms, recursion, trees, sets, graphs, sorting.
Effective: Spring 2008
Prerequisite: CMPSC 360 orMATH 311W

CMPSC 466 **Combinatorics and Graph Theory** (3) An introduction to combinatorics and graph theory, with emphasis on applications and their organization for solution on digital computers.
Effective: Spring 2008
Prerequisite: CMPSC 465

CMPSC 467 (MATH 467) **Factorization and Primality Testing** (3) Prime sieves, factoring, computer numeration systems, congruences, multiplicative functions, primitive roots, cryptography, quadratic residues. Students who have passed MATH 465 may not schedule this course.
Effective: Spring 2008
Prerequisite: CMPSC 360 orMATH 311W

CMPSC 468 **Theory of Automata, Languages, and Computability** (3) Language theory: regular and context-free languages; computability: Turing machines, halting problem, undecidable language problems; complexity theory: NP-complete problems.
Effective: Spring 2008

Prerequisite: CMPSC 122;MATH 315, MATH 311W orCMPSC 360

CMPSC 469 **Formal Languages with Applications** (3) Regular, context free, and recursive languages; notations for language specification and applications.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 122 or equivalent;MATH 315

CMPSC 469 **Formal Languages with Applications** (3) Regular, context free, recursive, and recursively enumerable languages; associated machine models; applications.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 360;MATH 315

CMPSC 470 **Compiler Construction** (3) Programming language structure, basic automata theory, design of a complier, scanning and parsing, semantic processing (including type checking), code generation, and error detection.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 312;CMPSC 462;CMPSC 469

CMPSC 470 **Compiler Construction** (3) Compiler design and implementation; scanning, parsing, semantic analysis, optimization (including static analysis), code generation, garbage collection, and error detection.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 312;CMPSC 425;CMPSC 462;CMPSC 469

CMPSC 471 **Introduction to Compiler Construction** (3) Design and implementation of compilers; lexical analysis, parsing, semantic actions, optimization, and code generation.
Effective: Spring 2008
Prerequisite: CMPSC 461

CMPSC 472 **Operating System Concepts** (3) Process management, synchronization, deadlocks, memory management, virtual memory, CPU and process scheduling, file systems, disk scheduling, security, protection, distributed systems.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 312;CMPSC 462

CMPSC 472 **Operating System Concepts** (3) Theoretical and practical issues of operating systems design and implementation, process management, concurrent programming, memory management, scheduling, I/O, and security.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 312;CMPSC 462

CMPSC 473 **Operating Systems Design & Construction** (3) Design and implementation of computer operating systems; management of various system resources: processes, memory, processors, files, input/output devices.
Effective: Spring 2008
Prerequisite: CMPSC 311;CMPEN 331

CMPSC 474 **Operating System & Systems Programming** (3) Operating Systems overview and principles; processes and signals; concurrency and synchronization; memory and file management; client-server computing; scripts; systems-programming.
Effective: Spring 2008
Prerequisite: CMPSC 122;CMPSC 312

CMPSC 479 **Language Translation** (3) Design and implementation of compilers, lexical analysis, syntax/semantic analysis, optimization, and code generation.
Effective: Spring 2008
Prerequisite: CMPSC 465

CMPSC 483W **Software Design Methods** (3) Applications of scientific knowledge and methods in the design and construction of computer software using engineering concepts.
Effective: Spring 2008
Prerequisite: CMPSC 221;CMPSC 465;ENGL 202C

CMPSC 484 **Computer Science Senior Project I** (2) Computer science capstone project with documentation emphasis.
Effective: Spring 2008
Prerequisite: ENGL 202C;CMPSC 221;CMPSC 465

CMPSC 485W **Computer Science Senior Project II** (3) Computer science capstone project with documentation emphasis.
Effective: Spring 2008
Prerequisite: CMPSC 484

CMPSC 487W **Software Engineering and Design** (3) Requirements analysis, specification, design, expectation and testing strategies, development handling, development libraries, approaches to project management, and documentation.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462;MATH 315

CMPSC 487W **Software Engineering and Design** (3) Software development process, life cycle; requirements analysis, specification, design, prototyping, testing, project management, and documentation.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 202C, CMPSC 425, CMPSC 462

CMPSC 494H **Senior Honors Thesis** (1-6) Supervised Honors thesis research in computer science and engineering.
Effective: Spring 2008
Prerequisite: approval of a thesis adviser in the department

CMPSC 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experience, practica, or

internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

CMPSC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2008

CMPSC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

CMPSC 497A **Secure Programming** (3) Secure software design principles/practice, common threats, applied cryptograph, trust management, input validation, OS-/programming language- specific issues, software validation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 463

CMPSC 497B **Applications Programming** (3) Development of application software for computing devices including smart phones and tablet computers.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 311;CMPSC 465

CMPSC 497B **Machine Learning** (3) Machine learning is a subfield of AI that studies how a computer system can learn from data. It is a key tool for automating tasks that are typically done by humans. This course will provide an introduction to this field.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

CMPSC 497E **Contest Problems** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CMPSC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CMPSC 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Computer Science and Engineering (CSE)

CSE 297E **Introduction to Web Programming** (3) This course introduces the student to PHP programming.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Corporate Communication (CC)

CC 401 **Corporate, Non-Profit, and Government Public Relations** (3) Explores issues affecting profit and non-profit public relations, including crisis management, consumer and employee affairs, environmental problems and global concerns.
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

CC 402 **The Media and Public Relations** (3) Publicity strategies involving a variety of media resources.
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

CC 403W **Studies in Public Relations** (3) Capstone course for the major in Corporate Communication; focuses on case studies in public relations: problems and solutions.
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

CC 495A **Internship in Corporate Communication** (3) Internship in a business or agency appropriate for a major in Corporate Communication.
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

Last Import from UCM: May 29, 2010 3:00 AM

Counseling Psychology (CNPSY)

CNPSY 254 (US) **Understanding Discrimination: An Educational and Employment Perspective** (3) Study of the effects of educational and employment discrimination on United States social groups/identities.
Effective: Spring 2006

CNPSY 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2008

CNPSY 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

CNPSY 497A **Observational Research** (1-3) Counseling psychology research, including observation of at-risk families and use of a variety of coding systems to study parenting processes, and self/emotion regulation in children and adults, and supervised on an individual basis.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CNPSY 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Counselor Education (CN ED)

CN ED 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 100 **Effective Career Decision-Making** (3) Examination of internal and external factors that contribute to career development to assist students undecided about major or career.
Effective: Spring 2003

CN ED 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

CN ED 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

CN ED 297A **Special Topics: Study Skills** (2) This course is designed to assist students with their study skills. Topics to be covered include test taking, reading comprehension, studying, exam preparation, academic writing, and other related topics.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297B **Special Topics: Academic Writing** (3) This course is designed to assist students with the different styles, formats, and requirements of acadmic writing across the disciplines.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297C **Special Topics: Mentoring Project** (2) This course is designed to assist students with their leadership and interpersonal relationship skills. Also covered are topics relative to character building and critical thinking, both within the classroom setting and outside.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297D **Special Topics: Academic Success** (3) This course is designed to prepare students with the skills, personal vision, and motivation to achieve their academic and personal goals.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297E **Leadership and Diversity** (3) This course is designed to prepare students to meet the challenges of becoming and being leaders within a diverse context.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297F **Orientation Leader Training** (2) The purpose of this course is to facilitate learning opportunities and experiences, which will provide students with the knowledge, attitudes and skills necessary to become effective Orientation Leaders.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297G **Freshman Experience I** (2) This course is designed to help entering students in their transition from high school to college. This course will help new students to develop and utilize effective educational strategies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 297I **Freshman Experience** (1) Developing effective learning strategies while exploring critical issues related to the transition from high school to college.

Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 301 **Student Organization Management** (2) Exploration and development of leadership and group process skills necessary for effectively managing student organizations in higher education settings.
Effective: Summer 1992

CN ED 302 **The Role of the Resident Assistant: Theory and Practice** (3) An analysis of the various roles of the resident assistant, including interpersonal facilitator, disciplinarian, program developer, and activities facilitator.
Effective: Summer 1990

CN ED 303 **Career Search Strategies for Educators** (1) An aid in preparing students with information helpful for entry into education and alternative job markets.
Effective: Summer 1990

CN ED 304 **Education of the Peer Assistant** (3) Student development theories: skill development in listening, informing, and referring culturally diverse peers in individual and group situations.
Effective: Spring 1994
Prerequisite: limited to students selected as peer assistants or similar positions

CN ED 305 **Managing Student Community Service Organizations** (3) Philosophy, principles, and practices of community service organizations and their leadership for students.
Effective: Spring 1994
Prerequisite: limited to leaders of student organizations

CN ED 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 397A **UPAC Training** (2) Training on the student activity fee, legal issues, viewpoint neutraility, purposeful programming, ethics and integrity.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 401 **Foundations of Chemical Dependency Counseling** (3) An overview of diagnosis and assessment, models for chemical dependency prevention, counseling, and recovery; contexts of chemical dependency treatment.
Effective: Spring 1994
Prerequisite: 3 credits in general psychology

CN ED 404 **Group Procedures in Guidance and Counseling** (3) The nature and functioning of groups in educational and agency settings. Provides prospective counselors with experience in the group process.
Effective: Summer 1990
Prerequisite: 6 credits in counselor education; 6 credits in psychology sociology or individual and family studies

CN ED 407 **Introduction to Vocational Rehabilitation in Employee Counseling** (3) Use of rehabilitation counseling skills in industrial employee counseling settings; case study and handling; resources for training.
Effective: Summer 1990
Prerequisite: 6 credits in individual and family studies psychology or sociology

CN ED 415 **Counseling Adults** (3) Roles of counselors and counseling in the resolution of educational and career problems and opportunities of adults.
Effective: Summer 1990
Prerequisite: COM S 448, HD FS 249, HD FS 445 orSOC 435

CN ED 416 **Interpersonal Relationships and Alcohol and Other Drugs (AOD) Dependency** (3) This course examines families with chemically dependent members, dynamics, appropriate interventions, and treatment.
Effective: Spring 2009
Prerequisite: CN ED 401 orRHS 301

CN ED 420 **Chemical Dependency: Youth at Risk** (3) Study of youth who are at-risk of developing chemical dependency including the characteristics and factors related to chemical dependency.
Effective: Spring 1994
Prerequisite: CN ED 401

CN ED 421 **Counseling Strategies for Preventing Chemical Dependency** (3) Examines helping professional's role in primary and secondary prevention of substance abuse, and related problems like delinquency, suicide, and pregnancy.
Effective: Spring 1994

Prerequisite: CN ED 401

CN ED 422 **Foundations of Addictions Counseling** (3) Study of the fundamental principles of counseling individuals with a wide variety of addictions.
Effective: Spring 2009
Prerequisite: a minimum of 12 hours of coursework in sociology psychology education or family studies.

CN ED 423 **Student Assistance Programs** (3) Exploration of early stages of adolescent "at-risk" behavior and skills for student assessment and intervention within schools and communities.
Effective: Spring 1994
Prerequisite: CN ED 401

CN ED 430 **Couples and Family Counseling** (3) The theory and practice of counseling with couples and families emphasizing family development and major intervention approaches.
Effective: Spring 2009
Prerequisite: A minimum of 12 hours of coursework in sociology psychology education or family studies.

CN ED 431 **Counseling and Teaching Youth at Risk** (3) This course is focused on how to counsel and/or teach youth at risk for a variety of social, emotions, and educational problems.
Effective: Spring 2009
Prerequisite: A minimum of 12 hours of coursework in sociology psychology education or family studies.

CN ED 432 **Ethical, Legal, and Professional Issues in Counseling** (3) Examination of the current ethical and legal issues related to professional counselors and counseling.
Effective: Spring 2009
Prerequisite: A minimum of 12 hours of coursework in sociology psychology education or family studies.

CN ED 470 **Workshop in Studies in Counselor Education** (1-6) No description.
Effective: Summer 1990

CN ED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

CN ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

CN ED 497A **Counseling without Borders** (1-3) Intensive emersion experience designed to address theoretical and experiential understandings of multicultural counseling through interactions in Turkey.
Effective: Summer 2010 Ending: Summer 2010

CN ED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

CN ED 498A (WF ED 498D) **Facilitating Career Development** (3) Students acquire relevant competencies to assist others in planning and managing careers. Upon successful completion, students may apply for the GCDF certification.
Effective: Summer 2010 Ending: Summer 2010

CN ED 498A (WF ED 498B) **Facilitating Career Development** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CN ED 498A (WF ED 498A) **Facilitating Career Development** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Last Import from UCM: May 29, 2010 3:00 AM

Criminal Justice (CRIMJ)

CRIMJ 012 (GS) (CRIM 012, SOC 012) **Criminology** (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Spring 2008

CRIMJ 012S (GS) (CRIM 012, SOC 012) **Criminology** (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Summer 2010 Ending: Summer 2010

CRIMJ 013 (GS) (SOC 013) **Juvenile Delinquency** (3) Juvenile conduct, causes of delinquency, current methods of treatment; organization and function of agencies concerned with delinquency.
Effective: Spring 2008

CRIMJ 083S (GS) (CRIM 083S) **First-Year Seminar in Criminal Justice** (3) Critical approaches to issues in criminal justice and criminology.
Effective: Spring 2008

CRIMJ 100 (GS) (CRIM 100) **Introduction to Criminal Justice** (3) Overview of the criminal justice system, including legal foundations, processing and correction of offenders, extent and types of crime, victims.
Effective: Spring 2008

CRIMJ 113 (US) (CRIM 113) **Introduction to Law** (3) Introduction to law in society with a focus on criminal law, judicial code, laws of sentencing and corrections, criminal procedure.
Effective: Spring 2008

CRIMJ 200 **Introduction to Security and Loss Control** (3) A general introduction to the field of private security and asset protection.
Effective: Spring 2008

CRIMJ 201 **Legal and Ethical Issues in Private Security** (3) Detailed examination of legal issues and ethical considerations in private sector security.
Effective: Spring 2008
Prerequisite: CRIMJ 200

CRIMJ 210 **Policing in America** (3) Police organization and operations in America.
Effective: Spring 2008
Prerequisite: or concurrent:CRIMJ 100

CRIMJ 220 **Courts and the Prosecution Process** (3) Purpose and function of criminal courts in society, organization, jurisdiction and staffing; prosecution, adjudication, and sentencing of offenders.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 221 **Issues in the American Criminal Justice System** (3) Examination of the models of the criminal process, functions of the justice system, and approaches to crime and punishment.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 230 **Corrections in America** (3) Punishment and treatment of sentenced offenders, correctional institution organization, staffing, inmates, and subcultures.
Effective: Spring 2008

CRIMJ 234 **Fundamental Techniques of Scientific Criminal Investigation** (3) Traditional and innovative technical approaches utilized by law enforcement scientists; capabilities and limitations of technical techniques highlighted.
Effective: Spring 2008

CRIMJ 240W **Field Research in the Criminal Justice** (4) Field research and observational strategies appropriate to the identification, investigation, and analysis of research questions in criminal justice.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 241 (PUBPL 241) **Computer Applications in Public Affairs/Criminal Justice** (3) Introduction to computer applications for criminal justice and public affairs agencies.
Effective: Spring 2004

CRIMJ 250W (CRIM 250W) **Research Methods in Criminal Justice** (4) Fundamental concepts of social science research

including design, measurement, sampling, and interpretation of the study of crime, law, and justice.
Effective: Spring 2008
Prerequisite: CRIMJ 012

CRIMJ 260 (GQ) **Statistical Analysis for the Social Sciences** (3) Methods of collection, presentation, and analysis of quantitative data in the social science; procedures, interpretation, and application.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 2 units of High School Algebra andCRIMJ 100 or permission of the program

CRIMJ 290 **Introduction to Internship Experience** (1) Planning and preparation for field experience in a criminal justice agency setting.
Effective: Spring 2008
Prerequisite: CRIMJ 100 ; Prerequisite or concurrent:CRIMJ 240W

CRIMJ 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

CRIMJ 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2008

CRIMJ 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

CRIMJ 300H **Honors Seminar: Issues and Trends in Criminal Justice** (3-6) Discussion of various, specific criminal justice topics, such as discretionary decision-making, due process, equal protection, violence, and recidivism.
Effective: Spring 2008
Prerequisite: fifth-semester standing and admission to Schreyers Honors College

CRIMJ 301H **Honors Seminar: Ideology and Criminal Justice** (3-6) Discussion of the ideological, political, and historical nature of criminal justice. Punishment, deterrence, social control, incarceration will be examined.
Effective: Spring 2008
Prerequisite: fifth-semester standing and admission to Schreyers Honors College

CRIMJ 302H **Honors Thesis** (4-8) Research paper in an area of Criminal Justice arranged with the Honors Committee.
Effective: Spring 2008
Prerequisite: CRIMJ 300H, CRIMJ 301H

CRIMJ 304 **Security Administration** (3) Interdisciplinary analysis of security and loss prevention; its administration, role in crime control and prevention, and relationship to criminal justice.
Effective: Spring 1990

CRIMJ 310 **Forensic Science I** (3) Presentation of the techniques, skills, and limitations of modern crime laboratory.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 311 **Forensic Science II** (3) Continuation of CRIMJ 310 including statistical analysis of data from crime scene.
Effective: Spring 2008
Prerequisite: CRIMJ 310

CRIMJ 320 (PUBPL 320) **Statistical Analysis for the Social Sciences** (4) Methods of collection, presentation, and analysis of quantitative data in the social science; procedures, interpretation, and application.
Effective: Summer 2004 Ending: Fall 2010

CRIMJ 345 **Criminal Justice and the Community** (3) Justice agencies and the community's crime prevention and participation strategies; community involvement in policy development.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 389 **Gangs and Gang Behavior** (3) The history, structure, and practices of gangs in America as well as societal reaction to them.
Effective: Summer 2003

CRIMJ 406 (SOC 406, CRIM 406) **Sociology of Deviance** (3) Theory and research concerning behaviors and lifestyles viewed as significant departures from a group's normative expectations.
Effective: Spring 2008
Prerequisite: CRIMJ 100 andCRIMJ 113 andCRIMJ 230 or permission of program

CRIMJ 407 (US) (CRIM 407) **Victimology** (3) This course will explore the legal, emotional, and social responses to the process of victimization by offenders and third parties.
Effective: Spring 2008

CRIMJ 408 **Police Administration** (3) Principles of administration as they relate to a police organization; and policy development.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIM 100 andCRIMJ 210 orCRIM 210

CRIMJ 410 **The Pennsylvania Court System** (3) Tracing the steps of criminal cases through the investigative stage, arrest, trial, sentencing and appellate review in Pennsylvania.
Effective: Spring 2004
Prerequisite: CRIMJ 100, CRIMJ 113

CRIMJ 412 (SOC 412, CRIM 412) **Crime, Social Control, and the Legal System** (3) Legal and extralegal control; public opinion on crime; criminal justice and correctional processes; legal sanctions; control strategies. Field trip.
Effective: Spring 2008
Prerequisite: CRIMJ 012, CRIMJ 013 orSOC 005

CRIMJ 413 (CRIM 413, SOC 413) **Advanced Criminological Theory** (3) This course provides an in-depth look at theories of crime and examines influential empirical studies designed to these theories.
Effective: Spring 2008
Prerequisite: CRIMJ 012, CRIMJ 250W

CRIMJ 414 (SOC 414, CRIM 414) **Criminal Careers and the Organization of Crime** (3) Research on and theory of criminal careers and crime organizations, emphasizing recruitment and disengagement; offender characteristics and lifestyles; policy implications.
Effective: Spring 2008
Prerequisite: CRIMJ 012 orCRIMJ 013 orSOC 005

CRIMJ 415 (PUBPL 415) **Drug Control Policy in Comparative Perspective** (3) Examines the history of drug control policy in the United States; comparisons and contrasts with other countries' experiences.
Effective: Summer 2004
Prerequisite: CRIMJ 200 orPL SC 001 orPL SC 014 orSOC 001

CRIMJ 420 **Criminal Law and Procedure** (3) Common law and statutory crimes; constitutional rights of accused persons, liability of criminal justice professionals.
Effective: Spring 2008
Prerequisite: CRIMJ 113

CRIMJ 421 (CRIM 421) **Violent Crime in the United States** (3) The impact of violent crime on victims, their families, and communities; the police process as it relates to violent crime.
Effective: Spring 2008
Prerequisite: CRIMJ 012

CRIMJ 421W **Violent Crime in the United States** (3) The impact of violent crime on victims, their families, and communities; the police process as it relates to violent crime.
Effective: Spring 2008
Prerequisite: CRIMJ 012

CRIMJ 422 (CRIM 422) **Victimization** (3) Examines the history, how victimization is measured/studied in social sciences, public policy implications of victimization movement in U.S.
Effective: Spring 2008
Prerequisite: CRIMJ 250W

CRIMJ 423 (US) (WMNST 423, CRIM 423) **Sexual and Domestic Violence** (3) Legal, sociological, and psychological perspectives on sexual and domestic violence.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 424 (CRIM 424) **Drugs and Crime** (3) Analysis of international narcotics trafficking in the twentieth century.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 424W **Drugs and Crime** (3) Analysis of international narcotics trafficking in the twentieth century.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 425 (CRIM 425) **Organized Crime** (3) This course examines organized crime in terms of historical antecedents, structure, related theories, and policy issues.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

CRIMJ 426 **Special Offender Types** (3-6) Study of special offender types; relationships with criminal justice system (drug abuse, victimless crime, white collar crime considered different semesters).
Effective: Spring 2008
Prerequisite: 3 credits in Criminal Justice or permission of program

CRIMJ 430 **Alternatives to Incarceration** (3) Control and treatment of offenders in the community, probation and parole organizations, diversion programs, innovative sentences, supervision techniques.
Effective: Spring 2008
Prerequisite: CRIMJ 100 andCRIMJ 113 andCRIMJ 230 or permission of program

CRIMJ 431 **Offender and Prisoner Rights** (3) The identification of correctional problems and the setting of objectives as reflective of court rulings, legislative change, and administrative law.

Effective: Spring 2008
Prerequisite: CRIMJ 100, CRIMJ 113, CRIMJ 230 or permission of program

CRIMJ 432 (CRIM 432) **Crime and the American Court System** (3) This course examines the American court system including structure and the way courts process offenders with special focus on sentencing.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIMJ 433 **Computer Security** (3) Introduction to computer security for Administration of Justice majors, designed to create an educated user of computer security services.
Effective: Spring 2008
Prerequisite: IST 110 or bothMIS 103 andMIS 204

CRIMJ 439 (PL SC 439) **The Politics of Terrorism** (3) Analysis of political terrorism as a violent alternative for peaceful change and traditional warfare in the nuclear age.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orPL SC 014 or permission of program

CRIMJ 441 (US) (CRIM 441) **The Juvenile Justice System** (3) Historical and contemporary view of the juvenile justice system. Focus on analyzing components of the system, their interactions, processing, and handling of youths.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 441W **The Juvenile Justice System** (3) Historical and contemporary view of the juvenile justice system. Focus on analyzing components of the system, their interactions, processing, and handling of youths.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

CRIMJ 450W **Senior Seminar** (3 per semester/maximum of 6) Capstone course exploring past, current and future developments in criminal justice.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIM 100 and sixth semester standing or permission of program.

CRIMJ 451 (US) (CRIM 451) **Race, Crime, and Justice** (3) This course focuses on the significance of race, class, and ethnicity to criminal justice processing and criminal offending.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 453 (US) (WMNST 453, CRIM 453) **Women and the Criminal Justice System** (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orWMNST 001

CRIMJ 460 **History and Function of Criminal Justice Components** (3) Historical development of criminal justice system components (police, courts, corrections) related to formulation and function of the state.
Effective: Spring 2008

CRIMJ 462 **Comparative Criminal Justice Systems** (3) A comparison of American and selected foreign justice systems to illustrate the variety of possible responses to crime.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

CRIMJ 465 **Ethics in Criminal Justice** (3) Ethical behavior in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

CRIMJ 467 (SOC 467, CRIM 467) **Law and Society** (3) Law and society studies the social origins of law and legal systems; occupational careers, and decision-making of legal officials.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIMJ 113 or permission of program

CRIMJ 469 (HIST 469) **Drugs and Drug Policy in the United States** (3) Examines the history and dimensions of drug use and analyzes the impact of drug policy.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orHIST 021

CRIMJ 471 (B LAW 471) **Legal Rights, Duties, Liabilities of Criminal Justice Personnel** (3) Civil law issues within a justice agency and between criminal justice agencies and members of the public.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 473 (B LAW 473) **Criminal Procedure and Evidence in the Business Community** (3) Law of evidence and proof, constitutional constraints on police procedures (arrest, search, etc.) in society and the business community.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 482 (CRIM 482) **Seminar, Criminal Justice Agency Administration** (3) Relates organizational and public policy management approaches to police, courts, and correctional institutions.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 489W **Victimology: Predatory Crime** (3) This course uses medical, social scientific and legal research to study the complexities of predatory crime.
Effective: Spring 2004
Prerequisite: CRIMJ 407

CRIMJ 494 **Research Topics** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2002

CRIMJ 494H **Research Topics** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

CRIMJ 495 **Internship in Criminal Justice** (3-12) Experience with a criminal justice agency coordinated through readings and discussion.
Effective: Spring 2008
Prerequisite: CRIMJ 100

CRIMJ 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall ourside the scope of formal courses.
Effective: Summer 1987

CRIMJ 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1987

CRIMJ 497D (PSYCH 497D, WMNST 497D, SOC 497D) **Family & Justice** (3) Examination of the relationship between the family and the criminal justice system in which the family operates.
Effective: Summer 2010 Ending: Summer 2010

CRIMJ 499 (IL) **Foreign Studies** (6) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Criminology (CRIM)

CRIM 012 (GS) (CRIMJ 012, SOC 012) **Criminology** (3) Explanations and measurements of crime; criminal law; characteristics of criminals and victims; violent property, white-collar, organized, and sexual crimes.
Effective: Spring 2008

CRIM 012H (GS) (SOC 012H) **Criminology** (3) Explanations and measurements of crime; criminal law; characteristics of criminals and victims; violent property, white-collar, organized, and sexual crimes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

CRIM 083S (CRIMJ 083S) **First-Year Seminar in Criminal Justice** (3) Critical approaches to issues in criminal justice and criminology.
Effective: Spring 2008

CRIM 100 (GS) (CRIMJ 100) **Introduction to Criminal Justice** (3) Overview of the criminal justice system, including legal foundations, processing and correction of offenders, extent and types of crime, victims.
Effective: Spring 2008

CRIM 113 (US) (CRIMJ 113) **Introduction to Law** (3) Introduction to law in society with a focus on criminal law, judicial code, laws of sentencing and corrections, ciminal procedure.
Effective: Spring 2008

CRIM 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CRIM 250W (CRIMJ 250W) **Research Methods in Criminal Justice** (4) Fundamental concepts of social science research including design, measurement, sampling, and interpretation of the study of crime, law, and justice.
Effective: Spring 2008
Prerequisite: CRIM 012

CRIM 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or smal-group basis.
Effective: Spring 2008

CRIM 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

CRIM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CRIM 312 **Introduction to Forensic Science in the Criminal Justice System** (3) This course introduces the student to the role in the criminal justice system and the legal context of forensic evidence.
Effective: Spring 2008
Prerequisite: CRIM 012

CRIM 395 **Internship in Criminal Justice** (1-9) Field experience focusing on the student's major interest within the area of criminal justice.
Effective: Spring 2008
Prerequisite: CRIM 250W

CRIM 406 (CRIMJ 406, SOC 406) **Sociology of Deviance** (3) Theory and research concerning behaviors and lifestyles viewed as significant departures from a group's normative expectations.
Effective: Spring 2008
Prerequisite: CRIM 012

CRIM 407 (CRIMJ 407) **Victimology** (3) This course will explore the legal, emotional, and social responses to the process of victimization by offenders and third parties.
Effective: Spring 2008

CRIM 412 (CRIMJ 412) **Crime, Social Control, and the Legal System** (3) Legal and extralegal control; public opinion on crime; criminal justice and correctional processes; legal sanctions; control strategies. Field trip.
Effective: Spring 2008
Prerequisite: CRIM 012, CRIM 013 orSOC 005

CRIM 413 (SOC 413, CRIMJ 413) **Advanced Criminological Theory** (3) This course provides an in-depth look at theories of crime and examines influential empirical studies designed to these theories.
Effective: Spring 2008
Prerequisite: CRIM 012, CRIM 250W

CRIM 414 (CRIMJ 414, CRIM 414) **Criminal Careers and the Organization of Crime** (3) Research on and theory of criminal careers and crime organizations, emphasizing recruitment and disengagement; offender characteristics and lifestyles; policy implications.
Effective: Spring 2008
Prerequisite: SOC 012 orSOC 013 orSOC 005

CRIM 421 (CRIMJ 421) **Violent Crime** (3) Examines the nature and causes of violence. Several theoretical perspectives are reviewed including biological, psychological, social, and cultural.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

CRIM 422 (CRIMJ 422) **Victimization** (3) Examines the history, how victimization is measured/studied in social sciences, public policy implications of victimization movement in U.S.
Effective: Spring 2008
Prerequisite: CRIM 250W

CRIM 423 (US) (CRIMJ 423, WMNST 423) **Sexual and Domestic Violence** (3) Legal, sociological, and psychological perspectives on sexual and domestic violence.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orWMNST 001

CRIM 424 (CRIMJ 424) **Drugs and Crime** (3) Analysis of international narcotics trafficking in the twentieth century.
Effective: Spring 2008
Prerequisite: CRIM 100 orWMNST 001

CRIM 425 (CRIMJ 425) **Organized Crime** (3) This course examines organized crime in terms of historical antecedents, structure, related theories, and policy issues.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIM 429 **Seminar in Criminal Behavior** (3-4 per semester/maximum of 7) This course explores the study of the application of criminological theories to our understanding of various forms of criminal behavior.
Effective: Spring 2008
Prerequisite: CRIM 012

CRIM 430 **American Correctional System** (3) Study of corrections from probation, intermediate punishment, adult and juvenile correctional institutions to parole.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

CRIM 432 (CRIMJ 432) **Crime and the American Court System** (3) This course examines the American court system including structure and the way courts process offenders with special focus on sentencing.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIM 433 **Sentencing** (3) This course studies sentencing from prosecutorial charging decisions through revocation of probation, and the complex goals and responsibilities at sentencing.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

CRIM 435 **Policing in America** (3) This course will focus on current, historical, theoretical, and research issues surrounding law enforcement in the United States.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

CRIM 441 (US) (CRIMJ 441) **Delinquency and Juvenile Justice** (3) Course examines delinquency and the juvenile justice system including delinquency's nature, causes, and prevention and the processing of juveniles.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIM 449 **Seminar in Criminal Justice** (3-4 per semester/maximum of 7) Examines criminal justice decision-making and operation such as the role of contemporary movements in law enforcement, the courts and corrections.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 113, CRIM 250W

CRIM 451 (US) (CRIMJ 451) **Race, Crime, and Justice** (3) This course focuses on the significance of race, class, and ethnicity to criminal justice processing and criminal offending.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIM 453 (US) (CRIMJ 453, WMNST 453) **Women and the Criminal Justice System** (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIM 100 orWMNST 001

CRIM 467 (CRIMJ 467, SOC 467) **Law and Society** (3) Law and society studies the social origins of law and legal systems;

occupational careers, and decision-making of legal officials.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIMJ 113 or permission of program

CRIM 469 **Seminar in the Law** (3-4 per semester/maximum of 7) The focus of this seminar is the law such as the laws of sentencing, appellate course decisions and their impact.
Effective: Spring 2008
Prerequisite: CRIM 113

CRIM 480H **Research Topics in Crime, Law, and Justice** (1) Students are exposed to a variety of research topics related to crime, law, and justice.
Effective: Spring 2008
Prerequisite: CLJ major and admission to the Schreyer Honors College

CRIM 481H **Information Literacy in Crime, Law, and Justice** (1) Students are exposed to a variety of information sources related to crime, law, and justice.
Effective: Spring 2008
Prerequisite: CLJ 480H

CRIM 482 (CRIMJ 482) **Seminar, Criminal Justice Agency Administration** (3) Relates organizational and public policy management approaches to police, courts, and correctional institutions.
Effective: Spring 2008
Prerequisite: CRIM 100

CRIM 490 **Crime Policy** (3) This course focuses on criminal justice policy and the factors that influence policy development and implementation.
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 113, CRIM 250W 6 credits of 400-level CRIMJ courses and 7th semester standing

CRIM 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

CRIM 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

CRIM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

CRIM 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Curriculum and Instruction (C I)

C I 195 **Early Observation Experience for Teacher Preparation** (1-2 per semester/maximum of 2) Early observational work in educational settings with a variety of age/grade levels.
Effective: Summer 2010

C I 200 **Peer Tutoring** (1) Prepares students to develop successful practices as a peer tutor.
Effective: Summer 2007

C I 280 **Introduction to Teaching English to English Language Learners** (3) Introductory English language teaching, and pedagogical strategies with English Language Learners.
Effective: Summer 2003 Ending: Summer 2010

C I 280 (GH) **Introduction to Teaching English to English Language Learners** (3) Introductory English language teaching, and pedagogical strategies with English Language Learners.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: EDPSY 014

C I 281 **Basic Instructional and Other Teaching Resources/Strategies in English as Second Language** (3) Basic instructional materials, resources, activities and strategies that develop language learning with English Language Learners.
Effective: Summer 2003

C I 282 **Introduction to Evaluating Culturally and Linguistically Diverse ESL Students and Programs** (3) Introductory multiple techniques for evaluating ESL students and programs.
Effective: Summer 2003

C I 283 **Essentials of Cultural and Linguistic Understandings in ESL Classrooms** (3) Essentials of culturally and linguistically diverse to facilitate collaboration in schools and communities for English Language Learners.
Effective: Summer 2003

C I 295 **Introductory Field Experience for Teacher Preparation** (1-3 per semester/maximum of 6) Selected observation of schooling situations with small group and tutorial participation.
Effective: Fall 1983
Prerequisite: second-semester standing Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm Concurrent: EDTHP 115 and/or EDPSY 014

C I 295A **Introductory Field Experience for Early Childhood Education** (1-3) Selected observations and individual and small group tutoring in early childhood, elementary school, and education related, community settings.
Effective: Fall 2009
Prerequisite: second semester standing Concurrent: HD FS 229 or C I 280 or EDPSY 014 or EDTHP 115 or SPLED 400

C I 295B **Introductory Field Experience in Middle Level Education** (1-3) Selected observations and individual and small group tutoring in early childhood, elementary school, and education related, community settings.
Effective: Fall 2009
Prerequisite: second semester standingHD FS 229 or equivalent Concurrent: C I 280 EDPSY 014 EDTHP 115 HD FS 229 or SPLED 400

C I 295C **Rural School Seminar** (3) Selected observation of schooling situations with small group and tutorial participation.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: second-semester standing Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm Concurrent: EDTHP 115 and/or EDPSY 014

C I 295D **Philadelphia Urban Seminar** (3) Selected observation of schooling situations with small group and tutorial participation.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: second-semester standing Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm Concurrent: EDTHP 115 and/or EDPSY 014

C I 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

C I 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

C I 297A **Computers in the Classroom** (1) This course is designed to introduce pre-service teachers to instructional hardware and software.

Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C I 297E **Teacher Training for BISCI 3 TAs** (2-5) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C I 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

C I 400 **Introduction to Research Literature** (3) Introduction to research literature and methodology; stress on interpretation, sources, and research reporting.
Effective: Fall 1981
Prerequisite: student teaching or teaching experience

C I 405 (EDLDR 405) **Strategies in Classroom Management** (3) Managing and coping with disruptive student behavior in instructional settings so that they support the teaching/learning process.
Effective: Fall 2008
Prerequisite: teaching experience or supervised practicum experience

C I 408 **Methods of Teaching Basic Skills** (4-6) Strategies and materials for teaching basic skills in the elementary and secondary schools.
Effective: Spring 2007
Prerequisite: EDPSY 010 orPSYCH 212;EDPSY 014;SPLED 105 orSPLED 400

C I 412W **Secondary Teaching** (3) Study of the teacher's responsibilities, steps in planning instruction, and various strategies for implementing and assessing teaching.
Effective: Spring 2007
Prerequisite: C I 295, EDPSY 014, EDTHP 115

C I 494H **Research Techniques in Curriculum and Instruction** (1-3) Examination, application, assessment, and presentation of research modes and techniques in Curriculum and Instruction. Limited to University scholars in the College of Education.
Effective: Spring 1988
Prerequisite: second-semester standing

C I 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

C I 495A **Clinical Application of Instruction--Early Childhood Education** (3) Practicum situation for demonstration of selected instructional strategies and management skills acquired in professional training. To be offered only for Satisfactory/Unsatisfactory grading.
Effective: Spring 1997
Prerequisite: C I 295, EDPSY 014, EDTHP 115 . Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm Concurrent: regular professional methods courses in area of certification.

C I 495B **Clinical Application of Instruction--Elementary and Kindergarten Education** (3) Practicum situation for demonstration of selected instructional strategies and management skills acquired in professional training. To be offered only for Satisfactory/Unsatisfactory grading.
Effective: Spring 1997
Prerequisite: C I 295, EDPSY 014, EDTHP 115 . Offical clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm Concurrent: MTHED 420 SCIED 458 SS ED 430W

C I 495C **Clinical Application of Instruction--Secondary Education** (3) Practicum situation for demonstration of selected instructional strategies and management skills acquired in professional training. To be offered only for Satisfactory/Unsatisfactory grading.
Effective: Spring 1997
Prerequisite: C I 295, EDPSY 014, EDTHP 115 . Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm Concurrent: C I 412 and special methods course(s) in area of certification

C I 495D **Practicum in Student Teaching--Elementary and Kindergarten Education** (12) Full-time classroom instruction in early childhood and elementary education. Students supervised by University personnel and practicing teachers. No concurrent courses other than C I 495F permitted.
Effective: Spring 1997
Prerequisite: C I 495A orC I 495B ; a grade of C or higher in all specified and professional courses. Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm

C I 495E **Practicum in Student Teaching--Secondary Education** (15) Full-time classroom instruction in secondary education. Students supervised by university personnel and practicing teachers. No concurrent courses permitted.
Effective: Spring 1997
Prerequisite: C I 495C seventh-semester standing and grade of C or higher in all specified and professional courses. Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm

C I 495F **Professional Development Practicum** (3) Instruction concurrent with student teaching practicum. Students focus on the solution of instructional problems identified at the practicum site.
Effective: Spring 1997
Prerequisite: Official clearances required. See: http:www.ed.psu.edu/preservice/clearance.htm Concurrent: C I 495D

C I 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

C I 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

C I 497B **Elementary Education Disciplinary Block** (12) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C I 497B **Elementary Education Disciplinary Block** (12) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

C I 497C **Mental Health Issues in the Classroom** (3) Course provides opportunities for students to explore impact curriculum, teaching methods, family involvement and teacher-child & child-child interactions have on mental health of all individuals in classroom.
Effective: Summer 2010 Ending: Summer 2010

C I 497C **Language Learning Abroad** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

C I 497D **Preparing for Overseas Student Teaching** (1) The Overseas Student Teaching Seminar intends to equip students with knowledge and tools for a successful student teaching experience abroad.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C I 497D **Preparing for Overseas Student Teaching** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

C I 497E (A ED 497E, HIST 497E) **Consuming Child** (3) Explores linkages between new ideas about childhood and commercial/media culture since the Enlightenment through sponsored guest presentations and readings.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

C I 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

C I 498A **Classroom Instruction that Works** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

C I 498A **Instructional Supervision and Coaching for Mentor Teachers** (3) This course is designed for all teachers and administrators in local school districts who are interested in learning about the process for mentoring novice and preservice teachers.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

C I 498B **Curriculum and Instruction That Engages and Motivates Adolescent Learners** (3) Course explores both the cultures of curriculum and the value of importance of curriculum research.
Effective: Summer 2010 Ending: Summer 2010

C I 498B **Curriculum and Instruction that Engages and Motivates Adolescent Learners** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Curriculum and Supervision (C & S)

C & S 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

C & S 401 **Measurement and Evaluation of Instruction, K-12** (3) Developing tests used for appraising academic growth of students, application of specific evaluative activities associated with student progress.
Effective: Fall 1983
Prerequisite: EDTHP 115 or Education Theory and Policy selection;EDPSY 014

C & S 470 **Workshop in Selected Studies in Curriculum** (1-6) Intensive work on selected current problems in curriculum.
Effective: Winter 1978
Prerequisite: 12 credits in education and teaching experience

C & S 471 **Workshop in Selected Studies in Supervision** (1-6) Intensive work on selected current problems in supervision.
Effective: Winter 1978
Prerequisite: 12 credits in education and teaching experience

C & S 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Dance (DANCE)

DANCE 100 (GA;US;IL) **Dance Appreciation** (3) Explore dance as a vital, communicative and performing art, reflecting social values and cultural beliefs.
Effective: Fall 2007

DANCE 101 **Dance and Rhythmic Fundamentals** (1) Fundamental components of rhythm, dance movement, and technique.
Effective: Summer 1999

DANCE 231 **Beginning Ballet I** (1.5) An introduction to the techniques of ballet.
Effective: Spring 2006
Prerequisite: admission into Musical Theatre Major

DANCE 232 **Beginning Ballet II** (1.5) A continuation of Beginning Ballet I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 231

DANCE 241 **Beginning Jazz I** (1.5) An introduction to the techniques of Jazz dance.
Effective: Spring 2006
Prerequisite: DANCE 232

DANCE 242 **Beginning Jazz II** (1.5) A continuation of Beginning Jazz I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 241

DANCE 251 **Beginning Tap I** (1.5) An introduction to the technique of tap dance.
Effective: Spring 2006
Prerequisite: DANCE 232

DANCE 252 **Beginning Tap II** (1.5) A continuation of Beginning Tap I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 251

DANCE 261 (GA) **Beginning Modern Dance I** (1.5) Introduction to modern dance as an art form; development of dance technique and composition; teaching methods for improvisational skills.
Effective: Spring 2006

DANCE 262 **Beginning Modern Dance II** (1.5) A continuation of Beginning Modern Dance I to augment technical proficiency and to further comprehension of choreographic methods.
Effective: Spring 2006
Prerequisite: DANCE 261

DANCE 270 (GHA) **Introduction to Bartenieff Fundamentals** (3) Physical and theoretical approach to movement: facilitates efficiency, and expression through dynamic alignment, mobility, kinesthetic awareness; reduce physical injuries.
Effective: Spring 2003

DANCE 280 **Dance Improvisation** (1) Introduction to the concepts and techniques of dance improvisation.
Effective: Spring 2001
Prerequisite: DANCE 261

DANCE 281 **Introduction to African Dance and Culture** (1) An introduction to African dance based in a holistic approach integrating music, movement, drama, costume, and vocalization.
Effective: Spring 1999

DANCE 282 **Mojah Fusion Dance** (1.5) Mojah introduces intermediate/advanced level dance students to a unique dance technique that blends Horton, Dunham, West African and jazz movements in one form.
Effective: Summer 2007
Prerequisite: DANCE 231, DANCE 241 orDANCE 261

DANCE 283 **Beginning Hip Hop Dance** (1) Beginning Hip Hop dance introduces the student to Hip Hop culture through dance, free expression with the body/freestyle and choreography.
Effective: Summer 2007

DANCE 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1999

DANCE 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

DANCE 297A **Intro to Dance History: Ballet History 1580-1900** (2) Dance history lecture course covering the history of Ballet from 1580-1900.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

DANCE 297B **Contemporary Movement Lab II** (3) An exploration of contemporary dance techniques focusing on movement composition as a vehicle of expression.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

DANCE 297C **Ivyside Dance Ensemble** (1-3) Rehearsal and performance of dance repertoire, with focus on contemporary modern dance technique.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

DANCE 301 **Movement Analysis** (2) Introduce student to principles of practical and abstract movement analysis to determine individual physical limitations and potentials.
Effective: Spring 2001

DANCE 331 **Intermediate Ballet I** (1.5) A continuation of the course work established in Beginning Ballet II.
Effective: Spring 2006
Prerequisite: DANCE 232

DANCE 332 **Intermediate Ballet II** (1.5) A continuation of the course work established in Intermediate Ballet I.
Effective: Spring 2006
Prerequisite: DANCE 331

DANCE 341 **Intermediate Jazz I** (1.5) A continuation of the course work established in DANCE 242, Beginning Jazz II.
Effective: Spring 2006
Prerequisite: DANCE 242

DANCE 342 **Intermediate Jazz II** (1.5) A continuation of the course work established in DANCE 341, Intermediate Jazz I.
Effective: Spring 2006
Prerequisite: DANCE 341

DANCE 351 **Intermediate Tap I** (1.5) A continuation of the course work established in DANCE 252, Beginning Tap II.
Effective: Spring 2006
Prerequisite: DANCE 252

DANCE 352 **Intermediate Tap II** (1.5) A continuation of the course work established in DANCE 351, Intermediate Tap I.
Effective: Spring 2006
Prerequisite: DANCE 351

DANCE 361 **Intermediate Modern Dance I** (1.5) Development of techniques and principles of modern dance on the intermediate level.
Effective: Spring 2006
Prerequisite: DANCE 262

DANCE 362 **Intermediate Modern Dance II** (1.5) A continuation of Modern Dance I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 361

DANCE 371 **Music Theatre Dance--Style I** (1.5) A practical study of dance styles from the 1890'S to the 1990'S.
Effective: Spring 2006
Prerequisite: THEA 224

DANCE 372 **Music Theatre Dance--Style II** (1.5) A continuation of course work established in Music Theatre Dance Style I.
Effective: Spring 2006
Prerequisite: DANCE 371

DANCE 380 **Dance Programming** (2) Theoretical and practical experiences in dance production and implementation of dance programs in various environments.
Effective: Summer 1999

DANCE 381 **Dance Composition I** (2) Introduction to the basic principles and craft of choreography.
Effective: Spring 2006

DANCE 382 **Dance Composition II** (1) A continuation of the principles and craft of Dance Composition I.
Effective: Spring 1999
Prerequisite: DANCE 381

DANCE 385 **Leadership Practicum: Dance** (1) Supervised experiences in teaching and assisting with the teaching of dance techniques.
Effective: Spring 2000
Prerequisite: DANCE 362

DANCE 431 **Advanced Ballet I** (1.5) An advanced ballet training course.
Effective: Spring 2006
Prerequisite: DANCE 232

DANCE 432 **Advanced Ballet II** (1.5) A continuation of Advanced Ballet I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 431

DANCE 441 **Advanced Jazz I** (1.5) An advanced course in the techniques of jazz dance.
Effective: Spring 2006
Prerequisite: DANCE 242

DANCE 442 **Advanced Jazz II** (1.5) A continuation of Advanced Jazz I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 441

DANCE 451 **Advanced Tap I** (1.5) An advanced course in the techniques of tap dance.
Effective: Spring 2006
Prerequisite: DANCE 252

DANCE 452 **Advanced Tap II** (1.5) A continuation of Advanced Tap I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 451

DANCE 461 **Advanced Modern Dance I** (1.5) Development of dance technique and movement combinations on the advanced level.
Effective: Spring 2006
Prerequisite: DANCE 262

DANCE 462 **Advanced Modern Dance II** (1.5) A continuation of Advanced Modern Dance I to augment technical proficiency.
Effective: Spring 2006
Prerequisite: DANCE 461

DANCE 480 **Choreographic Projects** (2) Choreographic practicum experiences for concert performances.
Effective: Spring 2006
Prerequisite: DANCE 381

DANCE 482 **Introduction to Laban Movement Analysis** (3) Observe and analyze movement elements by exploring concepts of Body, Effort, Shape, and Space to increase personal communication and expression.
Effective: Summer 1999

DANCE 484 (US;IL) **Dance History** (3) Survey of dance history concerning perspectives of culture, race, and gender with a focus on Nineteenth and Twentieth centuries.
Effective: Fall 2006

DANCE 485 **Contemporary Dance Repertory** (1-2) An advanced dance course in the choreographic process with emphasis on original choreography in performance.
Effective: Spring 2006

DANCE 487 **Advanced Hip Hop Dance** (1.5) Advanced Hip Hop Dance reinforces and expands concepts from Beginning Hip Hop Dance. Free expression of the body, freestyle, and choreography are emphasized.
Effective: Summer 2007
Prerequisite: DANCE 283

DANCE 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1999

DANCE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

Last Import from UCM: May 29, 2010 3:00 AM

Dickinson Scl Of Law (LAWUN)

LAWUN 380 **Constitutional Law of Religion** (2) This course examines the Establishment Clause and the Free Exercise Clause of the First Amendment.
Effective: Summer 2003

LAWUN 381 **Equal Rights** (2) This course examines cases interpreting the Equal Protection guarantees of the Fifth and Fourteenth Amendments to the United States Constitution.
Effective: Summer 2003

LAWUN 382W **Legal Writing** (3) Intensive writing, editing, and oral advocacy course focusing on drafting legal memoranda and briefs.
Effective: Summer 2003

Last Import from UCM: May 29, 2010 3:00 AM

Dietetic Food Systems Management (D S M)

D S M 100 **The Profession of Dietetics** (1) Introduction to the profession and exploration of the roles and responsibilities of dietetic professionals.
Effective: Spring 1996

D S M 101 **Food Safety and Sanitation** (1-3) Principles and procedures to insure food safety, using hazard analysis, critical control processes to manage a quantity food service sanitation systems.
Effective: Fall 1999

D S M 102 **Introduction to Dietary Management** (1) Introduction to the profession and exploration of the roles and responsibilities of the dietary manager.
Effective: Spring 1996

D S M 105 **Introduction to School Food Service** (2) History of school food service programs and exploration of management opportunities, methods, and concepts of various food service systems.
Effective: Spring 1996

D S M 195 **Field Experience in Community Dietetics** (3) Planning, preparation, and field experiences in community dietetic programs.
Effective: Spring 1996
Prerequisite: NUTR 151 3 credits in sociology

D S M 204 **Marketing of Child Nutrition Programs** (3) Theories and applications of marketing principles to the design of consumer- oriented school foodservice and child nutrition services.
Effective: Spring 2004

D S M 205 **Human Resource Management in Food Service Operations** (3) Theories and principles of supervision and training food service employees for overall operational effectiveness.
Effective: Spring 1996

D S M 250 (HRIM 250) **Principles of Quantity Food Production** (3) Principles and methods of quantity food production including preparation techniques, quality control and evaluation, and cost control.
Effective: Fall 2007

D S M 260 **Management and Analysis of Quantity Food** (4) Principles of management applied to menu planning, purchasing, food and labor costing, and analysis for the institutional food service setting.
Effective: Spring 1996
Prerequisite: D S M 250

D S M 275 **Cost Control in Institutional Foodservice** (3) Analysis and application of revenue management and cost control principles in institutional foodservice systems.
Effective: Summer 2003
Prerequisite: D S M 260

D S M 280 (NUTR 280) **Current Issues in Community Dietetics** (3) Current issues impacting community dietetics programs with emphasis on the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).
Effective: Spring 1998
Prerequisite: D S M 195

D S M 281 (NUTR 281) **Facilitated Discussion in Community Dietetics** (2) Principles and methods of designing, implementing, and evaluating facilitated discussion to provide effective nutrition education.
Effective: Spring 1998
Prerequisite: D S M 280

D S M 295A **Field Experience in Foodservice Management** (1-4) Supervised experience in a foodservice operation: analysis of food service systems.
Effective: Spring 2004
Prerequisite: prerequisite or concurrent:D S M 260

D S M 295W **Professional Staff Field Experience** (4) Methods of, and practice in, the client-oriented dietetic systems.
Effective: Spring 1996
Prerequisite: D S M 195, D S M 205, D S M 260;NUTR 151 orNUTR 251

D S M 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2003

Last Import from UCM: May 29, 2010 3:00 AM

Early Childhood Education (E C E)

E C E 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

E C E 451 **Instruction in Early Childhood Education Derived from Development Theories** (3) Curriculum and instruction for early childhood education; program practice with pluralistic theoretical foundations for early childhood education.
Effective: Spring 2007
Prerequisite: HD FS 229, HD FS 428, HD FS 429 orPSYCH 212

E C E 452 **Approaches to Contemporary Early Childhood Education Programs** (3) Description and analysis of early childhood programs; cycles, trends, progressions in early childhood education.
Effective: Spring 1992
Prerequisite: E C E 451

E C E 453 **parent Involvement in Home, Center, and Classroom Instruction** (2-3) Parent involvement, programs, and methodologies that strengthen bonds between home and community for educators of children.
Effective: Spring 1992
Prerequisite: 6 credits in education

E C E 454 (HD FS 454) **Development and Administration of Child Service Programs** (3) Planning, administering, and evaluating child service programs at several administrative levels using methods from relevant disciplines.
Effective: Spring 1992
Prerequisite: HD FS 453;C I 295 orHD FS 330

E C E 479 **The Young Child's Play as Educative Processes** (3) Young child's play as educative processes and uses of materials in curricular settings are examined.
Effective: Spring 2007
Prerequisite: E C E 451;HD FS 229 orHD FS 429 orPSYCH 415

E C E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1991

E C E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1991

E C E 497A **E C E Projects** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

E C E 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

E C E 498A **Engaging Cultural Context in a Pre-K Setting** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Earth Sciences (EARTH)

EARTH 002 (GN) **The Earth System and Global Change** (3) An interdisciplinary introduction to the processes, interactions and evolution of the earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 002L (GN) **The Earth System and Global Change** (3) An interdisciplinary introduction to the processes, interactions and evolution of the earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 002P (GN) **The Earth System and Global Change** (0) An interdisciplinary introduction to the processes, interactions and evolution evolution of earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 002S (GN) **The Earth System and Global Change** (3) An interdisciplinary introduction to the processes, interactions and evolution evolution of the earth's biosphere, geosphere and hydrosphere.
Effective: Fall 2007

EARTH 100 (GN) **Environment Earth** (3) Natural processes and their relationship to anthropogenic influences. General principles of global cycles and the role they play in natural hazards, global warming, ozone depletion, etc.
Effective: Fall 2004

EARTH 100H (GN) **Environment Earth** (3) Natural processes and their relationship to anthropogenic influences. General principles of global cycles and the role they play in natural hazards, global warming, ozone depletion, etc.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

EARTH 101 (GN;US) **Natural Disasters: Hollywood vs. Reality** (3) Analysis of the causes and consequences of natural disasters; comparison of popular media portrayal of disasters with perspective from scientific research.
Effective: Summer 2005

EARTH 103 (GN) **Earth in the Future: Predicting Climate Change and Its Impacts Over the Next Century** (3) Climate predictions for the coming century are utilized to examine potential impacts on regions, sectors of society, and natural ecosystems.
Effective: Summer 2000

EARTH 105 (GN;IL) (AAA S 105) **Environments of Africa: Geology and Climate Change** (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, and natural resources.
Effective: Summer 2005

EARTH 106 (GN) **The African Continent: Earthquakes, Tectonics and Geology** (3) Study of earthquakes and seismic waves to learn about the geology and plate tectonics of the African continent.
Effective: Summer 2007

EARTH 111 (GN;US) **Water: Science and Society** (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.
Effective: Summer 2006

EARTH 111U (GN;US) **Water: Science and Society** (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

EARTH 150 (GN) **Dinosaur Extinctions and Other Controversies** (3) Dinosaur extinctions and other major and controversial events in the history of life.
Effective: Spring 2004

EARTH 240 **Coral Reef Systems** (3) The geography, geology, and chemistry of coral reef ecosystems; threats to reef environments; and techniques for reef surveying and monitoring.
Effective: Summer 2005
Prerequisite: Prerequisite or concurrent:KINES 045 or Nationally Recognized Scube Certification

EARTH 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

EARTH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

EARTH 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

EARTH 400 **Earth Sciences Seminar** (3) Interdisciplinary study of environmental problems in the earth sciences.
Effective: Spring 2001
Prerequisite: seventh-semester standing in the Earth major

EARTH 402 **Evolution of the Atmosphere and Oceans** (3) A quantitative journey through the history of atmospheric and oceanic composition and the earth's climate.
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 140, PHYS 201

EARTH 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2001
Prerequisite: prior approval of proposed assignment by instructor

EARTH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

EARTH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

EARTH 497A **Modeling the Earth System** (3) A quantitative introduction to the evolution of Earth's biosphere, atmosphere, and hydrosphere, with emphasis on the carbon cycle and climate.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: MATH 140 orMATH 110 orMATH 083, CHEM 110

EARTH 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Earth and Mineral Sciences (EM SC)

EM SC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

EM SC 100S (GWS) **Earth and Mineral Sciences First-Year Seminar** (3) Writing, speaking, and critical thinking skills applied to topics of general interest in Environmental and Materials Science.
Effective: Spring 2001

EM SC 101 (US;IL) **Resource Wars** (3) "Resource Wars" presents an analysis of natural resources and how competition for them shapes national and international cultures and geopolitics.
Effective: Summer 2006

EM SC 121 (GN) **Minerals and Modern Society** (3) Production and use of mineral resources in modern society with an emphasis on the interrelationships and their effect on the Earth system.
Effective: Summer 1996

EM SC 150 (GN;IL) (S T S 150) **Out of the Fiery Furnace** (3) A history of materials, energy and man, with emphasis on their interrelationships. For nontechnical students.
Effective: Spring 2006

EM SC 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

EM SC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2007

EM SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

EM SC 300 **Professional e-Portfolio Development** (1 per semester) Design, creation and critique of on-line portfolios for personal and professional development. This course is for second-, third-, and fourth- year EMS students.
Effective: Spring 2003

EM SC 302 **Orientation to Energy and Sustainability Policy** (1) Orientation to goals of the Energy and Sustainability Policy program and resources available to help students succeed.
Effective: Summer 2010

EM SC 420 (SOC 420, S T S 420) **Energy and Modern Society** (3) Technology and economics of energy resources, production, and consumption; environmental factors, exhaustion, new technology.
Effective: Fall 1986

EM SC 440 **Science Diving** (3) Advanced scuba diving skills applied to underwater research.
Effective: Summer 2003
Prerequisite: basic and second level open water scuba certification from an internationally recognized certification agency and a minimum of 20 additional logged dives beyond the basic certification dives.

EM SC 468 **Computational Thinking in Earth Systems** (3) Development and application of computational protocols used in earth sciences.
Effective: Summer 2000

EM SC 470W **Undergraduate Collaborative Research in Earth and Materials Sciences** (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.
Effective: Spring 1998

EM SC 470Y (IL) **Undergraduate Collaborative Research in Earth and Materials Sciences** (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.
Effective: Summer 2005

EM SC 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

EM SC 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

EM SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2003

EM SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Economics (ECON)

ECON 002 (GS) **Introductory Microeconomic Analysis and Policy** (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Spring 2003 Ending: Fall 2010

ECON 002H (GS) **Introductory Microeconomic Analysis and Policy** (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ECON 002H (GS) **Introductory Microeconomic Analysis and Policy** (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ECON 004 (GS) **Introductory Macroeconomic Analysis and Policy** (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Spring 2003 Ending: Fall 2010

ECON 004H (GS) **Introductory Macroeconomic Analysis and Policy** (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ECON 004H (GS) **Introductory Macroeconomic Analysis and Policy** (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ECON 014 (GS) **Principles of Economics** (3) Analysis of the American economy, emphasizing the nature and interrelationships of such groups as consumers, business, governments, labor, and financial institutions. Students who have passed ECON 002 or 004 or are registered in the College of Business Administration may not schedule this course.
Effective: Spring 2003

ECON 083S (GS) **First-Year Seminar in Economics** (3) Experiments in microeconomic principles.
Effective: Summer 1999

ECON 102 (GS) **Introductory Microeconomic Analysis and Policy** (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.
Effective: Spring 2011 Future: Spring 2011

ECON 104 (GS) **Introductory Macroeconomic Analysis and Policy** (3) National income measurement; aggregate economic models; money and income; policy problems.
Effective: Spring 2011 Future: Spring 2011

ECON 106 **Statistical Foundations for Econometrics** (3) Basic statistical concepts used in economics. Topics include probability distributions, expectations, estimation, hypothesis testing, correlation, and simple regression. Students who have completed ECON 306 may not schedule this course.
Effective: Spring 2011 Future: Spring 2011

ECON 197 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

ECON 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ECON 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

ECON 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2008

ECON 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ECON 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ECON 302 (GS) **Intermediate Microeconomic Analysis** (3) Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 302H (GS) **Intermediate Microeconomic Analysis (Honors)** (3) Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools.
Effective: Spring 2009
Prerequisite: ECON 002 andMATH 110 orMATH 140

ECON 304 (GS) **Intermediate Macroeconomic Analysis** (3) Analysis of forces that determine the level of aggregate economic activity.
Effective: Summer 1995
Prerequisite: ECON 004

ECON 304H (GS) **Intermediate Macroeconomic Analysis (Honors)** (3) Analysis of forces that determine the level of aggregate economic activity.
Effective: Spring 2009
Prerequisite: ECON 004 andMATH 110 orMATH 140

ECON 306 **Introduction to Econometrics** (3) The implementation of statistical techniques to analyze data and address economic questions. Econometric results are produced and assessed.
Effective: Spring 2010
Prerequisite: ECON 106

ECON 315 (GS) **Labor Economics** (3) Economic analysis of employment, earnings, and the labor market; labor relations; related government policies.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 323 (GS) **Public Finance** (3) Contemporary fiscal institutions in the United States; public expenditures; public revenues; incidence of major tax types; intergovernmental fiscal relations; public credit.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 333 (GS) **International Economics** (3) Why nations trade, barriers to trade, balance of payments adjustment and exchange rate determination, eurocurrency markets, and trade-related institutions.
Effective: Summer 1995
Prerequisite: ECON 002, ECON 004 orECON 014

ECON 342 (GS) **Industrial Organization** (3) Industrial concentration, size, and efficiency of business firms, market structure and performance, competitive behavior, public policy and antitrust issues.
Effective: Summer 1995
Prerequisite: ECON 002

ECON 351 **Money and Banking** (3) Money, credit, commercial and central banking, financial intermediaries, treasury operations, monetary theory and policy, and foreign exchange. Students who have already taken Econ. 451 may not schedule this course.
Effective: Spring 2001
Prerequisite: ECON 002 orECON 004

ECON 370 (GS) **Comparative Economic Development** (3) Problems of growth and development in non-industrialized countries and in economies in transition; institutions and economic development.
Effective: Spring 2001
Prerequisite: ECON 002 orECON 014

ECON 390 **Statistical Foundations for Econometrics** (3) Basic statistical concepts used in economics. Topics include probability distributions, expectations, estimation, hypothesis testing, correlation, and simple regression. Students who have completed ECON 490 may not schedule this course.
Effective: Fall 2009 Ending: Fall 2010
Prerequisite: MATH 110 orMATH 140

ECON 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

ECON 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

ECON 397B **Economics as a Career** (1) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ECON 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ECON 400M **Honors Seminar in Economics** (3-12) Readings, discussion, and oral and written reports on selected topics in economics.
Effective: Spring 1993
Prerequisite: ECON 302, ECON 304 fifth-semester standing admission into Honors program

ECON 401 **History of Economic Thought** (3) Survey of economic ideas from Greco-Roman times to the present.
Effective: Spring 2001
Prerequisite: ECON 302 orECON 304

ECON 402 **Decision Making and Strategy in Economics** (3) Development and application of the tools for decision making under uncertainty and for game theoretic analysis of economic problems.
Effective: Spring 2007
Prerequisite: ECON 302;SCM 200 orSTAT 200

ECON 403W **The Economics of Arts and Entertainment** (3) Supply and demand of creative goods and services; industry structure; role of information; policy issues.
Effective: Summer 2008
Prerequisite: ECON 302 andECON 490

ECON 404 **Current Economic Issues** (3) An analytical survey of significant problems of current economic policy and the application of economic analysis to important social issues.
Effective: Summer 2001
Prerequisite: ECON 302 orECON 304

ECON 404W **Current Economic Issues** (3) An analytical survey of significant problems of current economic policy and the application of economic analysis to important social issues.
Effective: Spring 1993
Prerequisite: ECON 302 orECON 304

ECON 405 **Seminar in Economic Analysis** (3) Development and application of tools of economic analysis; recent analytical developments; policy problems. Primarily for senior-year economics majors.
Effective: Fall 1981
Prerequisite: ECON 302, ECON 304

ECON 406W **The Economics of Social Conflict** (3) Economic theory of the resolution of social conflicts: social choice theory, voting, noncooperative games, voluntary trade, and allocation by force.
Effective: Summer 2008
Prerequisite: ECON 402 andMATH 110 orMATH 140

ECON 407W **Political Economy** (3) Applications of the tools of game theory to analyze topics in collective decision making.
Effective: Summer 2008
Prerequisite: ECON 402

ECON 408W **Intellectual Property** (3) A comparative and cost-benefit analysis of intellectual property that examines patents, copyrights, government supported research, and prizes.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

ECON 409W **Economics of Terrorism** (3) Terrorism throughout history; economic causes, costs, sources, and consequences.
Effective: Summer 2008
Prerequisite: ECON 402

ECON 410 **Economics of Labor Markets** (3) Economic analysis of the employment relationship from the microeconomic perspective, with emphasis on current labor-market problems and public policy issues.
Effective: Spring 2008
Prerequisite: ECON 002

ECON 411W **Behavioral Economics** (3) Topics in behavioral economics; selected games; evolutionary models of social behavior; culture and social behavior; herding; overconfidence.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

ECON 412 **Labor Economics and Labor Markets: Theory, Evidence, and Policy** (3) Advanced topics in labor economics: theory, empirical evidence, and policy.
Effective: Spring 2009
Prerequisite: ECON 302 orECON 315

ECON 413W **Economic Growth and the Challenge of World Poverty** (3) Economic prosperity in historical perspective; recent successes (East Asia, China, India); ongoing challenges (the bottom billion; sub-Saharan Africa).
Effective: Summer 2008

Prerequisite: ECON 471

ECON 414W **The Economic Way of Looking at Life** (3) Economics/life according to Gary Becker: criminal behavior; economics of the family (marriage, divorce, intrahousehold resource allocation, bequests), policy issues.
Effective: Summer 2008
Prerequisite: ECON 412

ECON 415W **The Economics of Global Climate Change** (3) Evidence on climate change; economic models of the environment and market failure; cost-benefit analysis of policy options; carbon markets.
Effective: Summer 2008
Prerequisite: ECON 428

ECON 417W **The Economics of Uncertainty** (3) Uncertainty is examined in contracts, with an emphasis on limited liability. Asymmetric information and economic puzzles are also considered.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

ECON 418W **A Comparative and Cost-Benefit Analysis of State Government Activities** (3) This course examines federalism with a particular focus on the activities undertaken by the state of Pennsylvania.
Effective: Summer 2008
Prerequisite: ECON 490

ECON 421 **Analysis of Economic Data** (3) Economic analysis of data: sources, variable definitions, miscodings, missing observations, censoring and truncation, applications.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 451;ECON 490

ECON 422W **Applying Monetary Theory to Monetary History** (3) Monetary history is examined. Special attention is paid to commodity-based systems, private money, and government monopolies on currency.
Effective: Summer 2008
Prerequisite: ECON 451

ECON 423 **State and Local Taxation** (3) Representative state and local tax systems, including analysis of state-local fiscal relationships and proposals for tax revision.
Effective: Winter 1978
Prerequisite: ECON 323

ECON 424 **Income Distribution** (3) Inequality and poverty in the United States, measurement problems, determinants of inequality, arguments for and against equality, impact of redistributive policies.
Effective: Fall 1992
Prerequisite: ECON 302, ECON 315 orECON 323

ECON 425 **Economics of Public Expenditures** (3) Analytic and policy aspects of public expenditure decisions; applications from areas of contemporary public interest.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 323

ECON 427 (EDLDR 427) **Economics of Education** (3) Theoretical and empirical concepts in economics applied to education.
Effective: Fall 2004
Prerequisite: ECON 302, ECON 315 orEDLDR 480

ECON 428 **Environmental Economics** (3) Environmental pollution, the market economy, and optimal resource allocation; alternative control procedures; levels of environmental protection and public policy.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 323

ECON 429 **Public Finance and Fiscal Policy** (3) Analysis of public revenue and expenditure structure primarily at the federal level; federalism; fiscal policy and public debt.
Effective: Fall 1983
Prerequisite: ECON 323;ECON 302 orECON 304

ECON 430 **Regional Economic Analysis** (3) Analysis of personal and industrial location decisions, regional economic growth, migration patterns, and regional policy; emphasis on tools and techniques.
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004

ECON 432 **Urban Economics** (3) Theories and methods for economic analysis of such urban problems as housing, segregation, government services, and transportation.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 323

ECON 433 **Advanced International Trade Theory and Policy** (3) Causes/consequences of trade; effects of tariffs and quotas; strategic trade policy; political economy of trade restrictions and other topics.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 333

ECON 434 **International Finance and Open Economy Macroeconomics** (3) Trade balance movements, exchange rate determination; monetary and fiscal policies in open economies; international policy coordination; the world monetary system.
Effective: Spring 1992

Prerequisite: ECON 304 orECON 333

ECON 435 **Black American Economic Development** (3) Analytical and theoretical aspects of Black American economic development: discrimination, development approaches, historical experience, public and private policies.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 304

ECON 436W (US) **Economics of Discrimination** (3) Analysis of the economic characteristics of women and minorities, with examination of race and sex discrimination and related government policies.
Effective: Fall 2007
Prerequisite: ECON 302 orECON 315

ECON 437W **Multinationals and the Globalization of Production** (3) This course will focus on trade, multinationals and offshoring, and explore their implications for the U.S. and developing countries.
Effective: Summer 2008
Prerequisite: ECON 433

ECON 438W **Winners and Losers from Globalization** (3) The economic effects of globalization on individuals, governments, nation- states and business.
Effective: Summer 2008
Prerequisite: ECON 433 andECON 490

ECON 439 **Economics of Technology Diffusion** (3) Technology Diffusion: Globalization, productivity measurement, intellectual property.
Effective: Summer 2008
Prerequisite: ECON 433

ECON 440 **Trade and Labor Markets** (3) International trade and its impacts on markets in industrialized and development economies; low-skilled workers in the emerging global economy.
Effective: Summer 2008
Prerequisite: ECON 433

ECON 441 **Introduction to Business Economics** (3) The study of economic theory as it relates to the problems of the firm.
Effective: Spring 2008
Prerequisite: ECON 002, ECON 004

ECON 442 **Managerial Economics** (3) Application of economic theory to managerial decision making; risk, uncertainty; models and statistical techniques.
Effective: Spring 2008
Prerequisite: ECON 002

ECON 443 **Economics of Law and Regulation** (3) An economic analysis of property rights, contractual arrangements, illegal activities, and regulation; competitive problems due to externalities and market failure.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 342

ECON 444 **Economics of the Corporation** (3) Coordination and incentive issues within a corporation. Topics include employment contracts, performance incentives and pricing of financial assets.
Effective: Summer 1997
Prerequisite: ECON 302

ECON 445 (H P A 445) **Health Economics** (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.
Effective: Spring 1994
Prerequisite: ECON 302, ECON 315 orECON 323

ECON 445W (H P A 445W) **Health Economics** (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.
Effective: Spring 2008
Prerequisite: ECON 302, ECON 315 orECON 323

ECON 446W **Economics of Industry Evolution** (3) Dynamics of industry evolution; empirical evidence and theoretical modeling of firm entry, growth, and exit; entrepreneurship; investment and strategic behavior.
Effective: Summer 2008
Prerequisite: ECON 444 andECON 490

ECON 447W **Economics of Sports** (3) Examination of economic issues pertaining to professional and collegiate sports, including analysis of industrial organization, labor markets, and local economies.
Effective: Spring 2009
Prerequisite: ECON 302 andECON 490

ECON 448W **Economics of Auctions and Procurements** (3) Theoretical and empirical analyses of auctions and procurements; different modeling environments; econometric analysis of auction and procurement data.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444 andECON 490

ECON 449W **Economics of Collusion** (3) Theoretical and empirical analysis of collusion among firms, case studies of cartel behavior, bidding behavior at auctions and procurements.
Effective: Spring 2008
Prerequisite: ECON 302 orECON 342 andECON 490 or permission of instructor

ECON 450 **The Business Cycle** (3) Measurement and theories of the business cycle; stabilization policies; forecasting.
Effective: Summer 1992
Prerequisite: ECON 304 orECON 351

ECON 451 **Monetary Theory and Policy** (3) Monetary and income theory; monetary and fiscal policy.
Effective: Winter 1978
Prerequisite: ECON 304 orECON 351

ECON 452W **Financial Crises** (3) Examination of causes and consequences of financial crises; asset pricing theory, market efficiency, speculative bubbles; policy considerations.
Effective: Summer 2008
Prerequisite: ECON 451

ECON 453 **Monopolization and Vertical Restraints** (3) Monopolization and vertical restraints: exclusive dealing, bundling, tying, predation and entry deterrence; empirical evaluation.
Effective: Summer 2008
Prerequisite: ECON 444 andECON 490

ECON 454 **Economics of Mergers** (3) Economic analysis of horizontal and vertical mergers; econometric issues in measurement of unilateral and coordinated effects; policy issues.
Effective: Summer 2008
Prerequisite: ECON 444 andECON 490

ECON 455W **Economics of the Internet** (3) Economics of the Internet; electronic commerce and network economics; pricing issues; intellectual property.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

ECON 457W **Economics of Organizations** (3) An advanced course in the economics of organizations. The focus is on coordination, incentives, contracts, and information in corporations.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

ECON 462 **American Economic Development** (3) Quantitative aspects and theories of American economic development; resource and technological considerations; economic policies and growth.
Effective: Summer 1992
Prerequisite: ECON 302 orECON 304

ECON 463 (IL) **Economic Demography** (3) Microeconomics of demographic behavior; interrelationships between demographic and economic factors, in developing and industrialized economies; economic welfare and policy implications.
Effective: Spring 2006
Prerequisite: ECON 302 orECON 304 ; or 9 credits in demography

ECON 463W **Economic Demography** (3) Microeconomics of demographic behavior; interrelationships between demographic and economic factors, in developing and industrialized economies; economic welfare and policy implications.
Effective: Summer 2008
Prerequisite: ECON 412 orECON 471 or 9 credits in demography

ECON 465W **Cross Sectional Econometrics** (3) Discrete choice models, censored and truncated regression models, longitudinal models, applications.
Effective: Summer 2008
Prerequisite: ECON 302 andECON 490

ECON 466W **Panel Data Models** (3) Random and fixed effects, endogeneity, balanced and unbalanced panels, censoring of spells, differences in differences, applications.
Effective: Summer 2008
Prerequisite: ECON 302 andECON 490

ECON 470 (IL) **International Trade and Finance** (3) Economic analysis of why nations trade, barriers to trade, the international monetary system, and macroeconomic policy in an open economy.
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004

ECON 471 **Growth and Development** (3) Problems of capital formation, institutional considerations, theories of economic growth.
Effective: Summer 1997
Prerequisite: ECON 302 orECON 304 orECON 370 orECON 372

ECON 472 **Transition to Market Economies** (3) Economics of transition to a market economy; problems of former Soviet-type economies; privatization, stabilization, and institutional change.
Effective: Fall 2005
Prerequisite: ECON 302 orECON 304

ECON 473 (IL) **China in the Global Economy: History, Culture, and Society** (3) Analysis of China's role in the global economy and the impact on U.S. as well as global business and society.
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004 or permission of program

ECON 474 **East Asian Economies** (3) Development, structure, and policies of the economies of East Asian pacific rim nations.
Effective: Spring 1992
Prerequisite: EA ST 187 orECON 370;ECON 002 orECON 004

ECON 475W **Migration and Development** (3) Human Capital Approach to Migration; Economics of Family Migration; Evidence: Micro and Macro Perspectives; Migration Policies.
Effective: Summer 2008
Prerequisite: ECON 471 orECON 412;ECON 490

ECON 476W **The Economics of Fertility in the Developing World** (3) Demand for children, supply of children, and costs of fertility regulation; fertility transition; public policies to affect fertility.
Effective: Summer 2008
Prerequisite: ECON 471 andECON 490

ECON 477 **Labor Markets in Developing Countries** (3) Labor demand and supply in developing countries; urban and rural labor markets, modern and informal sectors; policy issues.
Effective: Summer 2008
Prerequisite: ECON 471 orECON 412

ECON 478 **Incomplete Markets** (3) Rural land markets, fragmented credit markets, risk and insurance, human capital and labor markets, innovation and technology spillovers, coordination failures.
Effective: Summer 2008
Prerequisite: ECON 471

ECON 479W **Economics of Matching** (3) Economic application of matching to employment, marriage, organ markets, and medical residents.
Effective: Summer 2008
Prerequisite: ECON 402 orECON 412 orECON 444

ECON 480 **Mathematical Economics** (3) Mathematical techniques employed in economic analysis; formal development of economic relationships.
Effective: Summer 1992
Prerequisite: ECON 302, ECON 304, MATH 110

ECON 481 **Business Forecasting Techniques** (3) A survey of contemporary business forecasting techniques, with emphasis on smoothing, decomposition, and regression techniques.
Effective: Spring 2008
Prerequisite: SCM 200 orSTAT 200

ECON 482 **Advanced Business Forecasting Techniques** (3) Advanced forecasting, time-series models, Box-Jenkins methodology, model identification, estimation, and diagnostic checking.
Effective: Spring 2008
Prerequisite: SCM 200 orSTAT 200

ECON 483 **Economic Forecasting** (3) Forecasting time series, using linear regression models and econometric software; useful forecasting models; financial and seasonal time series; trends.
Effective: Summer 2008
Prerequisite: ECON 490

ECON 485 **Econometric Techniques** (3) Applying statistical techniques to test and explain economic relationships; integration of economic theory with observed economic phenomena.
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004;SCM 200 orSTAT 200

ECON 489M **Honors Thesis** (1-6) No description.
Effective: Spring 1993
Prerequisite: ECON 302, ECON 304 and admission into the departmental honors program

ECON 490 **Introduction to Econometrics** (3) Use of simple and multiple regression models in measuring and testing economic relationships. Problems including multicollinearity, hetroskedasticity, and serial correlation.
Effective: Summer 2000
Prerequisite: MATH 110, ECON 390

ECON 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

ECON 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

ECON 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

ECON 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Effective: Fall 1983

ECON 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ECON 499 (IL) **Foreign Study--Economics** (2-6) Study in selected countries of economic institutions and current economic problems.
Effective: Summer 2005
Prerequisite: ECON 002, ECON 004

Last Import from UCM: May 29, 2010 3:00 AM

Educ Leadership Prog (EDLDR)

EDLDR 405 (C I 405) **Strategies in Classroom Management** (3) Managing and coping with disruptive student behavior in instructional settings so that they support the teaching/learning process.
Effective: Fall 2008
Prerequisite: teaching experience or supervised practicum experience

EDLDR 409 **Leadership Studies in Popular Film** (3) In-depth analysis of leadership dynamics revealed in popular film. Focus on cinematic depictions of theory and practical application of leadership.
Effective: Summer 2006
Prerequisite: EDTHP 115 junior standing or permission of program

EDLDR 427 (ECON 427) **Economics of Education** (3) Theoretical and empirical concepts in economics applied to education.
Effective: Fall 2004
Prerequisite: ECON 302, ECON 315 orEDLDR 480

EDLDR 476 **The Teacher and the Law** (3) An introduction to education law as it affects the teacher.
Effective: Fall 2004
Prerequisite: 9 credits in education or the social sciences

EDLDR 480 **Introduction to Educational Leadership** (3) Development of educational leadership. Relationships among local, state, and federal agencies. Introduction to current concepts and theories.
Effective: Fall 2004
Prerequisite: 3 credits in social science sociology anthropology community development business administration or political science

EDLDR 481 **Collective Bargaining in Education** (3) Analysis of public bargaining, including history, development of legislation, analysis of current laws, and strategies and techniques, including simulated bargaining.
Effective: Fall 2004
Prerequisite: EDLDR 480

EDLDR 485 **Principal as Instructional Leader** (3) Knowledge and skills principals need to lead instructional design and implementation.
Effective: Fall 2004
Prerequisite: EDLDR 480

EDLDR 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2004

EDLDR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2004

EDLDR 497A **Case Studies in Educational Leadership** (3) Case study analyses of schools as social systems. Focus on issues of school leadership, culture, policy, and organizational dynamics.
Effective: Summer 2010 Ending: Summer 2010

EDLDR 497A (EDTHP 497B) **Law and Policy for Teachers** (3) Students study and discuss legal issues facing teachers and schools today.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDLDR 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2004

EDLDR 498A **Teacher as Supervisor: Becoming aore Effective Mentor Teacher** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDLDR 498A **Teacher as Supervisor: Becoming a More Effective Mentor Teacher** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Last Import from UCM: May 29, 2010 3:00 AM

Education (EDUC)

EDUC 100S **First-Year Seminar in Education** (3) Learning about a scholarly community through the development of knowledge and skills needed for successful participation in higher education.
Effective: Fall 2007

EDUC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

EDUC 199 (IL) **Foreign Studies** (1-12) Study of educational topics in a country other than the United States.
Effective: Summer 2007

EDUC 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

EDUC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

EDUC 302 **Basic Preparation for Teaching** (3) Philosophical, psychological issues in education; instructional objectives, lesson planning; evaluation, grading procedures; assessment, instruction of individual children. Field experience.
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

EDUC 303 **Sensitivity to Special Learners** (3) This course is designed to examine the procedures, characteristics and strategies for working with special learners in the elementary school.
Effective: Spring 2005
Prerequisite: seventh-semester standing in Elementary Education Major

EDUC 304 **Classroom Organization and Management** (3) Organization, integration of the elementary school day; classroom management, control techniques; audio-visual techniques.
Effective: Spring 2001
Prerequisite: sixth-semester standing in Elementary Education Major

EDUC 305 **Creative Arts** (3) Experiences in self-expression through a variety of artistic media. Techniques for guiding children in artistic expression.
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

EDUC 313 **Field Observation** (2) Observation techniques; classroom observation and participation.
Effective: Spring 2001
Prerequisite: admission into Secondary Teacher Certification Program. Prerequisite or concurrent:EDUC 314

EDUC 314 **Learning Theory and Instructional Procedures** (3) Theories of learning in relation to instructional practices. Analysis of motivation, transfer of learning, and retention. Field practicum.
Effective: Spring 2001
Prerequisite: admission into Secondary Teacher Certification Program. Prerequisite or concurrent:EDUC 313

EDUC 315 (US) **Social and Cultural Factors in Education** (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.
Effective: Summer 2005 Ending: Fall 2010
Prerequisite: admission into Elementary Education Major or Secondary Teacher Certification Program

EDUC 315W (US) **Social and Cultural Factors in Education** (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission into Elementary Education Major or Secondary Teacher Certification Program

EDUC 320 **Methods in Teaching Beginning Readers** (3) Concepts, methods, and materials for developing beginning reading abilities, with emphasis on personalized instruction through diagnostic teaching.
Effective: Spring 2001
Prerequisite: sixth-semester standing in Elementary Education Major

EDUC 321 **Methods in Teaching Intermediate and Advanced Readers** (3) Concepts, methods, and materials for personalizing reading instruction with emphasis on extending personal and functional reading abilities beyond beginning reading.
Effective: Winter 1981
Prerequisite: EDUC 320

EDUC 322 **Adolescent Literature and Developmental Reading** (3) Adolescent literature materials, reading principles, and

practices suitable for an English class.
Effective: Spring 2001
Prerequisite: admission into Secondary English Certification Program

EDUC 331 **Introduction to Early Childhood Education** (1) Introduction to the elements of an early childhood program.
Effective: Summer 1991

EDUC 352 **Teaching Language Arts** (3) Teaching the writing process, including speaking and listening skills in relation to oral and written composition.
Effective: Spring 2001
Prerequisite: sixth-semester standing in Elementary Education Major

EDUC 353 **Teaching Elementary Social Studies** (3) The theory and practice of elementary social studies instruction.
Effective: Spring 2001
Prerequisite: seventh-semester standing in Elementary Education Major

EDUC 371 **Teaching Music in the Elementary School** (3) Music methods course for elementary education majors; students will learn elements of music, and instructional techniques.
Effective: Spring 2001
Prerequisite: seventh-semester standing in Elementary Education Major

EDUC 385 **Professional Development in Teaching** (3) This course addresses practical issues central to the profession of teaching and, in some cases, specific to Pennsylvania.
Effective: Spring 1995
Prerequisite: eight-semester standing approval of program

EDUC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

EDUC 400 **Diversity and Cultural Awareness Practices in the K-12 Classroom** (3) This course addresses diversity, cultural awareness and sensitivity about cultures, concepts and methods in society, communities and educational settings.
Effective: Summer 2008

EDUC 401 **Early Childhood Education** (3) Organization, methodology, and materials for nursery school and kindergarten programs.
Effective: Winter 1981

EDUC 402 **Language Development, Self-Expression, and Literature in Early Childhood Education** (3) Examining the development of language and self-expression in young children, and the role of children's literature in facilitating development.
Effective: Winter 1981

EDUC 403 **Curriculum for Early Childhood** (3) Examining early childhood programs and methodology, focusing on areas of social studies, mathematics, and science.
Effective: Winter 1981

EDUC 404 **Young Children's Behavior: Observation and Evaluation** (3) Observation, recording and evaluation of student behaviors, and the use of prescription techniques for early childhood students with special needs.
Effective: Winter 1981

EDUC 405 **Early Childhood Education: Infancy and Toddlerhood** (3) Models of infant development with focus on the first three years of life--cognitive and socio-emotional milestones will be analyzed.
Effective: Spring 2005

EDUC 406 **Human Sexuality** (3) Examination of physiology, diseases, attitudes, morality, and controversial topics related to sexuality. Consideration of sex eduction in the school curriculum.
Effective: Winter 1981

EDUC 408 **Administration of Early Childhood Education Programs** (3) The role of the early childhood administrator as it relates to regulations, staffing, management, funding and curriculum.
Effective: Winter 1981
Prerequisite: EDUC 401

EDUC 410 **The Child and Social Institutions** (3) The effects of the family on a child's development, especially in the infancy and preschool years.
Effective: Winter 1981

EDUC 412 **Early Literacy Intervention I** (3) Participants will better understand factors affecting early reading behavior through diagnostic techniques, observation techniques, and literacy intervention strategies.
Effective: Summer 1996

Prerequisite: permission of the program

EDUC 413 **Early Literacy Intervention II** (3) Participants will continue to learn skills, knowledge, and experience processes to implement the early literacy intervention program.
Effective: Summer 1996
Prerequisite: EDUC 412

EDUC 415 **Teaching Secondary Social Studies** (3) Study of the objectives, content, methods, and evaluation of procedures of social studies. Students design units and lesson plans.
Effective: Spring 2001
Prerequisite: EDUC 314, EDUC 315 and admission into Secondary Social Studies Certification Program

EDUC 416 **Teaching Secondary English and the Humanities** (3) Study of the objectives, content, and methods of English and humanities courses.
Effective: Spring 2001
Prerequisite: EDUC 314, EDUC 315 and admission into Secondary English Certification Program

EDUC 417 **Teaching Secondary Mathematics** (3) Study of the objectives, content, methods, and evaluation procedures of mathematics.
Effective: Spring 2001
Prerequisite: EDUC 314, EDUC 315 and admission into Secondary Mathematics Certification Program

EDUC 418 **Positive Classroom Climate for Positive Attitudes About Learning** (3) Participants will learn strategies for creating classroom climates which encourage positive attitudes toward learning while preventing and correcting student misbehavior.
Effective: Summer 1995
Prerequisite: permission of program

EDUC 421 **Children's Literature** (3) Knowledge of literature appropriate for elementary school children and utilization of literature-related activities in teaching reading.
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

EDUC 422 **Literature for Children and Adolescents** (3) Literature for children and adolescents, approaches for using such literature in the school curriculum.
Effective: Fall 2008

EDUC 424 **Folk and Fairy Tales** (3) In this course students will examine the social and psychological significance of folk tales, make cross-cultural comparisons, and study story grammars of these stories.
Effective: Summer 1991
Prerequisite: 6 credits in humanities

EDUC 425 **Literacy Assessment** (3) This course emphasizes alternative literacy measures focusing on portfolio assessment and performance assessments.
Effective: Spring 1997
Prerequisite: permission of the program

EDUC 432 **Children's Literature in Teaching Writing** (3) Introduction to introduces methods for transferring writing skills and literary devices from literature to student writing in all subject areas.
Effective: Summer 2008

EDUC 435 **Addressing the Needs of Special Learners** (1) An examination of attitudes toward, barriers experienced by, and special needs of special learners in the schools.
Effective: Spring 2001
Prerequisite: eighth-semester standing in Secondary Teacher Certification Program

EDUC 436 **Inclusion Practices in Education** (3) The educational, social, and political foundations for inclusion practices in public education.
Effective: Summer 1995
Prerequisite: permission of program

EDUC 440 **Educational Statistics and Measurements** (3) Descriptive statistics, correlation, reliability, validity, scaling techniques, and introduction to item analysis.
Effective: Winter 1981

EDUC 450 **Current Topics in Education** (1-15) No description.
Effective: Fall 1983

EDUC 452 **Teaching Writing** (3) Techniques for teaching the writing process, kindergarten through grade 12, including writing in content areas; workshop format.
Effective: Fall 1983

EDUC 458 **Behavior Management Strategies for Inclusive Classrooms** (3) Provides knowledge and skills essential for designing positive learning environments in secondary classrooms with the inclusion of exceptional learners.
Effective: Summer 2009
Prerequisite: admission to teacher education

EDUC 459 **Strategies for Effective Teaching in Inclusive Classrooms** (3) Course examines effective strategies for accommodating and adapting instruction for exceptional learners in secondary classrooms.
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: EDUC 285 Concurrent: EDUC 490

EDUC 459 **Strategies for Effective Teaching in Inclusive Classrooms** (3) Course examines effective strategies for accommodating and adapting instruction for exceptional learners in secondary classrooms.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: EDUC 285

EDUC 460 **Field Study in Ecology** (4) Study and analysis of the ecology of various regions of the world. May be repeated for credit.
Effective: Summer 1995
Prerequisite: EDSCI 454

EDUC 462 **Computers for Classroom Teachers** (3) An introduction: microcomputers and their educational applications.
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

EDUC 463 **The Internet and K-12 Education** (3) Relates educational theory and practice to applications of the Internet, applying content from educational foundations, curriculum, and research.
Effective: Spring 2003
Prerequisite: EDUC 462 or approval of program.

EDUC 464 **Technology and the Learning Process** (3) Evaluates the relationship between technology-based resources and learning theories through design, implementation, and evaluation of online instructional modules.
Effective: Spring 2003
Prerequisite: EDUC 462 orEDUC 463 or permission of program

EDUC 465 **Serving Culturally and Linguistically Diverse (CLD) Learners** (3) The course provides teachers with knowledge, understandings, and skills to engage culturally and linguistically diverse (CLD) students in mainstream classrooms.
Effective: Spring 2009

EDUC 466 **Foundations of Teaching English as a Second Language** (3) Overview of various legal, historical, and socio-cultural implications of teaching and learning English as a Second Language.
Effective: Summer 2006
Prerequisite: permission of program

EDUC 467 **English Language Structure for English as a Second Language Teachers** (3) An in-depth study and review of general linguistic concepts and their application to ESL pedagogy.
Effective: Summer 2006
Prerequisite: EDUC 466 or permission of program

EDUC 468 **Language Acquisition for English as a Second Language Teachers** (3) Study of the theory, research, and processes involved in first and second language development, acquisition, and assessment.
Effective: Summer 2006
Prerequisite: EDUC 466 andEDUC 467 or permission of program

EDUC 469 **Teaching Methods and Assessment of English as a Second Language** (3) Integration of theory, research, and practice about ESL curriculum, instructional methods, assessment, and literacy development.
Effective: Summer 2006
Prerequisite: EDUC 466, EDUC 467, EDUC 468 or permission of program

EDUC 470W **Higher-Order Thinking for Educators** (3) Presentation of strategies, techniques, and principles of higher-order thinking which are grounded in relevant research and practice will be presented.
Effective: Fall 2006
Prerequisite: admission into Elementary Education Major

EDUC 471 **Best Practices in Literacy** (3) An application of best literacy practices to classroom instruction and assessment of reading, writing, listening, and speaking.
Effective: Spring 2003
Prerequisite: EDUC 320 orEDUC 321

EDUC 472 **Teaching Reading Through the Content Areas** (3) Designed to enable teachers of content areas to improve the reading/study skills needed by their students.
Effective: Winter 1981

EDUC 474 **Advanced Whole Language** (3) To support and encourage educators teaching in whole language classrooms with emphasis on strategies and processes relevant to all.
Effective: Summer 1995
Prerequisite: EDUC 471

EDUC 475 **ESL Leadership, Research and Advocacy** (3) Teachers will develop their skills as instructional leaders and researchers by conducting school-based action research projects.
Effective: Summer 2010
Prerequisite: EDUC 469

EDUC 476 **The Effects of Environment on Child Development** (3) The effects of environmental forces such as mother's anxiety during the prenatal period and culture on childhood and adolescence.
Effective: Winter 1981

EDUC 477 **Teaching Struggling Readers and Writers** (3) A comprehensive overview of learning problems and effective strategies for teaching K-12 students who have difficulties reading and writing.
Effective: Spring 2008

EDUC 484 **School Law for Teachers** (3) This course will focus on increasing teacher awareness of law and how it impacts on daily performance and job security.
Effective: Summer 1995
Prerequisite: permission of program

EDUC 490 **Student Teaching** (1-12) Observation and teaching in selected elementary or secondary schools under direction of cooperating classroom teachers and University supervisors. Regular seminars. GPA 3.0 or higher. Passing scores on required Praxis I tests.
Effective: Fall 2003
Prerequisite: eight semester standing approval of program

EDUC 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

EDUC 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

EDUC 495 **Internship** (1-15) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.
Effective: Fall 1983
Prerequisite: prior approval of proposed assignment by instructor

EDUC 495A **Junior Field Experience** (1) Second semester juniors assigned to a suburban elementary school for the purpose of actively participating in classroom activities.
Effective: Summer 2003
Prerequisite: prior approval of proposed placement by instructor.

EDUC 495B **Senior Field Experience** (1) First semester seniors assigned to an urban elementary school for the purpose of actively participating in classroom activities.
Effective: Summer 2003
Prerequisite: prior approval of proposed placement by instructor.

EDUC 495C **Early Childhood Field Experience** (1) First semester seniors assigned to an urban elementary school for the purpose of actively participating in an early childhood classroom.
Effective: Summer 2003
Prerequisite: prior approval of proposed placement by instructor and completion of all four early childhood prerequisite courses.

EDUC 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 1983

EDUC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1983

EDUC 497A **Teacher in the Workplace** (3) A two-day pre-worksite experience workshop involves activities in the classroom to enable the educators to glean the most of the one-site work experience. Educators will participate in a 30-40 hour opportunity to explore a company and learn those aspects that are related to the competencies being mastered in their classrooms. A two-day post experience workshop which culminates in the development of activities for the students to gain relevancy and importance of the competencies being mastered, is slated at the end of the term.
Effective: Summer 2010 Ending: Summer 2010

EDUC 497B **The Hispanic Experience** (3) This course is designed to provide teachers of Spanish Language classes and ESL instruction with relevant background information regarding the culture of Hispanic and Latino students. Participants will receive instruction from faculty at the University of Sacred Heart to Puerto Rico which will include: Spanish Language, History and Geography of Puerto Rico, People of Puerto Rico: Individuals, Families, and Communities, Culture of Puerto Rico: Music, Dance, and Latino Students, Education of Hispanic and Latino Students, Culture of Puerto Rico: Festivals, Foods, and Religion.
Effective: Summer 2010 Ending: Summer 2010

EDUC 497C **Science Assessment for Secondary Teachers** (3) This course is a required element for teachers participating

in the NIH-SEPA grant in collaboration with the College of Medicine. The dates for this course are June 14 to 18 from 8:15 to 3:00; June 21 from 8:15 to 3:00.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: permission of program

EDUC 497D **Science Curriculum for Secondary Teachers** (3) This course is a required element for teachers participating in the NIH-SEPA grant in collaboration with the College of Medicine. The dates for this course are June 21 from 8:15 to 3:00, June 22 from 8:15 to 12:30, and June 28 to July 2 from 8:15 to 3:00.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: permission of program.

EDUC 497E **ESL Leadership, Research and Advocacy** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

EDUC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

EDUC 499 (IL) **Foreign Studies** (1-12) Study of educational topics in a country other than the United States.
Effective: Summer 2007
Prerequisite: permission of instructor

Last Import from UCM: May 29, 2010 3:00 AM

Education Mathematics (EDMTH)

EDMTH 301 **Mathematics in Elementary Education I** (3) Survey of content, pedagogy, and psychology of mathematics instruction for pre-school through third grade. Emphasis on a concrete approach to instruction.
Effective: Spring 2001
Prerequisite: a previous course in college mathematics and formal admission into the Teacher Certification Program

EDMTH 302 **Mathematics in Elementary Education II** (3) Survey of content, pedagogy, and psychology of mathematics instruction for grades 4 through 8. Emphasis on a concrete approach to instruction.
Effective: Winter 1981
Prerequisite: EDMTH 301

EDMTH 432 **Diagnostic and Prescriptive Mathematics: Basic Principles** (3) Examination of the basic principles of diagnostic and prescriptive mathematics for elementary and secondary teachers.
Effective: Spring 1990

EDMTH 433 **Diagnostic and Prescriptive Mathematics: Classroom Applications** (3) The application of the diagnostic and prescriptive skills of DP Math in a practical setting and administering a laboratory program.
Effective: Spring 1990
Prerequisite: EDMTH 432

EDMTH 441 **Geometry and Measurement Across the K-12 Curriculum** (3) The course presents participants with investigations of reports, research, and recent trends related to teaching geometry and measurement.
Effective: Spring 2008
Prerequisite: permission of program

EDMTH 442 **Algebra and Functions Across the K-12 Curriculum** (3) The course presents participants with investigations of reports, research, and recent trends related to teaching algebra and function concepts.
Effective: Spring 2008
Prerequisite: permission of program

EDMTH 443 **Data Analysis and Probability Across the K-12 Curriculum** (3) The course presents participants with investigations of reports, research, and recent trends to teaching data analysis and probability concepts.
Effective: Spring 2008
Prerequisite: permission of program

EDMTH 444 **Numbers and Operations Across the Curriculum** (3) The course focuses on investigating reports, research, and recent trends related to teaching number and operation concepts K-12. A student who has passed MATH 200 may not take EDMTH 444 for credit.
Effective: Summer 2009

EDMTH 455 **Current Issues in Mathematics Education** (3) An examination and analysis of contemporary trends and concerns in the teaching of mathematics.
Effective: Fall 1983
Prerequisite: EDMTH 302 orEDUC 417

EDMTH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1990

Last Import from UCM: May 29, 2010 3:00 AM

Education Science (EDSCI)

EDSCI 454 **Modern Elementary Science Education** (3) Introduction of content, methods, and materials used in modern elementary science with emphasis upon modern elementary science programs.
Effective: Spring 2001
Prerequisite: seventh-semester standing in Elementary Education Major

EDSCI 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1985

Last Import from UCM: May 29, 2010 3:00 AM

Educational Psychology (EDPSY)

EDPSY 010 (GS) **Individual Differences and Education** (3) Relationships between learner differences and physical, cognitive, language, social, and cultural development; emphasis on ethnicity, gender, special needs; schooling implications.
Effective: Spring 2000

EDPSY 014 **Learning and Instruction** (3) Psychology of human learning applied toward the achievement of educational goals; evaluation of learning outcomes.
Effective: Fall 1973

EDPSY 014H **Learning and Instruction** (3) Psychology of human learning applied toward the achievement of educational goals; evaluation of learning outcomes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDPSY 101 (GQ) **Analysis and Interpretation of Statistical Data in Education** (3) An introduction to quantitative methods in educational research emphasizing the interpretation of frequently encountered statistical procedures.
Effective: Summer 1990

EDPSY 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

EDPSY 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

EDPSY 297A **Academic Success in College Settings** (1) This course addresses academic skills, learning strategies, and effective motivation necessary for academic success in post-secondary settings. This course emphasizes self-regulated learning strategies supported by an in depth understanding of human learning.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDPSY 297B **Effective Study Skills** (1) Course that focuses on improving study skills, time management techniques, and topics that help students improve their academic lives.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDPSY 400 **Introduction to Statistics in Educational Research** (3) The foundations of statistical techniques used in educational research; distributions, central tendency, variability, correlation, regression, probability, sampling, hypothesis testing.
Effective: Summer 1990

EDPSY 406 **Applied Statistical Inference for the Behavioral Sciences** (3) Common techniques (parametric) covered through two-factor analysis of variance (independent samples); hypothesis testing, confidence interval, power, robustness; MINITAB frequently used.
Effective: Spring 1991
Prerequisite: EDPSY 400 orSTAT 200

EDPSY 421 **Learning Processes in Relation to Educational Practices** (3) An introduction to the empirical study of variables and conditions that influence school learning.
Effective: Spring 2007
Prerequisite: EDPSY 014 orPSYCH 212

EDPSY 450 (PSYCH 404) **Principles of Measurement** (3) Scale transformation, norms, standardization, validation procedures, estimation of reliability.
Effective: Spring 2007
Prerequisite: EDPSY 400 orPSYCH 200 orPSYCH 100;STAT 200

EDPSY 475 **Introduction to Educational Research** (3) Scientific method; classes of variables in educational research; the measurement of classroom behavior; survey, predictive, and experimental studies.
Effective: Summer 1990
Prerequisite: EDPSY 400

EDPSY 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

EDPSY 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject

which may be topical or of special interest.
Effective: Summer 1990

EDPSY 497A **Meeting Instructional Needs of English Language Learners with Special Needs** (3) The course content combines theory and research on the instructional needs of English Language Learners with the knowledge base on effective instructions for students with special needs.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDPSY 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Educational Technolo (EDTEC)

EDTEC 400 **Introduction to Instructional Technology for Educators** (1-3) Use of microcomputers, video, and other media in education; models use technologies including video, audio, print, computer, and telephone.
Effective: Fall 2005
Prerequisite: EDPSY 014

EDTEC 440 **Educational Technology Integration** (3) Technology integration in educational settings.
Effective: Fall 2008
Prerequisite: EDPSY 014 and 6th semester standing

EDTEC 448 **Using the Internet in the Classroom** (3) This course introduces students to methods and models of using the Internet effectively in their classroom.
Effective: Fall 2005
Prerequisite: EDTEC 400 or demonstrated Internet awareness

EDTEC 449 **Video and Hypermedia in the Classroom** (3) Skills and knowledge needed to direct the use of learning technologies in educational settings.
Effective: Fall 2005
Prerequisite: INSYS 415

EDTEC 461 **Designing Computer Networks for Education** (3) Applying fundamental concepts of computer networking to design effective networks for educational purposes.
Effective: Fall 2005
Prerequisite: EDTEC 448

EDTEC 462 **Coordinating Technology Use in Education** (3) Skills and knowledge needed to direct the use of learning technologies in educational settings.
Effective: Fall 2005
Prerequisite: EDTEC 448

EDTEC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

EDTEC 498A **Emerging Web 2.0 Technologies and Learning** (3) This course examines emerging Web 2.0 technologies and explores their application to learning and education.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Educational Theory and Policy (EDTHP)

EDTHP 115 (US) **Education in American Society** (3) Introduction to the development of educational institutions, with emphasis on historical, philosophical, and sociological forces, and on problems of equity.
Effective: Spring 2006

EDTHP 115A (GS;US) **Competing Rights: Issues in American Education** (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDTHP 115S (GS;US) **Competing Rights: Issues in American Education** (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.
Effective: Spring 2006

EDTHP 200 (GS) **Educational Reform and Public Policy** (3) The course uses an interdisciplinary approach to explore the reforms that shape the nation's largest social institutional-public education.
Effective: Summer 2008

EDTHP 234H **Honors Leadership Jumpstart** (3) Intensive survey of contemporary leadership theory joined with practice, team-building skills, policy formation and influence, and service leadership.
Effective: Fall 2006
Prerequisite: first-semester Penn State student in the Schreyer Honors College

EDTHP 297 **Special Topics** (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.
Effective: Fall 2001

EDTHP 394 **Professional Development in Education and Public Policy** (3) This course develops professional skills and opportunities to prepare students for field placement and future employment or study.
Effective: Summer 2008

EDTHP 395 **Field Experience in Education and Public Policy** (3) This course structures a summer field experience, research project, and service in an off-site educational policy organization.
Effective: Summer 2008
Prerequisite: EDTHP 394

EDTHP 401 (IL) (CI ED 401) **Introduction to Comparative Education** (3) Origins, nature, scope, basic literature, and methodology of comparative education. Study of sample topics.
Effective: Fall 2007
Prerequisite: 5th semester standing or higher

EDTHP 411 (US) **Ethnic Minorities and Schools in the United States** (3) Analysis of the social and cultural factors which affect educational outcomes among minority pupils, especially Blacks, Hispanics, and Indians.
Effective: Spring 2006

EDTHP 412 (WMNST 412) **Education and the Status of Women** (3) An examination of the relationship of education to the status of women in American society.
Effective: Spring 2005

EDTHP 416 (US) (SOC 416) **Sociology of Education** (3) The theoretical, conceptual, and descriptive contributions of sociology to education.
Effective: Spring 2006

EDTHP 420 **Education and Public Policy** (3) Focus on the development and analysis of education policy, and policy's influence on schools.
Effective: Spring 2006
Prerequisite: EDTHP 115 or six credits in social/behavioral sciences.

EDTHP 425 **Anthropology of Education** (3) This course will review the origins and development of anthropology of education and its role in educational research and reform.
Effective: Summer 2007
Prerequisite: EDTHP 115 or 6 credits in the social or behavioral sciences

EDTHP 427 **Intelligence and Educational Policy** (3) This course explores the concept of intelligence and its assessment from historical, psychological, educational and policy perspectives.
Effective: Spring 2006
Prerequisite: EDTHP 115 or 6 credits in social/behavioral sciences

EDTHP 430 **History of Education in the United States** (3) American educational ideas and practice critically examined in terms of their historical development and contemporary significance.
Effective: Summer 1995

EDTHP 434H **Honors Teaching Experience in Leadership Jumpstart** (1) Guided instruction and practical experience for teaching assistants to the Honors Leadership Jumpstart course (EDTHP 234H).
Effective: Fall 2006
Prerequisite: EDTHP 234H and permission of program

EDTHP 440 (CI ED 440) **Introduction to Philosophy of Education** (3) Introduction to the examination of educational theory and practice from philosophical perspectives, classical and contemporary.
Effective: Fall 2007
Prerequisite: EDTHP 115

EDTHP 441 **Education, Schooling, and Values** (3) Studies in education and schooling as problems in value; axiological problems and positions; examination of practical applications, including moral education.
Effective: Summer 1995

EDTHP 496 **Individual Studies** (1-18) Creative projects supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1995

EDTHP 497 **Special Topics** (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.
Effective: Summer 1995

EDTHP 497A (CI ED 497A) **Immigration, Ethnicity and the Schools** (3) This class is an introduction to theories and empirical research on various immigrant and race/ethnic groups and their schooling.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDTHP 497B (EDLDR 497A) **Law and Policy for Teachers** (3) Students study and discuss legal issues facing teachers and schools today.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDTHP 497H **Child Labor and Education in the Global Economy** (3) Formal courses given on a topical or special interest subject which may be offered infrequently.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDTHP 498 **Special Topics** (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.
Effective: Summer 1995

Last Import from UCM: May 29, 2010 3:00 AM

Elct Engr Technology (EET)

EET 002S **Introduction to Engineering Technology** (1) Introduction to engineering technology and the use of computer methods for analyzing and solving engineering technology problems; microcomputer fundamentals, word processing, spreadsheet, and database software packages.
Effective: Fall 2007

EET 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2007

EET 100 **Electric Circuits, Power, and Electronics** (3) AC and DC circuits; machinery; controls; and introduction to electronic devices, circuits, and instrumentation.
Effective: Fall 2007 Ending: Summer 2010
Prerequisite: MATH 040, MATH 082, MATH 140 orPHYS 151, PHYS 212 orPHYS 251

EET 100 **Electric Circuits, Power, and Electronics** (3) AC and DC circuits; machinery; controls; and introduction to electronic devices, circuits, and instrumentation.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 082 orMATH 041

EET 101 **Electrical Circuits I** (3) Fundamental theory of resistance, current, and voltage; capacitance, inductance. Direct current and alternating current concepts through series/ parallel circuits.
Effective: Fall 2007
Prerequisite: or concurrent:MATH 081

EET 105 **Electrical Systems** (3) Introduction to the study of electrical systems, with a focus on applications in our society.
Effective: Spring 2008
Prerequisite: MATH 021 or greater placement

EET 109 **Electrical Circuits Laboratory I** (1) Use of basic electrical instruments to measure AC and DC voltage, current, power, resistance. Introduction to report writing.
Effective: Fall 2007
Prerequisite: or concurrent:EET 101

EET 114 **Electrical Circuits II** (4) Direct and alternating current circuit analysis including Thevenin and Norton Theorems, mesh, node analysis. Capacitance, inductance, resonance, power, polyphase circuits.
Effective: Fall 2008
Prerequisite: EET 105, MATH 026

EET 118 **Electrical Circuits Laboratory** (1) Use of basic electrical instruments to measure AC and DC voltage, current, power, resistance, and lab reporting.
Effective: Fall 2008
Prerequisite: EET 105 Concurrent: EET 114

EET 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2007

EET 205 **Semiconductor Laboratory** (1) Laboratory study of semiconductor devices and circuits.
Effective: Fall 2007
Concurrent: EET 210

EET 210 **Fundamentals of Semiconductors** (2) Semiconductor and circuit theory including power supplies, amplifiers, power amplifiers, oscillators, and introduction to op-amps.
Effective: Fall 2007
Prerequisite: EET 114, MATH 082

EET 212W **Op Amp and Integrated Circuit Electronics** (4) Analysis and design of amplifier, rectifier, filter, comparator, oscillator, and other practical circuits using op amps and integrated circuit devices.
Effective: Summer 2008
Prerequisite: EET 114, ENGL 015, MATH 022

EET 213W **Fundamentals of Electrical Machines Using Writing Skills** (5) AC and DC machinery principles and applications; introduction to magnetic circuits, transformers, and electrical machines including laboratory applications.
Effective: Fall 2007
Prerequisite: EET 114, EET 118, ENGL 015

EET 214 **Electric Machines and Energy Conversion** (3) Fundamental operating principles, characteristics, and analysis of electric machines, transformers, and power systems.
Effective: Spring 2008
Prerequisite: EET 114, EET 118

EET 215 **Electric Machines and Energy Conversion Laboratory** (1) Laboratory study of electric machine applications,

transformers, and power systems.
Effective: Spring 2008
Prerequisite: EET 114, EET 118 Concurrent: EET 214

EET 216 **Linear Electronic Circuits** (3) Theoretical study of linear electronic devices and circuits, including field effect transistors, integrated circuits, and operational amplifiers.
Effective: Fall 2007
Prerequisite: EET 210

EET 220 **Programmable Logic Controllers** (2) An introduction to programmable logic controllers (PLCs); topics covered include programming, troubleshooting, networking, and industrial applications.
Effective: Spring 2008
Prerequisite: CMPET 117

EET 221 **Linear Electronics Laboratory** (1) Laboratory study of transistors; study of differential and operational amplifiers. Emphasis is placed on circuit design.
Effective: Fall 2007
Prerequisite: EET 205 Concurrent: EET 216

EET 275 **Introduction to Programmable Logic Controls** (3) Principles of industrial control, programming, interfacing, input/output devices, and applications.
Effective: Fall 2007
Prerequisite: EET 205 . Prerequisite or concurrent:EET 221

EET 280 **Electronic Project Design and Fabrication** (3) Engineering drawings, material planning, printed circuits, enclosures, interconnection and cabling, environmental and human factors, codes and standards.
Effective: Fall 2007
Prerequisite: CMPET 211 . Prerequisite or concurrent:EET 221

EET 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2007

EET 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2007

EET 311 **Alternating Current Circuits** (4) Circuit analysis including controlled sources, op amps, and ideal transformers, and calculus relationships; one/two port network models; three- phase and industrial loads.
Effective: Fall 2007
Prerequisite: MATH 140 Concurrent: MATH 141

EET 312 **Electric Transients** (4) Applied differential equations; in-depth study of transient electricity using Laplace, Fourier transforms, and state-space methods; Bode plots and application.
Effective: Spring 2010
Prerequisite: EET 311, E E 314 orE E 315;MATH 141 Concurrent: MATH 141

EET 315 **Linear and Discrete System Analysis** (3) Introduction to the principles and operation of linear and discrete systems.
Effective: Fall 2007
Prerequisite: CMPET 301 . Prerequisite or concurrent:MATH 250 orMATH 211

EET 320 **Industrial Electricity and Electronics** (4) Electrical and electronic technology for mechanical engineering technology students; emphasizes power utilization and control and electronic applications.
Effective: Fall 2007
Prerequisite: M E T 320

EET 320 **Industrial Electricity and Electronics** (3) Basic circuit theory applied to DC/AC circuits containing resistors, inductors, capacitors; magnetic circuits; power; control; electronic applications.
Effective: Spring 2008
Prerequisite: MATH 140, PHYS 150 orPHYS 250 orPHYS 211

EET 330 **Communication Systems** (3) Analog communication systems; principles of AM and FM transmitters and receivers including sideband systems. Transmission lines, antenna theory, and noise calculations.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 341 ; Prerequisite or concurrent:EET 315 andMATH 250 orMATH 211

EET 330 **Wireless Communications Systems** (3) Wireless communications technology, transceivers, modulation techniques, serial communications, and applications. Personal area networks, local area networks, RFID systems.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: EET 341, CMPET 301 ; prerequisite or concurrent:EET 315, MATH 211

EET 331 **Electronic Design** (4) Analog/Digital and Digital/Analog Converters; advanced and nonlinear Op-Amp circuit design; noise analysis; Active Filters and Waveform Generators.
Effective: Spring 2008
Prerequisite: EET 311 orE E 314 or (E E 315 (;)EET 205 andEET 210) or concurrentE E 310 Concurrent: EET 312

EET 341 **Measurements and Instrumentation** (3) Measurement concepts, transducers, electronic-aided measurement, mechanical and electrical measurements. Intended for electrical engineering technologists.

Effective: Fall 2007
Prerequisite: CMPET 117, EET 216 . Prerequisite or concurrent:MATH 141 orMATH 210

EET 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007

EET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

EET 401 **Design of Automatic Control Systems** (4) Design of feedback control systems and selected components. Nyquist Criterion, Nichols Charts; compensation.
Effective: Fall 2007
Prerequisite: EET 433

EET 402 **High-Frequency Circuit Design** (4) Electromagnetic theory as applied to the design of antennas, waveguides, and high-frequency components.
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

EET 408 **Communication System Design** (4) Communication system principles including modulation techniques, encoding and decoding, noise, and elementary probability.
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

EET 409 **Power System Analysis I** (4) Analysis and applications study of power utility electrical equipment such as: synchronous machines, transformers, capacitors and transmission lines.
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

EET 410 **Power System Analysis II** (4) Principles of load studies, fault analysis, stability and protection of the public electrical power system.
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

EET 413 **Optoelectronics** (4) Principles and applications of optoelectronics including sources, detectors, imagers, transmitters, fiber optics, systems and integrated optics.
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

EET 414 **Biomedical Instrumentation** (4) Introduction to transducers and circuits used to detect and process medical physiological data with focus on cardiovascular and respiratory systems.
Effective: Fall 2007
Prerequisite: EET 312, EET 331

EET 416 **Fluid and Thermal Design in Electrical Systems** (3) Introduction to basic electrical engineering technology concepts and applications of thermodynamics, heat transfer, and fluid power in electrical/ electronic systems.
Effective: Fall 2007
Prerequisite: EET 315;MATH 211 orMATH 231, MATH 250

EET 419 **Project Proposal Preparation** (1) Performing the initial research needed for the senior project course, and the preparation of the written project proposal.
Effective: Fall 2007
Prerequisite: senior standing

EET 420W **Electrical Design Project** (3) Design, construction, and testing of a project either selected by the students with approval or assigned by the instructor.
Effective: Spring 2008
Prerequisite: EET 312, EET 331, EET 419, ENGL 202C

EET 423 **Industrial Electronics** (4) Power electronics design, phase shift and trigger circuits for PNPN devices, sensors, motor controls, interfacing digital devices to power electronics.
Effective: Fall 2007
Prerequisite: EET 311, EET 331

EET 430 **Filter Theory** (3) Analysis and synthesis of active and passive filters, including both analog and digital filters.
Effective: Fall 2007
Prerequisite: EET 315;MATH 211 orMATH 231, MATH 250

EET 431 **Advanced Electronic Design** (4) Applications of analog and digital integrated circuits; introduction to analog and digital communication techniques.
Effective: Fall 2007
Prerequisite: EET 331

EET 433 **Control System Analysis and Design** (4) Classical and modern control analysis and design approaches, such as Laplace and state-space, aided by analog and digital computers.
Effective: Fall 2007
Prerequisite: EET 312

EET 437 **Advanced Communications, Telecommunications** (3) Telecommunication systems, telephone, television, data networks, computer networks, integrated voice and data.
Effective: Fall 2007
Prerequisite: EET 330, CMPET 355

EET 440 **Applied Feedback Controls** (3) Analysis and design of analog and digital feedback control systems.
Effective: Fall 2007
Prerequisite: EET 315

EET 450 **Manufacturing Related Topics in Electrical Systems** (3) Manufacturing methods, including reliability and quality control considera- tions as applied to electrical and electronic systems.
Effective: Fall 2007
Prerequisite: MATH 211 ; orMATH 231, MATH 250

EET 456 **Automation and Robotics** (4) Introduction to robotic systems and automation. Emphasis includes robot motion, control, and components, as well as programming PLCs.
Effective: Spring 2008
Prerequisite: EET 331, CMPET 403 ; Prerequisite or concurrent:MATH 220;EET 433

EET 458 **Digital Signal Processing** (3) Continuous and discrete time signals, Fourier series and transform, z-transform, sampling, FIR and IIR filters, FFT, DFT, and applications.
Effective: Fall 2007
Prerequisite: EET 315, CMPET 355

EET 459 **Automation and Robotic Systems** (3) Programmable logic controllers, robot dynamics, programming, control, sensing, vision, and intelligence.
Effective: Fall 2007
Prerequisite: EET 315, CMPET 355, EET 330 . Prerequisite or concurrent:EET 416, EET 440

EET 460 **Power Systems** (3) Building power distribution and systems, equipment power systems, power components, power devices, motor control, power system design.
Effective: Fall 2007
Prerequisite: EET 213W, EET 315;MATH 211 orMATH 231, MATH 250

EET 461 **Power Electronics** (3) Fundamentals of power electronic circuits, semiconductor power devices, power conversion equipment. Circuit topologies, closed-loop control strategies, equipment design consideration.
Effective: Fall 2007
Prerequisite: EET 213W, EET 216, EET 315

EET 475 **Intermediate Programmable Logic Controllers** (3) Application of programmable logic controllers (PLCs) to data acquisition, automation and process control.
Effective: Fall 2007
Prerequisite: EET 220 orEET 275 andEET 315

EET 478 **Digital Communication Systems** (4) Discrete signal analysis, A/D conversion, digital modulation techniques, encoding, decoding, data communication, noise.
Effective: Fall 2007
Prerequisite: CMPET 403

EET 480 **Electrical and Computer Systems Senior Seminar** (1) Concepts of career development; project management; engineering design documentation; industrial design examples.
Effective: Fall 2007
Prerequisite: EET 341, EET 330 orCMPET 333, CMPET 355, ENGL 202C . Prerequisite or concurrent:ECON 002 orECON 004

EET 490W **Electrical/Computer Senior Design Project** (3) Individual or group design projects in electrical and computer engineering technology.
Effective: Fall 2007
Prerequisite: EET 480 . Prerequisite or concurrent:EET 450

EET 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experience, practica or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

EET 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2007

EET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

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Electrical Engineering (E E)

E E 007S **Adventures in Electrical Engineering** (1) Exploration of electrical engineering through several hands-on activities that cover a broad spectrum of applications and fundamental concepts.
Effective: Fall 1999

E E 008S **Introduction to Digital Music** (1) First-year seminar that discusses digital music from an electrical engineering perspective; topics include sampling, digital filtering, compression, and music synthesis.
Effective: Fall 2001

E E 009S **First-Year Seminar in Electrical Engineering** (1) First-year seminar covering a variety of Electrical Engineering topics that vary from year to year.
Effective: Spring 2008

E E 097 **Special Topics** (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

E E 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E E 210 **Circuits and Devices** (4) Introduction to electrical circuit analysis, electronic devices, amplifiers, and time-domain transient analysis.
Effective: Spring 2003
Prerequisite: PHYS 212 . Prerequisite or concurrent:MATH 250

E E 210H **Circuits and Devices** (4) Introduction to electrical circuit analysis, electronic devices, amplifiers, and time-domain transient analysis.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 212 . Prerequisite or concurrent:MATH 250

E E 211 **Electrical Circuits and Power Distribution** (3) D.C. and A.C. circuits, transformers, single and three-phase distribution systems, A.C. motors and generators.
Effective: Spring 2008
Prerequisite: PHYS 212

E E 212 **Introduction to Electronic Measuring Systems** (3) Electronic devices and characteristics, amplifiers and feedback, electronic instruments and recording systems. Designed for non-electrical engineering students.
Effective: Spring 2008
Prerequisite: PHYS 212

E E 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

E E 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1993

E E 297 **Special Topics** (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1993

E E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E E 310 **Electronic Circuit Design I** (4) Properties of fundamental electronic devices, analysis of DC, AC small-signal and nonlinear behavior, analog and digital circuit design applications.
Effective: Spring 2008
Prerequisite: E E 210 orE E 315

E E 311 **Electronic Circuit Design II** (3) Electronic circuit design with consideration to single and multi-device subcircuits, frequency response characteristics, feedback, stability, efficiency, and IC techniques.
Effective: Spring 2008
Prerequisite: E E 310;E E 350 orE E 312 orE E 314 orE E 315

E E 312 **Electrical Circuit Analysis** (3) Circuit analysis techniques; mutual inductance; frequency response; FOURIER series; LAPLACE transform.

Effective: Spring 2008
Prerequisite: E E 210;CMPSC 201 orCMPSC 121

E E 313W **Electronic Circuit Design II** (4) Design/analysis of electronics circuits including: single/multistage transistor amplifiers, op amp circuits, feedback amplifiers, filters, A/D and D/A converters.
Effective: Spring 2008
Prerequisite: E E 310

E E 314 **Signals and Circuits II** (3) Circuit analysis including op-amps, and ideal transformers; one/two port network models; three-phase and industrial loads; engineering professionalism.
Effective: Spring 2008
Prerequisite: E E 210;CMPSC 201 orCMPSC 121

E E 315 **Electrical Signals and Circuits with Lab** (5) Introduction to circuits, signals, energy, circuit analysis; frequency response, Bode diagrams, two-port networks; Laplace transforms, Polyphase circuits.
Effective: Spring 2008
Prerequisite: or concurrent:MATH 250

E E 316 **Introduction to Embedded Microcontrollers** (3) Introduction to microcontrollers in electronic and electromechanical systems. Hardware and software design for user/system interfaces, data acquisition, and control.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 121;CMPEN 271 Concurrent: E E 310

E E 320 **Introduction to Electro-Optical Engineering** (3) An introduction covering several fundamental areas of modern optics, optical processes, and devices.
Effective: Spring 1998
Prerequisite: E E 330

E E 330 **Engineering Electromagnetics** (4) Static electric and magnetic fields; solutions to static field problems, Maxwell's equations; electromagnetic waves; boundary conditions; engineering applications.
Effective: Spring 2008
Prerequisite: E E 210 orE E 315;MATH 230

E E 331 **Electromagnetic Fields and Waves** (3) Electromagnetic field theory and applications; Maxwell's equations; plane wave propagation; boundary conditions; basic antenna theory; impedance matching.
Effective: Spring 2008
Prerequisite: E E 210, MATH 230

E E 341 **Semiconductor Device Principles** (3) Quantitative description of properties and behavior of materials with application to integrated circuits, photonic devices, and quantum wellf devices.
Effective: Spring 2008
Prerequisite: E E 210 or Prerequisite or concurrent:E E 315

E E 350 **Continuous-Time Linear Systems** (4) Introduction to continuous-time linear system theory: differential equation models, sinusoidal steady-state analysis, convolution, Laplace transform and Fourier analysis.
Effective: Spring 1999
Prerequisite: E E 210, MATH 220, MATH 250

E E 351 **Discrete-Time Linear Systems** (3) Introduction to discrete-time signal processing: sampling, linear time-invariant systems, discrete-time Fourier transform and discrete Fourier transform, Z transform.
Effective: Summer 1998
Prerequisite: E E 350

E E 352 **Signals and Systems: Continuous and Discrete-Time** (4) Transient response, frequency response, Bode plots, resonance, filters, Laplace transform, Fourier series and transform, discrete-time signals/ systems; sampling z-transform.
Effective: Spring 2008
Prerequisite: E E 210 orE E 315

E E 353 **Signals and Systems: Continuous and Discrete-Time** (3) Fourier series and Fourier transform; discrete-time signals and systems and their Fourier analysis; sampling; z-transform.
Effective: Spring 2008
Prerequisite: E E 210;CMPSC 201 orCMPSC 121;MATH 250

E E 360 **Communications Systems I** (3) Generic communication system; signal transmission; digital communication systems; amplitude modulation; angle modulation.
Effective: Spring 2008
Prerequisite: E E 350 orE E 352

E E 362 (CMPEN 362) **Communication Networks** (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPEN 271; Concurrent: STAT 301 or STAT 318 or STAT 401 or STAT 414 or STAT 418

E E 362 (CMPEN 362) **Communication Networks** (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CMPEN 270 orCMPEN 271 Concurrent: STAT 301 or STAT 318 or STAT 401 or STAT 414 or STAT 418

E E 380 **Introduction to Linear Control Systems** (3) State variables; time-domain and frequency-domain design and analysis; design of feedback control systems; Root Locus.
Effective: Spring 2008

Prerequisite: MATH 220;E E 350 orE E 312

E E 383 **Signals and Controls Laboratory** (1) Design, computer simulation, and practical implementation of systems in the areas of filtering, digital signal processing, and controls.
Effective: Spring 2008
Concurrent: E E 352 ; E E 380

E E 387 **Energy Conversion** (3) Modeling of induction machines, synchronous machines, transformers, and transmission lines.
Effective: Spring 2008
Prerequisite: E E 350 orE E 312

E E 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

E E 396H **Independent Studies** (1-4) Junior-level honors course involving special individual projects under the direction of an electrical engineering faculty member.
Effective: Fall 1993
Prerequisite: junior standing

E E 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1993

E E 397E **Introduction to Nano Electronics** (3) Introduction to the physics and technology of nanoelectronic devices.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 210, PHYS 214

E E 397E **Introduction to Nano Electronics** (3) Introduction to the physics and technology of nanoelectronic devices.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E E 210, PHYS 214

E E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

E E 400 **Engineering Design Concepts** (3) Engineering design and modelling, engineering economy, project planning, capstone project selection, and technical communication skills.
Effective: Spring 2008
Prerequisite: E E 313W;E E 316;E E 352;E E 380 ; seventh-semester standing

E E 401 **Electrical Design Projects** (3) Group design projects in the areas of electronics and electrical/computer systems.
Effective: Spring 2008
Prerequisite: E E 400 ; eighth-semester standing

E E 402W **Senior Project Design in Electromagnetics** (3) Project designs of antenna and microwave systems, with an emphasis on technical communications skills. Lab.
Effective: Spring 2001
Prerequisite: E E 330 . Prerequisite or concurrent:ENGL 202C

E E 403M **Senior Project Design** (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 330;E E 350;E E 316 ; and the completion of two Electrical Engineering technical electives Concurrent: ENGL 202C

E E 403M **Senior Project Design** (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E E 330;E E 350;E E 316 ; and the completion of two Electrical Engineering technical electives Concurrent: ENGL 202C

E E 403W **Senior Project Design** (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.
Effective: Spring 2008
Prerequisite: E E 330;E E 350;E E 316 ; and the completion of two Electrical Engineering technical electives Concurrent: ENGL 202C

E E 405 **Capstone Proposal Preparation** (1) Performing the initial research needed for the capstone course, and the preparation of the written project proposal.
Effective: Spring 2008
Prerequisite: senior level standing

E E 406W **Electrical Engineering Capstone Design** (3) Project designs of analog and digital systems, interfacing, and relevant electronic circuits, with an emphasis on technical communications skills.
Effective: Spring 2008
Prerequisite: E E 311;E E 405;ENGL 202C

E E 410 **Linear Electronic Design** (3) Linear circuit design via integrated circuit processes; A/D converters, switched capacitor filters, phase lock loops, multipliers, and voltage- controlled oscillators.
Effective: Spring 2008
Prerequisite: E E 311

E E 413 **Power Electronics** (3) Switch-mode electrical power converters. Electrical characteristics and thermal limits of semiconductor switches.
Effective: Spring 2008
Prerequisite: E E 310;E E 350 orE E 312 orE E 314 orE E 315

E E 416 (CMPEN 416) **Digital Integrated Circuits** (3) Analyses and design of digital integrated circuit building blocks, including logic gates, flip-flops, memory elements, analog switches, multiplexers, and converters.
Effective: Spring 2008
Prerequisite: E E 310

E E 417 (CMPEN 417) **Digital Design Using Field Programmable Devices** (3) Field programmable device architectures and technologies; rapid prototyping using top down design techniques; quick response systems.
Effective: Spring 2008
Prerequisite: CMPEN 331

E E 420 **Electro-optics: Principles and Devices** (3) Spatially linear system and transform; diffraction theory, partial coherence theory, optical image detection, storage and display, holography.
Effective: Spring 1997
Prerequisite: E E 320

E E 421 **Optical Fiber Communications** (3) Operational principles of optical components, including sources, fibers and detectors, and the whole systems in optical fiber communications.
Effective: Spring 2008
Prerequisite: E E 320, E E 350, E SC 314

E E 422 **Optical Engineering Laboratory** (3) Hands-on experience covering areas of optical transforms, electro-optics devices, signal processing, fiber optics transmission, and holography.
Effective: Fall 1993
Prerequisite: E E 320

E E 424 **Principles and Applications of Lasers** (3) Principles of lasers--generation, propagation, detection and modulation; applications in fiber optics communication, remote sensing, holography, optical switching and processing.
Effective: Spring 2008
Prerequisite: E E 330, E SC 400H orPHYS 400

E E 430 **Principles of Electromagnetic Fields** (3) Laws of electrodynamics, boundary value problems, relativistic effects, waves in dielectrics and ferrites, diffraction and equivalence theorems.
Effective: Spring 2008
Prerequisite: E E 330

E E 432 **UHF and Microwave Engineering** (3) Transmission line and wave guide characteristics and components; design of UHF-microwave amplifiers, oscillators, and filters; measurement techniques; design projects.
Effective: Spring 1998
Prerequisite: E E 310, E E 330

E E 438 **Antenna Engineering** (3) Radiation from small antennas, linear antenna characteristics, arrays of antennas, impedance concepts and measurements, multifrequency antennas, and aperture antennas.
Effective: Spring 2001
Prerequisite: E E 330

E E 439 **Radiowave Propagation in Communications** (3) Radiowave propagation in mobile, terrestrial, and satellite communications; applications at microwave and lower frequencies.
Effective: Spring 2008
Prerequisite: E E 330

E E 441 **Semiconductor Integrated Circuit Technology** (3) An overview of fundamentals of processes involved in silicon integrated circuit fabrication through class lectures and hands-on laboratory.
Effective: Spring 2008
Prerequisite: E E 310, E SC 314

E E 442 **Solid State Devices** (3) The physics of semiconductors as related to the characteristics and design of solid state electronic devices.
Effective: Spring 2008
Prerequisite: E E 310, E SC 314

E E 450 **Signal and Image Processing** (3) Linear system analysis in one-dimension and two-dimensions, emphasis on filtering; multi-dimensional signal analysis; image enhancement and reconstruction; computer simulation applications.
Effective: Spring 2008
Prerequisite: E E 352

E E 453 **Fundamentals of Digital Signal Processing** (3) Design of FIR and IIR filters; DFT and its computation via FFT; applications of DFT; filter implementation; finite arithmetic effects.
Effective: Spring 2008
Prerequisite: E E 351 orE E 352 orE E 353

E E 454 (CMPEN 454) **Fundamentals of Computer Vision** (3) Introduction to topics such as image formation,

segmentation, feature extraction, shape recovery, object recognition, and dynamic scene analysis.
Effective: Spring 2008
Prerequisite: MATH 230 orMATH 231;CMPSC 201 orCMPSC 121

E E 455 (CMPEN 455) **An Introduction to Digital Image Processing** (3) Overview of digital image processing techniques and their applications; image sampling, enhancement, restoration, and analysis; computer projects.
Effective: Spring 2008
Prerequisite: E E 350 orE E 353;CMPSC 201 orCMPSC 121

E E 456 (E SC 456, EGEE 456) **Introduction to Neural Networks** (3) Artificial Neural Networks as a solving tool for difficult problems for which conventional methods are not applicable.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

E E 458 **Digital Image Processing and Computer Vision** (3) Principles of DSP and computer vision, including sensing preprocessing, segmentation, description, recognition, and interpretation.
Effective: Spring 2008
Prerequisite: E E 352

E E 460 **Communication Systems II** (3) Probability fundamentals, digital/analog modulation/demodulation, system noise analysis, SNR and BER calculations, optimal receiver design concepts, introductory information theory.
Effective: Spring 2008
Prerequisite: E E 360

E E 461 **Communications I** (4) Element of analog and digital communication systems, AM, FM, and digital modulation techniques, receivers, transmitters, and transmission systems, noise.
Effective: Spring 2008
Prerequisite: E E 352

E E 471 (AERSP 490, NUC E 490) **Introduction to Plasmas** (3) Plasma oscillations; collisional phenomena; transport properties; orbit theory; typical electric discharge phenomena.
Effective: Spring 2008
Prerequisite: E E 330

E E 472 (AERSP 492) **Space Astronomy and Introduction to Space Science** (3) The physical nature of the objects in the solar system; the earth's atmosphere, ionosphere, radiation belts, magnetosphere, and orbital mechanics.
Effective: Spring 2008
Prerequisite: E E 330 orPHYS 400

E E 474 **Satellite Communications Systems** (3) Overview of satellite communications systems, principles, space platforms, orbital mechanics, up/down links and link budgets, modulation techniques.
Effective: Spring 2008
Prerequisite: E E 330 andE E 360

E E 477 (METEO 477) **Fundamentals of Remote Sensing Systems** (3) The review of fundamental physical properties leads into discussions of various techniques, including imaging, spectroscopy, radiometry, and active sensing.
Effective: Spring 2008
Prerequisite: E E 330 orMETEO 436

E E 480 **Linear Systems: Time Domain and Transform Analysis** (3) Signals and systems representations, classifications, and analysis using; Difference and Differential equations, Laplace transform, z-transform, Fourier series, FT, FFT, DFT.
Effective: Spring 2008
Prerequisite: graduate standing

E E 481 **Control Systems** (4) Classical/modern approaches to system analysis/design; time/frequency domain modeling, stability, response, optimization, and compensation.
Effective: Spring 2008
Prerequisite: E MCH 211;PHYS 211;E E 352

E E 482 **Introduction to Digital Control Systems** (3) Sampling and hold operations; A/D and D/A conversions; modeling of digital systems; response evaluation; stability; basis of digital control; examples.
Effective: Spring 2008
Prerequisite: E E 380;E E 351 orE E 352

E E 483 **Introduction to Automation and Robotics Systems** (3) Introduction to robotics systems with emphasis on robotic motion and control, and robotic components such as actuators and sensors.
Effective: Summer 2008
Prerequisite: E E 481

E E 484 **Control System Design** (3) Analysis and design of automatic control systems using time, frequency domain and state variable methods.
Effective: Spring 2008
Prerequisite: E E 481

E E 485 **Energy Systems and Conversion** (3) Overview of energy alternatives available, and study of theory of operation and models of major energy conversion devices.
Effective: Spring 2008
Prerequisite: E E 314 orE E 315;MATH 250

E E 487 **Electric Machinery and Drives** (3) Analysis of variable-speed drives comprised of AC electric machines, power converters, and control systems.

Effective: Summer 2007
Prerequisite: E E 387

E E 488 **Power Systems Analysis I** (3) Fundamentals, power transformers, transmission lines, power flow, fault calculations, power system controls.
Effective: Spring 2008
Prerequisite: E E 387 orE E 485

E E 489 **Power Systems Analysis II** (3) Symmetrical components, unbalanced networks, unsymmetrical faults, unbalanced operation of rotating machines, transient transmission line modeling, system protection.
Effective: Spring 2008
Prerequisite: E E 488

E E 494 **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Fall 1993

E E 494H **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Spring 2008

E E 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

E E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1993

E E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1993

E E 497A **Biomedical Signal Analysis** (3) Deals with the development of techniques to analyze biomedical signals, such as EKG, EEG, EMG, etc.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 352

E E 497B **Electronic Design with ICs** (3) Design and application of electronic circuits and systems using operational amplifiers and analog integrated circuits.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 310 or equivalent

E E 497B **Probability and Stochastic Processes for Electrical Engineers** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E E 350, MATH 230

E E 497E **Space Systems Engineering Seminar** (1) This 1-credit seminar is for students completing the Space Systems Engineering certificate.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

E E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

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Electro-Mechanical Engineering Technology (EMET)

EMET 222 **Mechanics for Technology** (4) Strength of materials and dynamics, including axial, shear, torsion, and bending stresses, beam deflection, kinematics and kinetics of rigid bodies.
Effective: Fall 2009
Prerequisite: MCH T 111 andMATH 083 orMATH 140

EMET 230 **Computerized I/O Systems** (3) Introduction to concepts of structured programming, data acquisition, computerized interfaces, and graphical user interfaces.
Effective: Spring 2008
Concurrent: EET 213W

EMET 310 **Digital Electronics** (3) Fundamentals of digital circuits including analysis and design of combinational and sequential logic circuits, multiplexers, demultiplexers, flip-flops, and counters.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 101, EET 109

EMET 311 **Spatial Analysis and Advanced CAD** (3) Spatial relations of points, lines, and solids with engineering applications; laboratory emphasis placed on CAD and parametric analysis.
Effective: Fall 1994 Ending: Fall 2010
Prerequisite: EG T 101, EG T 102

EMET 320 **Analog Electronics** (4) Fundamentals of circuits using diodes, bipolar junction transistors, and other discrete electronic components; introduction to integrated circuits including op amps.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 114;MATH 083 orMATH 140

EMET 321W **Electrical Machines** (4) Electro-mechanical energy conversion, AC and DC rotating machines, transformers, system protective devices, and solid state power control.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 114

EMET 325 **Electric Drives** (3) Study of operation, application and specification of AC/DC electrical drive motors, servos, actuators, control units and power converters.
Effective: Spring 2008
Prerequisite: EET 212W

EMET 326 **Mechanical Drives** (3) Transmission of force and motion using linkages, cams, gears, belts, and hydraulic and pneumatic drives.
Effective: Spring 2008
Prerequisite: EMET 322

EMET 330 **Measurement Theory and Instrumentation** (3) Fundamentals of measuring, transmitting, and recording temperature, pressure, flow, force, displacement, and velocity; laboratory component emphasizes systems used in manufacturing.
Effective: Fall 2008
Prerequisite: EMET 230 andMATH 211 orMATH 250

EMET 350 **Quality Control, Inspection, and Design** (3) Fundamentals of quality including statistics, probability, and design of experiments.
Effective: Fall 2004

EMET 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

EMET 396 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2001

EMET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2002

EMET 397C **Introduction to Applied Finite Element Analysis** (3) Students will learn how to create 2-D and 3-D finite element models using start-of-the-art finite element software.
Effective: Summer 2010 Ending: Summer 2010

EMET 401 **Engineering Technology Career Development** (1) Career planning, preparation, and decision making for students enrolled in an Engineering Technology baccalaureate degree program.
Effective: Spring 2008
Prerequisite: seventh semester standing

EMET 402 **Fundamentals of Engineering Review** (2) Overview of the topics covered on the Fundamentals of Engineering Exam administered by the NCEES for the purpose of earning a Professional Engineering license.
Effective: Spring 2008
Prerequisite: seventh semester standing

EMET 403 **Electromechanical Design Project Preparation** (1) This course involves the planning and preliminary design activities for the capstone electro-mechanical design project.
Effective: Spring 2008
Prerequisite: seventh semester standing

EMET 405 **Fluid Mechanics and Thermodynamics** (3) Introduction to the principles of fluid mechanics, thermodynamics, and heat tranfer with emphasis on the applications to practical problems.
Effective: Fall 2008
Prerequisite: EMET 326 andMATH 211 orMATH 250

EMET 410 **Automated Control Systems** (4) Introduction to analog feedback control theory and computer simulation and analysis using Matlab; laboratory study of feedback systems.
Effective: Fall 2008
Prerequisite: EMET 330

EMET 430 **Programmable Logic Controls II** (3) A second course in PLCs covering sequencing/shift instructions, program flow control, data and math instructions, PID loops, and machine communication.
Effective: Fall 2007
Prerequisite: EET 220

EMET 432 **Electromechanical Devices for Biomedical Instrumentation** (3) A study of electromechanical devices, transducers, and instrumentation used in the biomedical field.
Effective: Summer 2006
Prerequisite: EMET 330;PHYS 151 orPHYS 212 orPHYS 251 or equivalent

EMET 440 **Electro-Mechanical Project Design** (3) Planning, development, and implementation of electro-mechanical design project; includes formal report writing, project documentation, group presentations, project demonstrations.
Effective: Fall 2008
Prerequisite: EMET 325;EMET 326;EMET 410

EMET 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

EMET 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2001

EMET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2002

Last Import from UCM: May 29, 2010 3:00 AM

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2005

ELEDM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2005

ELEDM 395W **Field Experience for Urban Teacher Preparation** (2 per semester, maximum of 6) Structured opportunities for investigating and understanding the work of teachers within urban schools and communities.
Effective: Spring 2005
Prerequisite: C I 295, EDPSY 014, EDTHP 115 Concurrent: SPLED 444 ELEDM 400 ELEDM 401A OR ELEDM 402

ELEDM 400 **Schools, Families and Communities** (3) Cultural and ethnic dimensions of family-school-community communications and the resultant impact on student-teacher relations.
Effective: Spring 2005
Prerequisite: C I 295, EDPSY 014, EDTHP 115 6 credits of social/behavioral sciences Concurrent: EDTHP 411 ELEDM 395W

ELEDM 401A **Teaching Reading in Multicultural Elementary Schools** (3) An exploration of current research, practices, strategies and materials in the development of reading skills in multicultural schools.
Effective: Summer 2005
Prerequisite: ELEDM 400 Concurrent: ELEDM 395W ELEDM 401B ELEDM 401C

ELEDM 401B **Teaching Language Arts in Multicultural Elementary Schools** (3) An exploration of current research, practices, strategies and materials in the development of language arts skills in multicultural schools.
Effective: Summer 2005
Prerequisite: ELEDM 400 Concurrent: ELEDM 395W ELEDM 401A ELEDM 401C

ELEDM 401C **Teaching Children's Literature in Multicultural Elementary Schools** (3) Survey of children's literature with an emphasis on multicultural literature and its application in multicultural elementary classrooms.
Effective: Summer 2005
Prerequisite: ELEDM 400 Concurrent: ELEDM 395W ELEDM 401A ELEDM 401B

ELEDM 402 **Teaching and Assessment in Multicultural Elementary Schools** (3) Multicultural education; elementary education; pluralistic pedagogical foundations, assessment, child's play, instrumental activites, State/Federal initiatives, and parent programs.
Effective: Spring 2006
Prerequisite: A ED 303;MUSIC 241, ELEDM 400 Concurrent: ELEDM 395W

ELEDM 403 **Using Science and Mathematics Knowledge and Assessment in Urban Settings** (6) Knowledge, skills, and assessment pertaining to science and mathematics education in urban schools.
Effective: Spring 2005
Prerequisite: CMPSC 101, MATH 200, ELEDM 400 and 9 credits of natural sciences Concurrent: ELEDM 395W

ELEDM 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2005

ELEDM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Energy & Mineral Eng (EME)

EME 301 **Thermodynamics in Energy and Mineral Engineering** (3) Treatment of classical thermodynamics targeted to the needs of students in the Department of Energy and Mineral Engineering.
Effective: Fall 2009
Prerequisite: CHEM 112, PHYS 212 andMATH 250 orMATH 251

EME 303 **Fluid Mechanics in Energy and Mineral Engineering** (3) Treatment of fluid mechanics targeted to the needs of students in the Department of EME.
Effective: Summer 2009
Prerequisite: MATH 250 orMATH 251 andPHYS 212

EME 432 (GEOG 432) **Energy Policy** (3) Analysis, formulation, implementation, and impacts of energy-related policies, regulations, and initiatives.
Effective: Summer 2010
Prerequisite: E B F 200, EGEE 120, PL SC 490

EME 444 **Global Energy Enterprise** (3) Industry perspective on the resources, technologies, engineering approaches and externalities involved in satisfying worldwide energy demand profitably and sustainably.
Effective: Summer 2010
Prerequisite: ECON 004 or equivalentEGEE 102, EGEE 120

EME 466 **Energy and Sustainability in Society** (3) Capstone course in energy technology and policy options for reduced-carbon communities. Covering agent/stakeholder relations, sustainability, communication and public engagement.
Effective: Summer 2010
Prerequisite: GEOG 030, METEO 469, EME 437

Last Import from UCM: May 29, 2010 3:00 AM

Energy Bus & Finance (E B F)

E B F 200 (GS) **Introduction to Energy and Earth Sciences Economics** (3) Resource use decisions and their effect on local, national, and global development.
Effective: Fall 2010 Future: Fall 2010

E B F 301 **Global Finance for the Earth, Energy, and Materials Industries** (3) The aim of this course is to introduce fundamental concepts of financial management and illustrate their global applications.
Effective: Fall 2009

E B F 304W **Global Management for the Earth, Energy, and Materials Industries** (3) This class is designed to introduce students to modern management and organization strategies for resource businesses.
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: ENNEC 100

E B F 304W **Global Management for the Earth, Energy, and Materials Industries** (3) This class is designed to introduce students to modern management and organization strategies for resource businesses.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: E B F 200

E B F 401 **Strategic Corporate Finance for the Earth, Energy, and Materials Industries** (3) Financial decisions corporations in the earth science area make and the tools and analyses used to make these decisions.
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: ENNEC 100, E B F 301 and junior or senior standing

E B F 401 **Strategic Corporate Finance for the Earth, Energy, and Materials Industries** (3) Financial decisions corporations in the earth science area make and the tools and analyses used to make these decisions.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: E B F 200, E B F 301 and junior or senior standing

E B F 472 **Quantitative Analysis in Earth Sciences** (3) Quantitative analysis of decision making in atmospheric/geophysical sciences: exploratory data analysis, quantification of uncertainty, parametric/non- parametric testing, forecasting, time series analysis.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 orMATH 140

E B F 473 **Risk Management in Energy Industries** (3) Analysis of strategies for mitigating business risk from market, atmospheric, geophysical uncertainties including the use of energy/mineral commodity futures/options, weather derivatives, and insurance.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MSIS 200 orSTAT 200 orE B F 472

E B F 484 **Energy Economics** (3) Economics of energy demand, production, storage, and pricing; advanced energy policy issues including regulation, climate change, new energy technology.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ECON 002 orE B F 200;MATH 110 orMATH 140

Last Import from UCM: May 29, 2010 3:00 AM

Energy and Geo-Environmental Engineering (EGEE)

EGEE 012 **Energy Science and Engineering Lectures** (1) Lectures and discussion by faculty and visiting scientists/engineers on energy science and engineering, job selection, patents, licensing, ethics, and other professional issues and challenges.
Effective: Spring 2008
Prerequisite: fifth-semester standing in Energy Engineering major or Energy and Fuels Engineering Option in Chemical Engineering

EGEE 101 (GN) (MATSE 101) **Energy and the Environment** (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

EGEE 101A (GN;IL) (MATSE 101A) **Energy and the Environment** (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

EGEE 101H (GN) **Energy and the Environment** (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Summer 2009

EGEE 102 (GN) **Energy Conservation for Environmental Protection** (3) Exposure to energy efficiency in day-to-day life to save money and energy, and thereby protect the environment.
Effective: Spring 2000

EGEE 102H (GN) **Energy Conservation for Environmental Protection** (3) Honors level exposure to energy efficiency in day to day life to save money and energy, and thereby protect the enviroment.
Effective: Summer 2008

EGEE 110 (GN) **Safety Science for the Rest of Your Life** (3) Survey of applications and technologies associated with safety in our every day life with associated review of scientific principles and economic, social and political impacts.
Effective: Summer 2005

EGEE 120 (GS;US;IL) **Oil: International Evolution** (3) Survey of the commercial development of the world petroleum industry from various international, historical, business, and cultural perspectives.
Effective: Spring 2006

EGEE 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EGEE 210 (GN) **Technological Legacy of Pennsylvania Coal** (3) Survey of coal technologies with a review of scientific principles and economic, social, and political impacts.
Effective: Summer 2005

EGEE 211 (GS;US) **Social Legacy of Pennsylvania Coal** (3) Survey of coal technologies with economic, social, and political impacts discussed with historical, cultural, and international perspectives.
Effective: Summer 2005

EGEE 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1999

EGEE 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1999

EGEE 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1999

EGEE 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EGEE 302 **Principles of Energy Engineering** (3) Basic engineering calculations and mathematical methodologies on material and energy balances and reaction rates during chemical transformations in energy systems.
Effective: Summer 2007
Prerequisite: CHEM 112 andMATH 141

EGEE 304 **Heat and Mass Transfer** (3) Introduces the fundamentals of heat and mass transfer. Conduction, convection, radiation, and diffusion mass transfer will be emphasized.
Effective: Fall 2009
Prerequisite: EME 301 andEGEE 302

EGEE 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1999

EGEE 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1999

EGEE 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1999

EGEE 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EGEE 401 **Energy in a Changing World** (3) Energy is in transition, with increased international energy demand and increasing environmental pressures. Energy transitions, approaches, and outcomes are addressed.
Effective: Spring 2008
Prerequisite: EGEE 101 orEGEE 102 orCHEM 112

EGEE 411 **Energy Science and Engineering Lab** (3) A comprehensive introduction to classic and modern laboratory skills and experimentation of relevance to energy science and engineering practice.
Effective: Spring 2008
Prerequisite: F SC 401 orEGEE 302 or permission of program

EGEE 412 **Green Engineering & Environmental Compliance** (3) Material and energy flows as they relate to industrial systems, environmental concerns, pollution prevention, and the development of clean technologies.
Effective: Summer 2007
Prerequisite: EGEE 302

EGEE 420 **Hydrogen and Fuel Cells** (3) Course will cover the fundamental principles of electrochemical engineering, hydrogen production and storage, and the design and application of the main types of fuel cells.
Effective: Fall 2009
Prerequisite: EME 301

EGEE 430 (M E 430) **Introduction to Combustion** (3) Concepts related to laminar and turbulent premixed and nonpremixed combustion with applications to propulsion and stationary systems.
Effective: Fall 2009
Prerequisite: M E 201 orM E 300 orEME 301

EGEE 433 **Physical Processes in Energy Engineering** (3) Introduces fluid flow, heat transfer, phase equilibrium and mass transport phenomena in energy separation processes.
Effective: Summer 2007
Prerequisite: EGEE 304 or concurrent

EGEE 436 **Modern Thermodynamics for Energy Systems** (3) Thermodynamics of external fields, theory of stability and fluctuations, irreversible and non-linear thermodynamics, and bifurcation theory and their applications in energy and environmental processes are discussed.
Effective: Fall 2009
Prerequisite: EME 301, EGEE 302, MATH 231 andMATH 251

EGEE 437 **Design of Solar Energy Conversion Systems** (3) A review of fundamental concepts in solar energy conversion including photovoltaic (PV) and solar thermal conversion systems.
Effective: Spring 2010
Prerequisite: EGEE 304 or permission of program

EGEE 438 **Sustainable Energy Options** (3) Principles and operation of sustainable energy conversion units with emphasis on wind, water, and geothermal energy.
Effective: Fall 2009
Prerequisite: EME 301 andEGEE 302

EGEE 441 **Electrochemical Energy Conversion** (3) Course covers fundamental principles of electrochemistry, including electrochemical thermodynamics, kinetics, catalysis, and corrosion and focuses on applications such as fuel cells, batteries, and photovoltaics. Each application covers: principles of method, criteria determining performance, present state of development, and advantages/disadvantages. Laboratory demonstration of the performance (current-voltage) measurements of an electrochemical converter is scheduled in this course.
Effective: Fall 2009

Prerequisite: EME 301, EGEE 302

EGEE 451 **Energy Conversion Processes** (3) Emphasizes processes for conversion of fossil fuels, nuclear and biomass to other fuel forms as transportation fuels and electricity.
Effective: Summer 2007
Prerequisite: F SC 431

EGEE 455 **Materials for Energy Applications** (3) Overview of key principles and technologies for materials relevant to energy applications, including membranes, catalysis, supercapacitors, adsorbents, and semi-conductors.
Effective: Summer 2007
Prerequisite: EGEE 302, MATSE 201

EGEE 456 (E E 456, E SC 456) **Introduction to Neural Networks** (3) Artificial Neural Networks as a solving tool for difficult problems for which conventional methods are not applicable.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

EGEE 464W **Energy Design Project** (3) A team and capstone design project on an industrial energy-related problem.
Effective: Spring 2008
Prerequisite: seventh-semester standing in energy engineering or chemical engineeringENGL 202C

EGEE 470 **Air Pollutants from Combustion Sources** (3) Generation of pollutants in combustion chambers; reduction by combustion control; pre- and post-combustion treatment of fuels and effluents.
Effective: Fall 2009
Prerequisite: EME 301

EGEE 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1999

EGEE 494A **Research Project** (2) Supervised research on a selected topic of energy science and engineering and preparation of written and oral presentation of the research results.
Effective: Summer 2007
Prerequisite: Seventh semester standing in energy engineering

EGEE 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

EGEE 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1999

EGEE 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1999

EGEE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1999

EGEE 497B **Geo-Resource Evaluation, Investment Decision Methods, and Financial Analysis** (3) Cost engineering methodology and engineering for Geo-resources including energy, mining, mineral processing, oil, and gas exploration and production. Industrial safety and health, and earth-system based environmental projects, and weather.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EGEE 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1999

EGEE 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 100 (GS) **Introduction to Energy and Earth Sciences Economics** (3) Resource use decisions and their effect on local, national, and global development.
Effective: Fall 2006 Ending: Summer 2010

ENNEC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ENNEC 401 **Case Studies of Industrial Ecology** (1-3) The objective of this course is to introduce life cycle analysis and design for the environment.
Effective: Fall 2001
Prerequisite: junior or senior standing with background in earth and environmental studies

ENNEC 420 **Economics of Natural Hazards** (3) Covers economic aspects of natural hazards: impacts, loss estimation, mitigation, recovery, modeling, policy analysis, risk, insurance, resiliency, and sustainability.
Effective: Spring 2002
Prerequisite: ECON 002

ENNEC 425 **Simulation Methods in Earth and Social Sciences** (3) This course will provide students with computer programming skills/ knowledge in statistics, stochastic process, and simulation applicable to earth/managerial sciences.
Effective: Fall 2001
Prerequisite: CMPSC 101, MATH 140

ENNEC 472 **Quantitative Analysis in Earth Sciences** (3) Quantitative analysis of decision making in atmospheric/geophysical sciences: exploratory data analysis, quantification of uncertainty, parametric/non- parametric testing, forecasting, time series analysis.
Effective: Fall 2004 Ending: Summer 2010
Prerequisite: MATH 110 orMATH 140

ENNEC 473 **Risk Management in Energy Industries** (3) Analysis of strategies for mitigating business risk from market, atmospheric, geophysical uncertainties including the use of energy/mineral commodity futures/options, weather derivatives, and insurance.
Effective: Fall 2004 Ending: Summer 2010
Prerequisite: MSIS 200 orSTAT 200 orENNEC 472

ENNEC 482 **Economic Analysis of Minerals in the Environment** (3) Economics of exploration and mining methods, future mineral availability, mineral and environmental law, mineral industries and the environment, current issues.
Effective: Spring 2002 Ending: Summer 2010
Prerequisite: ECON 002, ENNEC 100

ENNEC 482 **Economic Analysis of Minerals in the Environment** (3) Economics of exploration and mining methods, future mineral availability, mineral and environmental law, mineral industries and the environment, current issues.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002, E B F 200

ENNEC 483 **Materials Policy and Markets** (3) Integrated economic and institutional analysis of policy issues facing material markets, including recycling, pollution control, advanced materials, and industrial policy.
Effective: Summer 2010
Prerequisite: ECON 002, E B F 200

ENNEC 484 **Energy Economics** (3) Economics of energy demand, production, storage, and pricing; advanced energy policy issues including regulation, climate change, new energy technology.
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: ECON 002 orENNEC 100;MATH 110 orMATH 140

ENNEC 484 **Energy Economics** (3) Economics of energy demand, production, storage, and pricing; advanced energy policy issues including regulation, climate change, new energy technology.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002 orE B F 200;MATH 110 orMATH 140

ENNEC 490 **Applied Financial and Investment Analysis** (3) Valuation/investment analysis of mineral properties; commodity market analysis; introduction to principles of financial/investment analysis applied to natural resources/environment.
Effective: Fall 2001

ENNEC 491 **Business and Public Policy Analysis** (3) Capstone course integrating theory and empirical methods in the analysis of business and public policy.
Effective: Fall 2001
Prerequisite: 12 credits in ENNEC ECON AG EC or BUS

ENNEC 492 **Econometric Applications to Mineral Markets** (3) Statistical tools as used by mineral economists, econometric models of mineral, material, and energy markets.

Effective: Spring 2002
Prerequisite: ECON 002, MATH 220, ECON 490 orSTAT 451 ; 3 additional credits in economics or mineral economics

ENNEC 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships. Written and oral critique of activity required.
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

ENNEC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2002

ENNEC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

ENNEC 497A **The Transformation of Electricity Markets** (3) The electricity inudstry has undergone major transformations in structure, regulation and market design in the past decade. This course will introduce students to the structure of regulated and deregulated electricity markets; emerging environmental regulations shaping the electricity industry; and the potential impacts of the "smart grid" on electricity generation, transmission and utilization.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ENNEC 499 (IL) **Foreign Study--Mineral Industries** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Engineering (ENGR)

ENGR 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

ENGR 097S **Firsr Year Seminars-Engineering** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 097S **First Year Seminars-Engineering** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ENGR 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 100S **Introduction to Engineering** (1) A seminar providing information about different engineering majors, coping with college life, and exploring educational and career goals.
Effective: Fall 1999

ENGR 195 **Engineering Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1985

ENGR 195A **Engineering Internship** (1 credit per semester/maximum of 4 credits) A supervised work experience in a professionally relevant position in research, industry or government.
Effective: Spring 2003

ENGR 195I **Engineering International Internship** (1 per semester/maximum of 4) A supervised work experience in a professionally relevant position in research, industry or government.
Effective: Summer 2003

ENGR 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2009

ENGR 197A **Impact of History, Culture, Society, and Environment on Engineering Design in China** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

ENGR 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

ENGR 295 **Engineering Co-Op Work Experience I** (1-3) A supervised work experience where the student is employed in an engineering position in industry or government. (To be offered only for SA/UN grading.)
Effective: Spring 2008
Prerequisite: CHEM 110, CMPSC 122, MATH 140, MATH 141 orPHYS 211

ENGR 295A **Engineering Cooperative Education** (1) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Summer 2003

ENGR 295I (IL) **Engineering International Cooperative Education** (1) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Spring 2006

ENGR 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Effective: Spring 1993

ENGR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1985

ENGR 297A **Wellness Strategies for Women Engineers** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ENGR 297B **2010 Women in Engineering Program Orientation** (0.5) An orientation program for first-year women students to provide them with skills and resources necessary for success in engineering.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 297C **2010 Multicultural Engineering Program Orientation** (0.5) An orientation program for first-year Multicultural Engineering students to provide them with skills and resources necessary for success in engineering.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 297D (SC 297D) **Science/Technology/Engineering/Mathematics Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 301 (IL) **International Engineering Orientation** (1) This course will prepare engineering students for an international educational experience, including study abroad and international internships.
Effective: Summer 2005

ENGR 310 **Entrepreneurial Leadership** (3) This course develops leadership and entrepreneurial skills using collaborative, problem-based projects, with engineering and business students working in teams.
Effective: Summer 2002

ENGR 312 **Sustainable Energy Entrepreneurship** (3) Three interrelated modules guide students through technical, global/business, and entrepreneurial aspects of sustainable energy.
Effective: Summer 2010
Prerequisite: EGEE 102, E B F 200

ENGR 320 **Materials Properties Measurement I** (3) Measurement and experimental procedures determination of the mechanical properties of engineered materials under deflection, compression, tension, fracture and fatigue conditions.
Effective: Summer 2010
Prerequisite: E MCH 213;ENGR 350, E MCH 407 Prerequisiste or concurrent:E MCH 461

ENGR 350 **Computational Modeling Methods** (3) Theoretical and hands-on experience of mathematical modeling in mechanical systems; 2D thermal stresses, beam elements, solid modeling and vibrations.
Effective: Summer 2010
Prerequisite: CHEM 112;CMPSC 201;E MCH 213;MATH 231;M E 300 orEME 301;PHYS 212

ENGR 395 **Engineering Co-Op Work Experience II** (1-3) A supervised work experience where the student is employed in an engineering position in industry or government. (To be offered only for SA/UN grading.)
Effective: Fall 1987
Prerequisite: ENGR 295

ENGR 395A **Engineering Cooperative Education** (1-2 per semester) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Summer 2003
Prerequisite: ENGR 295A orENGR 295I

ENGR 395I (IL) **Engineering International Cooperative Education** (1-2 per semester) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Spring 2006
Prerequisite: ENGR 295A orENGR 295I

ENGR 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

ENGR 407 **Technology-Based Entrepreneurship** (3) Technology innovation coupled with business planning and development.
Effective: Spring 2003
Prerequisite: ECON 002 orECON 004

ENGR 408 (US) **Leadership Principles** (2) An introduction to an exploration of theories and principles of leadership, supplemented by presentations given by industry and government leaders.
Effective: Spring 2006

ENGR 409 (US) **Leadership in Organizations** (3) Development of leadership skills essential for engineers to guide colleagues or an organization in a productive direction.
Effective: Spring 2006

ENGR 411 **Entrepreneurship Business Basics** (3) Three critical entrepreneurship skills are covered for non-business majors: business finance, intellectual property, and marketing.
Effective: Summer 2002
Prerequisite: three credits in economics or economics-related course

ENGR 420Y (US;IL) **Design for Global Society** (3) An interdisciplinary study of the engineering design process and the influence of society and culture on design.
Effective: Spring 2008
Prerequisite: ENGL 202

ENGR 421 **Materials Properties Measurements II** (4) Materials powder characterization, compaction and densification techniques, density measurements, micro structural evaluation, thermal and electrical properties of materials.
Effective: Summer 2010
Prerequisite: ENGR 320, MATSE 201, MATSE 400

ENGR 425 (IST 425, MGMT 425) **New Venture Creation** (3) Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

ENGR 426 (IST 426, MGMT 426) **Invention Commercialization** (3) Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path each technology.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

ENGR 450 **Materials Design and Applications** (3) Engineering design considerations for materials selection, organization of property trends of materials families, materials design strategies and property compatibility.
Effective: Summer 2010
Prerequisite: ENGR 350, E MCH 407 orE MCH 461;ENGR 421

ENGR 490W **Senior Design I** (1) Analysis of environmental impacts on a design, designing products for the global environment and discussion on engineering ethics and professionalism.
Effective: Summer 2010
Prerequisite: ENGR 350, E MCH 407 orE MCH 461

ENGR 491W **Senior Design II** (3) Capstone of research projects from conception to prototype through industry sponsored collaboration on common technical interests between faculty and student.
Effective: Summer 2010
Prerequisite: ENGR 490W

ENGR 493 **Individual Leadership Experience** (1) Approved individual project or internship for students to practice the leadership skills developed in the Engineering Leadership Development Minor.
Effective: Fall 2007
Prerequisite: Prerequisite or concurrent:ENGR 408

ENGR 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

ENGR 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

ENGR 495 **Engineering Co-Op Work Experience III** (1-3) A supervised work experience where the student is employed in an engineering position in industry or government. (To be offered only for SA/Un grading.)
Effective: Fall 1987
Prerequisite: ENGR 395

ENGR 495A **Engineering Cooperative Education** (1-3 per semester) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Summer 2003
Prerequisite: ENGR 395A orENGR 395I

ENGR 495I (IL) **Engineering International Cooperative Education** (1-3 per semester) A supervised work experience in research, industry or government relevant to a student's major.
Effective: Spring 2006
Prerequisite: ENGR 395A orENGR 395I

ENGR 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an

individual basis and that fall outside the scope of formal courses.
Effective: Spring 1993

ENGR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1988

ENGR 497B **International Leadership Practicum - Hungary** (1) Hosted by Corvinus University in Budapest, students and presentations on Entrepreneurship/Leadership/Business by invited lecturers, tours of local businesses etc., and collaborative activities by PSU and Corvinus University students.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: ENGR 497C andENGR 497B

ENGR 497C **Global Engineering Teams** (1) Preparation for a career in international business. Prerequisite for students traveling internationally with the Engineering Leadership Development Program to Hungary/Morocco. Students must earn a B or better in this class to quality for travel.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGR 408 andENGR 493

ENGR 497E **Project Management Professionals** (3) This practical course for professionals covers the essential concepts and skills needed to make effective contributions and have an impact on the successful accomplishment of projects.
Effective: Summer 2010 Ending: Summer 2010

ENGR 497E **Project Management for Professionals** (3) This practical course covers the essential concepts and skills needed to make effective contributions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 497E **Project Management for Professionals** (3) This practical course covers the essential concepts and skills needed to make effective contributions and have an impact on the successful accomplishments of projects.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ENGR 497F (SCIED 497F) **Fundamentals of Science, Technology & Engineering** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 497G **Career Development Seminar** (2) This Career Development Seminar offers upper-class engineering students information on the tools and current practices in industry. Topics range from communication skills, leadership strategies, teambuilding skills, personal management, etiquette and knowledge about the corporate culture. The seminar will cover a variety of topics and is designed to create a successful transition to the workplace and a successful career. Industry representatives will participate in the course as guest speakers. They will provide presentations in-person and through methods used in industry including telephone conference call and Skype.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 497I **Engineering Teaching Intern** (0.5) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 497K **Social Entrepreneurship** (3) Explore intriacies of social innovation. Work in teams to develop feasibility plans for social ventures in the US, Asia, and Africa.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGR 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Engineering Design (EDSGN)

EDSGN 010 **Introductory Engineering Graphics** (1) Multiview projections, pictorial drawings, dimensioning, engineering standards, and working drawings.
Effective: Fall 2007

EDSGN 011S **Explorations in Design First-Year Seminar** (1) Students explore topical issues in engineering design.
Effective: Spring 2007

EDSGN 012S **Solar Racers First-Year Seminar** (1) Students explore solar energy engineering by designing, building, testing, and racing a model car powered by a photoboltaic panel.
Effective: Spring 2007

EDSGN 013S **Ethics of Star Trek First-Year Seminar** (1) The Star Trek television series is used as an introduction to ethics, with application to student life and engineering practice.
Effective: Spring 2007

EDSGN 015S **Transformations by Design: First-Year Seminar** (1) Examination of the social and environmental transformations that follow engineering design, and of the transformations of students by higher education.
Effective: Spring 2007

EDSGN 100 **Introduction to Engineering Design** (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.
Effective: Fall 2007

EDSGN 100H **Introduction to Engineering Design** (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 100S **Introduction to Engineering Design** (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.
Effective: Fall 2007

EDSGN 110 **Spatial Analysis in Engineering Design** (2) Spatial analysis techniques using advanced computer-aided drafting and design systems, with an emphasis on engineering concepts, analysis and design.
Effective: Summer 2010
Prerequisite: EDSGN 100

EDSGN 130 **Architectural Graphics and CAD** (3) Principles of architectural drawing; spatial relations with architectural applications; introduction to computer graphics (CAD) with project.
Effective: Fall 2007

EDSGN 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

EDSGN 210 **Tolerancing and Spatial Models** (2) Tolerances; form and size; unilateral, bilateral, and symmetric; form control, critical fits, tolerances specifications precedence; applications in spatial models.
Effective: Summer 2010
Prerequisite: EDSGN 110

EDSGN 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2004

EDSGN 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2004

EDSGN 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2004

EDSGN 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Effective: Summer 2004

EDSGN 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2008

EDSGN 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

EDSGN 352 **Fundamentals of Community Service Engineering** (1) Students collaborate on community service engineering projects. Course modules cover engineering design, teamwork and topics relevant to project work.
Effective: Summer 2008

EDSGN 394 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2007

EDSGN 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique or activity required.
Effective: Summer 2007

EDSGN 396 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2007

EDSGN 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2007

EDSGN 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

EDSGN 452 **Projects in Community Service Engineering** (1-2) Students engage in research and design of appropriate solutions to real-life community-based problems and project management of such projects.
Effective: Summer 2008
Prerequisite: EDSGN 352 ; 5th semester standing

EDSGN 479 (I E 479) **Human Centered Product Design and Innovation** (3) Consumer product design for a global market, incorporating human factors principles and user desires in a multicultural perspective.
Effective: Summer 2010
Prerequisite: I E 408 orI E 419 or equivalent

EDSGN 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2004

EDSGN 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

EDSGN 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, pracrica, or internships. Written and oral critique of activity required.
Effective: Summer 2004

EDSGN 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2004

EDSGN 496A **Solidworks Fundamentals** (3) Fundamentals of solid works.
Effective: Summer 2010 Ending: Summer 2010

EDSGN 496A **Solidworks Fundamentals** (3) Fundamentals of solidworks.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 496A **Solidworks Fundamentals** (3) Fundamentals of solidworks.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

EDSGN 496C **Catia Fundamentals & Applications** (3) Students will learn fundamentals of part, assemble, and shape design, digital mock up tooks and parametric design basics. Students will explore digital mock up workbench tools and learn building and optimizing various mechanisms. As reverse engineering exercises, each student will have to reconstruct a part from a 3D model and also construct and optimize a selected machine or mechanism.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2004

EDSGN 497D **Multidisciplinary Capstone Design Project** (3) The course focuses on multidisciplinary industry-sponsored and community service-based design projects offered in conjunction with the College of Engineering's Learning Factory.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: senior level standing in BIOE CMPEN EE IE or ME;BIOE 440 orE E 330 orE E 350 orE E 316 orI E 302 orI E 305 orI E 323 orI E 327 orI E 330 orI E 405

EDSGN 497E **Sensor and Controller System Integration** (3) Hands-on course covers the interfacing of various sensors and actuators to computers to build proof-of-concept prototypes of innovative products.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 497F **Sensor and Controller System Integration: Practicum** (1) Hands-on course covers the interfacing of various sensors and actuators to computers to build proof-of-concept prototypes of innovative products.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 497G **AutoCAD 2010 Tutorial** (3) Students will use the latest version of AutoCAD as a design tool for 2D and 3D applications in a variety of disciplines.
Effective: Summer 2010 Ending: Summer 2010

EDSGN 497G **Current CAD Applications** (3) Students will use the latest version of AutoCAD as a design tool for 2D and 3D applications in a variety of disciplines.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 497G **Current CAD Applications** (3) Students will use the latest version of AutoCAD as a design tool for 2D and 3D applications in a variety of disciplines.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

EDSGN 497K **Engineering Design and Analysis with CATIA** (3) The first part of the course covers the fundamentals of CATIA V5 in solid modeling, part design and assembly design prototyping, and design documentation. The second part of this course covers the basic FEA (finite element analysis) capabilitites in CATIA V5. Students will learn how to quickly generage a finite element model for surface and/or solid parts of how to perform analysis using the finite elements method with CATIA V5.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

EDSGN 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2008

EDSGN 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Engineering Graphics Technology (EG T)

EG T 060 **3D Visualization and Spatial Development** (1) Supplemental course designed to improve spatial skills through the use of interactive hands-on activities, such as clay modeling and multi-media software.
Effective: Summer 2007

EG T 101 **Technical Drawing Fundamentals** (1) Technical skills and drafting room practices; fundamentals of theoretical graphics; orthographic projection including sectional and auxiliary views; dimensioning.
Effective: Summer 1988

EG T 102 **Introduction to Computer Aided Drafting** (1) A first course presenting an intensive study utilizing a computer assisted drafting and design system to obtain graphic solutions.
Effective: Summer 1988

EG T 114 **Spatial Analysis and Computer-Aided Drafting** (2) Spatial relations of applications in engineering technology with more advanced functionality of computer-aided drafting and design systems.
Effective: Fall 2008
Prerequisite: EDSGN 100

EG T 119 **Introduction to CAD for Electrical and Computer Engineering** (2) Introduction to computer-aided drafting (CAD) for Electrical and Computer Engineering Technology students with a focus on three dimensional assemblies.
Effective: Summer 2007
Prerequisite: MATH 081

EG T 120 **Introduction to Graphics and Solid Modeling** (3) Development of visualization skills; introduction to parametric solids modeling techniques with constrained and unconstrained geometry, and assemblies.
Effective: Spring 2007

EG T 121 **Applied Solid Modeling** (3) Creation of working drawings from solid models; dimensioning, GD&T, fastener, weld and finish symbols, layouts and bill of materials.
Effective: Spring 2007
Prerequisite: EG T 120

EG T 201 **Advanced Computer Aided Drafting** (2) Application of the principles of engineering graphics; preparation of working drawings; details, examples, and bill of material using CAD.
Effective: Fall 2008
Prerequisite: EDSGN 100, EG T 114

EG T 205 **Transition From 2-D CAD to Solid Modeling** (1) Supplemental course designed to introduce students (primarily transfer) to a solid modeling program.
Effective: Summer 2007
Prerequisite: EG T 201

EG T 222 **Geometric Dimensioning and Tolerancing** (3) Study of methods of geometric dimensioning and tolerancing used in technical graphics; CAD drawing applications are used to strengthen proficiency.
Effective: Spring 2007
Prerequisite: EG T 121

EG T 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1988

Last Import from UCM: May 29, 2010 3:00 AM

Engineering Mechanics (E MCH)

E MCH 120S **Adventures in Mechanics--First-Year Seminar** (1) First-year seminar that introduces students to basic concepts in engineering mechanics.
Effective: Summer 2000

E MCH 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

E MCH 210 **Statics and Strength of Materials** (5) Equilibrium of particles, rigid bodies, frames, trusses, beams, columns; stress and strain analysis of rods, beams, pressure vessels.
Effective: Fall 1983
Prerequisite: or concurrent:MATH 141

E MCH 210H **Statics and Strength of Materials, Honors** (5) Equilibrium of particles and rigid bodies, frames, trusses, beams, columns; stress and strain analysis of rods, beams, pressure vessels.
Effective: Spring 2008
Prerequisite: or concurrent:MATH 141

E MCH 211 **Statics** (3) Equilibrium of coplanar force systems; analysis of frames and trusses; noncoplanar force systems; friction; centroids and moments of inertia.
Effective: Spring 2008
Prerequisite: or concurrent:MATH 141

E MCH 212 **Dynamics** (3) Motion of a particle; relative motion; kinetics of translation, rotation, and plane motion; work-energy; impulse-momentum.
Effective: Spring 2008
Prerequisite: E MCH 211 orE MCH 210;MATH 141

E MCH 212H **Dynamics** (3) Motion of a particle; relative motion; kinetics of translation, rotation, and plane motion; work-energy; impulse-momentum.
Effective: Spring 2008
Prerequisite: E MCH 211, E MCH 210H orE MCH 210;MATH 141

E MCH 213 **Strength of Materials** (3) Axial stress and strain; torsion; stresses in beams; elastic curves and deflection of beams; combined stress; columns.
Effective: Spring 2008
Prerequisite: E MCH 211

E MCH 213D **Strength of Materials with Design** (3) Stress and deformation in members under axial, bending, and torsional loads, combined stress; columns. Design with a project.
Effective: Spring 2008
Prerequisite: E MCH 211, ED&G 100

E MCH 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1995

E MCH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

E MCH 313 **Statics of Deformable Bodies** (3) Coplanar equilibrium; stress and strain. Elastic and inelastic response; applications to chemical processing equipment. Intended for students in chemical engineering.
Effective: Fall 1983
Prerequisite: CH E 302 or fifth-semester standing

E MCH 315 **Mechanical Response of Engineering Materials** (2) Mechanical response measures and design theories for engineering materials; elastic and plastic response as affected by stress, strain, time, temperature.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

E MCH 316 **Experimental Determination of Mechanical Response of Materials** (1) Experimental techniques for mechanical property measurement and structural testing.
Effective: Spring 2008
Prerequisite: or concurrent:E MCH 315

E MCH 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

E MCH 400 **Advanced Strength of Materials and Design** (3) Combined stresses; energy methods; special problems in bending and torsion; plates; thin-walled structures; buckling and stability; design projects.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

E MCH 402 **Applied and Experimental Stress Analysis** (3) Experimental design of structural and machine components; photoelasticity, electrical resistance strain gauge techniques, Moire techniques, interferometry, holography.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

E MCH 403 **Strength Design in Materials and Structures** (4) Determination, interpretation, significance, and application of mechanical properties such as plastic flow, fatigue strength, creep resistance, and dynamic properties.
Effective: Spring 2008
Prerequisite: E MCH 315, E MCH 316

E MCH 407 **Computer Methods in Engineering Design** (3) Computer methods in mechanical design: solid modeling, graphics, surface smoothing/interpolation and underlying numerics: simultaneous equations, quadrature, eigen problems, discrete models.
Effective: Spring 2008
Prerequisite: CMPSC 201, CMPSC 202 orE SC 261M;E MCH 213, E MCH 210H orE MCH 210

E MCH 408 **Elasticity and Engineering Applications** (3) General equation of stress and strain in rectangular, cylindrical, and spherical coordinates; applications in structural and machine design.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

E MCH 409 **Advanced Mechanics** (3) Continuation of E MCH 012; Euler's equations for the rotation of a rigid body, gyroscopic motion, impulsive motion, Lagrangian mechanics.
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;MATH 230

E MCH 412 **Experimental Methods in Vibrations** (3) Systems of one or more degrees of freedom, mechanical vibrations, vibration properties of materials, vibration techniques in nondestructive testing.
Effective: Fall 2007
Prerequisite: E MCH 470

E MCH 416H **Failure and Failure Analysis of Solids** (3) Examination and analysis of the various modes of failure of solid materials.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210 orE MCH 210H

E MCH 440 (MATSE 440) **Nondestructive Evaluation of Flaws** (3) Methods and limitations of nondestructive evaluation of mechanical flaws; optical, acoustical, electromagnetic, x-ray, radiography, thermography, and dye techniques.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

E MCH 446 **Mechanics of Viscoelastic Materials** (3) Nature of viscoelastic materials, constitutive relations, thermorheological materials, viscoelastic stress analysis, rubber elasticity, viscoelastic liquids, experimental techniques for material characterization.
Effective: Spring 2008
Prerequisite: E MCH 315, E MCH 316

E MCH 461 (M E 461) **Finite Elements in Engineering** (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPSC 201, CMPSC 202 orE SC 261M;E MCH 213, E MCH 210H orE MCH 210

E MCH 461 (M E 461) **Finite Elements in Engineering** (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;CMPSC 200, CMPSC 201 orCMPSC 202

E MCH 470 (M E 470) **Analysis and Design in Vibration Engineering** (3) Application of Lagrange's equations to mechanical system modeling, multiple- degree-of-freedom systems, experimental and computer methods; some emphasis on design applications.
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;M E 370 orE SC 407H

E MCH 471 **Engineering Composite Materials** (3) Properties, manufacture, forms of composites; micromechanics; orthotropic lamina properties; laminate analysis; theories; failure analysis; thermal, environmental effects.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;E MCH 315, E SC 414M orMATSE 201

E MCH 473 (AERSP 473) **Composites Processing** (3) An introduction to the principles of mechanics governing manufacturing, computer-aided design, and testing of composite materials and structures.
Effective: Summer 1988
Prerequisite: E MCH 471

E MCH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

E MCH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

Last Import from UCM: May 29, 2010 3:00 AM

Engineering Science (E SC)

E SC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

E SC 120S **Design for Failure--First-Year Seminar** (1) This seminar, through the utilization of commonly used examples, discusses the engineering principles which are exploited by such designs.
Effective: Summer 2000

E SC 121S **Science/Engineering Fiction and the Engineering Sciences--First-Year Seminar** (1) Examines the technology predictions of authors in view of the engineering sciences on which the underlying devices of their stories are based.
Effective: Summer 2000

E SC 122S **Weird, Wild, and Wonderful Materials and Devices--First-Year Seminar** (1) First-year seminar that surveys the use of novel materials and material systems to create practical devices.
Effective: Summer 2000

E SC 123S **Catastrophic Failures--First-Year Seminar** (1) First-year seminar that explores design deficiencies through the study of case histories of a number of famous failures.
Effective: Summer 2000

E SC 124S **Green Engineering--First-Year Seminar** (1) This First-year seminar introduces students to basic concepts in green engineering practices and processes.
Effective: Fall 2001

E SC 130S **Selected Topics in Engineering Science** (1) Introduction to basic concepts of engineering practices, processes, and research across the engineering sciences.
Effective: Fall 2001

E SC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

E SC 197A **Disappearing w/out a Trace: New Engineering Ideas in Energy & Biomedicine** (1) This course consists of technological challenges awaiting WCE and ethical issues to consider in your professional career.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

E SC 211 **Material, Safety, and Equipment Overview for Nanofabrication** (3) Nanofabrication processing equipment and materials handling procedures with a focus on safety, environment, and health issues.
Effective: Fall 2007
Prerequisite: CHEM 101, MATH 081, PHYS 150 orPHYS 250

E SC 212 **Basic Nanofabrication Processes** (3) Step-by-step description of equipment and processes needed in top-down, bottom-up, and hybrid nanofabrication.
Effective: Fall 2007
Concurrent: E SC 211

E SC 213 **Materials in Nanotechnology** (3) The use of materials for nanotechnology as well as the unique material properties available at the nano-scale.
Effective: Fall 2007
Concurrent: E SC 211 E SC 212

E SC 214 **Lithography for Nanofabrication** (3) Lithographic process from substrate preparation to exposure; process from development through inspection; advanced optical lithographic techniques.
Effective: Spring 2001
Concurrent: E SC 212 E SC 211

E SC 215 **Materials Modification in Nanofabrication** (3) Processing steps used in modifying material properties in nanofabrication.
Effective: Spring 2001
Concurrent: E SC 211 E SC 212

E SC 216 **Characterization, Testing of Nanofabricated Structures and Materials** (3) Measurements and techniques essential for controlling device fabrication.
Effective: Fall 2007
Concurrent: E SC 211 E SC 212

E SC 261M **Computational Methods in Engineering** (3) Modeling, solving engineering problems using FORTRAN, software libraries, graphics. Reports on root search, curve fitting, finite differences, algebraic equations.
Effective: Spring 1995
Prerequisite: or concurrent:MATH 141

E SC 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1995

E SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1988

E SC 312 **Engineering Applications of Wave, Particle, and Ensemble Concepts** (3) The engineering applications of the wave and ensemble pictures of the physical world.
Effective: Summer 2006
Prerequisite: Prerequisite or concurrent:PHYS 214

E SC 313 **Introduction to Principles, Fabrication Methods, and Applications of Nanotechnology** (3) Principles, fabrication methods and applications of nanoscale.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, PHYS 212, PHYS 214

E SC 314 **Engineering Applications of Materials** (3) Basic concepts of material structure and their relation to mechanical, thermal, electrical, magnetic, and optical properties, with engineering applications.(E SC 314 is not intended for students in E SC major)
Effective: Spring 2007
Prerequisite: PHYS 212

E SC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

E SC 400H **Electromagnetic Fields** (3) Irrotational and solenoidal fields, potentials, vector and scalar field and wave equations, harmonic and wave functions in various coordinates, radiation.
Effective: Fall 2003
Prerequisite: E E 210, MATH 250

E SC 404H **Analysis in Engineering Science** (3) Unified application of coordinate transformations; Laplace's, heat, and wave equations to boundary value problems and problems of continua in engineering.
Effective: Spring 2001
Prerequisite: MATH 250 orMATH 251

E SC 405H **Engineering Applications of Field Theory, Honors** (3) Field concepts in engineering, derivation of field equations, mathematical solutions, applications stressing universality of approaches to all fields of engineering.
Effective: Fall 1988
Prerequisite: MATH 250

E SC 406H **Analysis in Engineering Science II, Honors** (3) Application of complex variable theory, integral equations, and the calculus of variations to engineering problems.
Effective: Fall 1983
Prerequisite: E SC 404H

E SC 407H **Computer Methods in Engineering Science, Honors** (3) Numerical solution of differential equations including fundamentals: roots of single nonlinear and simultaneous (Matrix) equations, least squares fitting and staistical goodness, interpolation, finite differences, differentiation, integration, eigensolutions.
Effective: Spring 2007
Prerequisite: CMPSC 201C orCMPSC 201F orE SC 261M Concurrent: MATH 220

E SC 410H **Senior Design Project, Honors** (3) Design and synthesis in the context of a specific design project undertaken during the senior year.
Effective: Summer 1998
Prerequisite: E SC 407H

E SC 411H **Senior Research and Design Project II, Honors** (3) Design and synthesis in the context of a specific design project undertaken during the senior year.
Effective: Spring 2007
Prerequisite: E SC 410H

E SC 414M **Elements of Material Engineering** (3) Structure and imperfections in engineered materials; their influence on properties, behavior, and processing. Applications of metals, ceramics, polymers, and composites.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210 . Prerequisite or concurrent:E SC 312 orPHYS 237

E SC 417 (MATSE 417) **Electrical and Magnetic Properties** (3) Electrical conductivity, dielectric properties, piezoelectric and ferroelectric phenomena; magnetic properties of ceramics.
Effective: Summer 2006

Prerequisite: MATSE 400, MATSE 402, PHYS 214

E SC 419 **Electronic Properties and Applications of Materials** (3) The course covers the electrical, optoelectronic, dielectric, and other electron-based properties of solids, semiconductors in particular, and their engineering/ device applications.
Effective: Summer 2006
Prerequisite: E SC 312

E SC 433H **Engineering Science Research Laboratory Experience** (1) Hands-on lab experience and exposure to campus-wide interdisciplinary experimental research. Experimental probability and statistics. Appplications across all Engineering Science disciplines.
Effective: Spring 2007
Prerequisite: MATH 251

E SC 445 **Semiconductor Optoelectronic Devices** (3) The course will present the basic engineering science and technology involved in modern semiconductor optoelectronic devices.
Effective: Spring 2007
Prerequisite: E SC 419 orE SC 314 orE E 368

E SC 450 (MATSE 450) **Synthesis and Processing of Electronic and Photonic Materials** (3) The materials science of applying thin film coatings, etching, and bulk crystal growth; includes materials transport, accumulation, epitaxy, and defects.
Effective: Fall 2005
Prerequisite: MATSE 201 orE SC 414H sixth semester standing

E SC 455 (MATSE 428) **Electrochemical Methods in Corrosion Science and Engineering** (3) The objective of the course is to give students hands-on experience in assessing environmental degradation of engineering materials.
Effective: Spring 2003
Prerequisite: E SC 414M orMATSE 259;MATSE 420 orMATSE 421

E SC 456 (EGEE 456, E E 456) **Introduction to Neural Networks** (3) Artificial Neural Networks as a solving tool for difficult problems for which conventional methods are not available.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

E SC 475 (MATSE 475) **Particulate Materials Processing** (3) Fundamentals of processing particulate materials including production, characterization, handling, compaction, and sintering of metal, carbide, intermetallic, and composite powders.
Effective: Spring 2008
Prerequisite: E MCH 315, E SC 414 orMATSE 259

E SC 481 **Elements of Nano/Micro-electromechanical Systems Processing and Design** (3) Interdisciplinary fundamentals of nano/microelectromechanical systems (NEMS/ MEMS), including design, fabrication and machining of miniature systems. Draws from mechanics, science and materials.
Effective: Spring 2008
Prerequisite: E MCH 213 orE MCH 315 orE SC 312

E SC 482 **Micro-Optoelectromechanical Systems (MOEMS) and Nanophotonics** (3) Principles and applications of Micro-Optoelectromechanical and Nanophotonic devices and systems.
Effective: Summer 2006
Prerequisite: PHYS 212, PHYS 214

E SC 483 (MATSE 483) **Simulation and Design of Nanostructures** (3) Introduction to computer simulation techniques and their applications at the physical/life sciences interface.
Effective: Fall 2007
Prerequisite: PHYS 214 orE SC 312, MATH 230

E SC 484 **Biologically Inspired Nanomaterials** (3) Advances in biomolecular-based Science and technology at the physical/life sciences interface.
Effective: Summer 2006
Prerequisite: PHYS 214, MATH 230

E SC 494 **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Summer 1986

E SC 494H **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Fall 2007

E SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

E SC 496A **Independent Study: Business Opportunities in Engineering** (1) The principal goal of this course is to inform engineering students of business opportunities in Engineering.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

E SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject

which may be topical or of special interest.
Effective: Fall 1983

E SC 497A **Business Opportunities in Engineering** (2) The principal goal of this course is to inform engineering students of business opportunities in Engineering.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Engineering Tech (ET)

ET 002 **Engineering Technology Orientation** (1) Introduction to computer methods for analyzing and solving engineering technology problems; microcomputer fundamentals, word processing, spreadsheet, and database software packages.
Effective: Summer 1995

ET 200 **Graphic Communications** (3) The study of graphic communications relating to the design and construction industry.
Effective: Fall 2007
Prerequisite: 2-credit drafting course

ET 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

ET 300 **Mechanics I: Statics** (3) Equilibrium of coplanar force systems; analysis of frames and trusses; shear and moment diagrams; friction; centroids and moment of inertia.
Effective: Spring 2010
Prerequisite: MATH 140;PHYS 150 orPHYS 211 orPHYS 250

ET 301 **Newtonian Mechanics** (4) Treatment of forces on rigid bodies at rest and in motion. Practical applications in electrical and mechanical systems.
Effective: Fall 2007
Prerequisite: or concurrent:MATH 140, PHYS 001

ET 302 **Mechanics II: Dynamics** (3) Kinematics of a particle; relative motion; kinematics of a mass-point; kinematics of a rigid body; work-energy; impulse-momentum.
Effective: Fall 2007
Prerequisite: statics

ET 321 **Dynamics** (3) Motion of a particle, relative motion; kinetics of translation; rotation and plane motion; conservation of energy and momentum.
Effective: Spring 2010
Prerequisite: ET 300, E MCH 211 orMCH T 111 Concurrent: statics integral calculus

ET 322 **Strength of Materials** (3) Axial, torsional, bending, and combined stress analysis; deformation and deflection analysis of cables, shafts, and beams; column design and analysis.
Effective: Spring 2010
Prerequisite: ET 300, E MCH 211 orMCH T 111

ET 323 **Strength of Materials Laboratory** (1) Measurement of mechanical properties of materials, structural testing.
Effective: Spring 2010
Prerequisite: or concurrent:ET 322, E MCH 213 orMCH T 213

ET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

ET 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written or oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

ET 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2007

ET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

Last Import from UCM: May 29, 2010 3:00 AM

Engineering/Laser Operation (ELOP)

ELOP 201 **Industrial Applications of Lasers** (3) Introduction to principles of operation of lasers, properties, and propagation of laser beams, laser/material interactions and industrial applications of low/high power lasers.
Effective: Summer 2002
Prerequisite: PHYS 150

ELOP 202 **Sensors and Detectors** (3) Introduction to principles of operation of sensors and detectors.
Effective: Summer 2002
Prerequisite: PHYS 150

ELOP 203 **Introduction to Electro-Optics** (3) Introduction to electro-optics, properties and fabrication of materials in electro-optics.
Effective: Summer 2002

Last Import from UCM: May 29, 2010 3:00 AM

English (ENGL)

ENGL 001 (GH) **Understanding Literature** (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.
Effective: Spring 2003

ENGL 001H (GH) **Understanding Literature** (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 001S (GH) **Understanding Literature** (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.
Effective: Fall 2000

ENGL 001W (GH) **Understanding Literature** (3) Studies the various critical ways of reading, understanding, and writing about fiction, poetry, and drama.
Effective: Spring 1999

ENGL 002 (GH) **The Great Traditions in English Literature** (3) Major works of fiction, drama, and poetry from the Middle Ages to the twentieth century expressing enduring issues and values.
Effective: Spring 2000

ENGL 003 (GH) **The Great Traditions in American Literature** (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.
Effective: Spring 2001

ENGL 003S (GH) **The Great Traditions in American Literature** (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.
Effective: Fall 2002

ENGL 004 **Basic Writing Skills** (3 per semester/maximum of 6) Intensive practice in writing sentences and paragraphs and instruction in grammar, usage, and punctuation. Designed for students with deficient preparation. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Fall 1983

ENGL 005 **Writing Tutorial** (1) Tutorial instruction in composition and rhetoric for students currently enrolled in Engl. 4 or 15. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Fall 1983

ENGL 006 **Creative Writing Common Time** (1 per semester/maximum of 8) Required one hour a week meeting time; readings, professional development, advising, community-building.
Effective: Fall 2007

ENGL 015 (GWS) **Rhetoric and Composition** (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Fall 1991
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 015A (GWS;US) **Rhetoric and Composition** (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Summer 2005
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 015H (GWS) **Rhetoric and Composition** (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 015S (GWS) **Rhetoric and Composition** (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.
Effective: Summer 1999
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

ENGL 030 (GWS) **Honors Freshman Composition** (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Fall 1991

ENGL 030H (GWS) **Honors Freshman Composition** (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 030S (GWS) **Honors Freshman Composition** (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Spring 2003

ENGL 030T (GWS) **Honors Freshman Composition** (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.
Effective: Spring 2003

ENGL 050 (GA) **Introduction to Creative Writing** (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.
Effective: Spring 2001

ENGL 050H (GA) **Introduction to Creative Writing** (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 050H (GA) **Introduction to Creative Writing** (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ENGL 083S (GH) **First-Year Seminar in English** (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.
Effective: Summer 1999

ENGL 083T (GH) **First-Year Seminar in English** (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 088 (GH) **Australian/New Zealand Cultural Perspectives** (3) Australian and New Zealand cultural and social perspectives, with emphasis on the historical development of intellectual, aesthetic, and humanistic values.
Effective: Spring 2001

ENGL 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 100 **English Language Analysis** (3) An examination of English sounds, words, and syntax using traditional, structural, and transformational grammar.
Effective: Spring 1984

ENGL 104 (GH) **The Bible as Literature** (3) Study of the English Bible as a literary and cultural document.
Effective: Spring 2002

ENGL 105 (GH;US) (AM ST 105) **American Popular Culture and Folklife** (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.
Effective: Fall 2008

ENGL 110 **Newswriting Practicum** (2 per semester, maximum of 6) Practice in writing and editing articles for the campus newspaper.
Effective: Fall 2001

ENGL 111 **The Possibilities of English** (2) This course familiarizes students with the range of professional possibilities offered by the English major.
Effective: Summer 2010

ENGL 129 (GH) **Shakespeare** (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.
Effective: Spring 2003

ENGL 129H (GH) **Shakespeare** (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 129H (GH) **Shakespeare** (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

ENGL 130 (GH) **Reading Popular Texts** (3) Popular texts (printed, visual, and aural texts) and their social, political, and cultural significance in the contemporary world.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H

ENGL 130H (GH) **Reading Popular Texts** (3) Popular texts (printed, visual, and aural texts) and their social, political, and cultural significance in the contemporary world.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030H

ENGL 132 (GH;US) (J ST 132) **Introduction to Jewish American Literature** (3) A historical and thematic survey of Jewish Literature of the United States.
Effective: Spring 2009

ENGL 133 (GH) **Modern American Literature to World War II** (3) Cather, Eliot, Frost, Faulkner, Fitzgerald, Hemingway, Hurston, Wharton, Wright, and other writers representative of the years between the world wars.
Effective: Spring 2002

ENGL 134 (GH) **American Comedy** (3) Studies in American comedy and satire, including such writers as Mark Twain, Faulkner, Vonnegut, Ellison, O'Connor, Welty, and Heller.
Effective: Spring 2003

ENGL 134H (GH) **American Comedy** (3) Studies in American comedy and satire, including such writers as Mark Twain, Faulkner, Vonnegut, Ellison, O'Connor, Welty, and Heller.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 135 (GH;US) **Alternative Voices in American Literature** (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 135S (GH;US) **Alternative Voices in American Literature** (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.
Effective: Summer 2005

ENGL 136 (GH) **The Graphic Novel** (3) The graphic novel as a literary and visual form (produced primarily in English).
Effective: Summer 2010

ENGL 139 (GH;US) **Black American Literature** (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Summer 2005

ENGL 139S (GH;US) **Black American Literature** (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.
Effective: Fall 2006

ENGL 140 (GH) **Contemporary Literature** (3) Writers such as Baldwin, Beckett, Bellow, Ellison, Gordimer, Lessing, Lowell, Mailer, Naipaul, Pinter, Plath, Pynchon, Rushdie, and Walker.
Effective: Spring 2003

ENGL 145 (GH;IL) **Modern Irish Literature** (3) Irish literature in the twentieth century and beyond; focus on the interplay of poltical, social, and cultural, forces on literature.
Effective: Spring 2007

ENGL 180 (GH) **Literature and the Natural World** (3) Literary representations of the natural world, focusing on English language traditions.

Effective: Spring 2003

ENGL 182A (GH;US;IL) **Literature and Empire** (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182B (GH;US) **Literature and Empire** (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182C (GH;IL) **Literature and Empire** (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 182S (GH;US;IL) **Literature and Empire** (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.
Effective: Summer 2005

ENGL 184 (GH;IL) (CMLIT 184) **The Short Story** (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 184S (GH;IL) **The Short Story** (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.
Effective: Spring 2006

ENGL 185 (GH;IL) (CMLIT 185) **The Modern Novel in World Literature** (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2006 Ending: Fall 2010

ENGL 185 (GH;IL) (CMLIT 185) **World Novel** (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.
Effective: Spring 2011 Future: Spring 2011

ENGL 187 **English Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2001

ENGL 189 (GH;IL) (CMLIT 189) **The Founders of Modern Drama** (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2006 Ending: Fall 2010

ENGL 189 (GH;IL) (CMLIT 189) **Modern Drama** (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.
Effective: Spring 2011 Future: Spring 2011

ENGL 191 (GH) **Science Fiction** (3) Science fiction as the literature of technological innovation and social change--its development, themes, and problems.
Effective: Summer 1995

ENGL 192 **The Literature of Fantasy** (3) Major realms of fantasy in English and American literature: daydream and nightmare, the pastoral, dystopia, utopia, apocalypse, and the heroic.
Effective: Fall 1993 Ending: Fall 2010

ENGL 192 (GH) **The Literature of Fantasy** (3) Literature(s) of fantasy from early forms through a variety of contemporary traditions.
Effective: Spring 2011 Future: Spring 2011

ENGL 193 (AM ST 193) **American Folk Song in English** (3) British songs in America; native repertories, white and Negro; folk ballad; and musical development.
Effective: Fall 1993

ENGL 194 (GH;US;IL) (WMNST 194) **Women Writers** (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 194H (GH;US;IL) **Women Writers** (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 194S (GH;US;IL) **Women Writers** (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.
Effective: Summer 2005

ENGL 196 (GH;US) (AM ST 196, AMSTD 196) **Introduction to American Folklore** (3) A basic introduction to verbal and nonverbal folklore stressing the basic procedures of collection, classification, and analysis.
Effective: Summer 2005

ENGL 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

ENGL 197A **Introduction to the Sub-genres** (1) This course introduces students to the primary tenets of the sub-genres songwriting, sci-fi writing, script writing or graphic novel writing.
Effective: Summer 2010 Ending: Summer 2010

ENGL 197A **Possibilities for English** (2) This class will introduce students to the wide range of paths they might pursue as English majors and to the destinations that those paths might lead.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 197B **Graphic Novel Writing** (4) This course will explore the relationship between words and images and how both are used together to form a narrative.
Effective: Summer 2010 Ending: Summer 2010

ENGL 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 199 (IL) **Foreign Study--English** (3-6) Studies in English language and/or literature.
Effective: Summer 2005

ENGL 200 **Introduction to Critical Reading** (3) Responses to a variety of literary texts written in English that evoke different approaches.
Effective: Fall 1991
Prerequisite: ENGL 015 orENGL 030

ENGL 200H **Introduction to Critical Reading** (3) Responses to a variety of literary texts written in English that evoke different approaches.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030

ENGL 200W **Introduction to Critical Reading** (3) Responses to a variety of literary texts written in English that evoke different approaches.
Effective: Fall 2001
Prerequisite: 6 credits of ENGL ENLSH or LIT

ENGL 201 (GH) **What is Literature** (3) Acquaints students with theory and practice relevant to studies of narrative, lyric poetry, and drama.
Effective: Summer 2006
Prerequisite: ENGL 015 orENGL 030

ENGL 201H (GH) **What is Literature** (3) Acquaints students with theory and practice relevant to studies of narrative, lyric poetry, and drama.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

ENGL 202A (GWS) **Effective Writing: Writing in the Social Sciences** (3) Instruction in writing persuasive arguments about significant issues in the social sciences. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

ENGL 202B (GWS) **Effective Writing: Writing in the Humanities** (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996

Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

ENGL 202C (GWS) **Effective Writing: Technical Writing** (3) Writing for students in scientific and technical disciplines. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

ENGL 202D (GWS) **Effective Writing: Business Writing** (3) Writing reports and other common forms of business communication. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

ENGL 202H (GWS) **Honors Writing in the Humanities** (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

ENGL 202H (GWS) **Honors Writing in the Humanities** (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

ENGL 209 **Journal or Magazine Practicum** (1-6 per semester/maximum of 8) A practicum in the editing and publishing of a magazine or journal.
Effective: Fall 2007

ENGL 210 **The Process of Writing** (3) Examination of the relation between fiction and nonfiction; practice in principles common to all writing.
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

ENGL 211 **Introduction to Writing Studies** (3) This course introduces students to the most salient issues and theories in writing studies. Students explore contemporary theories and issues about writing in order to understand writing as a skill and a complex object of study in various professional contexts.
Effective: Spring 2010
Prerequisite: ENGL 015 orENGL 030 ; third semester standing

ENGL 211W **Introduction to Writing Studies** (3) This course introduces students to the most salient issues and theories in writing studies. Students explore contemporary theories and issues about writing in order to understand writing as a skill and a complex object of study in various professional contexts.
Effective: Summer 2010
Prerequisite: ENGL 015 orENGL 030 ; third semester standing

ENGL 212 **Introduction to Fiction Writing** (3) Written exercises and short readings in the elements of fiction writing; the writing of at least one short story.
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

ENGL 213 **Introduction to Poetry Writing** (3) Written exercises in the components and techniques of poetry writing in conjunction with selected readings.
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

ENGL 215 **Introduction to Article Writing** (3) Written exercises in, and a study of, the principles of article writing; practice in the writing of specific articles.
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

ENGL 221 **British Literature to 1798** (3) Introduction to literary history and analysis; Beowulf and writers such as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, and Fielding.
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

ENGL 221W **British Literature to 1798** (3) Introduction to literary history and analysis. Beowulf and writers such as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, and Fielding.
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 222 **British Literature from 1798** (3) Introduction to literary history and analysis; writers such as Austen, Wordsworth, Keats, Browning, Dickens, The Brontes, Yeats, Joyce, and Woolf.
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

ENGL 222W **British Literature from 1798** (3) Introduction to literary history and analysis. Writers such as Austen, Wordsworth, Keats, Browning, Dickens, the Brontes, Yeats, Joyce, and Woolf.
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 225 (GA;GH) (ART H 225, WMNST 225) **Sexuality and Modern Visual Culture** (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.

Effective: Summer 2009

ENGL 226 (GH;US;IL) (LTNST 226) **Latina and Latino Border Theories** (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.
Effective: Spring 2007

ENGL 227 (GH;US;IL) **Introduction to Culture and Sexuality** (3) A course addressing the relationships between sexuality, literature, and culture.
Effective: Summer 2009
Prerequisite: ENGL 015 orENGL 030

ENGL 231 **American Literature to 1865** (3) Introduction to literary history and analysis; writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Whitman, and Dickinson.
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

ENGL 231W **American Literature to 1865** (3) Introduction to literary history and analysis. Writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Whitman, and Dickinson.
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 232 **American Literature from 1865** (3) Introduction to literary history and analysis; writers such as Mark Twain, James, Cather, Frost, O'Neill, Faulkner, Hemingway, Hughes, and Morrison.
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

ENGL 232W **American Literature from 1865** (3) Introduction to literary history and analysis. Writers such as Mark Twain, James, Cather, Frost, O'Neill, Faulkner, Hemingway, Hughes, and Morrison.
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 233 (GH;GN) (CHEM 233) **Chemistry and Literature** (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature through history, and the relationship of science to society, culture, and values.
Effective: Spring 2006

ENGL 235 (US) (AAA S 235) **African-American Oral Folk Tradition** (3) The origins, forms, and function of the oral folk tradition of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 240 **Exploring Literary Traditions** (3 per semester, maximum of 6) The examination of specific literary traditions in English-language texts and an inquiry into the question of tradition itself. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 245 (GH;US) **Introduction to Lesbian and Gay Studies** (3) An introduction to the study of sex and (homo)sexual identity across a wide range of disciplines and methodoligies.
Effective: Summer 2007

ENGL 250 **Peer Tutoring in Writing** (3) Introduction to skills and attitudes required for successful peer tutoring in writing. Provides internship experience in a writing center.
Effective: Spring 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D ; approval of department

ENGL 261 **Exploring Literary Forms** (3 per semester/maximum of 6) The examination of specific genres in English-language texts and an inquiry into the question of genre itself. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 262 (GH) **Reading Fiction** (3) Elements of fiction including plot, character, viewpoint, and fictional genres in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

ENGL 263 (GH) **Reading Poetry** (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

ENGL 263S (GH) **Reading Poetry** (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

ENGL 265 (GH) **Reading Nonfiction** (3) Forms of nonfictional prose such as autobiography, biography, essay, letter,

memoir, oration, travelogue in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

ENGL 268 (GH) **Reading Drama** (3) Elements of drama including plot, character, dialogue, staging, and dramatic forms in British, American, and other English-language traditions.
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

ENGL 281 **Television Script Writing** (3) An introduction to the writing of scripts for television production.
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 294 **Research Topics** (1-12) Individual or small group instruction.
Effective: Spring 2001

ENGL 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2001

ENGL 296C **Mythology and Folklore of the British Isles** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

ENGL 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ENGL 297A **Exploring Cape Cod: Its Nature and Culture** (4.5) This is a course that proposes to study the environment and culture of one of the most famous localities in the US.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 297B **Sailing the Chesapeake: Natural and Cultural Landscapes** (4.5) Students read Bay history and work with the Chesapeake Bay Foundation to plant riparian buffers and travel to the Eastern Shore of Maryland.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 297C **Reading & Writing Microfiction** (3) Students will analyze short-short stories (sudden stories, flash fictions, micro-fications) to understand the narrative structure, then write their own.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 297E **Motion Picture Screenwriting** (3) Study screenplays for full-length motion pictures, including examination of form, dialogue, narrative, plotting, scene structure, setting, character creation, and conflict.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

ENGL 300M **Honors Course in English** (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

ENGL 301M **Honors Seminar in English: Literature Before 1800** (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

ENGL 302M **Honors Seminar in English: Literature After 1800** (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

ENGL 303M **Honors Seminar in English: American Literature & Culture** (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

ENGL 304M **Honors Seminar in English: Creative Writing** (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

ENGL 310H **Honors Thesis in English** (3) Research paper or creative project on a topic approved by the Departmental Honors Committee.
Effective: Fall 1983
Prerequisite: 9 credits of ENGL 300H

ENGL 311 **The Canon and Its Critics** (3) History and formation of literary canons, and challenges to canon ideology by writers and critics, through readings in English and American literature.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H

ENGL 312 **Globality and Literature** (3) Examines relationships between literature and culture, through the study of major texts in English by writers of various cultures.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H

ENGL 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

ENGL 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 399 (IL) **Foreign Study--English** (3-6) Advanced studies in English language and/or literature.
Effective: Summer 2005

ENGL 400 **Authors, Texts, Contexts** (3 per semester, maximum of 6) Styles, cultural milieus, critical perspectives toward particular English- language authors and/or movements they represent, and the idea of authorship. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 401 **Studies in Genre** (3 per semester, maximum of 6) English-language texts exemplifying particular genres, with attention to critical theories, historical development, rhetorical strategies, and social, cultural, and aesthetic values. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 401H **Studies in Genre** (3 per semester, maximum of 6) English-language texts exemplifying particular genres, with attention to critical theories, historical development, rhetorical strategies, and social, cultural, and aesthetic values. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

ENGL 401W **Creative Writing Theory** (3) Theories of art and creativity which inform the making of literary works.
Effective: Fall 2007
Prerequisite: ENGL 200;ELISH 201, ELISH 209, ENGL 212 orENGL 213

ENGL 402 **Literature and Society** (3 per semester, maximum of 6) Texts confronting social, political, technological, or other issues in the English-speaking world. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 403 **Literature and Culture** (3 per semester, maximum of 6) Historical, theoretical, and practical issues within cultural studies in relation to English-speaking texts. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 404 **Mapping Identity, Difference, and Place** (3 per semester, maximum of 6) Ethnicity, gender, class, race with reference to theoretical inquiry into identity, difference, and place in English-language literatures. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 405 **Taking Shakespeare From Page to Stage** (3) Students experience a Shakespeare play as a text to be explicated and as a script to be performed.
Effective: Summer 2003
Prerequisite: permission of program

ENGL 407 **History of the English Language** (3) Historical and structural study of developments in English sounds, forms, inflections, syntax, derivations, and meanings.
Effective: Spring 1987
Prerequisite: ENGL 100;ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

ENGL 409 **Composition Theory and Practice for Teachers** (3) An overview of the theory and practice of writing for teachers, with emphasis on the writing process.
Effective: Summer 2000
Prerequisite: permission of the program Concurrent: EDUC 452

ENGL 410 **Postnuclear Literature** (3) Examines the impact of the bomb on the literature of the period.
Effective: Spring 2008
Prerequisite: ENGL 015 orENGL 030

ENGL 411 **Problems of Style** (3) Analysis and practice of English prose styles.
Effective: Spring 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D;ENGL 212, ENGL 213 orENGL 215

ENGL 412 **Advanced Fiction Writing** (3 per semester/maximum of 6) Advanced study of the techniques of fiction writing; regular practice in writing the short story; group discussion of student work.
Effective: Spring 1992
Prerequisite: ENGL 212 and permission of the department

ENGL 413 **Advanced Poetry Writing** (3 per semester/maximum of 6) Advanced study of the techniques of poetic composition; regular practice in writing poetry; group discussion of student work.
Effective: Spring 1992
Prerequisite: ENGL 213 and permission of the department

ENGL 414 **Biographical Writing** (3) Writing of biography and autobiography, character sketches, "profiles," and literary portraits; analysis and interpretations of source materials.
Effective: Spring 1987
Prerequisite: ENGL 200, ENGL 202B, ENGL 210, ENGL 212 orENGL 215

ENGL 415 **Advanced Nonfiction Writing** (3 per semester/maximum of 6) Advanced study of the principles of nonfiction; substantial practice in writing and submitting magazine articles for publication.
Effective: Spring 1992
Prerequisite: ENGL 215 and permission of the department

ENGL 416 **Science Writing** (3 per semester/maximum of 6) Prepares scientists and writers to gather, interpret, and present scientific information to the layman with clarity and accuracy.
Effective: Spring 2001
Prerequisite: COMM 260W, ENGL 202C, ENGL 210, ENGL 215 orENGL 421

ENGL 417 **The Editorial Process** (3) The process of editing from typescript through final proof.
Effective: Fall 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C, ENGL 202D, ENGL 210, ENGL 215 orENGL 410

ENGL 418 **Advanced Technical Writing and Editing** (3 per semester/maximum of 6) Preparing and editing professional papers for subject specialists and for others interested in careers as writers or editors.
Effective: Fall 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C, ENGL 202D orENGL 215

ENGL 419 **Advanced Business Writing** (3) Preparing and editing reports and presentations common to business, industry, and government.
Effective: Fall 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

ENGL 420 **Writing for the Web** (3) Analysis and composition of informative, persuasive, and "creative" Web texts, based on rhetorical principles; no prior Web writing experience required.
Effective: Spring 2002
Prerequisite: ENGL 015 orENGL 030

ENGL 421 **Advanced Expository Writing** (3) Develops skill in writing expository essays, with particular attention to style. Intended for liberal arts majors.
Effective: Spring 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

ENGL 422 **Fiction Workshop** (3 per semester/maximum of 6) Practice and criticism in the composition of the short story and the novel.
Effective: Spring 1985
Prerequisite: ENGL 412

ENGL 423 **Poetry Writing Workshop** (3 per semester/maximum of 6) Extensive practice in writing poetry; consideration of contemporary poetic forms; selected readings.
Effective: Spring 1985
Prerequisite: ENGL 413

ENGL 425 **Nonfiction Workshop** (3 per semester/maximum of 6) Extensive writing of nonfiction for publication; an introduction to the principles of writing the nonfiction book.
Effective: Spring 1985

Prerequisite: ENGL 415

ENGL 426 (US) (LTNST 426) **Chicana and Chicano Cultural Production: Literature, Film, Music** (3) An in-depth study of Chicana/Chicano literature, film, and music from the inception of the Chicano Movement (1965-1975) to the present.
Effective: Spring 2007
Prerequisite: 3 credits in English

ENGL 427 (J ST 427) **Topics in Jewish American Literature** (3) An in-depth examination of important themes, writers, and/or historical developments in Jewish Literature of the United States.
Effective: Spring 2009
Prerequisite: ENGL 015 orENGL 030;J ST 132 orCMLIT 110

ENGL 428 (US) (AAS 428) **Asian American Literatures** (3 per semester/maximum of 6) A seminar on the literatures and cultures of Asian America, with attention to forms of geographic, historical, and ethnic diversity.
Effective: Summer 2010

ENGL 429 (CMLIT 429) **New Media and Literature** (3) New media literary genres; critical discussion of creative works in digital media.
Effective: Summer 2010

ENGL 430 **The American Renaissance** (3) Studies in the works and the interrelationships of writers such as Emerson, Hawthorne, Poe, Thoreau, Whitman, Melville, and Dickinson.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 430H **The American Renaissance** (3) Studies in the works and the interrelationships of writers such as Emerson, Hawthorne, Poe, Thoreau, Whitman, Melville, and Dickinson.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

ENGL 431 (US) (AM ST 475) **Black American Writers** (3 per semester, maximum of 6) A particular genre or historical period in the development of Black American literature.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030

ENGL 432 **The American Novel to 1900** (3) Such writers as Hawthorne, Melville, Stowe, Mark Twain, James, Crane, Chopin, and others.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 433 **The American Novel: 1900-1945** (3) Such writers as Wharton, Dreiser, Cather, Fitzgerald, Faulkner, Hemingway, Hurston, Wright, and others.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 434 (AM ST 472) **Topics in American Literature** (3 per semester) Focused study of a particular genre, theme, or problem in American literature. (May be repeated for credit.)
Effective: Fall 2007
Prerequisite: 6 credits of ENGL ENLSH or LIT

ENGL 435 **The American Short Story** (3) Development of the short story as a recognized art form, with emphasis on major writers.
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

ENGL 436 **American Fiction Since 1945** (3) Representative fiction by such writers as Barth, Bellow, Ellison, Heller, Mailer, Morrison, Nabokov, Oates, O'Connor, Pynchon, Updike, Walker.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 437 **The Poet in America** (3) American poets such as Bradstreet, Taylor, Poe, Emerson, Whitman, Dickinson, Frost, Eliot, Stevens, Hughes, Brooks, Moore, Williams, Plath, Rich, Lowell.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 438 **American Drama** (3) Development from the colonial period to playwrights such as O'Neill, Wilder, Hellman, Miller, Williams, Albee, Shepard, Norman, Wilson, and others.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 439 **American Nonfiction Prose** (3) Major prose writers such as Franklin, Emerson, Thoreau, Fuller, Henry Adams, Mailer, Baldwin, McCarthy, Dillard, Didion, Angelou, and others.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 440 **Studies in Shakespeare** (3) Intensive study of a single genre, topic, or critical approach to selected plays.
Effective: Summer 1991
Prerequisite: ENGL 015 orENGL 030

ENGL 441 **Chaucer** (3) The principal narrative poems and their background.
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

ENGL 442 **Medieval English Literature** (3) Study of major works and genres of medieval English literature, exclusive of Chaucer.
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

ENGL 443 **The English Renaissance** (3) Such writers as More, Sidney, Spenser, Shakespeare, Donne, Jonson, Bacon, and Marvell.
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

ENGL 444 **Shakespeare** (3) Selected tragedies, comedies, and histories.
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

ENGL 445 **Shakespeare's Contemporaries** (3) Selected plays by Shakespeare's major predecessors and contemporaries: Kyd, Marlowe, Jonson, Webster, Marston, Middleton, and others.
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

ENGL 446 **Milton** (3) Analysis of principal poems and their background.
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

ENGL 447 **The Restoration and the Eighteenth Century** (3) The neoclassical age (1660-1776). Such writers as Dryden, Congreve, Swift, Pope, Fielding, Goldsmith, Sheridan, Boswell, Johnson.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 448 **The English Novel to Jane Austen** (3) Novelists such as Defoe, Richardson, Fielding, Smollett, Sterne, and Austen.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 449 (US;IL) **Women Poets** (3) Study of major writings by women poets; instructor chooses emphasis, language, and period.
Effective: Fall 2007
Prerequisite: ENGL 002 orENGL 003 orENGL 167 orENGL 194;ENGL 015 orENGL 030

ENGL 450 **The Romantics** (3) Poets such as Blake, Wordsworth, Coleridge, Keats, Shelley, and Byron; also prose by writers such as Hazlitt, Lamb, and DeQuincey.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 451 **Literary Modernism in English** (3) Survey of literary modernism in English and English translation in a variety of genres, including poetry, fiction, and drama.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030;ENGL 200, ELISH 300 orELISH 301

ENGL 452 **The Victorians** (3) Poets such as Tennyson, Browning, Arnold, and Hopkins; also prose by writers such as Carlyle, Mill, Ruskin, and Arnold.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 453 **Victorian Novel** (3) Novelists such as the Brontes, Thackeray, Dickens, George Eliot, Meredith, and Hardy.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 454 **Modern British and Irish Drama** (3) From Wilde and Shaw to the present season.
Effective: Fall 2004
Prerequisite: ENGL 015 orENGL 030

ENGL 455 **Topics in British Literature** (3) Focused study of a particular genre, theme, or problem in British literature. (May be repeated for credit.)
Effective: Fall 2001
Prerequisite: 6 credits of ENGL ENLSH or LIT

ENGL 456 **British Fiction, 1900-1945** (3) Major writers such as Conrad, Lawrence, Mansfield, Forster, Joyce, Woolf, Waugh, Greene, Bowen, Beckett, and others.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 457 **British Fiction Since 1945** (3) Readings in British fiction since World War II.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 458 **Twentieth-Century Poetry** (3) Poets writing in English such as Yeats, Pound, Eliot, Frost, Auden, Stevens, Plath, Bishop, Brooks, H.D., and others.

Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 461 (US) **The Vernacular Roots of African American Literature** (3) The relationship between oral tradition and literary texts and the double consciousness of African American voice in "print."
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 462 (US) (WMNST 462) **Reading Black, Reading Feminist** (3) Female identity and its construction in textual representations of gender, class, color, and cultural difference in English-language literatures.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 463 (US) **African American Autobiography** (3) The African American literary quest for identity and its adaptation to Euro-American culture and autobiographies.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 466 (US) **African American Novel I** (3) Thematic, structural, and stylistic characteristics of the African American novel from residually oral forms to satiric realism.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 467 (US) **African American Novel II** (3) Thematic, stylistic, and structural characteristics of the African American novel from naturalism to modernism and postmodernism.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 468 (US) **African American Poetry** (3) African American poetry within the contexts of the black oral tradition and transformed European literary tradition.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 469 (US) (AAA S 469) **Slavery and the Literary Imagination** (3) The impact of slavery on the petitions, poetry, slave narratives, autobiographies, and novels of African Americans.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 470 **Rhetorical Theory and Practice** (3) Application of certain rhetorical principles to problems in composition. Writing exercise. Designed as preparation for the teaching of composition.
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 471 **Rhetorical Traditions** (3 per semester, maximum of 6) Introduces major traditions of rhetorical inquiry and their relevance for English studies. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 472 **Current Theories of Writing and Reading** (3 per semester, maximum of 6) Investigates models of textual production and reception current within English studies. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 473 **Rhetorical Approaches to Discourse** (3 per semester, maximum of 6) Practices the criticism of written texts from selected rhetorical perspectives. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 474 **Issues in Rhetoric and Composition** (3 per semester, maximum of 6) Examines selected topics in the field of rhetoric and composition. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

ENGL 474H **Issues in Rhetoric and Composition** (3 per semester, maximum of 6) Examines selected topics in the field of rhetoric and composition. (Section subtitles may appear in the Schedule of Courses.)
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

ENGL 477 **Teaching Children's Literature** (3) Teaching Children's Literature in light of recent literary pedagogy, the history of childhood, and critical approaches to Children's Literature.
Effective: Fall 2007
Prerequisite: ENGL 202

ENGL 479 **Business or Technical Writing Practicum** (1-3) Practical experience applying business or technical writing principles, working with advanced business, science, or engineering students on classroom projects.
Effective: Fall 2007
Prerequisite: Prerequisite or concurrent:ENGL 418 orENGL 419

ENGL 480 **Communication Design for Writers** (3) This course explores visual design, non-verbal communication, and software packages used in professional settings to most effectively present written communications.
Effective: Summer 2005

Prerequisite: ENGL 015 orENGL 030;ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D ; 7th semester standing or higher

ENGL 481 **Literary Theory: Historical Perspectives** (3) Selected topics in the history of literary criticism and theory within the English-language tradition.
Effective: Summer 1994
Prerequisite: ENGL 015 orENGL 030

ENGL 482 **Contemporary Literary Theory and Practice** (3 per semester, maximum of 6) Contemporary literary theories and their implication for critical practice as applied to British, American, and other English-language literary works.
Effective: Summer 1992
Prerequisite: ENGL 015 ORENGL 030

ENGL 482W **Contemporary Literary and Cultural Theory** (3) Contemporary literary and cultural theories and their implication for critical practice as applies to a variety of texts, e.g. literary, linguistic, visual, multimedia, and/or popular.
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H;ENGL 200

ENGL 483 **Problems in Critical Theory and Practice** (3) Intensive study of one or more recent theoretical approaches as applied to British, American, and other English-language literary works.
Effective: Summer 1994
Prerequisite: ENGL 015 orENGL 030

ENGL 484 **James Joyce** (3) Analysis of principal works and their background.
Effective: Fall 2007
Prerequisite: ENGL 002;ENGL 015 orENGL 030

ENGL 485 **Australian and New Zealand Literature and Culture** (3) Questions of nationality, identity, gender, race, class, colonialism, and postcolonialism in these literatures.
Effective: Summer 1995
Prerequisite: ENGL 015 orENGL 030

ENGL 486 (IL) **The World Novel in English** (3) Studies in the novel, written in English, by writers outside of the United States and Great Britain.
Effective: Fall 2007
Prerequisite: ENGL 002;ENGL 015 orENGL 030

ENGL 487W **Senior Seminar** (3) Issues, themes, periods, critical theories, etc., that invite students to use prior English studies, limited to seniors majoring in English.
Effective: Summer 1997
Prerequisite: six credits of 400-level courses in English

ENGL 488 (IL) (CMLIT 488) **Modern Continental Drama** (3) From Ibsen to the drama of today: Strindberg, Chekhov, Hauptmann, Pirandello, Ionesco, Beckett, Genet, and others.
Effective: Spring 2006
Prerequisite: ENGL 015 orENGL 030

ENGL 489 (WMNST 489) **British Women Writers** (3) A study of selected British women writers.
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

ENGL 490 (US;IL) (WMNST 490) **Women Writers and Their Worlds** (3) American and British literature written from the perspective of women.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

ENGL 491 **The Capstone Course in Professional Writing** (3) This culminating course for Professional Writing majors concentrates on reflective analyses, design, and presentation of documents in the development of professional portfolios.
Effective: Summer 2004
Prerequisite: ENGL 015 orENGL 030;ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D ;seventh-semester standing or higher; enrollment in Professional Writing major

ENGL 492 (AM ST 476, WMNST 491) **American Women Writers** (3) A study of selected American women writers.
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

ENGL 493 (AM ST 493) **The Folktale in American Literature** (3) A survey of the literary uses of the folktale and legendary materials, with particular concentration on the literature of America.
Effective: Spring 1986
Prerequisite: ENGL 015 orENGL 030

ENGL 494 **Senior Thesis in English** (1-6) Senior English (ELISH) majors write a thesis arranged with in-charge person and submit it to a faculty committee for appraisal.
Effective: Fall 2007
Prerequisite: seventh-semester standing

ENGL 494H **Senior Thesis in English** (1-6) Senior English (ELISH) majors write a thesis arranged with in-charge person and submit it to a faculty committee for appraisal.
Effective: Fall 2007
Prerequisite: seventh-semester standing

ENGL 495 **Internship** (3-12) Supervised practicum in fields appropriate to the English major.

Effective: Spring 2001

ENGL 496 **Independent Studies** (1-18) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ENGL 496A **American Nonfiction Prose** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 496B **Naipaul and Joyce** (3) Opportunity to extend an essay written for a previous class, conducting additional research and expanding the analysis to include larger segments of the two short story collections considered.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ENGL 497A **Radical Literary Innovation in the English Renaissance** (3) This course will explore a variety of startling developments in English Renaissance literature.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 497B **Mont Alto Film Project III** (3) Practicum in filmmaking, Part III of IV covers principle photography and production for a full-length feature film.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENGL 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

ENGL 499 (IL) **Foreign Study--English** (3-6) Studies abroad in English language and/or literature.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

English as a Second Language (ESL)

ESL 004 **ESL/Composition for American Academic Communication I** (3) For beginning-intermediate level non-native speakers of English to improve their overall composition skills in preparation for future American academic writing assignments. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Fall 2001

ESL 015 (GWS) **ESL/Composition for American Academic Communication II** (3) For intermediate/advanced level non-native speakers of English to develop strategies for reading and writing American academic discourse.
Effective: Fall 2001
Prerequisite: a grade of C or higher required inESL 004

ESL 114G **American Oral English for Academic Purposes** (3) Instruction in ESL for international teaching assistants that focuses on the use of oral language skills in an academic setting.
Effective: Spring 2001

ESL 115G **American Oral English for ITAs I** (3-9) Initial course in American Oral English for preparation of international teaching assistants.
Effective: Spring 2001
Prerequisite: score below 200 on the American English Oral Communicative Proficiency Test (AEOCPT)

ESL 116G **ESL/Composition for Academic Disciplines** (3) For high, intermediate, and advanced international students at the graduate level to engage in research in their academic disciplines.
Effective: Fall 2001

ESL 117G **American Oral English for ITAs II** (3-9) Intermediate course in American Oral English for preparation of international teaching assistants.
Effective: Spring 2001
Prerequisite: score of 200-229 on the American English Oral Communicative Proficiency Test (AEOCPT) or a grade of A required inESL 115G

ESL 118G **American Oral English for ITAs III** (3) Advanced course in American Oral English for preparation of international teaching assistants.
Effective: Spring 2001
Prerequisite: score of 230-249 on the American English Oral Communicative Proficiency Test (AEOCPT) or a grade of A required inESL 117G

ESL 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2004

ESL 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2004

ESL 497A **Thesis/Dissertation Writing** (3) Students will develop language awareness through investigating dissertations to use the language and discourse structures approporiate for their field.
Effective: Summer 2010 Ending: Summer 2010

ESL 497B **Academic Presentations for Non-native English-Speakers** (3) This course is designed to help non-native English speaking graduate students in planning and conducting oral presentations within academic settings.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Entomology (ENT)

ENT 202 (GN) **The Insect Connection** (3) An introduction to the diversity of insects and the ways in which they interact with humans and impact our world.
Effective: Summer 1998

ENT 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ENT 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ENT 313 **Introduction to Entomology** (2) Introduction to basic entomology, covering insect diversity, identification, structure and function, and principles of management.
Effective: Fall 2001
Prerequisite: 3 credits of natural science Concurrent: ENT 315

ENT 314 **Management of Insect Pests of Ornamentals** (1) Diagnosis and management of insect pests on shrubs and trees in the landscape or production nursery.
Effective: Spring 1999
Prerequisite: ENT 313

ENT 315 **Teaching with Insects** (1) An introduction to inquiry-based life science teaching using insects as model systems.
Effective: Fall 2001
Concurrent: ENT 313

ENT 316 **Field Crops Entomology** (1) Laboratory-based approach to identification and management of insect pests of agronomic crops.
Effective: Spring 1999
Prerequisite: ENT 313

ENT 317 **Turfgrass Insect Pest Management** (3) Introduction to entomology and management of insect pests of cool- and warm- season turfgrass.
Effective: Summer 2007
Prerequisite: TURF 235, CHEM 101 orCHEM 110

ENT 319 **Forest Insect Management** (1) Management of insects affecting development of productivity of the forest ecosystems.
Effective: Spring 1999
Prerequisite: ENT 313 Concurrent: FOR 204

ENT 395 **Internship** (10-12) Supervised field experience and study related to the student's major professional interest. Written and oral critique of activity required.
Effective: Summer 1984
Prerequisite: prior approval of proposed assignment by department; cumulative GPA of 2.00 or higher; 6 credits of entomology; at least fourth-semester standing

ENT 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1998

ENT 397I **Apiculture** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENT 402W (VB SC 402W) **Biology of Animal Parasites** (3) An introduction to animal parasitology. Emphasizes placed on host/parasite interactions, parasites of zoonotic importance, control programs and taxonomy.
Effective: Spring 2010
Prerequisite: BIOL 110

ENT 410 **Insect Structure and Function** (3) Integrated physiology and anatomy of insects; emphasis on unique adaptations, genetic regulation of development, insects as model systems, environmental physiology.
Effective: Summer 1994
Prerequisite: BIOL 110, BIOL 220W, BIOL 230W, BIOL 240W

ENT 412 **Insect Taxonomy** (3) Identification and classification of insects to family level; introduction to insect phylogeny, life history, and evolution.
Effective: Fall 2001
Prerequisite: BIOL 110, BIOL 220W

ENT 420 **Introduction to Population Dynamics** (3) Principles of population regulation, demographic analysis, modeling of dynamic processes are discussed; laboratories involve the exploration of population growth models.
Effective: Summer 1994
Prerequisite: BIOL 110, BIOL 220W

ENT 425 **Freshwater Entomology** (3) Collection and identification of insects and other arthropods in freshwater ecosystems; field study of habitats.
Effective: Fall 2000

ENT 430 (B M B 430, BIOL 430) **Developmental Biology** (3) Molecular and genetic analyses of mechanisms involved in differentiation and determination in biological systems.
Effective: Summer 1994
Prerequisite: BIOL 222;B M B 252 orBIOL 230W

ENT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

ENT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

ENT 497B **Insect Behavior and Neur** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENT 497D **Insection Connection Education** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

ENT 497E **Insect Natural History** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Entreprenuership (ENTR)

ENTR 300 **Principles of Entrepreneurship** (3) Overview of the fundamental principles and processes of entrepreneurship including idea generation and opportunity analysis.
Effective: Summer 2000
Prerequisite: ACCTG 211, ECON 002

ENTR 320 **Entrepreneurship and New Venture Creation** (3) Explores the process for starting and growing a new venture including the development of a business plan.
Effective: Summer 2000
Prerequisite: ENTR 300

ENTR 400 **Financing Entrepreneurial Ventures** (3) Overview of alternative forms of financing including seed capital, valuing a company, going public, partnerships, and acquisitions.
Effective: Summer 2000
Prerequisite: B A 243 orB LAW 243;ENTR 320, FIN 301

ENTR 410 **Entrepreneurial Marketing** (3) Principles of Internet marketing and strategies for marketing new ventures on the Web.
Effective: Spring 2007
Prerequisite: ENTR 320, MIS 204, MKTG 301

ENTR 420 **Leadership and Growth of New Ventures** (3) Leadership of an entrepreneurial organization, including organizational effectiveness, stages of entrepreneurial growth, strategies for the future, and developing people.
Effective: Summer 2000
Prerequisite: ENTR 320;MGMT 100 orMGMT 301

ENTR 430 **Entrepreneurship and New Product Development** (3) Examines the process of designing, testing and launching new products, and developing a strategy for commercialization of the technology.
Effective: Summer 2000
Prerequisite: ENTR 300

ENTR 440 **Entrepreneurship and Franchising** (3) Overview of the entire franchising process with a focus on licensing and distributorship, trade marks, strategy, and growing the enterprise.
Effective: Summer 2000
Prerequisite: ENTR 300

ENTR 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2000

ENTR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2000

Last Import from UCM: May 29, 2010 3:00 AM

Environmental Engineering (ENVE)

ENVE 301W **Environmental Microbiology** (3) Fundamentals of microbial ecology and environmental microbiology with an emphasis on aspects of these fields important to environmental engineers.
Effective: Fall 2003
Prerequisite: introductory chemistry high school biology

ENVE 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1997

ENVE 401 **Occupational Safety and Environmental Health** (1) Regulations, management practices, hazard identification, exposure assessment, monitoring, employee protection, and program management for occupational safety and health.
Effective: Summer 2007
Prerequisite: CHEM 110

ENVE 411 **Water Supply and Pollution Control** (3) Water supply, wastewater characteristics, design of unit processes for water and wastewater treatment, sludge processing, and related new technologies.
Effective: Summer 2007
Prerequisite: CHEM 301, ENVE 301W

ENVE 413W **Operation and Control of Treatment Systems** (3) Wastewater treatment, water treatment, solids handling, hazardous waste site control and operations, operator certification, report writing.
Effective: Spring 2002
Prerequisite: ENVE 411, ENVE 424 Concurrent: ENVE 416

ENVE 415 **Hydrology** (3) Watershed response to rainfall events; hydrologic systems, ground water flow.
Effective: Spring 2007
Prerequisite: ENVE 361, MATH 446

ENVE 416 **Treatment Plant Design** (3) Design of treatment facilities for water and waste water based on regulatory requirements and standards.
Effective: Spring 1999
Prerequisite: ENVE 411

ENVE 417 **Hydraulic Design** (3) Design of water and waste water conveyance systems and storage facilities.
Effective: Spring 1999
Prerequisite: ENVE 415

ENVE 424 **Solid Waste Management** (3) Solid waste collection and disposal techniques; recycling and design optimization; including content analysis, legislation, and planning.
Effective: Fall 1998
Prerequisite: seventh-semester standing

ENVE 425 **Hazardous Waste Management** (3) Overview of regulations, risk assessment, waste minimization and pollution prevention, treatment of hazardous waste, and remediation of contaminated sites.
Effective: Spring 2008
Prerequisite: CHEM 301

ENVE 430 **Sustainable Engineering** (3) A course on engineering which uses ecological principles to minimize waste and maximally use input materials.
Effective: Summer 2003
Prerequisite: Permission of program

ENVE 441 **Water Treatment Plant Design and Operation** (4) This course covers water supply, design, and operation of unit operations for water treatment, and related new technologies.
Effective: Summer 2007
Prerequisite: CHEM 301

ENVE 442 **Wastewater Treatment Plant Design and Operation** (4) Covers wastewater generation, design and operation of unit operations for wastewater treatment, sludge handling and disposal options, related new technologies.
Effective: Summer 2007
Prerequisite: CHEM 301, ENVE 301W

ENVE 451 **Environmental Sanitation** (3) Epidemiology, toxicology, radiation health and safety, vector control, food protection, air, water, and solid waste control, environmental interrelationships.
Effective: Fall 1997
Prerequisite: fifth-semester standing

ENVE 460 **Environmental Law** (3) This course provides a survey of Federal and State environmental laws, including statutory, common and administrative law. May not be taken for graduate credit by Dickinson School of Law students in the concurrent J.D./EPC programs.
Effective: Summer 2003
Prerequisite: senior standing graduate standing or permission of program.

ENVE 470 **Air Quality** (3) Overview of air quality issues with regard to the sources, measurements, effects, transport and

control of potential air contaminants.
Effective: Fall 2007
Prerequisite: CHEM 301

ENVE 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2005

ENVE 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

ENVE 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2005

ENVE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1996

Last Import from UCM: May 29, 2010 3:00 AM

Environmental Resource Management (E R M)

E R M 151 **Careers and Issues in Environmental Resource Management** (1) Career opportunities and topical issues in the environmental sciences.
Effective: Spring 2001

E R M 210 (GN) **Environmental Factors and Their Effect on Your Food Supply** (3) An exploration of how urban environmental problems influence our ability to obtain food and natural resources.
Effective: Spring 2000

E R M 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1996

E R M 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

E R M 300 **Basic Principles and Calculations in Environmental Analysis** (3) This course will teach basic problem solving skills while using examples taken from environmental media--air, water, and soil.
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: BIOL 220W;CHEM 112, CHEM 111, CHEM 202;E R M 151, MATH 111 orMATH 141;STAT 240

E R M 300 **Basic Principles and Calculations in Environmental Analysis** (3) This course will teach basic problem solving skills while using examples taken from environmental media--air, water, and soil.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 3 credits in BIOL;CHEM 111;MATH 110 orMATH 140;PHYS 250 orPHYS 211

E R M 309 (A S M 309) **Measurement & Monitoring of Hydrologic Systems** (3) Introduction to measurement and monitoring equipment/techniques commonly used in analyses and design of hydrologic systems.
Effective: Spring 2010
Prerequisite: PHYS 211 orPHYS 250, CHEM 110

E R M 411 **Legal Aspects of Resource Management** (3) Legal systems and lawmaking processes; property rights in land, water, and wildlife resources; jurisdictional problems in planning resource use.
Effective: Summer 1996
Prerequisite: E R M 151

E R M 412 **Resource Systems Analysis** (3) The concept of systems; techniques of analysis, including input/output, mathematical programming, and simulation; application to resource systems.
Effective: Spring 2001
Prerequisite: BIOL 220W, E R M 151, E R M 300 andSTAT 240;MATH 111 orMATH 141

E R M 413W **Case Studies in Ecosystem Management** (3) Application of biological, physical, and social science principles to ecosystem management problems; introduction to environmental impact analysis and review.
Effective: Spring 2010
Prerequisite: BIOL 220W, SOILS 101W . Prerequisite or concurrent:E R M 412

E R M 430 (PPATH 430) **Air Pollution Impacts to Terrestrial Ecosystems** (3) Overview of the direct and indirect effects of air pollutants on terrestrial plants and ecosystems.
Effective: Summer 2004
Prerequisite: BIOL 220W orFOR 308

E R M 431 **Environmental Toxicology** (3) Effects of pollutants on animal health at the chemical, physical, and cellular level.
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: BIOL 110, CHEM 110, CHEM 112

E R M 431 (VB SC 431) **Environmental Toxicology** (3) Effects of pollutants on animal health at the chemical, physical, and cellular level.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 110, CHEM 110, CHEM 112

E R M 433 **Transformation of Pollutants in Soils** (3) Processes regulating fate and transport of metals, organics, nutrients, salts, pathogens, and radionuclides in soil systems.
Effective: Summer 2007
Prerequisite: CHEM 112, CHEM 111, SOILS 101

E R M 435 (W F S 435) **Limnology** (3) Biogeochemistry and natural history of freshwater ecosystems.
Effective: Summer 2007
Prerequisite: BIOL 110, BIOL 220W, CHEM 110

E R M 436 (W F S 436) **Limnological Methods** (3) Application of current methodologies to evaluate the biological,

chemical, and physical characteristics of aquatic ecosystems.
Effective: Spring 2010
Prerequisite: BIOL 110 andCHEM 110

E R M 447 **Stream Restoration** (3) Stream restoration including fluvial geomorphology, stream classification, impairment, sediment transport, stable stream design, and watershed assessment.
Effective: Summer 2008
Prerequisite: A S M 327 orA B E 307 orC E 361

E R M 450 (W F S 450) **Wetland Conservation** (3) Wetland types, classification, functions and values; hydrology, soils, and plants; introduction to wetland identification and delineation; wetland regulations.
Effective: Spring 2002
Prerequisite: E R M 300 orW F S 209

E R M 494H **Honors Thesis** (1-6) Independent study directed by a faculty supervisor that culminates in the production of an ERM honors thesis.
Effective: Summer 2009
Prerequisite: Junior or senior status in the Schreyer Honors College and permission of the ERM honors advisor

E R M 495 **Internship** (1-12) A supervised practicum in the environmental field. To be offered only for SA/UN grading.
Effective: Summer 1996
Prerequisite: prior approval of assignment by instructor

E R M 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1996

E R M 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

E R M 497B (B A 497B) **Introduction to Sustainable Business** (3) An introduction to sustainable business strategies and practices.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

E R M 499 (IL) **Foreign Studies** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Environmental Studies (ENVST)

ENVST 100 (GS) **Visions of Nature** (3) An interdisciplinary introduction to environmental studies, including perspectives from ethics, economics, public policy, art, literature, history, geology, biology, and ecology.
Effective: Fall 2000

ENVST 200 **Research Methods in Environmental Studies** (3) Focus on interdisciplinary research methodologies from biology, social sciences, and humanities for the study of environmental issues and problems.
Effective: Spring 2000
Prerequisite: BIOL 110, ENGL 015, ENVST 100

ENVST 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

ENVST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

ENVST 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2000
Prerequisite: prior approval of proposed assignment by instructor

ENVST 400W **Senior Seminar in Environmental Studies** (3) Writing-intensive study of a specified topic in environmental studies integrating approaches and research from a variety of disciplines.
Effective: Spring 2000
Prerequisite: ENVST 200

ENVST 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

Last Import from UCM: May 29, 2010 3:00 AM

Environmental and Renewable Resource Economics (E RRE)

E RRE 429 (AG EC 429) **Natural Resource Economics** (3) Optimal management of resources; roles of markets and other institutions; resources and economic development; public policy.
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

E RRE 431W (AG EC 431W) **Economic Analysis of Environmental and Resource Policies** (3) Economic analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques; resource damage assessment.
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

Last Import from UCM: May 29, 2010 3:00 AM

Finance (FIN)

FIN 100 **Introduction to Finance** (3) The nature, scope, and interdependence of the institutional and individual participants in the financial system. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 301 or FIN 301.
Effective: Spring 1996
Prerequisite: third-semester standing

FIN 108 **Personal Finance** (3) Personal management of budgets, bank accounts, loans, credit buying, insurance, real estate and security buying. May not be used to satisfy Smeal College baccalaureate degree requirements.
Effective: Fall 1983
Prerequisite: third-semester standing

FIN 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FIN 204 **Security Markets** (3) Analysis of the organization and operation of stock and bond markets; security speculation, brokerage houses; exchange relations with other institutions; security price behavior; exchange regulation.
Effective: Fall 1983
Prerequisite: fifth-semester standing

FIN 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

FIN 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

FIN 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FIN 301 **Corporation Finance** (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have completed B A 301.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: ACCTG 211;ECON 004;MGMT 301;SCM 200 orSTAT 200

FIN 301 **Corporation Finance** (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. Available to Baccalaureate students only. Not available to students who have taken B A 301.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ACCTG 211;ECON 002 orECON 004;SCM 200 orSTAT 200

FIN 301H **Corporation Finance** (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. Available to Baccalaureate students only. Not available to students who have taken B A 301.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ACCTG 211;ECON 002 orECON 004;SCM 200 orSTAT 200

FIN 301H **Corporation Finance** (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. Available to Baccalaureate students only. Not available to students who have taken B A 301.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030;ACCTG 211;ECON 002 orECON 004;SCM 200 orSTAT 200

FIN 302 **Introductory Financial Modeling** (3) This course applies spreadsheets to build financial models and solve numerically intensive problems in finance.
Effective: Fall 2008
Prerequisite: ACCTG 211, ECON 002, MATH 110 orMATH 140 andSCM 200 orSTAT 200 Concurrent: FIN 301

FIN 305 **Financial Management of the Business Enterprise** (3) Development of advanced practices of financial management and their application to decision making in business firm.
Effective: Summer 2003 Ending: Fall 2010
Prerequisite: B A 301

FIN 305 **Financial Management of the Business Enterprise** (3) Development of advanced practices of financial management and their application to decision making in business firm.
Effective: Spring 2011 Future: Spring 2011

Prerequisite: B A 301 orFIN 301

FIN 305M **Financial Management of the Business Enterprise** (3) Development of advanced practices of financial management and their application to decision making in a business firm.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: B A 301

FIN 305W **Financial Management of the Business Enterprise** (3) Development of advanced practices of financial management and their application to decision making in a business firm.
Effective: Fall 1994 Ending: Fall 2010
Prerequisite: B A 301

FIN 305W **Financial Management of the Business Enterprise** (3) Development of advanced practices of financial management and their application to decision making in a business firm.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 orFIN 301

FIN 306W **Investment Valuation** (3) Approaches to investment strategy, investment decisions; valuation of corporate securities, including the impact of dividend policy and capital structure.
Effective: Spring 2001
Prerequisite: FIN 301

FIN 307 **Applications of Financial Management** (3) Applications of decision-making procedures to realistic problems in financial management, emphasizing case analysis.
Effective: Fall 1985
Prerequisite: FIN 301, FIN 305W

FIN 330 **Personal Financial Planning** (3) Developing financial plans including cash budgets, credit purchases, investments, and insurance.
Effective: Spring 2008
Prerequisite: fifth-semester standing or permission of instructor

FIN 340 **Insurance Planning** (3) Introduction to personal insurance including homeowner's, auto, life, disability, health, and Social Security.
Effective: Spring 2008

FIN 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

FIN 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

FIN 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

FIN 405 **Advanced Financial Management** (3) An examination of the development and application of decision rules for major long-term financial and investment problems of the firm.
Effective: Summer 1993
Prerequisite: FIN 305W

FIN 406 **Security Analysis and Portfolio Management** (3) Advanced valuation theory; fundamentals of security analysis; portfolio construction and management.
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: FIN 305W

FIN 406 **Security Analysis and Portfolio Management** (3) Advanced valuation theory; fundamentals of security analysis; portfolio construction and management.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301W orFIN 301

FIN 406H **Security Analysis and Portfolio Management** (3) Advanced valuation theory; fundamentals of security analysis; portfolio construction and management.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: B A 301W orFIN 301

FIN 407 **Multinational Financial Management** (3) Analysis of the international aspects of managerial finance; emphasis on the impact of the international financial environment on firm operations.
Effective: Spring 2005
Prerequisite: FIN 305W

FIN 408 **Financial Markets and Institutions** (3) Functional analysis of major credit institutions; sources and uses of funds; impact of government regulation.
Effective: Fall 1994
Prerequisite: B A 301 orFIN 301

FIN 408H **Financial Markets and Institutions** (3) Functional analysis of major credit institutions; sources and uses of funds; impact of government regulation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: B A 301 orFIN 301

FIN 409 (R EST 409) **Real Estate Finance and Investment** (3) The sources and uses of credit; instruments and methods of financing; the theory and practice or real estate investment analysis.
Effective: Spring 2004
Prerequisite: B A 301 orFIN 301

FIN 410 **Speculative Markets** (3) Functions, techniques, and impact of speculation conducted through forward markets; the nature of speculative transactions, pricing, and methods of trading.
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: FIN 406

FIN 410 **Derivative Markets** (3) Functions, techniques, and impact of speculation conducted through forward markets; the nature of speculative transactions, pricing, and methods of trading.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: FIN 406

FIN 412 **Commercial Bank Management** (3) Fundamental principles underlying management of a commercial bank; capital funds; asset and liability management; value maximization; legal and operational constraints.
Effective: Fall 1994
Prerequisite: FIN 305W, FIN 408

FIN 413 **Risk Management of Financial Institutions** (3) Measuring and managing risk faced by financial institutions.
Effective: Summer 2007
Prerequisite: B A 301 orFIN 301

FIN 414 **Financial Trading and Applications** (3) This course focuses on financial modeling and analysis of trading strategies. Bloomberg, Reuters, spreadsheets and trading simulations are used extensively.
Effective: Summer 2007
Prerequisite: FIN 305W, FIN 406 orFIN 301

FIN 420 **Investment and Portfolio Analysis** (3) Investment and risk, types of security investments, sources of investment information, the broker, the stock market, portfolio management.
Effective: Spring 2008
Prerequisite: FIN 301

FIN 427 **Derivative Securities** (3) Introduction to futures contracts and options, leading to a working understanding of their importance in financial management applications.
Effective: Spring 2008
Prerequisite: FIN 420 or approval of program

FIN 430 **Estate Planning** (3) Liquidity planning, titling and transfer of property, trusts, federal unified tax system, gifting, incapacity planning, legal documents.
Effective: Spring 2008
Prerequisite: ACCTG 310 andFIN 340

FIN 450 **Retirement Planning** (3) Retirement planning: qualified and non-qualified plans, characteristics, provisions, regulations administration, application approach with case studies.
Effective: Spring 2008

FIN 451 **Intermediate Financial Management** (3) Case studies are used to develop skills in solving a variety of financial management problems.
Effective: Spring 2010
Prerequisite: FIN 301

FIN 456 (IL) **International Capital Markets** (3) This course develops understanding of international capital markets by striking a balance between institutional details, theoretical foundation and practical application.
Effective: Spring 2008
Prerequisite: FIN 301

FIN 460 (R EST 460) **Real Estate Financial Analysis** (3) Debt and equity financing, capital structure, "creative financing," risk analysis, corporate asset management.
Effective: Summer 2005
Prerequisite: FIN 305W

FIN 461 **Investments** (3) Analysis and valuation of equity, debt, and alternative investments.
Effective: Spring 2010
Prerequisite: FIN 301

FIN 470 (R EST 470) **Real Estate and Capital Markets** (3) Analysis of publicly-traded real estate of both the equity, (REITs) and debt (MBSs) sides. The course also provides international perspectives.
Effective: Summer 2005
Prerequisite: FIN 305W

FIN 471 **International Finance** (3) Financial decision making in an international environment. Emphasis on topics relevant to small businesses and entrepreneurs.
Effective: Spring 2010

Prerequisite: FIN 301

FIN 475 **Financial Decision Making** (3) Problems and cases in financial decision making for non-financial corporations and financial institutions.
Effective: Fall 2009
Prerequisite: FIN 302, FIN 420 and senior standing

FIN 481 **Advanced Financial Analysis** (3) Capstone course integrating financial analysis coursework. This course is based on the case study method which provides a challenging setting in which to apply business concepts.
Effective: Spring 2009
Prerequisite: ACCTG 426, FIN 405

FIN 489 **Seminar in Finance** (3) In-depth study of new trends, concepts, and practices in financial or portfolio management.
Effective: Spring 2008
Prerequisite: FIN 301 or equivalent; 3 additional credits of course work in Finance

FIN 494 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

FIN 494H **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2008

FIN 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

FIN 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

FIN 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

FIN 497D **Trading Room Intern** (1) Students work with financial databases in the Smeal Trading Room helping develop educational materials assisting users.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

FIN 497D **Trading Room Intern** (1) Students work with financial databases in the Smeal Trading Room helping develop educational materials and assisting users.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

FIN 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

FIN 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Financial Services (FINSV)

FINSV 400 **Investment Valuation for the Financial Services Professional** (3) Approaches to investment strategies, investment decisions, and the valuation of corporate securities.
Effective: Summer 2002
Prerequisite: FIN 301

FINSV 411 **Federal Income Taxation for the Financial Services Professional** (3) Tax regulations, tax policy, tax determination, and tax planning applicable for personal/business decision making; emphasis on taxation of individuals.
Effective: Summer 2002
Prerequisite: ACCTG 211

FINSV 420 **Estate Planning for the Financial Services Professional** (3) Studies the processes relating to the use, conservation, and transfer of an individual's wealth; emphasizing investments, insurance and taxation.
Effective: Summer 2002
Prerequisite: FINSV 400, FINSV 411, INS 301

Last Import from UCM: May 29, 2010 3:00 AM

First-Year Seminar (CAP)

CAP 100S **Orientation to the Undergraduate Experience** (1) To facilitate transition of new students through active engagement and introduction to university and campus resources.
Effective: Fall 2004

CAP 110S **First-Year Seminar for Capital College, The School of Behavioral Sciences and Education** (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2003

CAP 120S **First-Year Seminar for Business** (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2003

CAP 140S **First-Year Seminar for Humanities** (1) Introduction to the discipline including: ethics, research methods, communications, career opportunities/issues and applied technology.
Effective: Summer 1999
Prerequisite: or concurrent:CAP 100S

CAP 150S **First-Year Seminar for Capital College, The School of Public Affairs** (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2003

CAP 160S **First-Year Seminar for Capital College, The School of Science, Engineering and Technology** (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.
Effective: Spring 2004

Last Import from UCM: May 29, 2010 3:00 AM

Food Science (FD SC)

FD SC 105 (GHA) (S T S 105) **Food Facts and Fads** (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Spring 2004

FD SC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

FD SC 200 **Introductory Food Science** (3) General overview and principles; food constituents and properties; quality and safety; preservation methods; processing animal and plant products.
Effective: Summer 2007
Prerequisite: CHEM 110

FD SC 201 **Introductory Food Science Practicum** (1) Demonstration to illustrate actual chemical reactions in food systems and visits to campus and area food processing operations.
Effective: Fall 1984
Prerequisite: or concurrent:FD SC 200

FD SC 205 **Food Plant Sanitation** (3) Organization and administration of food plant sanitation with emphasis on the production and maintenance of safe, wholesome food products.
Effective: Spring 1997
Prerequisite: FD SC 200

FD SC 206 **Improving Food Quality** (3) Modern philosophies coupled with practical information on improving product quality, including topics on HACCP, SPC, recall procedures and customer relations.
Effective: Spring 1997
Prerequisite: FD SC 200

FD SC 207 (AN SC 207) **Animal Products Technology** (2) Composition, safety, palatability, preservation, and processing of foods from animals, impact of animal production and handling practices on product properties.
Effective: Spring 2003

FD SC 208 (AN SC 208) **Animal Products Technology Laboratory** (1) Harvesting and processing of foods from animals; hands-on and demonstration exercises; industry procedures for processing meat, milk, and egg products.
Effective: Spring 2003
Prerequisite: or concurrent:AN SC 207

FD SC 280H (GH) (PHIL 280H) **Food, Values, and Health** (3) The perceived relatinship between food and health, emphasizing the conceptual nature of both; and how values contribute to the relationship.
Effective: Spring 2007

FD SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

FD SC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

FD SC 400 **Food Chemistry** (4) Chemical properties of food constituents as influenced by processing and storage.
Effective: Fall 2009
Prerequisite: CHEM 202 . Prerequisite or concurrent:B M B 211, B M B 212

FD SC 404 **Sensory Evaluation of Foods** (3) Sensory evaluation of food, methods of test analyses, panel selection and training, taste sensation theory, consumer testing methods.
Effective: Spring 2001
Prerequisite: STAT 250 Junior standing

FD SC 405 **Food Engineering Principles** (3) Engineering principles of importance to food manufacturing, including units, dimensions, mass and energy balance, fluid flow, rheology, heat transfer, and psychrometrics.
Effective: Spring 2009
Prerequisite: MATH 110, PHYS 250

FD SC 406 **Physiology of Nutrition** (3) Physiological mechanisms involved in thirst and appetite, digestion, absorption, utilization of nutrients, respiration, and body temperature regulation.
Effective: Spring 2001
Prerequisite: B M B 211

FD SC 407 **Food Toxins** (2) Microbiological and chemical aspects of food poisoning; toxicological principles; case histories

and prevention of problems.
Effective: Winter 1978
Prerequisite: senior standing in food science or related majors

FD SC 408 **Food Microbiology** (2) Significance of microorganisms in food commodities, microbial spoilage, food- borne infections, and intoxication; methods of preservation, processing, and control.
Effective: Fall 2009
Prerequisite: MICRB 201, MICRB 202

FD SC 409W **Laboratory in Food Microbiology** (3) Methods of isolation, detection of spoilage, pathogenic microorganisms in foods; effects of processing and preservation on survival of food microorganisms.
Effective: Fall 2009
Prerequisite: MICRB 202 . Prerequisite or concurrent:FD SC 408

FD SC 410 **Chemical Methods of Food Analysis** (3) Qualitative and quantitative determinations of food constituents.
Effective: Spring 2001
Prerequisite: B M B 212, FD SC 400

FD SC 411 **Managing Food Quality** (2) Principles and applications of Hazard Analysis Critical Control Points. Statistical tools for the control and improvement of food quality.
Effective: Summer 1999
Prerequisite: FD SC 408, STAT 250

FD SC 413 **Science and Technology of Plant Foods** (3) Physical and chemical behavior of plant-based raw materials and ingredients, with emphasis on parameters influencing finished product quality.
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408, FD SC 410

FD SC 414 **Science and Technology of Dairy Foods** (3) Physical and chemical behavior of dairy-based raw materials and ingredients, with emphasis on parameters influencing finished product specifications.
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408, FD SC 410

FD SC 415 **Science and Technology of Muscle Foods** (3) Physical and chemical properties of muscle food commodities, with emphasis on muscle-based ingredients in formulated foods.
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408, FD SC 410

FD SC 417 **Food Laws and Regulations** (2) Historic and current aspects of government control of doing business with food (emphasis on the Food, Drug, and Cosmetic Act).
Effective: Summer 1989
Prerequisite: FD SC 200

FD SC 423 **Pollutant Impacts on Foods** (1) Fate and flow of pollutants; case studies of human exposure to specific pollutants.
Effective: Summer 1989
Prerequisite: 6 credits in biology or chemistry

FD SC 430 **Unit Operations in Food Processing** (3) Thermal processing, refrigeration, freezing, dehydration, and concentration in the food industry, including effects on food quality; food packaging; waste management.
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408

FD SC 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of acitvity required.
Effective: Summer 1992
Prerequisite: prior approval of proposed assignment by instructor

FD SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

FD SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

FD SC 497A **Bioactive Components in Foods** (2) Lecture course covering the occurrence, evidence for activity, potential uses, and safety of important classes of non-nutrient biologically-active food components.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

FD SC 497G **Molecular Biology Methods for Food Microbiology** (3) Lecture and laboratory-based course cofering DNA-based methods for detecting and tracking microorganisms in food products.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Forensic Science (FRNSC)

FRNSC 200 (GN) **Introduction to Crime Scene Investigation** (3) This course offers an exploration of the science, management, and investigative techniques for the field of crime scene investigation.
Effective: Spring 2010

FRNSC 201W **Principles of Crime Scene Investigation** (4) Basic principles of crime scene investigation including management, processing and investigative techniques.
Effective: Spring 2008
Prerequisite: permission of program

FRNSC 294 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

FRNSC 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008

FRNSC 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

FRNSC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2005

FRNSC 301 **Criminalistics IA** (3) Basic concepts of criminalistics and the role of the criminalist in a forensic investigation.
Effective: Fall 2008
Prerequisite: FRNSC 201 ; major standing in Forensic Science;STAT 250;PHYS 251 orPHYS 212

FRNSC 302 **Criminalistics IB** (3) Basic concepts of criminalistics and the role of the criminalist in a forensic investigation.
Effective: Spring 2009
Prerequisite: FRNSC 201 andMICRB 202 orBIOL 230W

FRNSC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2009

FRNSC 400 **Courtroom Proceedings and Testimony** (1) Introduction to courtroom proceedings and testimony as they related to forensic science.
Effective: Spring 2008
Prerequisite: FRNSC 201W andFRNSC 301 prerequisite or concurrent:FRNSC 401W

FRNSC 401W **Criminalistics III - Advanced Analysis and Crime Scene Investigation** (4) Advanced concepts in criminalistics as they apply to criminal and civil investigations.
Effective: Fall 2008
Prerequisite: FRNSC 302 andFRNSC 421W or prerequisite or concurrentFRNSC 427W

FRNSC 421W **Forensic Molecular Biology** (3) Concepts and application of serology of molecular biology techniques to analyze biological evidence collected at crime scenes.
Effective: Spring 2009
Prerequisite: B M B 442, B M B 400, B M B 401;FRNSC 302 or a 400-level biology or B M B course

FRNSC 427W (CHEM 427W) **Forensic Chemistry** (4) Analytical and instrumental methods used in the forensic sciences with special emphasis on the analysis and characterization of trace evidence.
Effective: Spring 2008
Prerequisite: CHEM 213 andCHEM 227

FRNSC 475 **Forensic Science Seminar** (1) Presentation and discussion of special issues in forensic science; extension and application of background knowledge to unusual topics and cases.
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent:FRNSC 401W

FRNSC 494 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

FRNSC 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Effective: Spring 2008

FRNSC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2006

Last Import from UCM: May 29, 2010 3:00 AM

Forest Technology (FORT)

FORT 100 **Introduction to Forestry** (1) A general introduction to forest ecology, history, management, and practices.
Effective: Summer 2002

FORT 100S **Introduction to Forestry** (1) A general introduction to forest ecology, history, management, and practices.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

FORT 105 **Forest Mensuration** (3) Measurement of forests and forest products.
Effective: Fall 2002

FORT 110 **Forest Inventories** (3) Application of forest mensuration, mapping, GIS, sampling, and statistical analysis to the inventory of forest resources.
Effective: Spring 2003
Prerequisite: FORT 105

FORT 120 **Forestry Computer Applications** (2) Computer hardware and software applications specific to forestry.
Effective: Fall 2002
Prerequisite: three credits of mathematics

FORT 130 **Forest Mapping Systems** (2) Mapping forest properties, using traditional mechanical drawing techniques, geographical positioning systems, geographic information systems, and spatial analysis of resources.
Effective: Summer 2002

FORT 140 **Forest Surveying** (3) Plane surveying including hand compass and survey equipment, map reading, deed and title research, land descriptions and property line location.
Effective: Spring 2003
Prerequisite: or concurrent:FORT 130, MATH 081

FORT 150 **Dendrology** (3) Taxonomy, identification, ranges, and uses of important U.S. timber species and lesser vegetation of a regional nature.
Effective: Fall 2002

FORT 160 **Silvicultural Practices** (3) Principles and techniques of forest establishment, culture, and regeneration systems.
Effective: Spring 2003
Prerequisite: FORT 150

FORT 170 **Forest Harvesting and Operations** (3) Forest harvesting and intermediate operations: forest worker safety, hand and power tools, harvest planning, and best management practices.
Effective: Summer 2002
Prerequisite: FORT 110, FORT 160 American Red Cross Standard First Aid and CPR

FORT 175 **Forest Products Industry Tour** (1) Field tour of local and regional forest products industries.
Effective: Summer 2002
Prerequisite: FORT 110, FORT 160

FORT 200 **Wood Identification and Properties** (1) Anatomy of wood and bark; cell wall formation and composition; and identifica- tion of wood by gross and microscopic qualities.
Effective: Summer 2002

FORT 210 **Arboriculture** (3) Selection, planting, care, and maintenance of woody ornamental plants and shade trees grown in urban, sub-urban, and rural landscapes.
Effective: Fall 2002
Prerequisite: second-year standing

FORT 220 **Forest Ecosystem Protection** (4) Principles and concepts involved in managing the forest ecosystem in regard to fires, insects, and diseases.
Effective: Fall 2002

FORT 230 **Aerial Photo Interpretation** (2) Aerial photo interpretation techniques applied to land management inventories, mapping, road location, and procurement.
Effective: Fall 2002
Prerequisite: FORT 130

FORT 240 **Forest Soils and Hydrology** (3) The study of forest soils and hydrology, especially as they are affected by forest management activities.
Effective: Spring 2003
Prerequisite: second-year standing

FORT 250 **Forest Management Practices** (3) Practical techniques for implementing management plans for forest stands under various ownerships and management regimes.

Effective: Summer 2002
Prerequisite: FORT 110, FORT 160

FORT 260 **GIS for Natural Resources Management** (3) Geographic Information Systems technology including mapping and GIS data management procedures w/ emphasis on natural resource management applications.
Effective: Summer 2007
Prerequisite: FORT 120, FORT 130

Last Import from UCM: May 29, 2010 3:00 AM

Forestry (FOR)

FOR 200W (W P 200W) **Professional Careers in Forest Resources** (3) Introduction to managing forests for products and services to meet human needs; developing career goals and an academic plan.
Effective: Spring 1996
Concurrent: FOR 203

FOR 203 **Field Dendrology** (3) Field identification of native and introduced trees and shrubs by leaf, fruit, twig, and bark.
Effective: Spring 2009
Concurrent: FOR 200W or W P 200W and W P 203

FOR 203L **Field Dendrology** (2) Field and laboratory identification of native and introduced trees and shrubs by leaf, fruit, bud, twig, bark.
Effective: Spring 2001

FOR 203P **Field Dendrology** (0) Field and laboratory identification of native and introduced trees and shrubs by leaf, fruit, bud, twig, bark.
Effective: Spring 2001

FOR 204 **Dendrology** (2) Taxonomic and silvical characteristics, ranges, genetic relationships, and uses of important forest tree species.
Effective: Winter 1978
Prerequisite: FOR 203

FOR 242 **Elements of Project Supervision in Forestry** (3) Supervisory techniques developed through an understanding of the behavioral sciences applied to field forestry personnel management.
This course is offered only at the DuBois and Mont Alto Campus as part of the two-year Forest Technology and Wildlife Technology majors. Effective: Fall 1983

FOR 295 **Forest Technology Internship** (1-4) Supervised field experience related to the student's major.
This course is offered only at the Mont Alto Campus as part of the two-year Forest Technology major. Effective: Fall 1983
Prerequisite: approval of proposed assignment by instructor prior to registration

FOR 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

FOR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

FOR 297A **Applied GPS/GIS Usage for Natural Resource Managers** (2) Introduction to the use of GPS and GIS to collect, create, manipulate, analyze, and map natural resources management data.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

FOR 301 (HORT 301) **Principles of Arboriculture** (3) Overview of the concepts and methods prescribed for the evaluation and care of large trees in urban settings.
Effective: Spring 2004
Prerequisite: BIOL 110 andSOILS 101

FOR 308 **Forest Ecology** (3) Effects of environment, spacing, and age on trees; forest influences; origin and development of forest communities.
Effective: Summer 2000
Prerequisite: or concurrent:FOR 203

FOR 320 **Forest Fire Management** (2) Principles and concepts involved in managing the forest ecosystem in regard to fire.
Effective: Summer 2000
Prerequisite: FOR 308

FOR 339 **Timber Sale Administration** (2) Practical aspects of the logistical, environmental, managerial, and regulatory oversight of active and retired timber sales.
Effective: Spring 2010
Prerequisite: FOR 203 andFOR 366

FOR 350 **Forest Resources Biometrics** (3) Quantitative approaches for characterization and comparison of natural resources in forested landscapes.
Effective: Spring 1997
Prerequisite: one course each in calculus statistics and computers

FOR 366 **Forest Resources Measurements** (4) Measurement systems used in forest management, wildlife management, water- shed management, urban forestry, and recreation management.

Effective: Summer 2000
Prerequisite: STAT 240

FOR 401 **Urban Forest Management** (3) Uses and values of urban vegetation, open space, and wildlife; planning, financing, support, management, and administration of urban forestry programs.
Effective: Summer 1992
Prerequisite: three credits in business management or economics and six credits in biology forestry or plant materials

FOR 409 **Tree Physiology** (2) Fundamentals of the relationship of the basic physiological functions of forest trees to form.
Effective: Spring 1995
Prerequisite: BIOL 240W

FOR 410 **Elements of Forest Ecosystem Management** (3) Fundamentals of forest ecosystem management for goods and services.
Effective: Summer 1995
Prerequisite: 3 credits in both ecology and biology

FOR 416 **Forest Recreation** (3) The management and administration of multiple-use forest lands and wilderness for forest recreational experiences, with emphasis on public forests.
Effective: Spring 2001
Prerequisite: 3 credits in social or behavioral sciences

FOR 418 (US;IL) **Agroforestry: Science, Design, and Practice** (3) Agroforestry integrates trees in agricultural landscapes, and/or agriculture products into forested areas for multiple benefits.
Effective: Spring 2006

FOR 421 **Silviculture** (3) The application of the principles of forest ecology to control of establishment, composition, and growth of forest stands.
Effective: Fall 1984
Prerequisite: FOR 308, FOR 366

FOR 430 (W F S 430) **Conservation Biology** (3) The application of biological principles to issues in the conservation of biodiversity.
Effective: Spring 1995
Prerequisite: BIOL 220W orFOR 308

FOR 440 **Forest Economics and Finance** (3) The application of economic theory to forest resources systems, with emphasis on production and investment analyses.
Effective: Summer 2000
Prerequisite: ECON 002 orECON 004

FOR 451 (AG 451) **Artificial Intelligence and Expert Systems for Agriculture and Natural Resource Management** (3) Application of artificial intelligence in agriculture and natural resources, with emphasis on expert systems.
Effective: Spring 1992
Prerequisite: one course in computer science or computer applications

FOR 455 **Remote Sensing and Spatial Data Handling** (3) Remote sensing systems, with emphasis on application to forest ecosystem analysis. Includes introduction to computer systems for spatial data handling.
Effective: Summer 2000
Prerequisite: MATH 110 3 credits in computer science 6 credits in ecological and/or geological sciences

FOR 466W **Forest Resource Management** (3) Optimum use of forest's tangible and intangible resources by application of financial and administrative management principles and management science techniques.
Effective: Spring 2001
Prerequisite: FOR 421 . Prerequisite or concurrent:FOR 440

FOR 470 **Watershed Management** (3) Management of wild land watersheds for control of the amount and timing of water yield, water quality, erosion, and sedimentation.
Effective: Summer 2000
Prerequisite: 3 credits in Soils

FOR 471 **Watershed Management Laboratory** (1) Introduction to hydrologic and climatic measurements and computations useful in watershed management.
Effective: Spring 1992
Prerequisite: or concurrent:FOR 470

FOR 475 **Principles of Forest Soils Management** (3) Effect of current forest management practices on the properties and productive capacity of forest soils.
Effective: Spring 1985
Prerequisite: FOR 308 3 credits in soils

FOR 480 **Policy and Administration** (3) Forest resources policy objectives; criteria and goals of society; policy implementation by ownership classes; planning, administration, and evaluation of programs.
Effective: Spring 2001
Prerequisite: FOR 200W 3 credits of social or behavioral science

FOR 485 **Natural Resource Decisions** (3) Application of previous courses and experience to decision making on forest land management and natural resource policy issues. (Students should have completed or be taking concurrently W F S 447, 463; FOR 410, 421, or 466.)

Effective: Spring 2000
Prerequisite: sixth-semester or higher standing 12 credits in Forestry or Wildlife and Fisheries Sciences

FOR 488Y (IL) **International Forestry** (3) Forestry in global context, emphasizing developing countries: ecological, economic, technological, and political aspects.
Effective: Spring 2006
Prerequisite: E R M 413W, FOR 421 orINTAG 100

FOR 494 **Forestry Research** (3) Introduction to the theory, principles, and practices of forestry research; supervised research experience.
Effective: Summer 1995
Prerequisite: FOR 350, STAT 250

FOR 494H **Forestry Research** (3) Introduction to the theory, principles, and practices of forestry research; supervised research experience.
Effective: Fall 2007
Prerequisite: FOR 350, STAT 250

FOR 495 **Forestry Internship** (1-6) Supervised field experience related to the student's major.
Effective: Fall 1981
Prerequisite: approval of proposed assignment by instructor prior to registration.

FOR 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

FOR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

FOR 497A **History of Logging Era in North Central Pennsylvania, Part I** (3) This course will focus on the rich history of the logging era in northcentral Pennsylvania from the 1850s to 1940.
Effective: Summer 2010 Ending: Summer 2010

FOR 497B **Herbaceous Forest Plants of Pennsylvania: Identification and Ecology** (3) Course will cover common herbaceous plant families and representative taxa occurring in the Pennsylvania region.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

FOR 497C **Environmental Science/Forestry** (3) This course will focus on skills used in the practice of forestry and will include hands-on activities in the field.
Effective: Summer 2010 Ending: Summer 2010

FOR 497D **History of Loggin Era in North Central Pennsylvania, Part II** (3) This follow up to the History of the Logging Era Part I covers the same time period, but the emphasis shifts to specific topics.
Effective: Summer 2010 Ending: Summer 2010

FOR 497F **Forestry Management II** (3) This course deals wtih basic chain saw safety and harvesting techniques.
Effective: Summer 2010 Ending: Summer 2010

FOR 497F **Invasive Forest Plants** (3) A survey of common nonnative (exotic) herbs, forbs, shrubs, trees and vines that invade forested habitats, including riparian forests, in Pennsylvania and the region. Field identification, life history traits, ecosystem related challenges and problems, and control/management options are reviewed.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

FOR 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Fractnl Trans Cr (GMISC)

GMISC 001 **FRACTIONAL TRANSFER CREDITS** (1-99) FRACTIONAL TRANSFER CREDITS FOR ADMISSION'S USE ONLY.
Effective: Fall 1983

Last Import from UCM: May 29, 2010 3:00 AM

French (FR)

FR 001 **Elementary French I** (4) Grammar, with reading and writing of simple French; oral and aural work stressed. Students who have received high school credit for two or more years of French may not schedule this course for credit, without the permission of the department.
Effective: Fall 1985

FR 002 **Elementary French II** (4) Grammar and reading continued; oral and aural phases progressively increased. Students who have received high school credit for four years of French may not schedule this course for credit, without the permission of the department.
Effective: Fall 1985
Prerequisite: FR 001

FR 003 **Intermediate French** (4) Grammar, reading, composition, oral and aural exercises.
Effective: Fall 1985
Prerequisite: FR 002

FR 051 **Elementary Intensive French I for Graduate Students** (3) Intensive introduction to French: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

FR 052 **Elementary Intensive French II for Graduate Students** (3) Intensive introduction to French: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: FR 051 or equivalent and graduate standing

FR 053 **Intermediate Intensive French for Graduate Students** (3) Continued intensive study of French at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: FR 052 or equivalent and graduate standing

FR 083S (GH;IL) **First-Year Seminar in French** (3) Critical approaches to the dimensions and directions in French/Francophone literatures and cultures.
Effective: Summer 2005

FR 111 **Elementary French** (6) Acquisition of basic skills in the active use of French: listening, speaking, reading, and writing.
Effective: Fall 1983

FR 112 **Intermediate French** (6) Reinforcement of basic skills previously acquired in the active use of French in FR 111.
Effective: Fall 1983

FR 121G **Fundamentals of Reading French** (3) Instruction in fundamental skills required for reading expository French prose, primarily for research purposes. (This course may not be used to satisfy any baccalaureate degree requirements. No graduate credit is given for this course.)
Effective: Spring 2001
Prerequisite: seventh-semester standing

FR 122G **Practice in Reading French** (3) Development and reinforcement of basic reading skills, with emphasis on the individual student's area of research. (This course may not be used to satisfy any baccalaureate degree requirements. No graduate credit is given for this course.)
Effective: Fall 1984
Prerequisite: FR 121G

FR 137 (GH;IL) **Paris: Anatomy of a City** (3) Survey of the cultural, artistic, literary, and social life of the city of Paris from Gallo-Roman times to the present.
Effective: Summer 2005

FR 138 (GH) **French Culture Through Film** (3) Introduction to French culture through film by French and francophone directors examining gender, ethnicity, and global issues. Taught in English.
Effective: Spring 2002

FR 139 (GH;IL) **France and the French-speaking World** (3) An introduction to the culture of France and its impact on the world.
Effective: Summer 2005

FR 140 (IL) **French Novel in English Translation** (1-6) Readings of selected French masterpieces in translation; discussion of recurring themes in several literary periods.
Effective: Spring 2006

FR 141 (IL) **Cultural Tradition in French Cuisine** (3) A study of French culture in English, emphasizing the French gastronomical traditions in literature and civilization.
Effective: Spring 2006

FR 142 (GH) **French and Francophone Literatures in Translation** (3) An introduction to the literature of France and French-speaking countries.
Effective: Spring 2004

FR 187 **French Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

FR 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

FR 199 (IL) **Foreign Study--French** (1-12) Intensive postintermediate grammar review, with emphasis on oral skills and vocabulary building.
Effective: Summer 2005
Prerequisite: FR 003

FR 201 (IL) **Oral Communication and Reading Comprehension** (3) Emphasis on oral skills and reading for total comprehension.
Effective: Spring 2007
Prerequisite: FR 003 orFR 112

FR 202 (IL) **Grammar and Composition** (3) Grammar review and writing of short essays.
Effective: Spring 2006
Prerequisite: FR 003

FR 270 (WMNST 270) **Race and Gender in Literature Translated from French** (3) A critical presentation, taught in English, of changing ideas and values on race and gender in French and Francophone literatures.
Effective: Spring 2005

FR 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

FR 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1982

FR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1982

FR 299 (IL) **Foreign Study--French** (3-12) Writing practice at postintermediate level. Cultural readings about French civilization.
Effective: Summer 2005
Prerequisite: FR 199

FR 316 **French Linguistics** (3) Survey of the theory and methods of linguistics as they apply to the major subfields.
Effective: Summer 2006
Prerequisite: FR 201, FR 202

FR 330 (IL) **French Culture and Civilization** (3) French history and culture from the Middle Ages through the Third Republic.
Effective: Spring 2006
Prerequisite: FR 201, FR 202

FR 331 (IL) **French Culture and Civilization I** (3) French history and culture from the Middle Ages until the French Revolution.
Effective: Summer 2006
Prerequisite: FR 201, FR 202

FR 332 (IL) **French Culture and Civilization II** (3) French history and culture from the French Revolution through the Third Republic.
Effective: Summer 2006
Prerequisite: FR 201, FR 202

FR 351 (IL) **Introduction to French Literature I** (3) Introduction to close textual reading and analysis of selected works of

French literature from the middle ages to 1789.
Effective: Spring 2006
Prerequisite: FR 201, FR 202, FR 330

FR 352 (IL) **Introduction to French Literature II** (3) Introduction to close textual reading and analysis of selected works of French Literature from 1789 to the present.
Effective: Spring 2006
Prerequisite: FR 201, FR 202, FR 330

FR 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996

FR 397 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2006

FR 399 (IL) **Foreign Study--French** (3-12) Advanced training in the French language skills.
Effective: Summer 2005
Prerequisite: FR 201, FR 202

FR 401 (IL) **Advanced Oral Communication** (3) Emphasis on speaking and listening comprehension through discussion of current issues, using journalistic materials.
Effective: Spring 2006
Prerequisite: FR 201, FR 202

FR 402Y (IL) **Advanced Grammar and Writing** (3) Advanced study of the structure of the French language. Intensive essay writing.
Effective: Spring 2006
Prerequisite: FR 201, FR 202

FR 407 (IL) **Business Writing in French** (3) Common forms of business communication; writing of reports and abstracts.
Effective: Spring 2007
Prerequisite: FR 331 orFR 332

FR 408 (IL) **French-American Business Translation** (3) Translation from French to English of actual documents from the business world; theoretical consideration and systematic vocabulary building.
Effective: Spring 2007
Prerequisite: FR 407

FR 409 (IL) **Commercial and Technical Translation** (3) Translation from English to French of commercial and technical materials; vocabulary building; writing of abstracts and summaries.
Effective: Spring 2006
Prerequisite: FR 402Y

FR 410 (IL) **French Press** (3) Extensive readings of selected french daily and weekly newspapers and magazines, along with newscast viewings.
Effective: Spring 2007
Prerequisite: FR 331 orFR 332

FR 416 (IL) **Introduction to French Linguistics** (3) Introduction to the theory and methods of linguistics as they apply to the major subfields.
Effective: Spring 2006

FR 417 (IL) **French Phonology** (3) A formal study of the sound pattern of French.
Effective: Spring 2007
Prerequisite: FR 201, FR 202

FR 418 (IL) **French Syntax** (3) A formal theory of word order and related issues in French grammar.
Effective: Spring 2006
Prerequisite: FR 201 andFR 202

FR 422 (IL) **Old French Literature** (3) Medieval masterpieces in original and modern French versions.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 426Y (IL) **French Literature of the Renaissance** (3) Survey of key texts from sixteenth century France, with attention to historical and philosophical currents of French social thought.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 430 (IL) **Contemporary France** (3) Study of contemporary French society, politics, and culture from 1870 to the present.
Effective: Spring 2006
Prerequisite: FR 330

FR 434Y (IL) **Culture and Cuisine** (3) Interdisciplinary perspectives on the historical, political, and cultural dimensions of French food.

Effective: Spring 2006
Prerequisite: FR 330, FR 452, FR 460

FR 436Y (IL) **Readings in Seventeenth-Century French Literature** (3) Baroque and classicism: reappraisal of major and lesser-known 17th-century texts and theories.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 440 (IL) **Teaching of Romance Languages** (3) Theories of second language acquisition. Current classroom practices in the teaching of Romance languages.
Effective: Spring 2006
Prerequisite: 15 credits beyond the elementary level

FR 445Y (IL) **Self and Society in Eighteenth-Century France** (3) The changing relationship of the individual to society in pre-Revolutionary France will be explored in texts by major writers.
Effective: Spring 2006
Prerequisite: FR 351 . Prerequisite or concurrent:FR 352

FR 452Y (IL) **Nineteenth-Century French Literature** (3) Selected readings in romanticism, realism, and symbolism, including Balzac, Stendhal, Sand, Baudelaire, and others, with emphasis on cultural issues.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 453Y (IL) **La Belle Epoque: Politics, Society, and Culture in France, 1880-1914** (3) Interdisciplinary perspectives on the politics, society, and culture of France, 1880-1914.
Effective: Fall 2006
Prerequisite: FR 330 orFR 351 orFR 352

FR 458 (IL) **African Literature of French Expression** (3) Genesis of Franco-African literature in the 1930s; phases of the negritude movement; colonial and national literature.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 460 (IL) **Contemporary French Literature** (3) Major authors and movements in French novel, drama, and poetry from Proust to the present.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 470 (IL) **Race and Gender Issues in Literatures in French** (3) A critical presentation, taught in French, of changing ideas and values on race and gender in French and Francophone literatures.
Effective: Summer 2005
Prerequisite: FR 351 orFR 352

FR 471 (IL) **Francophone Women in Literature and Culture** (3) Women's issues in literatures and cultures of French-speaking countries in Europe, the mediterranean, Africa, the Caribbean, and Quebec.
Effective: Summer 2005
Prerequisite: FR 351 orFR 352

FR 487 (IL) **Topics in French Film History and Theory I: 1895-1945** (3) Provide background needed to understand the broad outlines of French film history and theory in their first fifty years (1895-1945).
Effective: Spring 2006
Prerequisite: FR 351 andFR 352 orCOMM 250

FR 488 (IL) **Topics in French Film History and Theory II: 1945-2002** (3) Provide background needed to understand the broad outlines of French film history and theory in their second half-century (1945-2002).
Effective: Spring 2006
Prerequisite: FR 351 andFR 352 orCOMM 250

FR 489 (IL) **French Literature and Film** (3) Comparison of artistic differences between selected pieces of French literature and their film adaptations.
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

FR 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

FR 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

FR 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

FR 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

FR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

FR 499 (IL) **Foreign Study--French** (3-12) Advanced studies in French language and literature.
Effective: Summer 2005
Prerequisite: FR 201, FR 202

Last Import from UCM: May 29, 2010 3:00 AM

Fuel Science (F SC)

F SC 401 **Introduction to Fuel Technology** (3) An introduction to the scientific and engineering principles of fuel technology. For non-fuel science majors; fuel science majors will not receive credit.
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 211

F SC 422 **Combustion Engineering** (3) Principles of industrial combustion engineering; structure and stability of industrial flames; heat transfer; examples drawn from industrial applications.
Effective: Spring 2008
Prerequisite: EGEE 401 orF SC 401

F SC 431 **The Chemistry of Fuels** (3) Nature and properties of fossil and other fuels, including aerospace, in relation to use; preparation of fuels; by-products; fuel analysis.
Effective: Spring 2008
Prerequisite: CHEM 210;EGEE 302 or equivalent

F SC 432 (CH E 432) **Petroleum Processing** (3) A study of physical and chemical processes to convert crude oil into desired products with an outlook from present to future.
Effective: Summer 2007
Prerequisite: CHEM 210

F SC 435 (CH E 435) **Industrial Organic Chemistry** (3) Chemistry and processes for producing organic chemicals and materials in existing and emerging new manufacturing sectors of organic chemical industry.
Effective: Summer 2007
Prerequisite: CHEM 210

F SC 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2000

F SC 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

F SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1999

F SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1999

Last Import from UCM: May 29, 2010 3:00 AM

Geo-Environmental Engineering (GEOEE)

GEOEE 402 **Introduction to Particle Systems** (1) Characteristics of particulate systems; particle modification processes; transport and flow in powders, dispersions and suspensions.
Effective: Spring 2001
Prerequisite: MATH 250 orMATH 251, PHYS 212

GEOEE 404W **Surface and Interfacial Phenomena in Geo-Environmental Systems** (3) Principles underlying surface and interfacial phenomena with application to mineral processing and geo-environmental systems.
Effective: Fall 2009
Prerequisite: or concurrent:EME 301 orMATSE 401;GEOEE 412

GEOEE 406 **Sampling and Monitoring of the Geo-Environment** (3) Issues of sampling, analysis, monitoring and control techniques for effective environmental management in the extractive industries.
Effective: Spring 1999
Prerequisite: MN PR 301, MNG 401, P N G 411

GEOEE 408 **Contaminant Hydrology** (3) Groundwater flow and transport; agents of contamination; aquifer characterization and remediation; case studies.
Effective: Spring 2002
Prerequisite: GEOSC 452

GEOEE 412 **Geo-Environmental Engineering Laboratory** (1) A laboratory study of the principles involved in the characterization and remediation of process wastes. Those students who are scheduled for MN PR 413 may not take this course.
Effective: Spring 1999
Prerequisite: or concurrent:MN PR 301

GEOEE 427 **Pollution Control in the Process Industries** (3) Development of multimedia pollution control strategies for the mineral, metallurgical processing, and fossil fuel industries.
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 112, MATH 250 orMATH 251, MN PR 301

GEOEE 480 **GeoEnvironmental Engineering Process Design** (3) An integrated problem-based learning experience that utilizes fundamental concepts covered in the curriculum to design a geo-environmental system.
Effective: Fall 2004
Prerequisite: GEOEE 427 minimum of seventh-semester standing in Environmental Systems Engineering

GEOEE 494 **Senior Thesis** (1-6) Independent research and/or design projects under the supervision of the interdisciplinary Environmental Systems Engineering program.
Effective: Fall 2004
Prerequisite: seventh-semester standing in Environmental Systems Engineering

GEOEE 494H **Senior Thesis** (1-6) Independent research and/or design projects under the supervision of the interdisciplinary Environmental Systems Engineering program.
Effective: Fall 2007
Prerequisite: seventh-semester standing in Environmental Systems Engineering

Last Import from UCM: May 29, 2010 3:00 AM

Geography (GEOG)

GEOG 010 (GN) **Physical Geography: An Introduction** (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2006

GEOG 010H (GN) **Physical Geography: An Introduction** (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

GEOG 010S (GN) **Physical Geography: An Introduction** (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.
Effective: Spring 2006

GEOG 020 (GS;US;IL) **Human Geography: An Introduction** (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.
Effective: Summer 2005

GEOG 020U (GS;US;IL) **Human Geography: An Introduction** (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOG 030 (GS) **Geographic Perspectives on Sustainability and Human-Environment Systems** (3) Introduction to theory, methods, history and contemporary issues in global and regional relationships between human activity and the physical environment.
Effective: Spring 2007

GEOG 040 (GS;IL) **World Regional Geography** (3) Introduction to the world as an interdependent community built from unique and independent regions and nations.
Effective: Summer 2005

GEOG 110 (GN) **Climates of the World** (3) Introduction to climatology, including principal processes of the global climatic system and their variation over space and time.
Effective: Fall 2004

GEOG 111 (GN) **Biogeography and Global Ecology** (3) Distribution of plants and animals on global, regional, and local scales; their causes and significance.
Effective: Fall 2007

GEOG 115 (GN) **Landforms of the World** (3) Distribution of the world's landform features and mineral resources; their characteristics, causes, and significance. Practicum includes correlated field trips and laboratory studies.
Effective: Fall 2004

GEOG 120 (GS;US;IL) **Urban Geography: A Global Perspective** (3) Introduction to the geography of the world's cities and urban system.
Effective: Spring 2006

GEOG 122 (GH;US) **The American Scene** (3) Historical perspectives on the social and cultural forces associated with the production of distinctive American landscapes.
Effective: Spring 2007

GEOG 123 (GS;IL) **Geography of Developing World** (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.
Effective: Spring 2007

GEOG 123U (GS;IL) **Geography of Developing World** (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOG 124 (GS;IL) **Elements of Cultural Geography** (3) Locational analysis of changes in non-Western cultures. Problems of plural societies, economic development, population growth, and settlement.
Effective: Summer 2005

GEOG 126 (GS;US;IL) **Economic Geography** (3) The location of economic activity at both macro- and micro-regional levels on the earth's surface.
Effective: Spring 2007

GEOG 128 (GS;IL) **Geography of International Affairs** (3) Contemporary international affairs in their geographical setting; geographic elements in the development of national power, political groupings, and international disputes.
Effective: Summer 2005

GEOG 130 (GS) **Environment, Power, and Justice** (3) This course explores contemporary themes in human-environment relations through the lens of political ecology.
Effective: Spring 2008

GEOG 160 (GS) **Mapping Our Changing World** (3) Fundamental concepts of GIS, cartography, remote sensing, and GPS in the context of environmental and social problems.
Effective: Spring 2007

GEOG 161 **Applied Geographic Information Systems** (1) An introduction to GIS (Geographic Information Systems) with emphasis on applications and analysis.
Effective: Spring 2008
Prerequisite: or concurrentGEOG 160

GEOG 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 293H **Honors Experiences in International Service Learning** (1-3) Classroom instruction with supervised student activity on an honors international community service project.
Effective: Summer 2006
Prerequisite: sophomore standing

GEOG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1988

GEOG 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2001

GEOG 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 301 **Thinking Geographically** (3) Learning to think geographically.
Effective: Summer 2006
Prerequisite: GEOG 010, GEOG 020, GEOG 030 Prerequisite or concurrent:GEOG 121

GEOG 310W **Introduction to Global Climatic Systems** (3) Introduction to global atmospheric circulation, including tropical, midlatitude and polar subsystems; ocean, land, cryospheric and urban climatic systems and interactions.
Effective: Spring 2007
Prerequisite: GEOG 010 orMETEO 003

GEOG 311 **Landscape Ecology** (3) This course examines the ways in which spatial patterns and spatial processes operate in an ecological context.
Effective: Fall 2007
Prerequisite: GEOG 111, BIOL 110, FOR 308 orW F S 209 or by permission

GEOG 313 **Introduction to Field Geography** (3) Introduction to the methods and techniques for collecting spatial and environmental data for physical geography and ecological studies.
Effective: Spring 2007
Prerequisite: GEOG 160

GEOG 323 **GIS and Social Theory** (3) Critical understanding of how to use GIS and tools of regional analysis in the context of postmodern social theory.
Effective: Spring 2007
Prerequisite: GEOG 160

GEOG 333 **Human Dimensions of Natural Hazards** (3) An introduction to social science principles and methodologies to address critical questions relating to managing the risks of natural hazards.
Effective: Summer 2006
Prerequisite: junior or senior standing

GEOG 361 **Cartography--Maps and Map Construction** (3) The art and science of creating small-scale maps as a medium for communication and research.
Effective: Spring 2007

Prerequisite: GEOG 160

GEOG 362 **Image Analysis** (3) Introduction to the basic principles of remote sensing, and the analysis of aerial and satellite data.
Effective: Spring 2007
Prerequisite: GEOG 160

GEOG 363 **Geographic Information Systems** (3) Principles and use of geographic information; emphasis is on data acquisition and techniques for computer-aided analysis.
Effective: Spring 2007
Prerequisite: GEOG 160

GEOG 364 **Spatial Analysis** (3) Geographic measurement, scaling, and classification; analysis of spatial pattern and structure; geographic covariation and autocorrelation.
Effective: Fall 2008
Prerequisite: STAT 200 and 6 credits in social science

GEOG 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 407 (HIST 453) **American Environmental History** (3) The history of the ways Americans have used and thought about the environment since 1500.
Effective: Spring 1998
Prerequisite: GEOG 030, LARCH 003 ; andHIST 020 orHIST 021 ; or 6 credits in the humanities or social sciences

GEOG 411 **Forest Geography** (3) This course studies processes that control spatial and temporal change in forests.
Effective: Fall 2007
Prerequisite: GEOG 010, GEOG 111 ; orBIOL 220W

GEOG 411W **Forest Geography** (3) This course studies processes that control spatial and temporal change in forests.
Effective: Fall 2007
Prerequisite: GEOG 010, GEOG 111 ; orBIOL 220W

GEOG 412W **Climatic Change and Variability** (3) Theories and observations of past, present, and future climatic change and variability; introduction to techniques used in climatic change research.
Effective: Spring 2007
Prerequisite: GEOG 110 orMETEO 003

GEOG 417 **Satellite Climatology** (3) A discussion of the application of satellite data to current and planned large-scale climate experiments.
Effective: Spring 2007
Prerequisite: GEOG 362

GEOG 420Y (US;IL) **Metropolitan Analysis** (3) Theory and practice of regional and metropolitan analysis.
Effective: Spring 2007
Prerequisite: GEOG 120, GEOG 160

GEOG 423Y (US) **Historical Geography of North America** (3) Exploration, settlement, and changing patterns of human occupance from the seventeenth century to the 1930's.
Effective: Spring 2007
Prerequisite: GEOG 122 3 additional credits in geography or 6 credits

GEOG 424 (US;IL) **Geography of the Global Economy** (3) Focus on industrial location theory, factors in industrial location, studies of selected industries and problems of industrial development.
Effective: Spring 2007
Prerequisite: ECON 002, ECON 004, GEOG 126

GEOG 425 **Geography of Race, Class, and Poverty in America** (3) This class will study the geography of race, class, and poverty in America today.
Effective: Spring 2007
Prerequisite: GEOG 126 andECON 002 andECON 004

GEOG 426Y (US;IL) (WMNST 426Y) **Gender and Geography** (3) Description and explanation of the links between gender relations and spatial structures.
Effective: Spring 2007
Prerequisite: GEOG 020, GEOG 126, GEOG 120, WMNST 001 orWMNST 187

GEOG 427 (US;IL) **Urban Historical Geography** (3) Study of the development and transformation of the historical urban built environment.
Effective: Spring 2007
Prerequisite: 6 credits in geography humanities or social sciences

GEOG 428 (US) **Political Geography** (3) Geographical foundations of political phemomena; significant geographic factors in growth and development of states, boundary problems, population distribution, colonies, and internal and international regional problems.
Effective: Spring 2007
Prerequisite: 6 credits in history or 6 credits in political science

GEOG 429 (US) **Global Urbanization** (3) This course reflects critically on a number of issues related to global urbanization, including the culture and political economy of urban space.

Effective: Spring 2007
Prerequisite: GEOG 020, GEOG 126 orGEOG 120

GEOG 430 **Human Use of Environment** (3) The human use of resources and ecosystems and social causes and consequences of environmental degradation in different parts of the world; development of environmental policy and management strategies.
Effective: Fall 2008
Prerequisite: GEOG 010 orGEOG 020 orGEOG 030 orGEOG 040 orGEOG 130 or permission of the program

GEOG 431 **Geography of Water Resources** (3) Perspectives on water as a resource and hazard for human society; water resource issues in environmental and regional planning.
Effective: Spring 2007
Prerequisite: 6 credits in geography or natural sciences

GEOG 432 (EME 432) **Energy Policy** (3) Analysis, formulation, implementation, and impacts of energy-related policies, regulations, and initiatives.
Effective: Summer 2010
Prerequisite: E B F 200, EGEE 120, PL SC 490

GEOG 434 **Politics of the Environment** (3) This course explores politics related to the use, transformation, valuation, and representation of the environment.
Effective: Spring 2007
Prerequisite: 6 credits in social sciences or humanities

GEOG 435H (IL) **Global Change and Sustainability - Bulgaria** (3) Sustainability in the context of climate change, global socioeconomic change and regional transformation in Bulgaria; embedded foreign fieldwork (honors).
Effective: Summer 2008
Prerequisite: sophomore standing or above; departmental permission required

GEOG 436 **Ecology, Economy, and Society** (3) Analyses of major themes in ecology and economic development, poverty-alleviation, and sustainability.
Effective: Summer 2006
Prerequisite: upper-division standing

GEOG 438W **Human Dimensions of Global Warming** (3) Human dimensions of global environmental change: human causes; human adaptations; and policy implications of global warming.
Effective: Fall 2008
Prerequisite: EARTH 002, GEOG 010 orMETEO 003;GEOG 030

GEOG 439 **Property and the Global Environment** (3) This course reviews theoretical and empirical relationships between multiple legal, economic, and cultural approaches to property, and environmental quality and conflicts.
Effective: Summer 2006
Prerequisite: 6 credits in geography humanities or social sciences

GEOG 440 **Topics in Regional Geography** (3) Analysis of historical, contemporary and future environmental and societal issues in a specified world region from a geographical perspective.
Effective: Summer 2006
Prerequisite: 3 credits in physical geography 3 credits in human geography

GEOG 444 **African Resources and Development** (3) Ecological and cultural factors in the geography of Africa; natural resources and development.
Effective: Spring 2001
Prerequisite: GEOG 010, GEOG 020, GEOG 030 orGEOG 124

GEOG 459 **Digital Terrain Models** (3) Techniques for digital investigation of geomorphic landforms, including input and reformatting of source data.
Effective: Spring 2007
Prerequisite: GEOG 463

GEOG 461W **Dynamic Cartographic Representation** (3) Theory and practice of mapping and geo-representation in a hypermedia context. Applications in science, policy, travel, and education.
Effective: Fall 2007
Prerequisite: GEOG 361, GEOG 330, GEOG 362, GEOG 363

GEOG 463 **Geospatial Information Management** (3) This course examines geospatial data representations and algorithmic techniques that apply to spatially-organized data in digital form.
Effective: Spring 2007
Prerequisite: any earth science computer application course; familiarization with databases and information systems

GEOG 464 **Analysis and GIS** (3) Normative and probabilistic models of spatial behavior; adaptive systems in geographic space; interaction and system stability.
Effective: Spring 2007
Prerequisite: GEOG 364

GEOG 467 **Applied Cartographic Design** (3) Applied computer-assisted map production methods with emphasis on geographic information design and color use for multiple presentation media.
Effective: Spring 2007
Prerequisite: GEOG 361

GEOG 468 **Geographic Information Systems Design and Evaluation** (3) Design and evaluation of Geographic Information Systems and other forms of integrated spatial data systems.

Effective: Spring 2007
Prerequisite: GEOG 363

GEOG 469 **Energy Industry Applications of GIS** (3) Roles of geographic information systems in energy siting decisions focusing on electric energy transmission networks.
Effective: Summer 2010
Prerequisite: GEOG 030, EGEE 102, EME 444

GEOG 475H (LER 475H) **Labor in the Global Economy: U.S. and South African Perspectives** (3) This course focuses on how the nature of work is changing in the global economy, and the implications for economic opportunity and inequality in both.
Effective: Spring 2008
Prerequisite: a minimum of 12 GEOG or LER credits before taking the course (or permission of the program).

GEOG 482 **The Nature of Geographic Information** (2) Orientation to the properties of geographic data and the practice of distance learning.
Effective: Summer 2004
Prerequisite: admission to the Master of GIS program or Certificate Program in GIS

GEOG 483 **Problem-Solving with GIS** (3) How geographic information systems facilitate data analysis and communication to address common geographic problems.
Effective: Summer 2004
Prerequisite: GEOG 482

GEOG 484 **GIS Database Development** (3) Database design, creation, maintenance, and data integration using desktop GIS software.
Effective: Summer 2004
Prerequisite: GEOG 483

GEOG 485 **GIS Programming and Customization** (3) Customizing GIS software to extend its built-in functionality and to automate repetitive tasks.
Effective: Fall 2007
Prerequisite: GEOG 357 orGEOG 484;CMPSC 101 or equivalent computer

GEOG 486 **Cartography and Visualization** (3) Theory and practice of cartographic design emphasizing effective visual thinking and visual communication with geographic information systems.
Effective: Summer 2004
Prerequisite: GEOG 484

GEOG 487 **Environmental Applications of GIS** (3) Real-world applications of GIS and spatial analysis to investigate a variety of current environmental issues.
Effective: Spring 2010
Prerequisite: GEOG 484

GEOG 488 **Acquiring and Integrating Geospatial Data** (3) Advanced technical, legal, ethical and institutaional problems related to data acquisition for geospatial information systems.
Effective: Summer 2004
Prerequisite: GEOG 484

GEOG 489 **GIS Application Development** (3) Advanced topics in GIS customization, including the Systems Development Life Cycle, packaging and deployment, and consuming Web services.
Effective: Summer 2004
Prerequisite: GEOG 485

GEOG 493 **Service Learning** (3-12) Classroom instruction with supervised student activity on a group community service project.
Effective: Summer 2006
Prerequisite: sophomore standing; 6 credits of social or environmental science

GEOG 494 **Research Project in Geography** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2006
Prerequisite: prior approval of program

GEOG 494H **Research Project in Geography** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007
Prerequisite: prior approval of program

GEOG 495 **Internship** (1-13) Supervised off-campus, non-group instruction including individual field experience, practicums, or internships. Written and oral critique of activity required.
Effective: Fall 1981
Prerequisite: prior approval of proposed assignment by instructor

GEOG 495B **Geography Teaching Internship** (1-10) Supervised undergraduate teaching experience in which students serve as peer tutors, laboratory assistants, or course material developers.
Effective: Summer 2004

GEOG 495C **Internship Supervision and Mentoring** (1) Candidates for the Master of GIS degree sponsor a GIS-related internship for students in Penn State's resident undergraduate program.

Effective: Summer 2004

GEOG 495G **Giscience Internship** (1-10) Supervised research experience within the Department of Geography's GeoVISTA Center, Gould Center, or an appropriate external agency.
Effective: Spring 2007
Prerequisite: GEOG 160

GEOG 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

GEOG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

GEOG 497A **Geography of the Cryosphere** (3) A survey of the world's snow and ice, including sea ice, glaciers, permafrost, and seasonal snow cover.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOG 497B **Geographies of Justice: Environment, Society and Development** (3) This course will examine the origins of social and environmental justice in the United States and their application globally.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOG 497C (IL) **Biological Diversity in Agriculture and Global Change** (3) Analysis of how biological diversity in agriculture is impacted by complex interactions with global land-use, climate, and social-environmental changes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 5th-semester standing or higher

GEOG 497D **Lidar Technology and Applications** (3) Understanding lidar systems' design, operation, data processing techniques, and product generation to address typical application scenarios faced by the geospatial professional.
Effective: Summer 2010 Ending: Summer 2010

GEOG 497E **Climate Change Adaptation and Resilience** (3) This course explores adaptation and resilience under climate change with emphasis on directions of social change, system transormation, and sustainability.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOG 497K **Advanced Web Mapping** (3) Cultivate a working knowledge of how geospatial professionals can develop web mapping applications that bring together data from multiple sources.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: GEOG 363

GEOG 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1998

GEOG 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006
Prerequisite: prior approval of program

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Geosciences (GEOSC)

GEOSC 001 **Physical Geology** (3) Earth processes and their effects on the materials, structure, and morphology of the earth's crust. Practicum includes field work, study of rocks, minerals, dynamic models, and topographic maps. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Fall 1983

GEOSC 002 (GN) **Historical Geology** (3) History of the earth and its life; fundamentals of evolution, correlation, and paleogeography; practicum includes field trips, study of geologic maps, geologic problems, and fossils, with emphasis on Appalachian geology. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Summer 1995

GEOSC 004 **Mineralogy** (3) Structure, properties, and occurrence of silicate minerals; igneous, sedimentary, and metamorphic rocks in hand specimen; modern methods of mineral identification.
Effective: Summer 2007
Prerequisite: CHEM 110 orCHEM 106;GEOSC 001

GEOSC 010 (GN) **Geology of the National Parks** (3) Introduction to geology, geological change, and environmental hazards, as seen in the National Parks.
Effective: Fall 2003

GEOSC 020 (GN) **Planet Earth** (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Fall 2003

GEOSC 020L (GN) **Planet Earth** (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
Effective: Summer 1988

GEOSC 020P (GN) **Planet Earth** (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
Effective: Summer 1988

GEOSC 021 (GN) **Earth and Life: Origin and Evolution** (3) Introduction to the origin and evolution of life on Earth from the perspective of geologic time and the fossil record.
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Spring 2002

GEOSC 040 (GN) **The Sea Around Us** (3) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.
Effective: Fall 2003

GEOSC 040L (GN) **The Sea Around Us** (2) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.
Effective: Summer 2009

GEOSC 040P (GN) **The Sea Around Us** (1) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.
Effective: Spring 2009

GEOSC 071 **Physical Geology for Engineers** (3) Principles of physical geology, with emphasis on the engineering point of view; practicum includes field work, study of rocks, minerals, dynamic models, and topographic maps. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Summer 2007
Prerequisite: CHEM 110

GEOSC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Effective: Fall 1992

GEOSC 109H (GN) **Earthquakes and Society** (3) Introduction to earthquakes and seismology, and their relationship to society, including monitoring for nuclear weapons and seismic hazards.
Effective: Spring 2007

GEOSC 110H (GN) **The Science of Gemstones** (3) An exploration of the geological uses of gems and of the physical and chemical properties underlying their brilliance and color.
Effective: Summer 2002
Prerequisite: high school chemistry and trigonometry

GEOSC 111 (GN) **Forensic Geoscience** (3) Covers fundamental geoscience concepts such as stratigraphy, mineral and soil identification, seismology, and geochemistry within the context of forensic investigation.
Effective: Spring 2008

GEOSC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

GEOSC 200 **Geology of Caves and Karst** (3) Geology and hydrology of carbonate terrains; cave origin; sedimentation processes in caves; water supply and land use in karst areas. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Fall 1983

GEOSC 201 **Earth Materials** (4) Elements of crystallography and crystal chemistry; origin, occurrence, and identification of sedimentary, igneous, and metamorphic rocks and their minerals. This course has one or more required field trips for which a fee is charged to the student.
Effective: Summer 2007
Prerequisite: CHEM 110 third-semester standing. Prerequisite or concurrent:GEOSC 001 orGEOSC 020

GEOSC 202 **Chemical Processes in Geology** (4) An in-depth examination of the application of chemical principles to geological processes.
Effective: Summer 2007
Prerequisite: GEOSC 001, MATH 140 third-semester standing. Prerequisite or concurrent:CHEM 113

GEOSC 203 **Physical Processes in Geology** (4) An in-depth examination of various physical processes that operate within and at the surface of the earth.
Effective: Fall 2001 Ending: Fall 2010
Prerequisite: GEOSC 001 fifth-semester standing. Prerequisite or concurrent:PHYS 211

GEOSC 203 **Physical Processes in Geology** (4) An in-depth examination of various physical processes that operate within and at the surface of the earth.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: GEOSC 001 or permission of program. Prerequisiste or concurrent:PHYS 211, MATH 140

GEOSC 204 **Geobiology** (4) An introduction to how biological processes and materials are used to solve geological problems.
Effective: Spring 2001
Prerequisite: BIOL 110;GEOSC 001 orGEOSC 020

GEOSC 228 **Dinosaurs** (3) Dinosaurs and other large Mesozoic reptiles; their morphology, stratigraphic and paleoenvironmental distribution, preservation, collecting, classification, lifestyles, origins, evolution, and extinction.
Effective: Summer 1995

GEOSC 296 **Independent Studies** (1-18) Creative projcts, including research and design, which are suprvised on an individual basis and which fall ouside the scope of formal courses.
Effective: Fall 1983

GEOSC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

GEOSC 297A **Teaching Intern** (1-2) Teaching Intern.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOSC 297B **Wilderness First Aid Course** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOSC 297D **Introductory Field Geology in Italy** (3) Formal courses given infrequently to explore, in depth, a

comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

GEOSC 303 **Introduction to Environmental Geology** (3) Origin of earth and earth materials; natural resources, geologic barriers and hazards, and relationships to human use of the environment. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Fall 1983

GEOSC 310 **Earth History** (4) The principles of stratigraphy and paleontology and their use, in combination with plate tectonics, in reconstructing the earth's history. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: GEOSC 201

GEOSC 320 **Geology of Climate Change** (3) Geologic evidence for climate change and mechanisms of change, especially from the Ice Age through the near future.
Effective: Spring 2001

GEOSC 340 **Geomorphology** (3) Physical and chemical processes operating at the earth's surface and their resulting landforms. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: GEOSC 001 ; fifth-semester standing

GEOSC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

GEOSC 397A **Hydrogeophysics Field Experience** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

GEOSC 397A **The Hydrophysics Field Experience** (3) They Hydrophysics Field Experience with Dr. Kamini Singha.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOSC 397D **The Tectonic Evolution of Italy** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

GEOSC 402Y (IL) **Natural Disasters** (3) Case studies of the causes and consequences of natural disasters; analysis of disaster impact in different economic, cultural, and social conditions.
Effective: Summer 2005
Prerequisite: fourth-semester standing

GEOSC 405 (SOILS 405) **Hydropedology** (3) Soil and water interactions across scales, integrated studies of landscape-soil-water relationships, fundamental processes of water flow and chemical transport.
Effective: Spring 2008
Prerequisite: SOILS 101

GEOSC 409W **Geomicrobiology** (3) Investigation of modern and ancient microbial interactions with soils, sediments, the atmosphere, minerals, rocks, nutrients, and pollutants.
Effective: Summer 2008
Prerequisite: CHEM 112;GEOSC 001, GEOSC 020, GEOSC 040, EARTH 002, BIOL 110 orMICRB 201

GEOSC 410 **Marine Biogeochemistry** (3) Exploration of the ways in which life influences and is influenced by chemical, physical, and geological processes in the ocean.
Effective: Summer 2007
Prerequisite: CHEM 112;EARTH 002 orGEOSC 001, GEOSC 020, GEOSC 040 orMETEO 022

GEOSC 412 **Water Resources Geochemistry** (3) Aqueous geochemistry of silica, alumina, carbonate minerals, and selected metals; organic species in water; isotope geochemistry applied to water.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112

GEOSC 413W **Techniques in Environmental Geochemistry** (3) This course teaches techniques needed for the collection, chemical analysis, and data analysis of environmental geochemical measurements. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: one of the following:C E 475, CHEM 402, GEOSC 202, GEOSC 412, SOILS 419

GEOSC 415 **Geochemistry** (3) Element abundance and genesis, application of chemical principles to earth materials, element fractionation in geologic processes.
Effective: Summer 2007
Prerequisite: CHEM 112, GEOSC 004 orGEOSC 201

GEOSC 416 **Stable and Radioactive Isotopes in Geosciences: Introduction** (3) Discussions on theories for natural isotopic and element variations and their applications to the solution of geologic and cosmologic problems.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112, CHEM 111, CHEM 113;GEOSC 001 orGEOSC 020

GEOSC 418 (SOILS 419) **Soil Environmental Chemistry** (3) Introduction to chemical constituents and processes occurring in soils. Topics include mineral weathering, soil solution chemistry and adsorption of solutes.
Effective: Summer 2007
Prerequisite: CHEM 112, SOILS 101

GEOSC 419 **The Organic Geochemistry of Natural Waters and Sediments** (3) Composition, sources, and fates of particulate and dissolved organic matter in natural environments; biogeochemical processes; organic geochemistry of anthropogenic contaminants.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112

GEOSC 420 (BIOL 420) **Paleobotany** (3) Classification, morphology, phylogeny, and stratigraphic occurrence of fossil plants; practicum includes field trips and study of paleobotanical techniques and specimens.
Effective: Spring 2005
Prerequisite: any 3-credit introductory course in historical geology or plant biology

GEOSC 422 **Vertebrate Paleontology** (3) Course covers scientific thinking and skills in scientific writing, the history of vertebrates, and modern evolutionary theory applied to vertebrates.
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Spring 2009
Prerequisite: GEOSC 001 andBIOL 110

GEOSC 424 **Paleontology and Fossils** (3) Concepts and precedures using fossils to solve problems in systematics, evolution, biostratigraphy, correlation, sedimentation, paleoecology, and global change.
Effective: Spring 2001
Prerequisite: GEOSC 001 orGEOSC 020

GEOSC 428 **Micropaleontology** (4) Biology and ecology of microfaunas and microfloras (e.g., foraminifera, coccolithophores, radiolaria, diatoms, dinoflagellates) and applications in biostratigraphy and paleoenvironmental reconstruction.
Effective: Summer 2004
Prerequisite: GEOSC 204

GEOSC 434 **Volcanology** (3) Phenomena and products of volcanic eruptions; physical characteristics of lava and pyroclastic material.
Effective: Spring 1996
Prerequisite: GEOSC 004 orGEOSC 201

GEOSC 439 **Principles of Stratigraphy** (3) An introduction to the description and genesis of sedimentary rock bodies, the determination of their stratal geometries, and their correlation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)
This course contains from one to several field trips for which an additional charge will be made to cover transportation.
Effective: Spring 2001
Prerequisite: GEOSC 201

GEOSC 440 **Marine Geology** (3) Chemical and physical processes affecting the topography and sediments of the sea floor.
Effective: Spring 2001
Prerequisite: fourth-semester standing

GEOSC 444 **Matlab Applications for Geoscience** (2) An introduction to Matlab: m-file development, descriptive statistics, bootstrapping, Fourier transforms, regression, interpolation, least-squares, differentiation, integration, differential equations, signal analysis, graphics.
Effective: Spring 2009
Prerequisite: MATH 110 orMATH 140

GEOSC 445 **Coastal Geology** (4) A field course dealing with the processes operative in the environmental systems of a segment of the mid-Atlantic coast.
Effective: Spring 2001
Prerequisite: fifth-semester standing

GEOSC 450 **Risk Analysis in the Earth Sciences** (3) An introduction to concepts and methods of quantitative risk anlaysis with focus on water, climate, and energy related risks.
Effective: Spring 2010
Prerequisite: MATH 140 orMATH 110 Introductory Earth Science or Geoscience class Introductory Statistics class (e.g. STATS 200 or STATS 301 or ENNEC 473) or permission of program

GEOSC 451 **Natural Resources: Origins, Economics and Environmental Impact** (3) Geologic, economic and environmental issues related to exploitation of non-renewable natural resources (metals, minerals, rocks, and fossil fuels).
Effective: Fall 2006
Prerequisite: GEOSC 001 orGEOSC 020

GEOSC 452 **Hydrogeology** (3) Hydrologic cycle: occurrence, movement, quality, and quantity of groundwater; solute transport; quantitative hydrogeologic methods; role of water in geologic processes. This course has one or more required field trips for which a fee may be charged to the student.
Effective: Spring 2008

Prerequisite: CHEM 112;GEOSC 001, GEOSC 020 orGEOSC 071;MATH 140 orMATH 110

GEOSC 454 **Geology of Oil and Gas** (3) Properties, origin, migration, and occurrence of oil and gas. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: GEOSC 001

GEOSC 461 **Geology of North America** (3) Evolution of structural-stratigraphic framework of continent; interpretation of relevant data obtained from field, experimental, and geophysical observation.
Effective: Spring 2001
Prerequisite: GEOSC 001, GEOSC 020 orGEOSC 071

GEOSC 465 **Structural Geology** (4) Effects and mechanics of deformation of the earth's crust; practicum includes field trips and studies of maps and structural problems. This course has one or more field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: or concurrent:GEOSC 203, GEOSC 310

GEOSC 466 **Mechanics of Geological Materials** (3) Stress and strain specification; fracture and flow in deformational environments; environmental rock deformation; anisotropy; shear and consolidation of particulate media.
Effective: Spring 2001
Prerequisite: GEOSC 465

GEOSC 470W **Introduction to Field Geology** (3) Field interpretation of geologic features; principles and techniques of geologic mapping; interpretation of geologic maps and diagrams. This course has one or more required field trips for which a fee is charged to the student.
Effective: Spring 2002
Prerequisite: GEOSC 001 ; fifth-semester standing

GEOSC 472A **Field Geology I (Introduction to Field Methods** (3) Introduction to geologic field methods and the 3-D characterization of earth structure and the reconstruction of geologic histories. This course includes travel outside the University for which an additional charge will be made to cover transportation, food, and lodging.
Effective: Summer 2005
Prerequisite: GEOSC 310

GEOSC 472B **Field Geology II (Advanced Field Methods)** (3) Advanced application of geologic field methods to the 3-D characterization of earth structure and the reconstruction of geologic histories. This course includes travel outside the University for which an additional charge will be made to cover transportation, food, and lodging.
Effective: Summer 2005
Prerequisite: GEOSC 310, GEOSC 465 . Prerequisite or concurrent:GEOSC 472A

GEOSC 474 (BIOL 474) **Astrobiology** (3) In depth treatment of principles/concepts of biochemical evolution, the origin/evolution of life; evaluation of distribution of life in the universe.
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

GEOSC 475W (METEO 475W) **Global Biogeochemical Cycles** (3) The study of earth's major global biogeochemical cycles (carbon, oxygen, nitrogen, phosphorus, and sulfur) in the context of the climate system.
Effective: Summer 2007
Prerequisite: MATH 110 andMATH 111 orMATH 140 andMATH 141 andCHEM 110

GEOSC 479 **Advanced Stratigraphy** (3) Modern topics of sequence stratigraphy are addressed, with a heavy emphasis on field and laboratory data analysis and interpretation.
Effective: Spring 1999
Prerequisite: GEOSC 439

GEOSC 481 **Solid Earth and Planetary Geophysics** (3) Structure, composition, origin, and evolution of the Earth and Solar System.
Effective: Fall 2001
Prerequisite: PHYS 204 orPHYS 214

GEOSC 483 **Environmental Geophysics** (3) This course presents the principles and applications of the variety of techniques geophysicists use to address environmental problems.
Effective: Fall 2001
Prerequisite: PHYS 211, PHYS 212

GEOSC 484 **Geophysical Surveying** (3) Principles and interpretation of seismic, gravity, magnetic, electric, and electromagnetic methods; applications to geologic, mining, petroleum, and engineering problems.
Effective: Spring 2001
Prerequisite: PHYS 213 orPHYS 214

GEOSC 487 **Analysis of Time Series** (4) Nonstatistical approach to data analysis; spectral and correlation analysis; filter theory; signal-to-noise improvement applied to seismic problems.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 201 orCMPSC 202

GEOSC 487 **Analysis of Time Series** (3) Nonstatistical approach to data analysis; spectral and correlation analysis; filter theory; signal-to-noise improvement applied to geoscience data.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 140 andMATH 141

GEOSC 488 **An Introduction to Seismology** (4) An overview of the observations, methods, and frameworks used in seismogram analysis for earthquake and earth-structure investigations (includes laboratory).
Effective: Spring 2003
Prerequisite: MATH 140, MATH 141

GEOSC 489 **Dynamics of the Earth** (4) Constitution and dynamics of the solid earth; mechanics and consequences of Plate Tectonic processes.
Effective: Fall 2001
Prerequisite: GEOSC 203, GEOSC 310, PHYS 211

GEOSC 494M **Senior Thesis** (1-4) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2007
Prerequisite: seventh-semester standing

GEOSC 494W **Senior Thesis** (1-4) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Spring 2001
Prerequisite: seventh-semester standing

GEOSC 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2001

GEOSC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

GEOSC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

GEOSC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1997

GEOSC 498A **Hazardous Waster Operation** (3) This 40 hour training course is required by the Occupational Safety and Health Administration for personnel.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GEOSC 498A **Hazardous Waster Operation** (3) This 40 hour training course is required by the Occupational Safety and Health Administration for personnel.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

GEOSC 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

German (GER)

GER 001 **Elementary German I** (4) Introduction to listening, speaking, reading, and writing with emphasis on the first two skills; cultural aspects through readings and videos.
Effective: Summer 1994

GER 001G **Elementary German for Graduate Students** (3) Designed for students preparing to satisfy language requirements for advanced degrees.
Effective: Fall 1983

GER 002 **Elementary German II** (4) Continuation of GER 001; further introduction of basic structures, culture, and development of four basic skills stressing aural-oral aspects.
Effective: Summer 1994
Prerequisite: GER 001

GER 002G **Elementary German for Graduate Students** (3) Continuation of GER 001G, with opportunity for reading in special fields.
Effective: Fall 1983

GER 003 **Intermediate German** (4) Continued four-skill development with increased emphasis on reading, writing, and grammatical accuracy; culturally-oriented reading selections and videos. Students may receive credit for only one of the following: GER 003 or GER 008.
Effective: Summer 1994
Prerequisite: GER 002

GER 008 **Business German** (4) Introduction to Business German. Students may receive credit for only one of the following: GER 003 or GER 008.
Effective: Summer 2000
Prerequisite: GER 001, GER 002

GER 011 **Intensive Basic German** (6) Listening, speaking, reading, writing, basic structures and vocabulary of German. Taught on an accelerated basis. Students may receive credit for only one of the following: GER 001, 011, or 015.
Effective: Fall 1983

GER 012 **Intensive Intermediate German** (6) Continued skill development of structures and vocabulary; listening, speaking, reading, writing. Taught on an accelerated basis. Students may receive credit for only one of the following: GER 002, 003, 012, or 016.
Effective: Fall 1983
Prerequisite: GER 011

GER 015 **Reading German I** (3) Survey of German grammar, with readings in technical prose for students whose programs permit only two semesters of foreign language. Students may receive credit for only one of the following: GER 001, 011, or 015.
Effective: Summer 1984

GER 016 **Reading German II** (3) Continuation of GER 015, with readings in the student's own field. Students may receive credit for only one of the following: GER 002, 012, or 016.
Effective: Fall 1983
Prerequisite: GER 015

GER 051 **Elementary Intensive German for Graduate Students I** (3) Intensive introduction to German: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

GER 052 **Elementary Intensive German for Graduate Students II** (3) Intensive introduction to German: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: GER 051 or equivalent and graduate standing

GER 053 **Intermediate Intensive German for Graduate Students** (3) Continued intensive study of German at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: GER 052 or equivalent and graduate standing

GER 083S (GH;US;IL) **First-Year Seminar in German** (3) Germany's cultural past and present.
Effective: Summer 2005

GER 083T (GH;US;IL) **First-Year Seminar in German** (3) Germany's cultural past and present.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GER 099 (IL) **Foreign Study--German** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GER 100 (GH;IL) **German Culture and Civilization** (3) Culture and civilization of the German people from the Germanic migrations to the Nazi period. Conducted in English.
Effective: Summer 2005

GER 120 (GH;IL) **The Faust Theme in Literature and in the Other Arts** (3) Survey of the Faust theme in literature (Spiess, Marlowe, Goethe, Mann), book illustrations, music (Gounod), theater, film, and visual arts.
Effective: Spring 2006

GER 143 (GH;IL) (RUS 143) **The Culture of Stalinism and Nazism** (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Summer 2005

GER 143U (GH;IL) (RUS 143U) **The Culture of Stalinism and Nazism** (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

GER 150 (GH;IL) **Masterpieces of German Literature in English Translation** (3) Major works and prominent authors, E.G. Nieblungenlied, Tristan, Lessing, Goethe, Schiller, Heine, Hauptmann, Hesse, Mann, Kafka, Boll, Grass, Frisch.
Effective: Spring 2006

GER 157 (GH;US) **Pennsylvania Germans: The Culture of the Sectarians** (3) Survey of the religious background, beliefs, social life, customs, education, and culture of the Pennsylvania German sectarians, especially the Amish. Conducted in English.
Effective: Summer 2005

GER 175 (GH;IL) **Germanic Heroic and Medieval Literature in English Translation** (3) Germanic heroic and medieval courtly literature from 800 to 1350 focusing on the prevailing cultural, social, and legal conditions.
Effective: Spring 2006

GER 187 **German Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

GER 190 (GH;IL) **Twentieth-Century German Literature in English Translation** (3) Works of such writers as Boll, Brecht, Durrenmatt, Frisch, Grass, Hesse, Kafka, Mann, Rilke, Weiss, and Wolf.
Effective: Spring 2006

GER 195 (GH;IL) **Modern German Drama and Theatre in English Translation** (3) Plays and their stage realization by writers such as Brecht, Durrenmatt, Handke, Hauptmann, Kaiser, Schnitzler, Wedekind, and Weiss.
Effective: Spring 2006

GER 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

GER 199 (IL) **Foreign Study--German** (3-6) Intermediate training in German language skills.
Effective: Summer 2005
Prerequisite: GER 002

GER 200 (GH;IL) **Contemporary German Culture** (3) Germany since WWI, its politics, economics, society, arts, and educational system in the international context; conducted in English.
Effective: Summer 2005

GER 201 (IL) **Conversation and Composition** (4) Continuation of GER 003; emphasis on reading, writing, and conversational skills; course utilizes short literary selections, a concise novel, videos.
Effective: Fall 2006
Prerequisite: GER 003 orGER 008

GER 208Y (IL) **Business German** (4) Intermediate Business German.
Effective: Fall 2006
Prerequisite: GER 003 orGER 008

GER 215H **Intensive Conversation and Composition** (4) Intensive practice in spoken and written German through readings, discussions, and composition.

Effective: Summer 1995
Prerequisite: GER 003 orGER 012H

GER 245 (GH) **The Vikings** (3) Focus on the history of the Vikings from 800 to 1400 as conveyed to us in mythology, literature, and archaeology. Conducted in English.
Effective: Spring 2005

GER 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

GER 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

GER 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1985

GER 297G **Advanced German for Reading** (3) Intensive reading and translation of advance German texts. Recommended only for graduate who have complete GER 052 in the Summer Intensive Program or who have at least eight credits of undergraduate German.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: GER 052

GER 299 (IL) **Foreign Study--German** (3-6) Advanced training in German language skills.
Effective: Summer 2005

GER 301 (IL) **Intermediate Conversation and Composition** (3) Intensive practice in spoken and written German through readings, discussions, video, and composition.
Effective: Fall 2006
Prerequisite: GER 201 orGER 208

GER 302W **Intermediate Conversation and Composition II** (3) Continuation of oral and written practice in German with extensive work in composition.
Effective: Summer 1994
Prerequisite: GER 301

GER 308Y (IL) **German Business Communication** (3) Development of German commerce and industry; extensive practice in the major forms of business communications such as business correspondence.
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent:GER 301

GER 310 (IL) **Introduction to the Study of German Literature** (3) History, methods, and the terminology of literary interpretation and analysis in German.
Effective: Spring 2006
Prerequisite: or concurrent:GER 301

GER 344 (IL) **Intermediate German Culture** (3) An overview of German culture from the Middle Ages to the present. Conducted in German.
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent:GER 301

GER 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996

GER 399 (IL) **Foreign Study--German** (3-12) Advanced studies in German language and/or literature.
Effective: Summer 2005
Prerequisite: GER 201

GER 401Y (IL) **Advanced Composition** (3) Intensive practice in writing different text types in German.
Effective: Spring 2006
Prerequisite: GER 301

GER 408 (IL) **Advanced German Business Communications** (3) Study of German business organization, forms of business communications, business terminology; writing of reports and abstracts.
Effective: Spring 2006
Prerequisite: GER 308

GER 411 **The Teaching of German** (3) Theory, methods, techniques, materials, bibliography; use of inter-active media; contributions of linguistics or psychology to language learning.
Effective: Summer 1994
Prerequisite: or concurrent:GER 401

GER 412 (IL) **Contrastive Analysis of Modern German and English** (3) Structural comparison of the German and English grammatical systems: morphology, syntax, phonology.
Effective: Spring 2006
Prerequisite: or concurrent:GER 401

GER 420 (IL) **Genre** (3-9) Special studies in a particular literary genre in German literature, such as lyrical poetry, drama, or narrative prose.
Effective: Spring 2006
Prerequisite: GER 310, GER 401

GER 430 (IL) **History of the German Language** (3) Development of German from its earliest stages, including historical and cultural aspects.
Effective: Fall 2007
Prerequisite: or concurrent:GER 401Y

GER 431 (IL) **History of German Literature and Culture I** (3) Significant works of German literature before the mid-eighteenth century considered in their cultural context.
Effective: Spring 2006
Prerequisite: GER 310 . Prerequisite or concurrent:GER 401

GER 432 (IL) **History of German Literature and Culture II** (3) Significant works of German literature from the mid-eighteenth century to the present considered in their cultural context.
Effective: Spring 2006
Prerequisite: GER 310 . Prerequisite or concurrent:GER 401

GER 440 (IL) **Seminar in German Culture** (3-6) Seminar devoted to a special topic in the field of German culture and civilization.
Effective: Spring 2006
Prerequisite: or concurrent:GER 401

GER 452 (IL) **Literature of the Renaissance** (3) German literature of the late Middle Ages, Humanism and Reformation including such writers as Brant, Erasmus, Fischart, Luther, Sachs.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 460 (IL) **Literature of the Baroque** (3) The literature and literary movements of seventeenth-century Germany, including such writers as Opitz, Fleming, Gryphius, Hofmannswaldau, and Gunther.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 461 (IL) **Literature of the Enlightenment** (3) Lessing and his contemporaries; new currents in German literature of the eighteenth century.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 462 (IL) **Literature of the Late Eighteenth Century** (3) Literature of the period of Empfindsamkeit and Sturm und Drang, including Rococo and Anacreontic tendencies.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 470 (IL) **Goethe** (3) A study of Goethe's life and works especially his lyric poetry, novels, and dramas.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 471 (IL) **Schiller** (3) Schiller's life, his classical poetry, aesthetic essays, and major dramas.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 472 (IL) **Romanticism** (3) A study of both early and late romanticism, including such writers as Novalis, the Schlegels, E.T.A. Hoffmann, and Heine.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 480 (IL) **Realism** (3) Literature of the nineteenth century from Biedermeier through Jenges Deutschland to realism: Grillparzer, Morike, Buchner, Heine, Hebbel, Keller, Storm, Fontane.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 481 (IL) **Early Twentieth Century** (3) Development of German literature from Naturalism through Jugendstil to Expressionism: George, Hauptmann, Hesse, Hofmannsthal, Holz, Kafka, Kaiser, Mann, Rilke, Toller.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 482 (IL) **German Literature from 1933 to the Present** (3) Literature from 1933 to the present including Exile and GDR literature.
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

GER 489 **Introduction to German Film History and Theory in Context** (3) Introduces films in German since the 1960s and addresses issues relevant to German and European cultures and politics.
Effective: Spring 2005

Prerequisite: GER 310 orCOMM 250

GER 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

GER 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

GER 495 **Internship** (3-9) Supervised off-campus, non-group instruction including individual field experiences, practicums, or internships. Written and oral critique of activity required.
Effective: Summer 1981
Prerequisite: prior approval of proposed assignment by instructor

GER 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

GER 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1985

GER 497A (J ST 497A) **Yiddish Reading** (3) This course is an introduction to the Yiddish language, focusing on grammar, vocabulary, and reading skills.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GER 497B **Contemporary German Cinema** (1) Course will consits of viewing and discussing recent German films in the light of contemporary German culture.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

GER 499 (IL) **Foreign Study--German** (3-12) Advanced studies in German language, literature, and culture.
Effective: Summer 2005
Prerequisite: any 300-level course in German

Last Import from UCM: May 29, 2010 3:00 AM

Graphic Design (GD)

GD 001S **First-Year Seminar in Graphic Design** (1) An orientation to the historical, social, and professional context of design and an exposure to a variety of ethical, philosophical, and topical ideas from the world of design.
Effective: Summer 2007
Prerequisite: admission to the AADES program

GD 100 (GA) **Introduction to Graphic Design** (3) A beginning level graphic design course. Instruction touches on the practice, theories, history and processes of the graphic design industry.
Effective: Spring 2006

GD 101 **Thinking Creatively: Defining Problems, Solving Problems, and Generating Ideas in Graphic Design** (2) An introduction to the theory and practice of defining problems, developing solutions, and generating ideas in design.
Effective: Summer 2007
Concurrent: GD 001S

GD 102 **Introductory Design Studio** (3) A studio course in defining problems, solving problems, and generating ideas.
Effective: Summer 2007
Prerequisite: GD 001S andGD 101

GD 200 **Graphic Design Studio I** (3) A beginning graphic design studio course. Instruction focuses on the practical and analytical process of creating graphic designs and their critical evaluation.
Effective: Spring 2008
Prerequisite: GD 102

GD 201 **Typography** (3) A consideration of the word in relation to visual organization and its application to communication.
Effective: Fall 2006
Prerequisite: GD 200

GD 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2006

GD 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2006

GD 296 **Independent Study** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2006

GD 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2006

GD 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2006

GD 300 **Design Photography** (4) An investigation of graphic photography processes and how print technology affects the final appearance of a photograph.
Effective: Fall 2006
Prerequisite: GD 201 and successful portfolio review

GD 301 **Graphic Design Technology I** (4) Theoretical and practical aspects of computer application to graphic design.
Effective: Fall 2006
Prerequisite: GD 201 and successful portfolio review

GD 302 **Applied Communication** (4) Definition and concentrated involvement in problem/audience analysis, with emphasis on understanding symbol and image in evoking audience response.
Effective: Fall 2006
Prerequisite: GD 300, GD 301

GD 303 **Graphic Design Technology II** (4) Advanced application of digital technology as a medium of graphic design.
Effective: Spring 2006
Prerequisite: GD 300, GD 301

GD 304 **Practical Communications** (3) Practical design experience for students through design/publicity problems from the University and community non-profit organizations.
Effective: Fall 2006
Prerequisite: Prerequisite or concurrentGD 300, GD 301

GD 310 **Studio Apprenticeship** (3 per semester/maximum of 6) Direct involvement in the creative process of the artist-teacher in the studio environment.
Effective: Fall 2006
Prerequisite: Junior or senior standing in Graphic Design. Prior approval of proposed assignment by instructor.

GD 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2006

GD 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2006

GD 400 **Time and Sequence** (4) Development of visual sequence as replies to graphic design problems.
Effective: Fall 2006
Prerequisite: GD 302

GD 401 **Package Design** (3) Orientation to packaging designs as it relates to the consumer, client, and to societal and environmental concerns.
Effective: Fall 2006
Prerequisite: GD 302

GD 402 **Senior Problems** (4) Development of visual replies to graphic design problems.
Effective: Fall 2006
Prerequisite: GD 400, GD 401

GD 403W **Graphic Design Seminar** (3) A seminar on subjects which relate to the field of graphic design.
Effective: Fall 2007
Prerequisite: GD 302

GD 404 **Book Design** (3) Writing, designing, illustrating and production (printing) of a book.
Effective: Fall 2006
Prerequisite: GD 302

GD 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2006

GD 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

GD 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2006

GD 496 **Independent Study** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2006

GD 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2006

GD 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2006

Last Import from UCM: May 29, 2010 3:00 AM

Greek (GREEK)

Knowledge of Greek or Latin not required. See also CLASSICS AND ANCIENT MEDITERRANEAN STUDIES and LATIN,

GREEK 001 **Elementary Classical and New Testament Greek** (4) Pronunciation, forms, syntax, and translation.
Effective: Fall 1983

GREEK 002 **Elementary Classical and New Testament Greek** (4) Further instruction in syntax and sentence structure.
Effective: Fall 1983
Prerequisite: GREEK 001

GREEK 003 **Intermediate Classical and New Testament Greek** (4) Selections from representative authors.
Effective: Fall 1983
Prerequisite: GREEK 002

GREEK 051 **Elementary Intensive Greek for Graduate Students I** (3) Intensive introduction to Classical and New Testament Greek: first half of graduate intensive sequence, elementary reading, writing, speaking, listening, culture.
Effective: Summer 2008
Prerequisite: graduate standing

GREEK 052 **Elementary Intensive Greek for Graduate Students II** (3) Intensive introduction to Classical and New Testament Greek: second half of graduate intensive sequence, elementary reading, writing, speaking, listening, culture.
Effective: Summer 2008
Prerequisite: GREEK 051 or equivalent and graduate standing

GREEK 053 **Intermediate Intensive Greek for Graduate Students** (3) Continued intensive study of Classical and New Testament Greek at the intermediate level: reading, writing, speaking, listening, culture.
Effective: Summer 2008
Prerequisite: GREEK 052 or equivalent and graduate standing.

GREEK 099 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 101 **Introductory Ancient Greek** (4) Fundamentals of classical Greek grammar, syntax, and vocabulary.
Effective: Fall 2001

GREEK 102 **Intermediate Ancient Greek** (4) Intermediate study of classical Greek grammar, syntax, and vocabulary.
Effective: Fall 2001
Prerequisite: GREEK 101

GREEK 197 **Special Topics** (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

GREEK 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

GREEK 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2001

GREEK 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1983

GREEK 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

GREEK 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Spring 2001

GREEK 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

GREEK 400 **Greek Syntax and Stylistics** (3) Classical Greek syntax and stylistics as examined and appreciated through standard exercises in composition and parallel selected prose readings.
Effective: Summer 2004
Prerequisite: GREEK 102, GREEK 003 or equivalent

GREEK 401 **Introductory Reading in Greek Literature** (3-6) Analysis of selected passages of ancient Greek literature; attention will be paid to grammatical as well as literary details.
Effective: Spring 2002
Prerequisite: GREEK 003 orGREEK 102

GREEK 420 **Greek Prose Authors** (3-6) Readings in representative authors.
Effective: Fall 1983
Prerequisite: GREEK 003

GREEK 425 **Greek Historians** (3-6) Translation and study of one or more of the ancient Greek historians.
Effective: Fall 2001
Prerequisite: GREEK 003 orGREEK 102

GREEK 430 **Greek Poetry** (3-6) Translation and analysis of selected readings in Greek poetry.
Effective: Fall 2001
Prerequisite: GREEK 003 orGREEK 102

GREEK 440 **Greek Drama** (3-6) Translation and study of a selected play.
Effective: Spring 2002
Prerequisite: GREEK 003 orGREEK 102

GREEK 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

GREEK 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

GREEK 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

GREEK 497 **Special Topics** (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

GREEK 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Health (HLTH)

HLTH 306 **Physical Education, Health, and Safety in Elementary Schools** (2) A study of appropriate activities for elementary-age children. Student participation in physical activities is required.
Effective: Fall 2004
Prerequisite: eighth-semester standing in Elementary Education Program

Last Import from UCM: May 29, 2010 3:00 AM

Health Care Management (H C M)

H C M 361 **Health Care Systems** (3) An analysis of health care-related occupations, use of health services and health care system. Discussion of alternatives to present system.
Effective: Fall 1985

H C M 462 **Health Care Administration** (3) Organizational perspectives, managerial techniques and political aspects of health care planning, administration and control.
Effective: Fall 1985
Prerequisite: H C M 361

H C M 463 **Legal Aspects of Health Care** (3) An examination of legal rights and liabilities of patients, professionals, and health care institutions. Emphasis is given to medical malpractice.
Effective: Fall 1983

H C M 464 **Health Care Finance and Economics** (3) Integration of financial and economic aspects of health care systems, including financing, mechanisms, economic theory, and regulatory constraints.
Effective: Spring 2008
Prerequisite: FIN 301 6 credits economics (micro and macro)

H C M 465 **Health Care Insurance** (3) A study of insurance as it relates to health care from the public and private sector viewpoints.
Effective: Fall 1983

H C M 467 **Methods of Health Care Planning and Evaluation** (3) Health care planning, epidemiological concepts, forecasting procedures, and methods of health care evaluation.
Effective: Fall 1988
Prerequisite: 3 credits in statistics

H C M 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1990
Prerequisite: prior approval of proposed assignment by instructor

H C M 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 1983

H C M 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1983

Last Import from UCM: May 29, 2010 3:00 AM

Health Education (HL ED)

HL ED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

HL ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

HL ED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1993

Last Import from UCM: May 29, 2010 3:00 AM

Health Education (HLHED)

HLHED 415 **Planning and Developing Health Education Programs** (3) Premises and strategies for planning, implementing, and evaluating wellness programs in corporate, hospital, and community agency settings.
Effective: Fall 1997
Prerequisite: permission of program

HLHED 420 **Development of Stress Management Programs for Health Education** (3) Planning, development, and implementing strategies for stress management programs for health education professionals in school, community, and corporate settings.
Effective: Fall 1997
Prerequisite: permission of program

HLHED 421 **Integrating Health Education into the School Program K-12** (3) Premises and strategies for integrating basic health education concepts into the school program K-12.
Effective: Fall 1997
Prerequisite: permission of program

HLHED 443 **Alcohol and Drug Education** (3) Principles of integration and coordination of alcohol and drug education programs for health education and other social service professions.
Effective: Fall 1997
Prerequisite: permission of program

HLHED 450 **Worksite Health Promotion** (3) Rationale and strategies for planning, implementing, and evaluating employee health promotion in programs in public and private worksite settings.
Effective: Fall 1997
Prerequisite: permission of program

HLHED 456 **Advanced Techniques in School and Community Health Education** (3) Public health, mental health, nutrition, dental school health, physical education, accident prevention, health teaching; projects, consultation, visitation, discussions, and resources.
Effective: Fall 1997
Prerequisite: permission of program

HLHED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1997

Last Import from UCM: May 29, 2010 3:00 AM

Health Policy and Administration (H P A)

H P A 057 (GHA) **Consumer Choices in Health Care** (3) Introduction to consumers' role in health-care decisions, including health benefits, physician and hospital choice, and end-of-life choices.
Effective: Spring 2004

H P A 101 **Introduction to Health Services Organization** (3) Examination of the social, political, historic, and scientific factors in the development and organization of health services.
Effective: Fall 1998

H P A 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

H P A 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

H P A 301 **Health Services Policy Issues** (3) Analysis of major issues in health services delivery in hospitals, medical practice, public health, mental health, and health professional education.
Effective: Fall 1986
Prerequisite: H P A 101, PL SC 001, ECON 002

H P A 301W **Health Services Policy Issues** (3) Analysis of major issues in health services delivery in hospitals, medical practice, public health, mental health, and health professional education.
Effective: Spring 2001
Prerequisite: ECON 002, H P A 101, PL SC 001

H P A 310 **Health Care and Medical Needs** (3) Health care from an individual, family, and community standpoint illustrated with specific diseases and health problems.
Effective: Spring 1998
Prerequisite: BB H 101, BI SC 004 orBIOL 141

H P A 332 **Health Systems Management** (3) Introduction to and analysis of managerial roles and practices in health service organizations.
Effective: Spring 1987
Prerequisite: H P A 101

H P A 390 **Professional Development in Health Policy and Administration** (3) Development of personal understanding and professional skills to prepare students for future employment or study in health policy and administration.
Effective: Summer 2000
Prerequisite: H P A 101

H P A 390W **Professional Development in Health Policy and Administration** (3) Development of personal understanding and professional skills to prepare students for future employment or study in health policy and administration.
Effective: Spring 2001
Prerequisite: H P A 101

H P A 395 **Field Experience in Health Policy and Administration** (1-13) Professional field experience providing opportunities to apply skills and knowledge in health care setting.
Effective: Fall 2001
Prerequisite: H P A 301W, H P A 310, H P A 332, H P A 390

H P A 396 **Professional Transition to Careers in Health Policy and Administration** (1) Professional skills development preparing students for their first work experience in Health Policy and Administration.
Effective: Spring 1999
Prerequisite: H P A 395

H P A 401 (IL) **Comparative Health Systems** (3) Comparative analysis of health services in selected developed and developing countries.
Effective: Spring 2006
Prerequisite: H P A 301

H P A 410 **Principles of Public Health Administration** (3) The rationale for, and the patterns of, public health service at all levels of government in the United States.
Effective: Summer 1998
Prerequisite: H P A 301

H P A 420 **Principles of Managed Care** (3) Survey of managed health care, including history, typology, current issues, management challenges, and impacts on patients, providers, and special populations.
Effective: Spring 1998
Prerequisite: H P A 301

H P A 431 **Health Planning Methods** (3) Introduction to methods used in planning for health, services, facilities, and manpower.
Effective: Spring 1998
Prerequisite: H P A 301;STAT 200 orSTAT 250

H P A 433 **Administration of Hospital and Health Service Systems** (3) Analysis of administrative structures and interorganizational arrangements among hospitals and other health care organizations.
Effective: Spring 1998
Prerequisite: H P A 332

H P A 440 (US;IL) (BB H 440) **Principles of Epidemiology** (3) Theory of epidemiology and significant case studies. Potential application to health care.
Effective: Fall 2008
Prerequisite: BB H 101 orBIOL 110 orH P A 310;STAT 200 orSTAT 250

H P A 442 **Long-Term Care Management** (3) Management and policy issues for institutional, community, and home settings for chronic care services.
Effective: Spring 1998
Prerequisite: H P A 332

H P A 445 (ECON 445) **Health Economics** (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.
Effective: Spring 1994
Prerequisite: ECON 302, ECON 315 orECON 323

H P A 445W (ECON 445W) **Health Economics** (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.
Effective: Spring 2008
Prerequisite: ECON 302, ECON 315 orECON 323

H P A 447 **Financing Health Care** (3) Analysis of financial flows, third party payment programs, and reimbursement practices in the health services sector.
Effective: Spring 1998
Prerequisite: FIN 100 orINS 301;H P A 301 orH P A 332

H P A 450 **Healthcare Policies and Politics** (3) Survey of health care's political contexts: formulation, implementation, and modification stages of policy process; politics of private interests (associations) at national and state levels.
Effective: Summer 1997
Prerequisite: H P A 101, H P A 301, PL SC 001

H P A 455 **Strategic Planning and Marketing for Health Services** (3) Introduction to principles and methods of strategic planning and marketing.
Effective: Spring 1998
Prerequisite: H P A 332

H P A 457 **Consumer Health Education** (3) Orientation of school and community health education opportunities to the consumer task of selecting health products and services.
Effective: Spring 1998
Prerequisite: 9 credits of health science and/or psychology

H P A 460 **Human Resource Management in Health Care Organizations** (3) Foundations of human resource management applied to health care organizations, including hospitals, long-term care facilities, and community health organizations.
Effective: Spring 1998
Prerequisite: H P A 332

H P A 470 **Health Care Information Management** (3) This course introduces information systems terminology, data structures, software applications, and their management functions in health services organizations.
Effective: Summer 2000
Prerequisite: H P A 332, IST 210, IST 220

H P A 494H **Senior Honors Thesis** (1-6) Independent study related to student's interests directed by a faculty supervisor and culminating in the production of a thesis.
Effective: Summer 2006
Prerequisite: approval of honors thesis advisor

H P A 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

H P A 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

H P A 497A **Current Issues in Health Care Quality** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

H P A 497A **HealthCare Leadership I** (3) Identified as one of the core competencies needed to improve the U.S. health care system and one of the challenges to solving the problems of cost, quality and access. This course provides an opportunity to students to learn about the challenges of leadership in health care. Through experience, reflective reading and writing, and discussion, students will explore their own leadership capabilities.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

H P A 497B **Physician Practice Management** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

H P A 497C **Introduction to Health Insurance** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

H P A 497D **Making the Difference: Raising Awareness of Careers in Health Care** (3) This course is designed for HPA students to assist other students interested in a career in health care. Central to this course is a major hands-on learning project that will enable students to explore career paths in the health care sector. After a systematic study of subjecft material for various occupations in the health care sector, the students will identify various health career paths and how each contributes to high quality patient care. While an important aspect of this class is the creation of student awareness, students will have the opportunity to raise the general public awareness of the range of health care careers contributing to client care by creating a public service video. A component of this course will take place off-campus.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Health and Human Development (H&HD)

H&HD 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

H&HD 297S **HHDEV First Year Seminar** (2) First-year seminar.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

H&HD 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2006

H&HD 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2002

H&HD 497A **Women's Leadership Initiative** (2) Women's Leadership Initiative.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

H&HD 497H **Special Topics--Honors** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2002

H&HD 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

H&HD 499H (IL) **Foreign Studies-Honors** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Hebrew (HEBR)

HEBR 001 **Basic Modern Hebrew I** (4) An introduction to modern Hebrew in its written and spoken forms; oral and aural work stressed.
Effective: Summer 1990

HEBR 002 **Basic Modern Hebrew II** (4) Continued study of grammar; emphasis on improving oral-aural facility, with increased attention to reading and writing.
Effective: Summer 1990
Prerequisite: HEBR 001

HEBR 003 **Intermediate Modern Hebrew** (4) Grammar, reading, composition, and oral and aural exercises.
Effective: Summer 1977
Prerequisite: HEBR 002

HEBR 010 (GH;IL) (J ST 010) **Jewish Civilization** (3) Life of the Jewish people from Biblical times, emphasizing cultural, religious, and institutional developments.
Effective: Summer 2005

HEBR 051 **Elementary Intensive Hebrew for Graduate Students I** (3) Intensive introduction to Biblical or Modern Hebrew: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, culture.
Effective: Summer 2008
Prerequisite: graduate standing

HEBR 052 **Elementary Intensive Hebrew for Graduate Students II** (3) Intensive introduction to Biblical or Modern Hebrew: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, culture.
Effective: Summer 2008
Prerequisite: HEBR 051 or equivalent and graduate standing

HEBR 053 **Intermediate Intensive Hebrew for Graduate Students** (3) Continued intensive study of Biblical or Modern Hebrew at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: HEBR 052 or equivalent and graduate standing

HEBR 097 **Special Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

HEBR 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 110 **Conversation, Reading, and Composition** (3) Oral and written expression; aspects of Israeli culture and civilization.
Effective: Summer 1990
Prerequisite: HEBR 003

HEBR 111 **The Development of Hebrew Language and Literature** (3) Chronological overview of Hebrew language and literature; characteristics of the language in the Biblical, Mishnaic, Medieval, Modern eras; representative readings.
Effective: Summer 1990
Prerequisite: HEBR 003

HEBR 151 (CAMS 151, J ST 151) **Introductory Biblical Hebrew** (3) Fundamentals of Biblical Hebrew grammar, syntax, and vocabulary.
Effective: Summer 2005

HEBR 152 (CAMS 152, J ST 152) **Intermediate Biblical Hebrew** (3) Intermediate study of Biblical Hebrew grammar, syntax, and vocabulary.
Effective: Summer 2005
Prerequisite: HEBR 151

HEBR 187 **Hebrew Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

HEBR 197 **Special Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

HEBR 199 (IL) **Foreign Study--Basic Hebrew** (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2005

HEBR 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

HEBR 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.
Effective: Summer 1986
Prerequisite: prior approval of proposed assignment by instructor

HEBR 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1986

HEBR 297 **Special Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1983

HEBR 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

HEBR 397 **Special Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

HEBR 399 (IL) **Foreign Study--Intermediate Hebrew** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HEBR 401 **Advanced Hebrew--Conversation Emphasis** (3 per semester, maximum of 6) Development of oral proficiency through discussions focusing on issues in contemporary Jewish culture.
Effective: Summer 1990
Prerequisite: HEBR 110

HEBR 402 **Advanced Hebrew--Reading Emphasis** (3 per semester, maximum of 6) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Jewish culture.
Effective: Summer 1990
Prerequisite: HEBR 110

HEBR 451 **Advanced Biblical Hebrew** (3) Translation and analysis of selected readings in Biblical Hebrew texts; attention will be paid to grammatical as well as literary details.
Effective: Spring 2007
Prerequisite: HEBR 152 or equivalent

HEBR 452 **Readings in Biblical Hebrew** (3) Translation and analysis of selected readings in Biblical Hebrew texts; attention will be paid to grammatical as well as literary details.
Effective: Spring 2007
Prerequisite: HEBR 451 or equivalent

HEBR 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

HEBR 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

HEBR 496 **Independent Studies** (1-18) Creative projects including research and design which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1982

HEBR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1983

HEBR 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interent.
Effective: Fall 1992

HEBR 499 (IL) **Foreign Study--Advanced Hebrew** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Higher Education (HI ED)

HI ED 101 **PSU Students and Their University** (3) An opportunity for undergraduates to investigate, in small informal groups, governance, curricula, and student life at Penn State and elsewhere.
Effective: Spring 2001

HI ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1995

HI ED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1995

Last Import from UCM: May 29, 2010 3:00 AM

Hindi (HINDI)

HINDI 001 **Level One Hindi A** (4) This is an introductory course in Hindi that presents the Devanagari script, elementary grammar and sentence structure.
Effective: Summer 2010

HINDI 002 **Level One Hindi B** (4) This intermediate level course seeks to impart functional literacy in oral and written expression in Hindi to students.
Effective: Summer 2010
Prerequisite: HINDI 001 or equivalent competency

HINDI 003 **Level Two Hindi A** (4) This is an intermediate level course in Hindi that seeks to improve student's skills in oral and written expression.
Effective: Summer 2010
Prerequisite: HINDI 002 or equivalent competency

Last Import from UCM: May 29, 2010 3:00 AM

History (HIST)

HIST 001 (GH;IL) **The Western Heritage I** (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.
Effective: Spring 2006

HIST 001T (GH;IL) **The Western Heritage I** (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.
Effective: Spring 2006

HIST 002 (GH;IL) **The Western Heritage II** (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Spring 2006

HIST 002S (GH;IL) **The Western Heritage II** (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Summer 2005

HIST 002U (GH;IL) **The Western Heritage II** (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 003 (GH) **The American Nation: Historical Perspectives** (3) American history from discovery to the present, focusing on both racial, ethnic, and religious differences and shared traditions and ideals.
Effective: Spring 1995

HIST 003H (GH) **The American Nation: Historical Perspectives** (3) American history from discovery to the present, focusing on both racial, ethnic, and religious differences and shared traditions and ideals.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 005 (GH;IL) (CAMS 005) **Ancient Mediterranean Civilizations** (3) Survey of the history and cultures of anicent Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.
Effective: Spring 2008

HIST 010 (GH;IL) **World History I** (3) Human origins; early civilizations; major political and intellectual developments on all continents; cultural interrelationships to 1500.
Effective: Summer 2005

HIST 011 (GH;IL) **World History II** (3) Social, economic, and political evolution of societies and cultures from 1500 to the present.
Effective: Summer 2005

HIST 012 (GH;US) **History of Pennsylvania** (3) Chronological and topical survey, emphasizing immigration of diverse ethnic groups and religious, political, economic, and social developments, including industrialization and urbanization.
Effective: Spring 2006

HIST 020 (GH;US) **American Civilization to 1877** (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 020U (GH;US) **American Civilization to 1877** (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 020Y (GH;US) **American Civilization to 1877** (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.
Effective: Spring 2006

HIST 021 (GH;US) **American Civilization Since 1877** (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 021Y (GH;US) **American Civilization Since 1877** (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.
Effective: Spring 2006

HIST 083S (GH) **First-Year Seminar in History** (3) Critical approaches to the dimensions and directions in History.
Effective: Summer 1999

HIST 084S (GS) **First-Year Seminar in History** (3) Critical approaches to the dimensions and directions in History.
Effective: Spring 2004

HIST 100 (GH;IL) (CAMS 100) **Ancient Greece** (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Spring 2006

HIST 100S (GH;IL) **Ancient Greece** (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.
Effective: Summer 2005

HIST 101 (GH;IL) (CAMS 101) **The Roman Republic and Empire** (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 101S (GH;IL) **The Roman Republic and Empire** (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.
Effective: Spring 2006

HIST 102 (GH;IL) (CAMS 102, J ST 102, RL ST 102) **Canaan and Israel in Antiquity** (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

HIST 103 (GH;IL) **The History of Madness, Mental Illness, and Psychiatry** (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.
Effective: Summer 2005

HIST 103U (GH;IL) **The History of Madness, Mental Illness, and Psychiatry** (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HIST 104 (GH) (CAMS 104) **Ancient Egypt** (3) The history and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.
Effective: Summer 2002

HIST 105 (GH;IL) **The Byzantine Empire** (3) Development of Byzantine civilization from the decline of the Roman Empire to the fall of Constantinople.
Effective: Spring 2006

HIST 106 **Quantitative Historical Research Techniques** (3) Introduction to statistical methods and computer techniques in historical research.
Effective: Spring 2008
Prerequisite: CMPSC 101, STAT 200 3 credits in history

HIST 107 (GH;IL) (MEDVL 107) **Medieval Europe** (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.
Effective: Spring 2006

HIST 108 (GH;IL) **The Crusades: Holy War in the Middle Ages** (3) The social and political history of medieval religious warfare in Europe and in the Middle East.
Effective: Spring 2006

HIST 110 (GH;IL) **Nature and History** (3) A broad introduction to the history of human relationships with nature throughout the world.
Effective: Summer 2005

HIST 113 (IL) **Baseball in Comparative History** (3) Comparative survey of baseball history from its beginnings to the present.
Effective: Fall 2009

HIST 115 (GH;US) (J ST 115, RL ST 115) **American Jewish History and Culture** (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

HIST 116 (GS;US;IL) (WMNST 116) **Family and Sex Roles in Modern History** (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.
Effective: Spring 2006

HIST 117 (GH;US;IL) (WMNST 117) **Women in Modern History** (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Summer 2005

HIST 117M (GH;US;IL) (WMNST 117M) **Women in Modern History** (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 117U (GH;US;IL) **Women in Modern History** (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 118 (US;IL) (J ST 118) **Modern Jewish History: 1492 to Present** (3) Jewish social and political history from 1492 to the present.
Effective: Spring 2006

HIST 119 (GH;IL) **Gender and History** (3) Survey of the development of gender roles in Western societies from the prehistoric era to the early modern period.
Effective: Spring 2008

HIST 120 (GS;IL) **Europe Since 1848** (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.
Effective: Spring 2006

HIST 120U (GS;IL) **Europe Since 1848** (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HIST 121 (GH;IL) (J ST 121) **History of the Holocaust 1933-1945** (3) Historical analysis of holocaust themes.
Effective: Summer 2005

HIST 121U (GH;IL) **History of the Holocaust 1933-1945** (3) Historical analysis of holocaust themes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 122 (GH) (S T S 122) **History of Science I** (3) A history of science and culture from Stonehenge to the scientific revolution.
Effective: Spring 2005

HIST 123 (GH) (S T S 123) **History of Science II** (3) A history of science and culture from the scientific revolution to the present.
Effective: Spring 2004

HIST 124 (GH;US;IL) (S T S 124) **History of Western Medicine** (3) This course explores the history of health, illness, and medicine in western society.
Effective: Summer 2008

HIST 127 (US) (LTNST 127) **Introduction to U.S. Latina/o History** (3) This course introduces students to the history of U.S. Latina/os, including Puerto Ricans, Dominicans, Chicanos, Cubans, and Central Americans.
Effective: Spring 2008

HIST 130 (GH;US) **Introduction to the Civil War Era, 1848 through 1877** (3) Survey of causes and consequences of American Civil War, end of Mexican War in 1848 through end of Reconstruction, 1877.
Effective: Spring 2010

HIST 134 (GH;IL) **Introduction to the British Isles, 1400-1800** (3) Survey of the history and cultures of the British Isles

from 1400 to 1800.
Effective: Spring 2010

HIST 141 (GH;IL) **Medieval and Modern Russia** (3) Introductory survey, including political, social, economic, and cultural development of Kievan, Muscovite, and Imperial Russia.
Effective: Spring 2006

HIST 142 (GS;IL) **History of Communism** (3) Marxism; Leninism and evolution of the Soviet Union; formation and development of the Communist bloc; impact of Chinese Communism.
Effective: Spring 2006

HIST 143 (GH;IL) **History of Fascism and Nazism** (3) The study of right-wing totalitarianism in the twentieth century, with special emphasis on Fascist Italy and Nazi Germany.
Effective: Spring 2006

HIST 144 (GH;US;IL) **The World at War: 1939-1945** (3) In-depth study of the origins and conduct of World War II. Political and economic aspects as well as military.
Effective: Spring 2006

HIST 150 (US) **Colonial Pennsylvania** (3) Development of the colony of Pennsylvania through the war for American independence, covering immigration, economics, politics, religion, and society.
Effective: Spring 2006

HIST 151 (GS;US) (S T S 151) **Technology and Society in American History** (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

HIST 151S (GS;US) (S T S 151S) **Technology and Society in American History** (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

HIST 152 (GH;US;IL) **African American History** (3) African roots; colonial and revolutionary experiences; slavery and abolitionism; civil war and reconstruction; accommodation and protest; the new militancy.
Effective: Summer 2005

HIST 153 (GH;US) **The Indian in North America** (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 153Y (GH;US) **The Indian in North America** (3) A survey of the American Indian from prehistory to the present.
Effective: Summer 2005

HIST 154 (GH;US) **History of Welfare and Poverty in the United States** (3) History of care of the impoverished (emphasis on gender, race, nationality, age of poor, and welfare givers), 18th century to present.
Effective: Summer 2005

HIST 155 (GH;US) **American Business History** (3) Major developments in the history of business and industry from the colonial period to the present.
Effective: Spring 2006

HIST 156 (US) **History of the American Worker** (3) A study of the American worker from the preindustrial era to the present.
Effective: Spring 2006

HIST 158 (US;IL) **History of American Immigration** (3) The waves of migration to America and an analysis of the resulting minority groups, their reception, assimilation, and persisting identity.
Effective: Spring 2006

HIST 160 (US) **American Naval History** (3) Introduction to the role of the United States Navy in the defense, diplomacy, commerce, and scientific development of the nation.
Effective: Spring 2006

HIST 161 (US) **The Battle of Gettysburg in American Historical Memory** (3) Examines factors shaping understanding of the Civil War's decisive battle and its meanings as a national symbol.
Effective: Spring 2006

HIST 165 (IL) (ARAB 165, RL ST 165) **Introduction to Islamic Civilization** (3) Islamic history, culture, and religious life c.600-1500 C.E.
Effective: Spring 2006

HIST 172 (IL) **Survey of Japanese Civilization** (3) Survey of social, institutional, cultural, and religious developments from ancient times to the present.
Effective: Summer 2005

HIST 172U (IL) **Survey of Japanese Civilization** (3) Survey of social, institutional, cultural, and religious developments from ancient times to the present.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HIST 173 (GH;IL) **Vietnam in War and Peace** (3) Rise of nationalism and communism; origins of conflict; United States involvement; impact on postwar regional and international politics; contemporary Vietnam.
Effective: Spring 2006

HIST 174 (GH;IL) **The History of Traditional East Asia** (3) Comparative cultural, institutional, and social history of traditional China and Japan to their contact with the industrialized West.
Effective: Summer 2005

HIST 175 (GH;IL) **The History of Modern East Asia** (3) Comparative survey of the internal developments and external relations of China and Japan since their contact with the industrialized West.
Effective: Summer 2005

HIST 176 (GH;IL) **Survey of Indian History** (3) Survey of cultural, institutional, and political history from ancient times to the present.
Effective: Summer 2005

HIST 178 (GH;IL) **Latin-American History to 1820** (3) Conquest of the New World, development of colonial institutions, impact on native cultures, and origins of independence movements.
Effective: Summer 2005

HIST 179 (GH;IL) **Latin-American History Since 1820** (3) Origin, political growth, international relations, and economic status of the Latin-American republics, with emphasis upon present-day conditions.
Effective: Summer 2005

HIST 180 (GH;IL) (CAMS 180) **Ancient Warfare** (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.
Effective: Summer 2006

HIST 181 (GH;IL) **Introduction to the Middle East** (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.
Effective: Summer 2005

HIST 181U (GH;IL) **Introduction to the Middle East** (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 187 **History Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

HIST 191 (GH;IL) (AAA S 191) **Early African History** (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.
Effective: Summer 2005

HIST 192 (GH;IL) (AAA S 192) **Modern African History** (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.
Effective: Summer 2005

HIST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

HIST 197A **British History** (3) British Isles and theiry peoples since the ancient period, emphasizing political, cultural, and intellectual developments and imperial rise and fall.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 197B (US) **The FBI in the 20th Century & Beyond** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 197C (US) **The FBI in the 20th Century & Beyond** (3) Survey of the FBI from 1908 covering political, social, cultural, minority, civil rights history, and every period of the century.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HIST 200 (US) **American Local History** (3 per semester/maximum of 6) Topics in American local history relating local to national developments and studying the historical method by using primary source material.
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021

HIST 205 (GH;US) (J ST 205, RL ST 205) **American Antisemitism** (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

HIST 210 (GH;US) (AAA S 210) **Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932** (3) The course will explore the context and events that shaped African American life over the period 1896-1932.
Effective: Summer 2005
Prerequisite: AAA S 100 three credits of American history or permission of the instructor

HIST 211 (GH;US;IL) (AAA S 211) **The Emergence and Evolution of the Black Diaspora in the Atlantic World** (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 003 orHIST 020 orHIST 021 orHIST 152

HIST 230 (NUTR 230, S T S 230) **American Food System: History, Technology, and Culture** (3) A cultural analysis of the evolution of U.S. agricultural production and food consumption patterns, the food industry and food marketing.
Effective: Spring 1989

HIST 235 (US;IL) (J ST 235, RL ST 235) **The Church and the Jews** (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.
Effective: Spring 2006

HIST 240 (GH;US) (AAA S 240) **Harlem: History, Culture, and Politics, 1890-Present** (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 152

HIST 250 (GH;IL) (AAA S 250) **Introduction to the Modern Caribbean** (3) A survey course which explores the historical evolution and emergence of the modern Caribbean.
Effective: Summer 2005

HIST 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

HIST 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1986

HIST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1986

HIST 297A **Public History** (3) Theory, methods, practice, and politics of history for a public audience, including "doing" history in a community setting.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.

Effective: Summer 2005

HIST 300A **European Historiography** (3) Readings, group discussions, and oral and written reports on great historians, philosophy of history, and conflicting interpretations in European history.
Effective: Fall 1983
Prerequisite: third-semester standing 6 credits in history with a grade of A or B an all-University average of B

HIST 300B **American Historiography** (3) Readings, group discussions, and oral and written reports on great historians, philosophy of history, and conflicting interpretations in American history.
Effective: Fall 1983
Prerequisite: third-semester standing 6 credits in history with a grade of A or B an all-University average of B

HIST 300C **Independent Study** (3) Readings and oral and written reports in areas to be arranged with the chairman of the Honors Committee.
Effective: Fall 1983
Prerequisite: HIST 300A orHIST 300B

HIST 300D **Honors Thesis** (3) Research paper in an area arranged with the chairman of the Honors Committee.
Effective: Fall 1983
Prerequisite: HIST 300A, HIST 300B, HIST 300C

HIST 300H **Honors Course in History** (3-12) No description available.
Effective: Fall 1983

HIST 301W **Scope and Methods of History** (3) A course designed to introduce students to the analysis, methods, and practices of historical writing and research.
Effective: Spring 2008
Prerequisite: 3 credits in history

HIST 302W **Undergraduate Seminar** (3) Thematic or topical investigation; emphasis on historical criticism and analysis.
Effective: Fall 1995
Prerequisite: 6 credits in history at the 400 level

HIST 320 **Contemporary World History and Issues** (3) Aspects of global history in 20th and 21st centuries and study of selected trends and controversies.
Effective: Spring 2008

HIST 320W **Contemporary World History and Issues** (3) Aspects of global history in 20th and 21st centuries and study of selected trends and controversies.
Effective: Spring 2008

HIST 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

HIST 399 (IL) **Foreign Study--History** (1-12) Study in selected foreign countries of various periods and topics in history.
Effective: Summer 2005

HIST 400 **Research in Ancient Sources** (3) Guided research in the literature of ancient Mediterranean civilizations.
Effective: Spring 2008
Prerequisite: HIST 001

HIST 401 (IL) (J ST 401) **Ancient Technologies and Socio-cultural History in the Ancient Levant** (3) Social and intellectual development in the Ancient Levant as they affected and were affected by technological development.
Effective: Spring 2006
Prerequisite: RL ST 110

HIST 402 (IL) **The Rise of the Greek Polis** (3) Development of the Greek city-state from Homeric times to the fifth century B.C.; special references to Athenian society.
Effective: Spring 2006
Prerequisite: HIST 100

HIST 403 (IL) **Alexander the Great and the Hellenistic World** (3) The career of Alexander, his impact on his own time, and the Hellenistic legacy.
Effective: Spring 2006
Prerequisite: HIST 100

HIST 404Y (IL) **Rome and Hellenism** (3) The impact of traditional Greek culture on ancient Italian society in the age (ca. 300-30 B.C.) of Roman imperial expansion.
Effective: Spring 2006
Prerequisite: HIST 100, HIST 101 orCAMS 033

HIST 405Y (IL) **The Roman Empire** (3) The political and social history of the Roman empire; economic institutions and religious groups which influenced Roman administration.
Effective: Spring 2006

Prerequisite: HIST 001, HIST 101 or 3 credits in classical studies

HIST 406W **Research in Medieval Sources** (3) Guided research in the literature of medieval Europe.
Effective: Spring 2008
Prerequisite: HIST 001

HIST 407 (IL) **Early Medieval Society** (3) Rise of European nations and evolution of their social and political institutions from the time of Constantine to the Crusades.
Effective: Spring 2006
Prerequisite: HIST 107

HIST 408 (IL) **Church and State in the High Middle Ages** (3) European political, institutional, and social history in light of church- state tensions from the Crusades to the Renaissance.
Effective: Spring 2006
Prerequisite: HIST 107

HIST 409Y (IL) (J ST 409Y, RL ST 407Y) **European Anti-Semitism from Antiquity to the Present** (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

HIST 410 (US;IL) (J ST 410, RL ST 410) **Jews in the Medieval World** (3) Trends in medieval Jewish society under Islam and Western Christendom.
Effective: Spring 2006

HIST 411 (IL) (MEDVL 411) **Medieval Britain** (3) Political, cultural, and economic history of Britain from circa 400 to 1485 with an emphasis on the kingdom of England.
Effective: Spring 2006
Prerequisite: 6 credits in European history or medieval studies

HIST 412 (IL) **Intellectual History of the Middle Ages** (3) Intensive study of selected topics, such as philosophy, mysticism, heresy, the church, literary and artistic expression, and science.
Effective: Spring 2006
Prerequisite: HIST 107

HIST 413 (IL) (MEDVL 413) **Medieval Celtic Studies** (3) Celtic civilization from antiquity to the end of the middle ages.
Effective: Spring 2006
Prerequisite: 3 credits in medieval studies or in language literature or European history of the medieval period

HIST 414 (IL) **Renaissance and Reformation** (3) The transformation of consciousness from medieval to modern times, with special emphasis on Renaissance Italy and Reformation Germany.
Effective: Spring 2006
Prerequisite: HIST 001

HIST 415 (US;IL) (AAA S 415) **Race, Gender, and Politics in the United States and South Africa** (3) This thematic course will compare key issues, figures, and events in the historical development of the United States and South Africa.
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 102, AAA S 110, AAA S 192 orHIST 152

HIST 416 (J ST 416) **Zionist History 1890-1948** (3) History of Zionist thought and politics to the foundation of Esrael 1948.
Effective: Summer 1997

HIST 417 (IL) **The Age of Absolutism** (3) Seventeenth- and eighteenth-century royal absolutism in France, Prussia, and Austria; concurrent economic, social, and scientific developments; the Enlightenment.
Effective: Spring 2006
Prerequisite: HIST 001

HIST 418 (IL) **The French Revolution and the Napoleonic Era** (3) Development of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.
Effective: Spring 2006
Prerequisite: HIST 002

HIST 418W (IL) **The French Revolution and the Napoleonic Era** (3) Developments of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.
Effective: Spring 2008
Prerequisite: HIST 002

HIST 419 (US;IL) (WMNST 419) **The History of Feminist Thought** (3) A critical analysis of European and United States feminist thought from the renaissance to the present.
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001 orWMNST 003

HIST 420 (IL) **Recent European History** (3) Impact of two World Wars in twentieth century; social conflict and economic catastrophe; political radicalism; post-1945 recovery and cooperation.
Effective: Spring 2006
Prerequisite: 3 credits in European history

HIST 420W (IL) **Recent European History** (3) Impact of two World Wars in twentieth century; social conflict and economic

catastrophe; political radicalism; post-1945 recovery and cooperation.
Effective: Spring 2008
Prerequisite: 3 credits in European history

HIST 421 (IL) (WMNST 421) **The History of European Women** (3) European women's lives from the Middle Ages to the present.
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001 orWMNST 003

HIST 422 (IL) **Modernity and Its Critics: European Thought Since 1870** (3) Perceptions and critiques of modernity as seen in works of European cultural criticism, social theory, philosophy, and literature.
Effective: Spring 2006
Prerequisite: HIST 002, HIST 120 or 3 credits in modern literature or philosophy or political or social theory

HIST 423 (IL) **Economic History of Europe Since 1750** (3) Comparataive history of industrialization process; monetary financial systems; business cycles; public finance; welfare and warfare economics; planning; labor organization.
Effective: Spring 2006
Prerequisite: 3 credits in European history or economics

HIST 424H (J ST 424H, RL ST 424H, PHIL 434H) **Monotheism and the Birth of the West** (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.
Effective: Spring 2002
Prerequisite: CAMS 004, CAMS 110, CAMS 120 orHIST 102

HIST 425 (IL) **Work and Leisure in Industrial Europe** (3) Impact of industrialization on the workday and the changing role of leisure and family life, 1700-1960.
Effective: Spring 2006

HIST 426 (US) (ADM J 426, J ST 426) **Jewish/American Organized Crime in New York City** (3) History of Jewish/American organized crime in New York City from 1890 through the Great Depression.
Effective: Spring 2006

HIST 427 (IL) **Germany Since 1860** (3) Bismarckian power-state; rise to economic dominance; welfare and warfare under Weimar republic and Hitler; post-1945 reconstruction and democracy.
Effective: Spring 2006
Prerequisite: 3 credits in European history

HIST 428 (IL) (S T S 428) **The Darwinian Revolution** (3) The origins and implications of evolutionary theory.
Effective: Spring 2006
Prerequisite: an introductory science course and a history course

HIST 429 **Europe in the Age of Nationalism, 1789-1914** (3) Emphasizing the role of nationalism in European cultural, diplomatic and imperial developments; concurrent economic and social changes.
Effective: Spring 2008
Prerequisite: HIST 002

HIST 430 (IL) **Eastern Europe in Modern Times** (3) Influence of geography, economic conditions, and nationalism upon the Eastern European and Balkan peoples; Pan-Slavism, conflicting interests of the great powers.
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

HIST 431 (US;IL) (AAA S 431) **Black Liberation and American Foreign Policy** (3) This course deals with American foreign policy and Black liberation in Africa since 1945.
Effective: Summer 2005
Prerequisite: 3 credits in African history; 3 credits in African political science; or 3 credits in American political science

HIST 432 (IL) (AAA S 432) **Between Nation and Empire: The Caribbean in the 20th Century** (3) An exploration of the political evolution of the Caribbean Region over the course of the 20th Century.
Effective: Summer 2005
Prerequisite: HIST 250

HIST 433 (IL) **Imperial Russia, 1700-1917** (3) Enlightened absolutism, mercantilism, westernization; economic progress, liberal reforms, and revolutionary movement; major intellectual and cultural trends; Russia as great power.
Effective: Spring 2006
Prerequisite: HIST 141

HIST 434 (IL) **History of the Soviet Union** (3) Revolution; social, political, economic, and cultural continuity and change in the U.S.S.R. since 1917.
Effective: Spring 2006
Prerequisite: HIST 141 orHIST 142

HIST 435 **Topics in European History** (3 per semester/maximum of 9) Study of a particular period or country in European history, its significance and relation to other areas and the present. (May be repeated for credit.)
Effective: Spring 2008
Prerequisite: HIST 001 orHIST 002

HIST 436 (IL) **Great Britain Under the Tudors and Stuarts, 1485-1688** (3) Religious, political, and constitutional developments in the British Isles.
Effective: Spring 2006

Prerequisite: HIST 001 orHIST 002

HIST 437 (IL) **Great Britain 1688-1867** (3) Social, economic, and political history of Great Britain from late Stuart times until the mid-Victorian era.
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

HIST 438 (IL) **Great Britain 1867-Present** (3) Social, economic, and political history of Great Britain from the mid-Victorian era to the present.
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

HIST 440 (US) **Colonial America to 1753** (3) Background, establishment, and growth of the American colonies, including economic, political, social, religious, and intellectual developments.
Effective: Spring 2006
Prerequisite: HIST 020 3 additional credits in history

HIST 441 (US) **Revolutionary America, 1753-1783** (3) Forces in Great Britain and America causing withdrawal of thirteen colonies from the British Empire and the Revolutionary War.
Effective: Spring 2006
Prerequisite: HIST 020 3 additional credits in history

HIST 442 (US) **The Early American Republic, 1783-1850** (3) Confederation and Constitution; the Federalist and Jeffersonian periods; "the Era of Good Feelings"; "the Age of Jackson."
Effective: Spring 2006
Prerequisite: 3 credits in American history

HIST 444 (US) **The United States in Civil War and Reconstruction--1850-1877** (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of Reconstruction.
Effective: Spring 2006
Prerequisite: HIST 130

HIST 444W (US) **The United States in Civil War and Reconstruction--1850-1877** (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of reconstruction.
Effective: Spring 2008
Prerequisite: HIST 130 orHIST 020

HIST 445 (US) **The Emergence of Modern America** (3) Economic, social, political history of the United States, 1877-1919, emphasizing growth of industrialism and development as a modern nation.
Effective: Spring 2006
Prerequisite: HIST 021 3 additional credits in history economics or political science

HIST 446 (US) **America Between the Wars** (3) The Roaring Twenties, the Great Crash, Depression, and New Deal; war debts, reparations, isolationism, and World War II.
Effective: Spring 2006

HIST 447 (US) **Recent American History** (3) Contemporary economic, social, and political aspects of the United States and its role as a world power since 1945.
Effective: Spring 2006
Prerequisite: HIST 021 3 additional credits in history economics or political science

HIST 448 (US) **America in the 1960s** (3) Social, political, and cultural themes in the United States in the 1960s.
Effective: Spring 2006
Prerequisite: HIST 021

HIST 449 (US) **Constitutional History of the United States to 1877** (3) Colonial background; framing and adoption of the constitution; development of the court under Marshall and Taney; sectionalism, Civil War, Reconstruction.
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021 3 additional credits in history or political science

HIST 450 (US) **Constitutional History of the United States Since 1877** (3) Constitutional developments from laissez-faire to the welfare state; imperialism, war, internationalism; the contemporary court, civil liberties, and civil rights.
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021 3 additional credits in history or political science

HIST 451 (US) **The Consumer Revolution** (3) The origins and impact of American consumer society since 1870.
Effective: Spring 2006
Prerequisite: three credits in history marketing or advertising

HIST 452 (US;IL) **History of U.S. Foreign Relations** (3) History of U.S. foreign relations since 1789; emphasis on twentieth century.
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021

HIST 453 (GEOG 407) **American Environmental History** (3) The history of the ways Americans have used and thought about the environment since 1500.
Effective: Spring 1998
Prerequisite: GEOG 030, LARCH 003 ; andHIST 020, HIST 021 ; or 6 credits in the humanities or social sciences

HIST 454 (US) **American Military History** (3) Development of U.S. military policy, 1776 to the present, emphasizing the

conduct of our wars, interrelationship of civil and military authority.
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021

HIST 456Y (US) **The Social History of American Vernacular Building, 1607-1980** (3) Social, historical, and cultural context of American building including settlements, housing, workplaces, stores, recreational facilities; changes over time.
Effective: Spring 2006
Prerequisite: 3 credits in American history

HIST 457 (US;IL) (S T S 457, WMNST 457) **The History of Women in Science** (3) Critical analysis of the roles women, gender, and minorities have played in natural sciences.
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001, WMNST 003 orWMNST 005

HIST 458Y (US) (LER 458Y) **History of Work in America** (3) A study of selected problems in the history of work in the United States, especially since 1877.
Effective: Spring 2008
Prerequisite: HIST 021, HIST 156 orLER 100

HIST 459Y (US) **Social and Cultural History of the United States Since 1783** (3) Role of immigration, social reform movements, religion, education, science, literature, and the arts in American history.
Effective: Spring 2006

HIST 460 (US;IL) **United States Foreign Intelligence** (3) Aims, methods, and organization of U.S. foreign intelligence from the American Revolution to the Cold War and beyond.
Effective: Spring 2006

HIST 461 (US;IL) **The Emergence of the American City: 1100-1880** (3) The growth of American cities from their urban origins in Europe and the Native-American Southwest to 1880.
Effective: Spring 2006

HIST 462 (US;IL) **The Twentieth Century City** (3) Political, economic, social, and cultural transformations in American cities from 1880 to 2000.
Effective: Spring 2006

HIST 463 (US) **American Thought to 1865** (3 Introduction to, scholarly commentary on, major documents of American Intellectual history, early colonial period to end of the Civil War.
Effective: Spring 2006
Prerequisite: any American history course at the college freshman level

HIST 464 (US) **American Thought from 1865** (3) Introduction to, scholarly commentary on, major documents of American Intellectual history from end of the Civil War to the present.
Effective: Spring 2006
Prerequisite: any American history course at the college freshman level

HIST 465 (US) (AAA S 465) **Civil Rights and American Politics 1933-1968** (3) The civil rights struggle and its impact upon American politics.
Effective: Summer 2005
Prerequisite: AAA S 100, HIST 021, HIST 152, PL SC 001 orPL SC 002

HIST 466 (US;IL) (WMNST 466) **Lesbian and Gay History** (3) Critical exploration of the history of sexuality, focusing especially on the emergence of modern lesbian and gay identities.
Effective: Summer 2005
Prerequisite: HIST 117, WMNST 001

HIST 467 (US;IL) (LTNST 467) **Latin America and the United States** (3) Historical development of policies of the United States with regard to Latin- American affairs from colonial times to the present.
Effective: Fall 2008

HIST 468 (IL) **Mexico and the Caribbean Nations in the Twentieth Century** (3) Political, economic, and social development in Mexico and the Caribbean since 1900. Emphasis on Mexican, Guatemalan, and Cuban revolutions.
Effective: Spring 2006

HIST 469 (CRIMJ 469) **Drugs and Drug Policy in the United States** (3) Examines the history and dimensions of drug use and analyzes the impact of drug policy.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orHIST 021

HIST 470 **Modern Bondage: Slavery in the Americas, 1492-1888** (3) The work, culture, ideology, and political economy of slavery in the Americas between 1500 and 1888.
Effective: Summer 2007
Prerequisite: HIST 011, HIST 020, HIST 152, HIST 178 orHIST 192

HIST 471Y (IL) (RL ST 471Y) **Classical Islamic Civilization, 600-1258** (3) Pre-Islamic Arabia; Muhammad; Arab conquests;

Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.
Effective: Fall 2006

HIST 472 (IL) **The Ottoman Empire and Other Muslim States** (3) Turkish and Mongol invasions; Mamluks; Ottoman expansion and institutions; Safavid Persia; disintegration and reform; emergence of modern Turkey and Iran.
Effective: Spring 2006
Prerequisite: HIST 181

HIST 473 (IL) **The Contemporary Middle East** (3) Political, economic, and social changes in Turkey, Iran, Israel, and the Arab countries in the twentieth century; Arab-Israeli conflict.
Effective: Spring 2006

HIST 475Y (IL) **The Making and Emergence of Modern India** (3) India's transition to social, economic, and political modernity through the experience of British colonial rule and the nationalist struggle.
Effective: Spring 2006
Prerequisite: HIST 010, HIST 011, HIST 172, HIST 175, HIST 176, HIST 181 orHIST 191

HIST 477 **American Military History to 1900** (3) Development of United States military policy, 1776-1900, emphasizing conduct of wars, interrelationship of civil and military authority.
Effective: Spring 2008
Prerequisite: 3 credits in history

HIST 478 **American Military History Since 1900** (3) Development of United States military policy in the 20th and 21st centuries, emphasizing conduct of wars, interrelationship of civil and military authority.
Effective: Spring 2008
Prerequisite: 3 credits in history

HIST 479 (IL) **History of Imperialism and Nationalism in Africa** (3) Theories and types of imperialism; varied patterns of colonial administration; initial African responses; nationalism; decolonization and independence.
Effective: Spring 2006
Prerequisite: HIST 191

HIST 480 (IL) **Medieval Japan** (3) An overview of Japan between 1150-1550, a period of political decentralization, cultural efflorescence, and social change.
Effective: Spring 2006
Prerequisite: HIST 107, HIST 172, HIST 174 orHIST 407

HIST 481 (IL) **Modern Japan Since 1800** (3) The transformation of Japan from a pre-modern, isolated, and agricultural nation into a highly industrialized world power.
Effective: Spring 2006
Prerequisite: HIST 172, HIST 174 orHIST 175

HIST 483 (IL) **Chinese Society and Culture to 1800** (3) The social, political, and cultural issues and developments from ancient to the late-imperial times.
Effective: Spring 2006
Prerequisite: HIST 174

HIST 484Y (IL) **History of Chinese Thought** (3) A study of the dynamic historical development of Chinese thought with its diverse expressions from antiquity to the present.
Effective: Spring 2006
Prerequisite: HIST 174 orHIST 175

HIST 485Y (IL) **Nineteenth-Century China** (3) Ch'ing society and institutions; "opening" to the west; imperialism; domestic upheaval and its effect upon Chinese society; reform movements.
Effective: Spring 2006
Prerequisite: HIST 175 orHIST 300H (Honors in East Asian history)

HIST 486 (IL) **Twentieth-Century China** (3) China from the Republican Revolution of 1911 to the present; nationalism, cultural change; development of communism.
Effective: Spring 2006
Prerequisite: HIST 175 orHIST 300H (Honors in East Asian History)

HIST 487 **American Diplomacy, 1776-1914** (3) Developments in the foreign policy of the United States from independence to the eve of World War I.
Effective: Spring 2008
Prerequisite: HIST 002 orHIST 020

HIST 488 **American Diplomacy Since 1914** (3) Developments in the foreign policy of the United States since the eve of World War I.
Effective: Spring 2008
Prerequisite: HIST 002 orHIST 021

HIST 490 (L ST 490) **Archival Management** (1-3) Introduction to the principles and procedures in the management of archives and historical manuscripts.
Effective: Fall 1978

HIST 491 (IL) **British Civil Wars and Revolutions, 1639-1651** (3) This is an advanced course on the history of the general crisis in the British Isles, from the outbreak of war between England and Scotland in 1639 to the securing of the

Commonwealth regime following the desstruction of the last major royalist army in 1651.
Effective: Fall 2009
Prerequisite: HIST 002, HIST 134 orHIST 436

HIST 492 (IL) **Witchcraft in Early Modern Europe** (3) Survey of the social, economic, political, and religious conditions of accusations and prosecutions of witchcraft in western Europe and north America, from 1500 to 1700.
Effective: Fall 2009
Prerequisite: HIST 002

HIST 493 **Preceptorship in Teaching** (3-6) Supervised experience in research of teaching under the guidance of an approved faclty member.
Effective: Summer 1997
Prerequisite: 3 credits in course-work related to the teaching or research subject

HIST 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

HIST 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

HIST 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.
Effective: Summer 1986
Prerequisite: prior written approval of proposed assignment by instructor

HIST 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

HIST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

HIST 497A **The Spanish-Speaking Caribbean and Its Diaspora** (3) This course will examine the nineteenth and twentieth century history of Cuba, Santo Domingo, and Puerto Rico, including the emigration and founding of Spanish-Caribbean diasporas in the United States.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 497B **Ethnic Nationalism and Global Conflict** (3) This course examines the rise of ethnic nationalism in the twentieth century and explores its wide-ranging consequences.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 497C **Slavery in the Americas, 1492 - 1888** (3) This course examines the rise, expansion, and destruction of African slavery in the Americas.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 497D **The Arab World and the US: From Barbary Pirates to the Global War on Terror** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 497E **Chinese Society and Culture to 1600** (3) Exploration of Chinese history to 1600, including early civilizations, bureaucratic empire, phiosophy and religion, society and economy, and foreign relations.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 497E (C I 497E, A ED 497E) **Consuming Child** (3) Explores linkages between new ideas about childhood and commerical/media culture since the Enlightenment through sponsored guest presentations and readings.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HIST 497F **Global History of Medicine** (3) A crosscultural and comparative perspective on how society and culture have shaped the experience of the body, health, illness, and cure throughout human history.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 497G **US Relations with the Middle East** (3) Seminar on history of American diplomatic, military, political, and economic relations with Middle Eastern countries from 1776 to the present.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HIST 499 (IL) **Foreign Study--History** (1-6) Study in selected foreign countries of various periods and topics in history.

Effective: Summer 2005
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HIST 499C (IL) (CAMS 499C, J ST 499C) **Archaeological Field School** (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HIST 499D (IL) (CAMS 499D, J ST 499D, ANTH 499D) **Conservation and Public Archaeology** (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

HIST 499E (IL) (RL ST 499E, CAMS 499E) **Petra, the Spice Route, and the Decapolis Cities in Roman Palestine** (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

Last Import from UCM: May 29, 2010 3:00 AM

Homeland Security (HLS)

HLS 410 **Public Health Preparedness for Disaster and Terrorist Emergencies I** (3) Analyzes the history of terrorism and explores the preparation and response to specific terrorist threats, natural disasters, and conventional catastrophes.
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: Undergraduate StudentsBIOL 011 andBIOL 012 orCHEM 110 andCHEM 111 orMICRB 106 andMICRB 107 ; Graduate Students - Enrollment in the MHS program the Post- Baccalaureate Credit Certificate in Homeland Security or permission from the instructor.

HLS 410 (PHP 410) **Public Health Preparedness for Disaster and Terrorist Emergencies I** (3) Analyzes the history of terrorism and explores the preparation and response to specific terrorist threats, natural disasters, and conventional catastrophes.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: Undergraduate StudentsBIOL 011 andBIOL 012 orCHEM 110 andCHEM 111 orMICRB 106 andMICRB 107 ; Graduate Students - Enrollment in the MHS program the Post- Baccalaureate Credit Certificate in Homeland Security or permission from the instructor.

Last Import from UCM: May 29, 2010 3:00 AM

Honors (HONOR)

HONOR 201 **Developing Critical Thinking for Leadership** (1) Discussions on various topics using critical thinking skills to make informed leadership decisions.
Effective: Summer 2010
Prerequisite: member of the Presidential Leadership Academy

HONOR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2009

HONOR 301H **The Role of Knowledge in Society** (3) An interdisciplinary study of a topic utilizing contributions from science/ engineering, business, public policy, behavioral sciences/education, and the humanities.
Effective: Spring 1996 Ending: Summer 2010
Prerequisite: admission to Penn State Harrisburg Honors Program

HONOR 301H **The Role of Knowledge in Society** (3) Honors interdisciplinary study of topics utilizing contributions from science/ engineering, business, public policy, behavioral sciences/education, and the humanities.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

HONOR 401H **Honors Seminar** (3) An in-depth exploration of a topic or theme that crosses disciplinary boundaries; may be repeated for credit.
Effective: Spring 1996 Ending: Summer 2010
Prerequisite: admission to Penn State Harrisburg Honors Program

HONOR 401H **Honors Seminar** (3-6 per semester/maximum of 6) In-depth honors-level exploration of a topic or theme that crosses disciplinary boundaries; may be repeated for credit.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

HONOR 493H **Honors Service Learning** (1-3) A supervised experience of doing service for campus or community welfare and analyzing related issues.
Effective: Summer 1997 Ending: Summer 2010
Prerequisite: enrollment in the Penn State Harrisburg Honors Program

HONOR 493H **Honors Service Learning** (1-3) A supervised honors experience doing service for campus or community welfare and analyzing related issues.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

HONOR 494M **Interdisciplinary Writing and Thesis Formulation** (2) Seminar to help students approach interdisciplinary analysis, writing as interpretive process, and how to formulate a thesis project and proposal.
Effective: Summer 1999 Ending: Summer 2010
Prerequisite: enrollment in the Penn State Harrisburg Honors Program

HONOR 494M **Interdisciplinary Writing and Thesis Formulation** (2) Seminar to help students with interdisciplinary analysis, writing, and formulation of honors projects and proposals.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

HONOR 495H **Research Studies** (1) A capstone seminar for honors students working on honors theses and projects to work together and learn about their research interests.
Effective: Spring 2000 Ending: Summer 2010
Prerequisite: HONOR 301H enrollment in departmental or honor thesis study

HONOR 495H **Research Studies** (1) A capstone seminar for honors students working on honors theses and projects to work together and learn about their research interests.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HONOR 301H and enrollment in an honors program belonging to the Penn State Honors Consortium

HONOR 496H **Honors Thesis** (3) An opportunity to pursue an interdisciplinary thesis or research project among schools or division through the Honors program.
Effective: Spring 1996 Ending: Summer 2010
Prerequisite: HONOR 301H senior standing and permission of the program

HONOR 496H **Honors Thesis** (3) Research, creative activities, and writing necessary for pursuit and completion of an interdisciplinary honors thesis.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HONOR 301H senior standing and enrollment in an honors program belonging to the Penn State Honors Consortium

Last Import from UCM: May 29, 2010 3:00 AM

Horticulture (HORT)

HORT 101 (GN) **Horticultural Science** (3) Introduction to horticulture with emphasis on plant domestication, morphology, classification, world food crops, commodities, gardens, propagation, and agrochemicals.
Effective: Spring 2002

HORT 120 **Computer Applications for Landscape Contracting** (2) Emphasis is placed on the use of commercial software used for landscape planning and estimating. Limited to Landscape Contracting majors only.
Effective: Summer 1991

HORT 131 **Herbaceous Perennial and Annual Identification** (3) Herbaceous and annual plant identification; landscape use of herbaceous perennials and greenhouse and garden annuals.
Effective: Spring 2008
Prerequisite: BIOL 127, BIOL 110 orHORT 101

HORT 137 **Ornamental Plant Materials** (3) Identification and description under fall conditions; discussion of cultural and aesthetic aspects of trees of value in ornamental planting.
Effective: Fall 2003

HORT 138 **Ornamental Plant Materials** (3) Identification and description under spring conditions; discussion of cultural and aesthetic aspects of shrubs of value in ornamental plantings.
Effective: Fall 2003

HORT 150 (GN) **Plants in the Human Context** (3) An introduction to the many fascinating and vital relationships between plants and human society.
Effective: Summer 2007

HORT 201 **Applied Arboriculture** (2) Overview of methods used to diagnose problems and provide for the long term care of large trees.
Effective: Spring 2004
Prerequisite: Students must be physically capable of safely handling a running chainsaw and pulling their weight up a rope.

HORT 202 **Plant Propagation** (3) Principles and practices of asexual and sexual plant propagation.
Effective: Spring 2001
Prerequisite: BIOL 027, BIOL 110 orHORT 101

HORT 220 **CAD Applications in Landscape Contracting** (3) Application of computer-aided design software including AutoCAD and LANDCADD to landscape contracting.
Effective: Summer 1998
Prerequisite: HORT 120

HORT 232 **Horticultural Systematics** (3) Fundamentals of horticultural crop plant classification and systematics. Examples chosen from fruits and vegetables, exclusive of subtropical and tropical fruit.
Effective: Spring 2001
Prerequisite: HORT 101

HORT 238 (TURF 238) **Turf and Ornamental Weed Control** (3) Students will be introduced to the development of integrated weed management strategies utilizing a variety of cultural and chemical methods.
Effective: Summer 2007
Prerequisite: CHEM 110

HORT 250 **Landscape Contracting Design/Build Principles** (3) Introduction to the processes and principles of residential landscape site development, from initial client contact to implementation.
Effective: Summer 1998

HORT 269 **Residential Landscape Planning** (3) Principles and techniques in landscape design; preparation of plans of small properties.
Effective: Spring 2001
Prerequisite: Landscape Contracting majors in the Design/Build Option

HORT 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

HORT 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1986

HORT 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HORT 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

HORT 301 (FOR 301) **Principles of Arboriculture** (3) Overview of the concepts and methods prescribed for the evaluation and care of large trees in urban settings.
Effective: Spring 2004
Prerequisite: BIOL 110 andSOILS 101

HORT 315 **Environmental Effects on Horticultural Crops** (3) Horticultural plants respond to the environmental factors of light, temperature, water, and fertilizer both in controlled and field environments.
Effective: Spring 1993
Prerequisite: HORT 101, HORT 202

HORT 352 **Flower Arranging** (2) Floral design beginning with elements and principles of design. Flower arranging techniques as well as different styles of flower arrangements.
Effective: Spring 2001

HORT 368 **Landscape Planting Design** (4) Basic planting design employing the use of indigenous and ornamental plants as design elements in the man-made environment. Intended for Landscape Contracting majors only.
Effective: Spring 2001
Prerequisite: HORT 269

HORT 390 **Junior Seminar** (1) Current issues in horticulture and agriculture.
Effective: Spring 1993
Prerequisite: FIFTH-SEMESTER STANDING

HORT 402W **Plant Nutrition** (3) Mineral nutrition of higher plants, including nutrient acquisition, transport, metabolism, and practical implications.
Effective: Spring 2003
Prerequisite: HORT 315 orBIOL 441, SOILS 101

HORT 407 **Plant Breeding** (3) The scientific principles and techniques of utilizing genetic variability in improving the heredity of plants for specific purposes.
Effective: Spring 2003

HORT 408 **Landscape Plant Establishment and Maintenance** (4) The principles and practices involved in the establishment of plants in the landscape, and their subsequent maintenance.
Effective: Summer 1998
Prerequisite: HORT 137 orHORT 138;SOILS 101

HORT 409 **Landscape Plant Establishment and Maintenance Laboratory** (1) Students will actively participate in the practices involved in the establishment of plants in the landscape, and their subsequent maintenance.
Effective: Summer 1998
Prerequisite: HORT 408

HORT 410W **Issues in Landscape Contracting** (3) This will be a survey of business management, regulatory, and environmental issues facing the landscape contracting profession. Laboratory.
Effective: Summer 1998
Prerequisite: HORT 408

HORT 412W **Post-Harvest Physiology** (3) Harvesting, handling, storage, and transportation of horticultural crops; primary emphasis on physiological response to pre- and post-harvest environmental factors.
Effective: Spring 2001
Prerequisite: 6 credits in horticulture or other plant sciences

HORT 420 **Plant Growth Regulators** (3) Plant growth regulators, their chemical and physical properties; general principles, practices, and applications in regulating plant growth and development.
Effective: Spring 2001
Prerequisite: BIOL 110 orHORT 101

HORT 430W **Landscape Maintenance and Management** (3) Principles and practices in the maintenance and management of landscaped areas.
Effective: Spring 2001
Prerequisite: HORT 101;HORT 137 orHORT 138

HORT 431 **Small Fruit Culture** (3) Cultural requirements and production practices of the principal small fruit crops: strawberries, grapes, blueberries, brambles, and cranberries.
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

HORT 432 **Deciduous Tree Fruits** (3) Science, art, and techniques of regulated cropping; orchard designs and management systems.
Effective: Spring 2001

Prerequisite: HORT 101, HORT 315

HORT 433 **Vegetable Crops** (3) Cultural requirements of important vegetable crops in conjunction with physiological processes and problems related to commercial production.
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

HORT 440W **Plant Water Relations** (3) Fundamentals of plant water relations including acquisition, transport, conservation, response to drought, measurement of water status, relationship to productivity, interaction with mineral nutrition, and use of equipment.
Effective: Spring 2003
Prerequisite: BIOL 441 orBIOL 446 or permission of department

HORT 444 **Advanced Plant Breeding** (4) Exploration of the interrelationships of genetic, cytological, physiological, and environmental factors in plant improvement. An individual research project is required.
Effective: Fall 1983
Prerequisite: HORT 407

HORT 445 **Plant Ecology** (3) Advanced lectures on plant ecology which stress integration of physiological, population-level and community-level phenomena, and ecology in agriculture.
Effective: Fall 1999
Prerequisite: BIOL 220W, FOR 308 orHORT 315

HORT 450 **Greenhouse Management** (3) Maintenance and manipulation of the greenhouse production systems including structures, covers, light, temperature, carbon dioxide, water, growing media, fertilizer and greenhouse cost accounting.
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

HORT 453 **Flower Crop Production and Management** (3) Production of greenhouse flower and foliage plants; development of management skills for a greenhouse business.
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

HORT 455 **Retail Horticulture Business Management** (3) The nature, operation, and management of retail horticulture business, emphasizing retail greenhouses, nurseries, and flower shops.
Effective: Spring 2001
Prerequisite: HORT 131, HORT 137 orHORT 138 ; 3 credits of marketing

HORT 457 **Interior Plantscaping** (3) Foliage identification, environmental factors affecting plants, concepts of interior plant design, installation and maintenance.
Effective: Summer 2004
Prerequisite: HORT 101;HORT 202 orHORT 250 orHORT 269

HORT 459 (BIOTC 459, BIOL 459) **Plant Tissue Culture and Biotechnology** (3) Principles and techniques for the in vitro culture, propagation, and genetic manipulations of plant cells.
Effective: Fall 2003
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

HORT 464 **Landscape Construction I** (4) Standards, processes, and computations for site grading, drainage, earthwork, vehicular circulation, parking; detailing, and finishing of landscape construction materials.
Effective: Spring 2001
Prerequisite: HORT 269

HORT 466 **Landscape Construction II** (5) Project scheduling methods, plant installation techniques, and field layout principles and practices. Implications of site preparation.
Effective: Summer 1988
Prerequisite: HORT 464

HORT 468 **Landscape Estimating and Bidding** (2) Reading and interpreting contract drawings and specifications, quantity take- offs, cost estimating, and bid document preparation.
Effective: Spring 2001
Prerequisite: HORT 409 orHORT 466

HORT 490 **Senior Seminar** (1) Exploration of the interrelationships of horticulture, science, and society; evaluation of attributes and abilities related to various career opportunities.
Effective: Spring 1993
Prerequisite: HORT 390 seventh-semester standing

HORT 495 **Internship** (1-13) Supervised off campus experience in a public or commercial horticultural enterprise. Written and oral critique of activity required.
Effective: Fall 1983
Prerequisite: approval of proposed assignment required prior to registration

HORT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

HORT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

HORT 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HORT 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 201 **Introduction to Management in the Hospitality Industry** (3) Introduction to the hospitality industry and hospitality management.
Effective: Fall 2003
Concurrent: HRIM 202

HRIM 202 **Colloquium in Hospitality Management** (1 per semester, maximum of 4) Major industry and professional speakers lecture on current issues followed by discussion with students and faculty.
Effective: Spring 2004

HRIM 204 **Hotel and Restaurant Marketing and Merchandising** (3) Merchandising and marketing as a system concerned with motivating consumers to purchase hospitality products and services. This course will not meet the prescribed requirements for the HRIM major in any option.
Effective: Spring 2004

HRIM 228 **Hospitality Food Safety** (1) Application of HACCP, U.S. Food Code, biosecurity and other federal regulations to hospitality foodservice operations. Students attain certification in foodservice sanitation.
Effective: Spring 2010

HRIM 250 (D S M 250) **Principles of Quantity Food Production** (3) Principles and methods of quantity food production including preparation techniques, quality control and evaluation, and cost control.
Effective: Fall 2007

HRIM 260 **Hospitality Supervision Seminar** (3) Hospitality management topics are discussed with a major emphasis on operations management. This course will not meet the prescribed requirements for the HR&IM major in any option.
Effective: Fall 2009
Prerequisite: HRIM 201

HRIM 270 **Hospitality Administration Seminar** (4) Components of food service systems are identified and studied as separate problems and as a total system. This course will not meet the prescribed requirements for the HRIM major in any option.
Effective: Fall 2009
Prerequisite: HRIM 250, HRIM 260 ; orHRIM 250, MGMT 341

HRIM 271 **Introduction to Hospitality Technology** (2) Introduction to hospitality technology including computer applications, software, and hospitality information systems and applications.
Effective: Fall 2006
Prerequisite: prerequisite or concurrentHRIM 201, CMPSC 203

HRIM 295W **Analysis of Field Experience I** (3) Capstone class integrating content from throughout the previous curriculum, including directed written analysis of the 500-hour hospitality working experience.
Effective: Spring 2008
Prerequisite: HRIM 201, HRIM 204, HRIM 250, HRIM 335 andHRIM 380

HRIM 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2004

HRIM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2004

HRIM 297A **Basic Spanish for Hospitality Management** (3) Introduction to Spanish language, grammar, vocabulary, and concepts specific to the hospitality industry. Emphasis on verbal communication.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 304 **Institutional Food Service Management** (3) Institutional food service management systems in the hospitality

field.
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 201

HRIM 304 **Institutional Food Service Management** (3) Institutional food service management systems in the hospitality field.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better required forHRIM 201

HRIM 305 **Restaurant Management** (3) Restaurant food service management systems in the hospitality field; analysis including cost control and quality control techniques.
Effective: Spring 2004
Prerequisite: or concurrent:HRIM 201

HRIM 310 **Hotel, Restaurant, and Institutional Purchasing and Cost Control** (3) Purchasing and cost control principles for hotel, restaurant, and institutional operations.
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 201, HRIM 202, HRIM 335, HRIM 380, NUTR 119

HRIM 310 **Hotel, Restaurant, and Institutional Purchasing and Cost Control** (3) Purchasing and cost control principles for hotel, restaurant, and institutional operations.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: NUTR 119 a grade of "C" or better required forHRIM 201, HRIM 335

HRIM 311 **Wine Appreciation** (2) A study of identification of varieties of wine, methods and techniques of viniculture, development of wine lists and wine marketing.
Effective: Summer 2008
Prerequisite: Students must be 21 years of age or older to register for this course.

HRIM 315 **Hospitality Services Management** (3) Systems analysis, design, and application of service in hospitality management operations.
Effective: Spring 2004
Prerequisite: HRIM 201 or an introductory management course

HRIM 318 **Club Management and Operations** (2) Principles and practices of club organizations and management.
Effective: Spring 2004 Ending: Summer 2010

HRIM 318 **Club Management and Operations** (2) Principles and practices of club organizations and management.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better required forHRIM 201

HRIM 319 **Hospitality Facilities Management** (3) Fundamental principles of facilities planning, facilities management, and maintenance for all segments of the hospitality industry.
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 201

HRIM 319 **Hospitality Facilities Management** (3) Fundamental principles of facilities planning, facilities management, and maintenance for all segments of the hospitality industry.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better required forHRIM 201

HRIM 329 **Introduction to Food Production and Service** (3) Principles of quality food production and service stressing the integration of sanitation, menu planning, cost control, and service.
Effective: Summer 2006

HRIM 330 **Food Production and Service Management** (2) Food service management laboratory stressing the integration of purchasing, menu planning, and costing in quantity production of quality food.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 329;NUTR 119 orNUTR 120

HRIM 335 **Hospitality Financial Accounting** (3) Basic accounting concepts and practices applicable to hospitality organizations.
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required forMATH 021 . Prerequisite or concurrent:HRIM 201, HRIM 202

HRIM 335 **Hospitality Financial Accounting** (3) Basic accounting concepts and practices applicable to hospitality organizations.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forMATH 021 . Prerequisite or concurrent:HRIM 201

HRIM 336 **Hospitality Managerial Accounting** (3) Collection, processing, and interpretation of accounting data for managerial planning, control, and evaluation in hospitality organizations.
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: a grade of "C" or better required for:HRIM 335

HRIM 336 **Hospitality Managerial Accounting** (3) Collection, processing, and interpretation of accounting data for managerial planning, control, and evaluation in hospitality organizations.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better inHRIM 335 orACCT 211 and a grade of "C" or better inCMPSC 203

HRIM 337 **Food, Beverage, and Labor Cost Control** (3) Techniques for analyzing and controlling food, beverage, and labor costs in hospitality organizations.
Effective: Spring 2004
Prerequisite: ACCTG 200

HRIM 350 **Hospitality Decision Making and Information Systems** (3) Application of decision theory and models to solve qualitative and quantitative problems using Hospitality Information Systems and Computer Applications.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forCMPSC 203, STAT 200 . Prerequisite or concurrent:HRIM 201, HRIM 202

HRIM 355 **Legal Aspects of the Hospitality Industry** (3) Specialized applications of law to the hospitality industry.
Effective: Spring 2009
Prerequisite: or concurrent:HRIM 201

HRIM 365 (IL) **Organizational Behavior in the Hospitality Industry** (3) Study of individual satisfaction and performance in hospitality organizations. Topics include cultural diversity, motivation, communication, group behavior, and leadership.
Effective: Spring 2006 Ending: Summer 2010
Prerequisite: HRIM 201 orMGMT 100

HRIM 365 (IL) **Organizational Behavior in the Hospitality Industry** (3) Study of individual satisfaction and performance in hospitality organizations. Topics include cultural diversity, motivation, communication, group behavior, and leadership.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HRIM 201 Concurrent: HRIM 201

HRIM 380 **Hotel Management** (3) Introduction to rooms management including front office, housekeeping, security, and engineering. Emphasizes operations, coordination, and communication within and between departments.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 201

HRIM 385 **Management Principles in Dietetic Services** (3) Application and integration of management principles and leadership skills in dietetic services.
Effective: Summer 2004
Prerequisite: HRIM 330, NUTR 380

HRIM 386 **Introduction to the Gaming and Casino Industry** (3) Students will learn about those traits of the casino industry which distinguish it from other segments of the hospitality industry.
Effective: Summer 2010
Prerequisite: Prerequisite or concurrent:HRIM 201

HRIM 387 **Casino Controls** (3) This course is an overview of controls used in casinos including an exploration of complimentary goods (comps) and services and credit.
Effective: Summer 2010
Prerequisite: "C" or better inHRIM 201, HRIM 335 andHRIM 386 Concurrent: HRIM 388

HRIM 388 **Gaming Operations Management** (3) Students will learn casino mathematics, game protection, floor layout methods, departmental organizational structure, and performance analysis.
Effective: Summer 2010
Prerequisite: "C" or better inSTAT 200, HRIM 201 andHRIM 386 Concurrent: HRIM 387

HRIM 395W **Practicum Analysis** (3) Written analysis comparing and contrasting conceptual issues in the hospitality industry.
Effective: Spring 2004
Prerequisite: HRIM 201 1000 hours of adviser-approved professional hospitality experience

HRIM 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2004

HRIM 397A **Spanish for Hospitality II** (3) Intermediate applications of the Spanish language, grammar, vocabulary, and concepts specific to the hospitality industry. Emphasis on verbal communication.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HRIM 397F **Safety of Food and Beverage Service** (1) Course focuses on food safety and responsible alcohol service.
Effective: Summer 2010 Ending: Summer 2010

HRIM 397F **Safety of Food and Beverage Service** (1) Course focuses on food safety and responsible alcohol service.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

HRIM 411 **Beverage Management and Wine Selection** (3) Management issues in beverage service and products. Students taste wines, brews, and distilled spirits.
Effective: Spring 2004
Prerequisite: students must be at least 21 years old

HRIM 412 **Advanced Institutional Food Service Management** (4) Advanced principles of food production management and service and their application in institutional food service settings.
Effective: Spring 2004
Prerequisite: HRIM 330

HRIM 413 **New Product Development for Commercial Foodservice** (3) This course introduces students to a new product development process that requires coordination, communication, and integration throughout the organization.
Effective: Spring 2010
Prerequisite: a grade of "C" or better forHRIM 329

HRIM 415 **International Cuisine** (3) Cooking and eating practices of cultures around the world, including historical, religious, cultural, geographic, and political influences on each cuisine.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 201, NUTR 100, NUTR 119

HRIM 430 **Advanced Food Production and Service Management** (3) Simulation and application of technical, conceptual, interpersonal skills. Emphasis on group dynamics; improvement in managerial skills; management team functions.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 330

HRIM 435 **Financial Management in Hospitality Operations** (3) Fiscal techniques in the development, management, and control of hospitality establishments.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forECON 002 orECON 014 andHRIM 336 . Prerequisite or concurrent:HRIM 350

HRIM 436 **Hospitality Operational Management** (3) Tactical management processes of hospitality operations, with an emphasis on integrating concepts from previous courses into daily managerial systems.
Effective: Spring 2004
Prerequisite: HRIM 435, HRIM 442

HRIM 437 **Hospitality Project Evaluation and Funding** (3) Current techniques for project evaluation in the hospitality industry; trends in hospitality project funding.
Effective: Spring 2004
Prerequisite: HRIM 435

HRIM 438 **Cases in Financial Analysis** (3) Financial analysis and decision making is examined through a series of hospitality-oriented cases.
Effective: Spring 2004
Prerequisite: HRIM 435

HRIM 442 **Hospitality Marketing** (3) Marketing management in the hospitality industry, including analyzing the market through market research and developing a marketing plan.
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required forHRIM 350, MKTG 221

HRIM 442 **Hospitality Marketing** (3) Marketing management in the hospitality industry, including analyzing the market through market research and developing a marketing plan.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forHRIM 201, MKTG 221

HRIM 443 **Sales Planning and Advertising for Hospitality Operations** (3) Elements of sales management, advertising, promotion, and public relations as applied to hospitality organizations.
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 442 or 3 credits in marketing

HRIM 443 **Sales Planning and Advertising for Hospitality Operations** (3) Elements of sales management, advertising, promotion, and public relations as applied to hospitality organizations.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better forHRIM 442

HRIM 444 **Caribbean Hospitality/Tourism Development** (3) Evaluation of sustainable hospitality/tourism.
Effective: Spring 2004

HRIM 455 **Convention Management** (3) Management principles of hotel convention sales and service.
Effective: Spring 2004
Prerequisite: HRIM 380, HRIM 442

HRIM 456 **Casino Operations Management** (3) Historical and current perspective of the gaming industry. Management principles of casino operations, including coordination with traditional hospitality services.
Effective: Spring 2004

HRIM 466 (US) **Human Resource Management in the Hospitality Industry** (3) Recruitment, selection, training, performance appraisal, and compensation of hospitality human resources in today's culturally diverse work force.
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required forHRIM 365

HRIM 466 (US) **Human Resource Management in the Hospitality Industry** (3) Recruitment, selection, training, performance appraisal, and compensation of hospitality human resources in today's culturally diverse work force.

Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forHRIM 201, HRIM 365

HRIM 467 **Management of Hotel and Restaurant Employee Relations** (3) Survey and analysis of managerial strategies for employee relations in hospitality operations.
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 466

HRIM 467 **Management of Hotel and Restaurant Employee Relations** (3) Survey and analysis of managerial strategies for employee relations in hospitality operations.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better forHRIM 466

HRIM 470 **Hospitality Management Information Systems** (3) Design, implementation, and analyses of information systems for strategic, tactical, and operational functions of hospitality management.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 350

HRIM 471 **Evaluation of Hospitality Technology** (3) This course provides students with an understanding of the variety of information technologies used in the hospitality industry.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 350, HRIM 470

HRIM 480 **Advanced Hotel Management** (3) Advanced hotel operations, internal control systems, and service philosophy. Integrates management, departmental operations, law, technology applications, marketing and managerial accounting.
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 336, HRIM 380

HRIM 482 **Hospitality Real Estate** (3) The course focuses on commercial real estate concepts related to the hospitality industry.
Effective: Fall 2008 Ending: Summer 2010
Prerequisite: HRIM 336, HRIM 380

HRIM 482 **Hospitality Real Estate** (3) The course focuses on commercial real estate concepts related to the hospitality industry.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forHRIM 336, HRIM 380

HRIM 486 **Casino Marketing** (3) Students will learn marketing techniques for casinos which take into account the external environment, individual consumer choices, and ethical considerations.
Effective: Summer 2010
Prerequisite: "C" or better inMKTG 221, HRIM 387, HRIM 388 andHRIM 495 Concurrent: HRIM 487

HRIM 487 **Casino Operations and Societal Impact of Gaming** (3) Students will learn the structure, culture, and ethical responsibility toward disordered gambling and other lifestyle issues of modern casinos.
Effective: Summer 2010
Prerequisite: "C" or better inHRIM 387, HRIM 388 andHRIM 495 Concurrent: HRIM 486

HRIM 489 **Seminar in Institutional Food Service Management** (3) Contemporary issues in institutional food service management.
Effective: Spring 2004
Prerequisite: HRIM 304

HRIM 490W **Strategic Hospitality Management** (3) This capstone writing-intensive class integrates content from throughout the previous curriculum, focusing on strategic application to current industry issues.
Effective: Fall 2007 Ending: Summer 2010
Prerequisite: HRIM 365, HRIM 435, HRIM 442

HRIM 490W **Strategic Hospitality Management** (3) This capstone writing-intensive class integrates content from throughout the previous curriculum, focusing on strategic application to current industry issues.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better forHRIM 365, HRIM 435, HRIM 442

HRIM 491 **Operational Analysis of Institutional Food Service** (3) The development and application of quantitative and qualitative techniques for evaluation of institutional food service.
Effective: Spring 2004
Prerequisite: HRIM 330, HRIM 336, HRIM 337, HRIM 350

HRIM 492 **Advanced Professional Seminar in Hotel, Restaurant and Institutional Management** (1) Course prepares senior HR&IM students to assume leadership positions in the hospitality industry (Focus on careers, leadership, ethics, lifelong learning).
Effective: Spring 2004
Prerequisite: 1000 hours of work experience in the hotel restaurant and institutional management industry Concurrent: HRIM 430 HRIM 466 HRIM 490

HRIM 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2004
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495A **Hotel Internships-PS Hospitality Services Internship** (3) Students will participate in a supervised internship

with Penn State Hospitality Services.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495A **Hotel Internship-PS Hospitality Services Internship** (3) Students will participate in a supervised internship with Penn State Hospitality Services.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495B **Executive Internship-NLI** (3) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495B **Executive Internship-NLI** (3) Students will participate in a supervised internship with the Nittany Lion Inn.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495D **HRIM Teaching Assistant** (1-6) Student performs as a teaching assistant for an HRIM course. Assists faculty member with class.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495D **HRIM Teaching Assistant** (1-6) Student performs as a teaching assistant for an HRIM course. Assists faculty member with class.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495D **HRIM Teaching Assistant** (1-6) Student performs as a teaching assistant for an HRIM course. Assists faculty member with class.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495E **External/Off Campus Internship** (1-6) Students will participate in a supervised internship with an approved site participant. Internships are typically one semester in length.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495E **External/Off Campus Internship** (1-6) Students will participate in supervised internship with an approved site participant. Internships are typically one semester in length.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495E **External/Off Campus Internship** (1-6) Students will participate in a supervised internship with an approved site participant. Internships are typically one semester in length.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495F **Housing and Food Service Internship** (3) Students will participate in a supervised internship with a facility within PSU Housing and Food Service.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495F **Housing & Food Service Internship** (3) Students will participate in a supervised internship with a facility within PSU Housing & Food Service.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

HRIM 495G **Supervisory Internship** (6) Students will participate in a supervised internship with an approved site location.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

HRIM 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2004

HRIM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2004

HRIM 497A **Meeting & Events I** (3) Students will learn concepts and applications to Event & Meeting Planning.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497B **Special Topics in Hotel Management** (3) Students, through research and on-line activities, will discuss special or current interest in the hotel industry.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497C **Revenue Management** (3) Students will learn concepts and applications relating to revenue management within the Hospitality industry.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HRIM 497D **Casino Marketing** (3) Students will learn marketing techniques for casinos which take into account the external environment, individual consumer choices, and ethical considerations.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497D **Managing Continuing Care Retirement Communities** (3) Managing continuing care retirement communities.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HRIM 497E **Business Ethics and Corporate Social Responsibility** (3) Examines the role of ethics and corporate social responsibility in hospitality including the concepts of management, sustainability, and leadership.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497F **Entrepreneurship in the Hospitality Industry** (3) This course will explore the characteristics of the successful entrepreneur and the process of starting a new business venture.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497G **French Cuisine/Culture** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

HRIM 497G **Casino Operations and Societal Impact of Gaming** (3) Students learn organization structure, organization culture, and ethical responsibility toward disordered gambling and other lifestyle issues of modern casinos.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497H **Contemporary Research Issues** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 497I **Special Topics in Restaurant Management** (3) Students learn about special or current issues in the restaurant and foodservice industry through library research, on-line activities, class presentations.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

HRIM 497K **New Product Development** (3) Students participate in the testing and development of new products from participating industry companies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HRIM 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

HRIM 498D **International Hospitality Management** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

HRIM 498F **International Restaurant and Food Service Management** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

HRIM 498G **French Cuisine and Culture** (3) Program will include intensive classes on language and culture, products, cuisine, wine, and also design and atmosphere.
Effective: Summer 2010 Ending: Summer 2010

HRIM 498I **International Hospitality Management** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

HRIM 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

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Human Development and Family Studies (HD FS)

HD FS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 129 (GS) **Introduction to Human Development and Family Studies** (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.
Effective: Fall 2004

HD FS 129H (GS) **Introduction to Human Development and Family Studies** (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 129S (GS) **Introduction to Human Development and Family Studies** (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.
Effective: Summer 2006

HD FS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 216 **Personal and Interpersonal Skills** (2) Conceptions of lifespan personal and interpersonal skill enhancement.
Effective: Summer 1990

HD FS 218 **Foundations of Marriage** (3) Factors influencing the husband/wife relationship across the life course.
Effective: Summer 1990

HD FS 219 **Family Financial Management** (3) How families plan their finances and factors that determine their decisions.
Effective: Summer 1990

HD FS 229 (GS) **Infant and Child Development** (3) Theory, research, and methods of social/behavioral/biological sciences related to developmental processes and intervention during infancy and childhood.
Effective: Fall 2004

HD FS 230 **Overview of Curricular Practices in Early Childhood Care and Education** (3) Curricular practices in programs for infants, toddlers and preschoolers. Focus on developmentally appropriate practice, emergent curriculum and home/child care links.
Effective: Summer 2004
Prerequisite: HD FS 229

HD FS 231 **Guidance in Early Childhood Care and Education** (3) Positive guidance methods for infants, toddlers and preschoolers, leading to self-control and social capability. Includes focus on home/childcare links.
Effective: Summer 2004
Prerequisite: HD FS 229

HD FS 232 **Creativity and Play in Early Childhood Care and Education** (3) Planning for play, creativity and exploration in programs for infants, toddlers and preschoolers. Includes focus on home/childcare links.
Effective: Summer 2004
Prerequisite: HD FS 229

HD FS 233 **Emergent Language and Literacy: Development and Practice in Early Childhood Care and Education** (3) Fostering development of language and literacy in infants, toddlers and preschoolers. Includes children's literature and focus on home/childcare links.
Effective: Summer 2004
Prerequisite: HD FS 229

HD FS 234 **Mathematics and Science Reasoning: Development and Practice in Early Childhood Care and Education** (3)

Fostering development of mathematical reasoning and scientific inquiry in infants, toddlers and preschoolers. Includes project approach and focus on home/childcare links.
Effective: Summer 2004
Prerequisite: HD FS 229

HD FS 239 (GS) **Adolescent Development** (3) Social, behavioral, and biological development and intervention throughout adolescence.
Effective: Spring 2002

HD FS 249 (GS) **Adult Development and Aging** (3) Physiological, psychological, and social development and intervention from young adulthood through old age.
Effective: Spring 2003

HD FS 250 (US) (WMNST 250) **Sexual Identity over the Life Span** (3) Concepts of affectional and sexual orientation over life span, with emphasis on lesbian and gay male personal, family, and community adaptation.
Effective: Summer 2005
Prerequisite: 3 credits in HD FS or 3 credits in social or behavioral sciences

HD FS 287W (GS;US) **Intercultural Community-Building** (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287X (GS;US) **Intercultural Community-Building** (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 287Y (GS;US) **Intercultural Community-Building** (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.
Effective: Summer 2005

HD FS 296 **Independent Studies** (1-12) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

HD FS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

HD FS 297A **Foundations of Post-Secondary Transition** (1) Course designed for high school students who plan on transitioning to post- secondary training after high school.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 300H **Honors Seminar: Concepts and Issues in Human Development and Family Studies** (3) Introduces core concepts and issues in the study of Human Development and Family Studies.
Effective: Spring 1996
Prerequisite: HD FS 129 or permission of human development and family studies honors adviser

HD FS 301 **Values and Ethics in Health and Human Development Professions** (3) Examines bases for choices among values in personal and professional relations in human development processes and supporting services.
Effective: Summer 1998

HD FS 302A **Leadership and Technology Skills for Human Services Professionals A** (3) Development of skills essential for contemporary human services professionals, including critical thinking, problem solving, electronic communications, and information handling.
Effective: Spring 2001
Prerequisite: HD FS 129

HD FS 302B **Leadership and Technology Skills for Human Services Professionals B** (3) Application and enhancement of leadership and technology skills in team settings; emphasis on active and collaborative problem-solving.
Effective: Summer 1997
Prerequisite: HD FS 302A

HD FS 310M **Seminar in Honors--Research Methods** (3) Overview of research and methods issues tailored around development of honors thesis proposals.
Effective: Spring 1998
Prerequisite: permission of Human Development and Family Studies honors adviser

HD FS 311 **Human Development and Family Studies Interventions** (3) Survey of individual and family formal and informal intervention efforts; historical and current perspectives and approaches.
Effective: Spring 1996
Prerequisite: HD FS 129

HD FS 312W **Empirical Inquiry in Human Development** (3) Introduction to the skills involved in critical thinking in general and the methods of empirical inquiry in particular. Open to HD FS majors only.
Effective: Spring 2001
Prerequisite: a grade of C or better required inEDPSY 101 orSTAT 200

HD FS 315 (US) **Family Development** (3) Family functions over the life course; family from a multidisciplinary perspective, emphasizing adaptation and change.
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

HD FS 315Y (US) **Family Development** (3) Family functions over the life course; family from a multidisciplinary perspective, emphasizing adaptation and change.
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

HD FS 330 **Observation or Experience with Children, Youth, and Families** (1-6) Directed observations of, or supervised experience with children, youth, and families in group or home settings.
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212

HD FS 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

HD FS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 397A **Culture and Human Development** (3) This course explores how children's development is organized within different cultural contexts for the purpose of understanding both the unversity and diversity of pathways.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 401 **Project Planning, Implementation, and Evaluation in the Human Services** (3) Exercises and activities related to the design, planning, implementation and management, and evaluation of projects and programs in the human services.
Effective: Fall 2006
Prerequisite: HD FS 312W ; approval by internship coordinator. Prerequisite or concurrent:HD FS 411

HD FS 402 **Human Services Seminar** (4) Presentations and discussion of contemporary human issues by students and visiting professionals.
Effective: Summer 1997
Prerequisite: HD FS 401

HD FS 405 (US) **Gender and Social Development** (3) A review of gender-related patterns of social development over the lifespan, as influenced by biological, sociological, and psychological factors.
Effective: Spring 2006
Prerequisite: HD FS 129, HD FS 312W ; or 6 credits in social sciences

HD FS 410 **Communities and Families** (3) Family and community interaction, emphasizing strategies for intervention to solve family-community problems.
Effective: Spring 1996
Prerequisite: HD FS 312W ; 3 credits of social/behavioral sciences

HD FS 411 **The Helping Relationship** (3) Theory and research related to interpersonal conditions which facilitate personal growth; intensive interpersonal competency training.
Effective: Spring 1996
Prerequisite: HD FS 311;HD FS 312W ; or 6 credits in Human Development and Family Studies or psychology

HD FS 412 **Adult-Child Relationships** (3) Theories, research, and application of adult behavior for maximizing adult-child relationships and optimizing child socialization and self-development.
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 311;HD FS 315 orHD FS 315W;HD FS 312W

HD FS 413 **Developmental Problems in Adulthood** (3) Analysis of individual developmental problems from young adulthood through old age and their prevention and modification.
Effective: Spring 2001
Prerequisite: HD FS 129;HD FS 249;HD FS 312W

HD FS 414 **Resolving Human Development and Family Problems** (3) Strategies for, and roles of professional specialists in, the solution of problems in human development and family functioning.
Effective: Spring 1996
Prerequisite: HD FS 312W ; 6 credits in Human Development and Family Studies or psychology

HD FS 415 **Program Development in Family Relationships** (3) Methods for planning, developing, and evaluating human service programs for families across the life span.
Effective: Spring 2001
Prerequisite: HD FS 311;HD FS 312W;HD FS 315 orHD FS 315W

HD FS 416 (US) (SOC 411) **Racial and Ethnic Diversity and the American Family** (3) This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States.
Effective: Spring 2005
Prerequisite: 3 credits in sociology

HD FS 417 (US;IL) **Biocultural Studies of Family Organization** (3) Study of variability in family organization with an emphasis on cultural and economic factors influencing household organization and family roles.
Effective: Spring 2006
Prerequisite: HD FS 129;HD FS 312W;HD FS 315 orHD FS 315W ; or 6 credits in sociology or anthropology

HD FS 418 **Family Relationships** (3) Dynamics of family interaction; effects of parenthood, sibling and intergeneration relationships on family solidarity.
Effective: Spring 2001
Prerequisite: HD FS 312W;HD FS 315 orHD FS 315W

HD FS 420 **Laboratory in Individual and Family Enhancement** (3) Supervised practice in methods of assessment, intervention, and evaluation to enhance individual and family development.
Effective: Spring 1996
Prerequisite: HD FS 312W;HD FS 411 ; 6 additional credits in Human Development and Family Studies

HD FS 424 (US) **Family Development in an Economic Context** (3) Economic conditions influencing family functioning; familial effects on the economy; strategies to enhance work-family relations.
Effective: Spring 2006
Prerequisite: HD FS 312W;HD FS 315 orHD FS 315W

HD FS 425 (US) **Work as a Context for Human Development** (3) Theory and research on role of work in adult development; interrealtionships between work and family; workplace interventions to enhance development.
Effective: Spring 2006
Prerequisite: HD FS 312W ; 3 credits in social and behavioral sciences

HD FS 427 (KINES 427) **Developmental Sport & Exercise Psychology** (3) Developmental changes in the antecedents and consequences of physical activity across the lifespan.
Effective: Spring 2008
Prerequisite: PSYCH 100 andKINES 321 orHD FS 129 orPSYCH 212

HD FS 428 **Infant Development** (3) Conceptual analysis, assessment, and empirical investigation of normal and deviant development, prenatal through first two years of life.
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W

HD FS 429 **Advanced Child Development** (3) Processes of development during childhood from birth to adolescence. Emphasis upon theory, method, and empirical research.
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W

HD FS 430 **Experience in Preschool Groups** (6) Guided practicum experience in planning and facilitating developmentally appropriate activities for young children.
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W;HD FS 330

HD FS 431 (SOC 431) **Family Disorganization: Stress Points in the Contemporary Family** (3) Focuses on divorce, remarriage, incest, family violence as well as problems associated with family formation and parent-child relations.
Effective: Spring 1996
Prerequisite: HD FS 312W ; 6 credits of Human Development and Family Studies psychology sociology

HD FS 432 **Developmental Problems in Childhood and Adolescence** (3) Analysis of problems in individual development from infancy through adolescence; prevention and modification of developmental difficulties.
Effective: Spring 2007
Prerequisite: HD FS 229;HD FS 239 orPSYCH 212;HD FS 312W

HD FS 433 **Developmental Transition to Adulthood** (3) Conceptual analysis and empirical investigation of interrelationships between developmental processes during the period of pubertal growth.
Effective: Spring 1996
Prerequisite: HD FS 239;HD FS 312W

HD FS 434 (SOC 435) **Perspectives on Aging** (3) An analysis of the demographic, social, and cultural factors affecting the aged population in American society.
Effective: Fall 2007
Prerequisite: HD FS 312W ; 6 credits in sociology

HD FS 440 (SOC 440) **Family Policy** (3) An in-depth examination of family policy.

Effective: Spring 2007
Prerequisite: 3 credits of SOC or HD FS

HD FS 445 (PSYCH 416) **Development Throughout Adulthood** (3) Processes of development and change of behavior from early adulthood through old age, emphasizing theory, method, and empirical research.
Effective: Spring 2007
Prerequisite: HD FS 249 orPSYCH 100;HD FS 312W orPSYCH 301W;PSYCH 200, STAT 200 or 3 credits of statistics ; 6 credits in HD FS PSYCH or SOC.

HD FS 446 **Programs and Services in Gerontology** (3) Theoretical and historical views of the conceptualization and delivery of programs and services to older persons within a multidisciplinary developmental framework.
Effective: Spring 1996
Prerequisite: HD FS 249 orHD FS 445;HD FS 312W

HD FS 447 **Issues in Gerontology** (3) Analysis of major issues in adulthood and aging, with an emphasis on integration of theory and research.
Effective: Spring 1996
Prerequisite: HD FS 249 orHD FS 445;HD FS 312W

HD FS 450 **Developmental Child Programs and Services** (3) Current and historical views of the conceptualization and delivery of child programs and services within a multidisciplinary developmental framework.
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W

HD FS 453 **Family Participation and Involvement in Child Services** (3) Current and historical perspectives of roles and functions of family members in designing, delivering, and evaluating of child service programs.
Effective: Spring 2001
Prerequisite: HD FS 229;HD FS 312W;HD FS 315 orHD FS 315W

HD FS 454 (E C E 454) **Development and Administration of Child Service Programs** (3) Planning, administering, and evaluating child service programs at several administrative levels using methods from relevant disciplines.
Effective: Spring 1996
Prerequisite: HD FS 312W;HD FS 453;C I 295 orHD FS 330

HD FS 455 **Development and Administration of Human Services Programs** (3) Fundamentals of program development and administration of human service programs in community settings; emphasis given to program content, strategies, and the overall planning process.
Effective: Fall 2009
Prerequisite: HD FS 311

HD FS 468 **Biological Bases of Behavioral Development** (3) Biological, genetic, and experiential influences in development through the lifespan.
Effective: Spring 2007
Prerequisite: HD FS 129 orPSYCH 100;HD FS 312W ; 3 credits in human biology

HD FS 469U (IL) **Family Change in the Global Economy** (3) Exploration of how family life, quality, and structures in each region of the world are affected by the new global economy.
Effective: Fall 2005
Prerequisite: HD FS 315 orSOC 030

HD FS 477 **Analysis of Family Problems** (3) Analysis of families' behavioral, managerial, interpersonal, and financial problems and their interrelationships.
Effective: Spring 2001
Prerequisite: HD FS 312W;HD FS 315 orHD FS 315W ; 3 credits in social sciences

HD FS 490 **Introduction to Internship Experience** (2) Planning and preparation for field experience in human service setting. Analysis of human service system and arrangement of site.
Effective: Spring 1996
Prerequisite: HD FS 312W ; approval by internship coordinator. Prerequisite or concurrent:HD FS 411

HD FS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2000

HD FS 494H **Senior Honors Thesis** (1-6) Independent study under the direction of the thesis advisor of topics related to the interests of the student, culminating in presentation of a thesis.
Effective: Summer 1997
Prerequisite: approval of honors thesis advisor

HD FS 495A **Internship: Advanced Experience** (9) Full-time, one semester experiential training in human service settings. Open to HD FS majors only.
Effective: Fall 2006
Prerequisite: HD FS 490 ; permission of internship coordinator

HD FS 495B **Internship: Advanced Project** (3) Implementation of internship projects or scholarly paper. Open to HD FS majors only.
Effective: Fall 2006
Prerequisite: or concurrent:HD FS 495A

HD FS 495C **Professional Practicum in Human Services** (3-8) Guided professional practicum in human services, usually

in the form of a project related to a human services issue.
Effective: Summer 1997
Prerequisite: HD FS 401 orHD FS 490

HD FS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

HD FS 496B **Infant Temperament** (1-3) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

HD FS 497A **Child Abuse Prevention and Intervention** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: HD FS 229 orHD FS 239 ; andHD FS 312W

HD FS 497B **Parenting** (3) Course will focus on the determinants of parenting in the diverse cultures within the US.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 497C **Peer and Consultation** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 497D **Foundations of Marriage** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 497E **Risk and Resilience over the Life Span** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 497H **Professional Development** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

HD FS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

HD FS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual of group instruction.
Effective: Fall 2007

Last Import from UCM: May 29, 2010 3:00 AM

Humanities (HUM)

HUM 420 **Dilemmas of War and Peace** (3) A multidisciplinary examination of the dilemmas, paradoxes, problems and questions of war and peace, historically and in the contemporary world.
Effective: Spring 1996

Last Import from UCM: May 29, 2010 3:00 AM

Humanities and Social Sciences (H&SS)

H&SS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.
Effective: Fall 1992

H&SS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.
Effective: Fall 1992

H&SS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1989

H&SS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.
Effective: Spring 1989

H&SS 297A **Internship, Job and Graduate School Search** (1) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

H&SS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.
Effective: Fall 1992

H&SS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1989

H&SS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1989

Last Import from UCM: May 29, 2010 3:00 AM

Indus Eng Technol (IET)

IET 101 **Manufacturing Materials, Processes, and Laboratory** (3) Mechanical properties of materials; primary processing methods used in manufacturing; ferrous and nonferrous metals; important plastic plus ceramic materials; dimensional verification and measurements; mechanical properties evaluation; laboratory methods; statistical interpretation of data.
Effective: Fall 2007

IET 105 **Economics of Industry** (2) Internal economics of industrial enterprise, cost factors, and methods of comparing alternate proposals.
Effective: Fall 2007

IET 109 **Inspection and Quality Control** (3) Inspection methods and procedures and their application to control and acceptance sampling based on statistical methods.
Effective: Fall 2007
Prerequisite: MATH 082

IET 215 **Production Design** (2) The study of manufacturing processes for the purpose of part creation and/or part feature creation using both current and advanced technologies.
Effective: Fall 2008
Prerequisite: IET 101 orMET 105

IET 216 **Production Design Laboratory** (2) Laboratory methods in production design including conventional and advanced manufacturing processes, computer applications, and automation/robotics.
Effective: Fall 2008
Prerequisite: or concurrent:IET 215

IET 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2007

IET 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2007

IET 308 **Statistical Quality Control** (3) Fundamentals of probability and statistics, introduction to quality control fundamentals, control charts, acceptance sampling.
Effective: Fall 2007

IET 311 **Elements of Metallurgy** (3) Introduction to metallurgical concepts, metallurgical testing, phase diagram studies, heat treating concepts, ferrous and nonferrous systems.
Effective: Fall 2007
Prerequisite: CHEM 110, CHEM 111

IET 321 **Manufacturing Processes** (3) Manufacturing processes for producing metal, plastic, and ceramic items. Primary emphasis is placed on machine tool processes.
Effective: Fall 2007

IET 333 **Engineering Economics for Technologists** (2) Fundamentals of engineering economics; equivalence and rate of return analysis; replacement models; depreciation and tax considerations; and economic decision making for technologists.
Effective: Fall 2008
Prerequisite: MATH 022 andMATH 026 orMATH 040 orMATH 041

IET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

IET 402 **Production Management** (3) Principles and practices of managing the manufacturing operations of companies. Topics include management structure, physical plant, quality control, work sampling.
Effective: Fall 2007
Prerequisite: IET 321

IET 405 **Quality Control and Reliability Engineering** (3) Application of statistical methods to the control of quality, sampling inspection, and reliability engineering.
Effective: Fall 2007
Prerequisite: E T 313

IET 431 **An Introduction to Plastics and Ceramics** (3) An introductory study of the properties and processing parameters utilized for plastic and ceramic materials.
Effective: Fall 2007

Prerequisite: IET 311

IET 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2007

IET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

Last Import from UCM: May 29, 2010 3:00 AM

Industrial Engineering (I E)

I E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

I E 100S **Discover Industrial Engineering: First-Year Seminar** (1) Informational First-year on Industrial Engineering as a career choice and profession; lab exercises; guest speakers; real world problems.
Effective: Fall 1999

I E 101S **Build Your Own Robot--First-Year Seminar** (1) The objective of this first-year seminar course is to provide students hands-on experience with robotics and automation devices.
Effective: Summer 2000

I E 102S **Human-Centered Engineering--First-Year Seminar** (1) This First-year seminar considers what makes products and processes usable by people, through both design principles and student projects.
Effective: Summer 2000

I E 103S **Management Science and the Modern Engineer--First-Year Seminar** (1) This First-year seminar will introduce students to quantitative methods for decision making through a number of hands-on learning exercises.
Effective: Summer 2000

I E 104S **Managing the Real (Unpredictable) World--First-Year Seminar** (1) Informational First-year seminar on decision making under uncertainty in engineering and everyday life.
Effective: Summer 2000

I E 105S **Manufacturing Science and Technology--First-Year Seminar** (1) This First-year seminar will explore some aspects of manufacturing science and technology associated with the manufacturing of electronic products.
Effective: Summer 2000

I E 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

I E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I E 300 **Introduction to Industrial Engineering** (1) Introduction to the industrial engineering profession by solving typical problems using various computational hardware and software.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202

I E 302 **Engineering Economy** (3) Principles and methods for analyzing the economic feasibility of technical alternatives leading to a decision or recommendation.
Effective: Fall 1992
Prerequisite: MATH 141

I E 302H **Engineering Economy** (3) Principles and methods for analyzing the economic feasibility of technical alternatives leading to a decision or recommendation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 141

I E 303 **Engineering Economic Analysis** (2) Economic analysis of engineering alternatives.
Effective: Spring 2008

I E 305 **Product Design, Specification and Measurement** (3) Principles of product design and specifications and methods for product verification.
Effective: Summer 2005
Prerequisite: Prerequisite or concurrent:MATSE 259

I E 306 **Machining Process Design & Analysis** (3) Application of Engineering Principles for the Design and Implementation of Economic and Effective Machining Processes.
Effective: Spring 2008

Prerequisite: I E 305, I E 322

I E 307 **Rapid Prototyping Processes** (3) The study and application of rapid prototyping technologies in design and manufacturing.
Effective: Summer 2009
Prerequisite: I E 305

I E 310 **Principles of Deformation Processing** (3) Discussion, laboratory practices, and laboratory experiments covering principles of metal removal and forming, nonmetallic processing, and metrology.
Effective: Spring 2008
Prerequisite: I E 305

I E 311 **Principles of Solidification Processing** (3) Discussion, laboratory practices, and laboratory experiments covering principles of metal casting and joining, nondestructive testing, and nonmetallic processing.
Effective: Spring 2009
Prerequisite: I E 305

I E 312 **Product Design and Manufacturing Processes** (3) Theory and principles of manufacturing; effect on design selection and product quality; processes include material removal, casting, joining, plastic molding. Industrial engineering majors may not schedule this course.
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;E SC 414M orMATSE 259

I E 322 **Probabilistic Models in Industrial Engineering** (3) The study and application of probability theory in the solution of engineering problems.
Effective: Fall 2005
Prerequisite: MATH 141

I E 322H **Probabilistic Models in Industrial Engineering** (3) The study and application of probability theory in the solution of engineering problems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 141

I E 323 **Statistical Methods in Industrial Engineering** (3) The study and application of statistics in the solution of engineering problems.
Effective: Spring 2006
Prerequisite: I E 322

I E 327 **Introduction to Work Design** (3) Job analysis, cognitive and physical considerations in design of work, work measurement.
Effective: Fall 2008
Prerequisite: MATH 141, E MCH 011 orE MCH 210

I E 328 **Production Engineering** (3) Theory and principles for economic design of tooling for production, including process planning and numerical control of machine tools.
Effective: Spring 2001
Prerequisite: I E 310

I E 330 **Information Technology for Industrial Engineering** (3) The study and application of computing and information technology to industrial engineering.
Effective: Fall 2009
Prerequisite: MATH 141 andCMPSC 200, CMPSC 201 orCMPSC 202

I E 330L **Information Technology for Industrial Engineering** (3) The study and application of computing and information technology to industrial engineering.
Effective: Spring 2008
Prerequisite: MATH 141, CMPSC 201

I E 330P **Information Technology for Industrial Engineering** The study and application of computing and information technology to industrial engineering.
Effective: Spring 2008
Prerequisite: MATH 141, CMPSC 201

I E 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

I E 399 (IL) **Foreign Studies--Industrial Engineering** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

I E 400 **Engineering for Production** (3) The selection of the most effective materials and processes and the application of decision theory to product design.
Effective: Fall 1992
Prerequisite: I E 328, ENGL 202C

I E 402 **Advanced Engineering Economy** (3) Concepts and techniques of analyses useful in evaluating engineering projects under deterministic and uncertain conditions.
Effective: Summer 1995

Prerequisite: I E 302, I E 322, I E 405

I E 404 **Management Science** (3) The science and art of administration in the management, organization, and coordination of human activity in industrial enterprises.
Effective: Fall 1992
Prerequisite: I E 327

I E 405 **Linear Programming** (3) An introduction to the theory and application of the simplex method in solving the linear programming and dual problem.
Effective: Spring 2001
Prerequisite: MATH 220

I E 408 **Cognitive Work Design** (3) Design and evaluation of cognitive work, including the human/computer interface, visual displays, software design, and automated system monitoring, with emphasis on human performance.
Effective: Spring 2006
Prerequisite: I E 327

I E 414 **Materials Joining Processes and Principles** (3) Characteristics of principal processes for arc, resistance, and solid-state welding; brazing, soldering, adhesive bonding. Laboratory projects using various processes.
Effective: Summer 1995
Prerequisite: I E 311, I E 312 orMETAL 408W

I E 418 **Human/Computer Interface Design** (3) Design and evaluation of the human/computer interface, including human performance, visual displays, software design, and automated system monitoring.
Effective: Spring 2008
Prerequisite: I E 330

I E 419 **Work Design - Productivity and Safety** (3) Methods improvement, physical work design, productivity, work measurement; principles and practice of safety.
Effective: Spring 2006
Prerequisite: I E 327

I E 423 **Quality Control and Reliability** (3) Application of statistical methods to the control of quality, sampling inspection, and reliability engineering.
Effective: Summer 1995
Prerequisite: I E 323

I E 424 **Process Quality Engineering** (3) Statistical methods for engineering process characterization and improvement. For non-Industrial Engineering majors.
Effective: Summer 1994
Prerequisite: MATH 141, MATH 220

I E 425 **Introduction to Operations Research** (3) An introduction to the method and techniques of mathematical decision making, including inventory, replacement, allocation, and waiting line problems.
Effective: Spring 2006
Prerequisite: I E 322 Concurrent: I E 405

I E 426 **Industrial Automation** (3) Fundamentals, control, and theory for application of pneumatic, hydraulic, electrical, fluidic, transfer, feeding, and numerical control devices to automated equipment.
Effective: Fall 1992
Prerequisite: I E 328

I E 428 **Metal Casting** (3) Application of engineering principles to the design of castings; casting of ferrous and nonferrous alloys; laboratory and simulation projects.
Effective: Summer 1995
Prerequisite: I E 311, I E 312 orMETAL 408W

I E 430 **Industrial Project** (3) A project is carried out in conjunction with an industrial company and supplemented by tutorials.
Effective: Fall 1992
Prerequisite: I E 302, I E 327, I E 328

I E 433 **Regression Analysis and Design of Experiments** (3) Theory and Application of Regression Analysis and Design of Experiments to build models and optimize process and product parameters.
Effective: Summer 2005
Prerequisite: I E 323

I E 434 **Statistical Quality Control** (3) Statistical techniques for univariate and multivariate monitoring of independent and autocorrelated processes; foundations of quality control and improvement.
Effective: Summer 2007
Prerequisite: I E 323

I E 435 **Operations Research Models** (3) An introduction to basic deterministic and probabilistic models, linear programming, dynamic programming, simulation, Markov chains, queueing.
Effective: Summer 1993
Prerequisite: 3 credits of elementary probability theory

I E 436 **Six Sigma Methodology** (3) Techniques for structured problem-solving to improve the quality and cost of products and processes.
Effective: Spring 2010
Prerequisite: I E 323

I E 438 **Metal Cutting Principles and Practice** (3) Principles of metal cutting and introduction to current theories; analysis of metal removal processes; laboratory experiments for metal cutting analysis.
Effective: Summer 1995
Prerequisite: I E 310, I E 312 orMETAL 408W

I E 450 **Manufacturing Systems Engineering** (3) Components of automated manufacturing systems (CNC, robots, programmable logic controllers). Design, analysis and operational issues related to improved productivity in modern manufacturing systems.
Effective: Spring 2008
Prerequisite: CMPSC 201 andI E 328

I E 451 **Numerical Control** (3) Introduction to numerical control machines, design considerations, components, manual and computer-aided part programming for multiaxis NC machines.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;I E 328

I E 452 **Microcomputers--Programming and Industrial Applications** (3) Microcomputer principles, capabilities, and limitations; programming and software techniques for real-time industrial engineering application, with integrated laboratory.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;I E 426

I E 453 **Simulation Modeling for Decision Support** (3) Introduction of concepts of simulation modeling and analysis, with application to manufacturing and production systems.
Effective: Fall 2009
Prerequisite: CMPSC 200, CMPSC 201 orCMPSC 202 andI E 323 andI E 425

I E 454 **Applied Decision Analysis** (3) Theory and practice of decision analysis applied to engineering problems.
Effective: Fall 1992
Prerequisite: I E 322

I E 455 **Production Planning and Control** (3) Production palnning/control methods from aggregate to detailed levels; includes underlying theories and principles and industrial applications.
Effective: Spring 2001
Prerequisite: I E 322 . Prerequisite or concurrent:I E 405

I E 456 (M E 456) **Industrial Robot Applications** (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 328 orM E 360

I E 456 (M E 456) **Industrial Robot Applications** (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 305 orM E 360;CMPSC 200 orCMPSC 201

I E 462 **Introduction to Expert Systems** (3) Building expert systems in general; emphasis on knowledge representation and inference mechanisms in the manufacturing domain.
Effective: Fall 2009
Prerequisite: CMPSC 200, CMPSC 201 orCMPSC 202 andI E 323

I E 463 **Computer Aided Design and Manufacturing** (3) Three dimensional modeling and manufacture of parts and assemblies using Computer Aided Design and manufacturing software, and numerically controlled machines.
Effective: Spring 2008
Prerequisite: Any IE Manufacturing Process elective

I E 464 **Assembly of Printed Circuit Boards** (3) Manufacturing processes and principles for assembly of printed circuit boards with surface mount and through-hole technology.
Effective: Spring 2008
Prerequisite: PHYS 212, I E 305

I E 466 **Concurrent Engineering** (3) Concurrent engineering methods for product/process development, capturing customer requirements, insuring manufacturability and serviceability.
Effective: Summer 1996
Prerequisite: MATH 141, MATH 220

I E 467 **Facility Layout and Material Handling** (3) Analytical, simulation and computer-aided graphical methods to generate effective layout designs; design and integration of material handling systems and equipment. For Industrial Engineering majors.
Effective: Fall 2007
Prerequisite: I E 302, I E 327

I E 468 **Optimization Modeling and Methods** (3) Mathematical modeling of linear, integer, and nonlinear programming problems and computational methods for solving these classes of problems.
Effective: Fall 2001
Prerequisite: I E 405, MATH 231

I E 469 **Global Industrial Engineering Experience** (1) Students will learn how to prepare for a short term, professional exchange in a foreign nation. Students will then travel to a designated university within a foreign nation for the purpose of a five day cultural and professional exchange.

Effective: Summer 2009
Prerequisite: 5th semester standing or higher

I E 470 **Manufacturing System Design and Analysis** (3) Contemporary design and analysis methodologies used to organize systems for economic manufacture of products.
Effective: Summer 2005
Prerequisite: I E 310, I E 311, I E 464 or an approved coruse in any manufacturing process

I E 477 **Computer Control of Manufacturing Machines and Processes** (3) Elements of computer control and discrete-time modeling. Design and analysis of digital controls for manufacturing machines and processes.
Effective: Fall 2009
Prerequisite: MATH 141, CMPSC 200, CMPSC 201 orCMPSC 202 andI E 305

I E 478 **Retail Services Engineering** (3) Introduction to retail services operations, process models, and application of information technologies to enhance productivity and profitability.
Effective: Spring 2010
Prerequisite: I E 330

I E 479 (EDSGN 479) **Human Centered Product Design and Innovation** (3) Consumer product design for a global market, incorporating human factors principles and user desires in a multicultural perspective.
Effective: Summer 2010
Prerequisite: I E 408 orI E 419 or equivalent

I E 480W **Capstone Design Project** (3) Industry-based senior capstone design project emphasizing manufacturing systems, service systems, and information systems in an interdisciplinary setting.
Effective: Spring 2009
Prerequisite: I E 302, I E 327, I E 323, I E 305, I E 330, I E 405

I E 494H **Senior Honors Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Spring 2000

I E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1992

I E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

I E 497A **Human Centered Product Design and Innovation** (3) Consumer product design for a global market, incorporating human factors principles and user desires in a multicultural perspective.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: I E 408 orI E 419 or graduate standing

I E 497B **Healthcare Systems Engineering** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: I E 302, I E 323, I E 327 andI E 405

I E 497D **Micro/Nano Technology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

I E 499 (IL) **Foreign Studies--Industrial Engineering** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Industrial Health and Safety (I H S)

I H S 400 **Safety Engineering** (3) An examination of the engineering aspects of the safety discipline and it's management in the work environment.
Effective: Fall 2009
Prerequisite: CHEM 110, E MCH 210, MATH 141, PSYCH 100

I H S 410 **Safety Behavior and the Investigation Process** (3) This course investigates the relationship between human behavior and safety; includes an overview of human behavior issues in the context of accident/incident investigation techniques.
Effective: Spring 2007
Prerequisite: PSYCH 100

I H S 420 **Fire Protection Engineering** (3) Overview of the behavior of fire, fire hazards, suppression systems, alarms and detection systems, and fire safe design and prevention.
Effective: Fall 2009
Prerequisite: CHEM 110, CHEM 111, MATH 141, PHYS 212

I H S 425 **Industrial Electrical Safety** (3) Description and analysis of electrical hazards in industrial environments, hazard reduction practices, technologies, and programs. A laboratory is included.
Effective: Spring 2001
Prerequisite: PHYS 211, PHYS 212

I H S 430 **Industrial Health and Safety Program Management** (3) This course examines the essence of safety management in terms of its responsibilities, objectives, and organization.
Effective: Spring 1999
Prerequisite: MGMT 100

I H S 435 **Introduction to Mill and Plant Operations** (1) An introduction to methods used in the mineral and related process industries; relevant unit operations; selection of equipment. Not intended for students majoring in Mining Engineering, Mineral Processing, or Geo-Environmental Engineering.
Effective: Spring 1999
Prerequisite: MATH 141

I H S 440 **Ventilation for Contaminant Control** (3) Ventilation design and analysis for removal and control of industrial contaminants; measurement, isolation, dilution, and exhaust strategies; laboratory work included.
Effective: Fall 2009
Prerequisite: MATH 141, PHYS 212, CHEM 110

I H S 445 **Industrial Hygiene and Toxicology** (3) Recognition, evaluation, and control of physical, chemical, and biological hazards to promote safety and health using regulatory requirements and professional judgement.
Effective: Summer 2007
Prerequisite: CHEM 110, PHYS 211, PHYS 212

I H S 447 **Industrial Hygiene Measurements** (4) Introduction to industrial hygiene measurement techniques for evaluating occupational exposure to chemical, physical, and biological hazards; laboratory work included.
Effective: Fall 2003
Prerequisite: I H S 445

I H S 450 **Environmental Health and Safety** (3) Overview of toxicology, exposure assessment, industrial hygiene, environmental laws, and contemporary issues in environmental health and safety.
Effective: Fall 2009
Prerequisite: CHEM 110

I H S 470 **Systems Engineering in Process Safety** (3) Quantitative methods of systems analysis, risk analysis and rolerance, as well as accident cost and cost-benefit analysis are covered.
Effective: Fall 2009
Prerequisite: MATH 251

I H S 490 **Industrial Health and Safety Seminar** (1) Seminar dealing with contemporary issues of industrial health and safety.
Effective: Spring 1999
Prerequisite: senior standing

I H S 495W **Industrial Health and Safety Internship** (2) The preparation of a technical report on hazard assessment and control, resulting from experiential education gained at industrial worksites.
Effective: Fall 2009
Prerequisite: junior or senior standing

I H S 496 **Independent Studies** (1-18) Creative projects, including research and design,that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2002

I H S 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2000

Information Science (IN SC)

IN SC 431 **Information Systems Architecture** (3) Principles and priorities of enterprise system design, middleware and service-oriented architectures and web services.
Effective: Summer 2005

IN SC 463 **Languages of the Web** (3) Taxonomy of programming languages and frameworks used in the development of web-based information systems.
Effective: Summer 2005

IN SC 480 **Software Development Lifecycle** (3) Modern Software Development Techniques and Processes. Software Paradigms including OO and lifecycle modeling and improvement.
Effective: Summer 2005

IN SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.
Effective: Spring 1998

IN SC 497A **Fundamentals of Information Security** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

IN SC 497A **Computer Forensics** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

IN SC 497B **Fundamentas of Telecommunications** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

IN SC 497C **Business Intelligence** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Information Sciences And Technology (IST)

IST 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IST 110 (GS) **Information, People and Technology** (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Summer 2005

IST 110H (GS) **Information, People and Technology** (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

IST 110S (GS) **Information, People and Technology** (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

IST 110S (GS) **Information, People and Technology** (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

IST 111 **Seminar in IST** (1) Introduction to academic requirements, career planning & information literacy for students majoring in College of IST.
Effective: Spring 2010

IST 111S **Seminar in Information Sciences and Technology** (1) Introduction to academic requirements, career planning, and information literacy for students majoring in the College of Information Sciences and Technology.
Effective: Spring 2001

IST 130 (GA) **Emerging Technologies in Popular Culture** (3) A survey course that explores emerging technologies used to produce and consume popular cultural artifacts.
Effective: Summer 2009

IST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 210 **Organization of Data** (4) Introduction to concept of databases including the storage, manipulation, evaluation, and display of data and related issues.
Effective: Summer 2005
Prerequisite: IST 110

IST 211 **Advanced Topics in Relational Database Management Systems** (3) In depth coverage of: database administration, advanced Structures Query Language inquires, normalization, referential integrity; troubleshooting, tweaking; implementation dependent transactions, embedded SQL, Open Database Connectivity.
Effective: Summer 1999
Prerequisite: IST 210

IST 212 **Object-Oriented Database Systems** (3) Introduction to object-oriented database systems.
Effective: Summer 1999
Prerequisite: IST 210

IST 213 **Advanced Topics in Data Management** (3) Introduction to emerging technologies and special applications of

database management systems.
Effective: Summer 1999
Prerequisite: IST 211

IST 214 **Database Management Project** (3) Project course in database management systems.
Effective: Summer 1999
Prerequisite: IST 210, IST 211

IST 220 **Networking and Telecommunications** (3) Introduction to digital network topologies; transmission media, signal modulation, digital packet switching and routing, systems integration, communications management, and security.
Effective: Summer 1999
Prerequisite: IST 110

IST 221 **Introduction to Telecommunications Systems** (3) Telephony, digital telecommunications, private telecommunication systems, transmission media, signaling, switching and networking, and amplitude modulation.
Effective: Summer 1999
Prerequisite: IST 220

IST 222 **Voice and Data Communications** (3) Noise in communications systems, types of modulation, transmission codes, terminals, interfaces, and the telephone.
Effective: Summer 1999
Prerequisite: IST 221

IST 223 **Protocols and Networks** (3) The telephone network, modems, protocols, network configurations, Internet and emerging technologies, error correction, fiber optics.
Effective: Summer 1999
Prerequisite: IST 220

IST 224 **Wireless Systems** (3) Wave propagation, transmission lines, antennas and waveguides, microwave radio communications, satellite communications, and cellular telephones.
Effective: Summer 1999
Prerequisite: IST 223

IST 225 **PC Hardware Basics** (3) Preparation for PC hardware support: Students learn data recovery and how to build, configure, upgrade, troubleshoot, diagnose, and repair PC's.
Effective: Summer 1999
Prerequisite: IST 220

IST 226 **Networking Essentials** (3) Concepts for peer-to-peer and server-based network:International Organization for Standardization-Open Systems Interconnection (ISO-OSI) reference model, industry standards, troubleshooting, performance monitoring, and optimization.
Effective: Summer 1999
Prerequisite: IST 220

IST 227 **Network Administration** (3) Administering peer-to-peer and client/server networks: Planning, installation, server configuration, resource management, remote access, performance monitoring, and optimization.
Effective: Summer 1999
Prerequisite: IST 226

IST 228 **Advanced Network Administration** (3) TCP/IP planning, installation, configuration: IP addressing, subnetting, routing, Dynamic Host Configuration Protocol (DHCP), Windows Internet Naming Service (WINS), address/name resolution, Domain Name System (DNS); database, web, mail server management.
Effective: Summer 1999
Prerequisite: IST 226

IST 230 **Language, Logic, and Discrete Mathematics** (3) Introduction to formal languages, mathematical logic, and discrete mathematics, with applications to information sciences and technology.
Effective: Spring 2004
Prerequisite: MATH 110 orMATH 140

IST 240 **Introduction to Computer Languages** (3) Introduction to the specification and application of languages and language paradigms that interact with computers.
Effective: Spring 2002
Prerequisite: CMPSC 101   Concurrent: IST 230

IST 247 **Contemporary Projects in Software Development** (3) The analysis, design, coding, testing, and documentation of a software project using state-of-the art languages/tools and concepts.
Effective: Spring 2008
Prerequisite: CMPSC 302;IST 211 orIST 256

IST 250 **New Media and the Web** (3) Introduction to how the World Wide Web utilizes emerging technologies. Students acquire conceptual understanding of constructing Web sites.
Effective: Summer 1999
Prerequisite: IST 110 or concurrent enrollment

IST 255 **Fundamentals of Web Administration** (3) An introduction to fundamental web administration concepts: Internet, graphic design, Hypertext Markup Language (HTML), security, legal/ethical implications, Internet business.
Effective: Summer 1999
Prerequisite: IST 250

IST 256 **Programming for the Web** (3) An introduction to fundamental Web programming concepts: Advanced Hypertext

Markup Language (HTML), Dynamic Hypertext Markup Language (DHTML), extensible Markup Language (XML), Data Warehouses, JavaScript, common Gateway Interface (CGI), and Java.
Effective: Summer 1999
Prerequisite: IST 250

IST 257 **Advanced Web Administration** (3) Web site server installation, access, management, security, performance monitoring and optimization, network services, and troubleshooting.
Effective: Summer 1999
Prerequisite: IST 255

IST 258 **Web Administration Studio** (3) Web Administration option capstone course: Students plan and build a fully functioning Web site that meets client needs.
Effective: Summer 1999
Prerequisite: IST 255, IST 256

IST 260W **Introduction to Systems Analysis and Design** (3) Introduction to systems analysis and design, stressing the process of requirements acquisition, specification, design, and implementation.
Effective: Spring 2010
Prerequisite: IST 110, IST 210, IST 220 andENGL 015

IST 271 **Integrated Business and Manufacturing Processes** (3) History, principles, supply-chain management, enterprise system, resources, automation, process economics, data organization, and metrics development.
Effective: Summer 1999
Prerequisite: IST 210, IST 295A Concurrent: IST 273

IST 272 **Electronic Essentials** (3) Introduction to electronics, digital logic, data acquisition, and computer automation.
Effective: Summer 1999
Prerequisite: IST 271, MATH 110 Concurrent: CMPSC 101 CMPBD 204 or

IST 273 **Mechanical Essentials** (3) Introduction to statics, strength of material, and metallurgy.
Effective: Summer 1999
Prerequisite: MATH 110 Concurrent: IST 271

IST 274 **Tools of Manufacturing Processes** (3) Examination of industry tools, their applications, and study of applications and tool usage that represents the total business and manufacturing process.
Effective: Summer 1999
Prerequisite: IST 271, IST 273 Concurrent: IST 272

IST 295A **Distributed Team Project** (1-3) Supervised experience in which student teams work on information system design projects gathered from industry or units within the University.
Effective: Spring 2001
Prerequisite: IST 110

IST 295B **IST Internship** (1-3) Supervised work experience where the student is employed in an information sciences and technology position in industry, government, or academia.
Effective: Spring 2001
Prerequisite: IST 110

IST 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

IST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

IST 297A **Technology in the Classroom** (3) Introduce students to basic professional skills needed to ensure a successful and smooth transition into the professional world.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

IST 297A **Technology in Classroom** (3) Introduce students to basic professional skills needed to ensure a successful and smooth transition to the professional world.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

IST 297B **Supervised Experience in Instructional Support** (2) Introduction to best practices in and supervision of instructional support activities such as coaching, team facilitation, grading, and learning assessment.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

IST 297B **Supervised Experience in Instructional Support** (2) Introduction to best practices in and supervision of instructional support activities such as coaching, team facilitation, grading, and learning assessment.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

IST 297C **Gender and the Global Information Technology Sector** (3) Integrates information technology and gender studies. Overviews issues and socio-cultural shaping of gender in the IT field.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

IST 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 301 **Information and Organizations** (3) Overview of organizational structures and functions. Includes information processing and analytic perspectives of organizations.
Effective: Summer 2003
Prerequisite: IST 210, IST 220

IST 302 **IT Project Management** (3) Exploration and application of the basic concepts, methodologies, and tools of project management in the field of information sciences and technology.
Effective: Summer 2003
Prerequisite: IST 210, IST 220

IST 311 **Object-Oriented Design and Software Applications** (3) Introduction to object-oriented applications including applications in an Object Oriented Design (OOD) language or OOD languages.
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 101;IST 240

IST 321 **Information Technology and Systems Integration I** (3) Introductory course on integration of information technology into different systems, including the planning, development, and implementation of the integration.
Effective: Summer 1999
Prerequisite: IST 240

IST 321L **Information Technology and Systems Integration I** (3) Introductory course on integration of information technology into different systems, including the planning, development, and implementation of the integration.
Effective: Fall 2001
Prerequisite: IST 240

IST 321P **Information Technology and Systems Integration I** (0) Introductory course on integration of information technology into different systems, including the planning, development, and implementation of the integration.
Effective: Fall 2001
Prerequisite: IST 240

IST 331 **Organization and Design of Information Systems: User and System Principles** (3) Interdisciplinary survey of topics related to the use and usability of information systems.
Effective: Spring 2004
Prerequisite: IST 230

IST 341 (US;IL) **Human Diversity in the Global Information Technology** (3) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: IST 110

IST 341 (US;IL) **Human Diversity in the Global Information Economy** (3) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: IST 110

IST 390 **Introduction to Professional Development** (1) Interdisciplinary course to introduce students to the issues, concepts and skills involved in successfully transitioning into professional life.
Effective: Summer 2005

IST 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

IST 402 **Emerging Issues and Technologies** (3 per semester/maximum of 9) Introduction to emerging issues, technology forecasting and analysis; overview of emerging issues and leading technologies in IST and how they impact information systems, users, the IT labor force and society.
Effective: Fall 2006
Prerequisite: IST 210, IST 220

IST 411 **Distributed-Object Computing** (3) Introduction to distributed-object computing and its use in client/server and real-world computing applications.
Effective: Summer 1999
Prerequisite: IST 311

IST 412 **The Engineering of Complex Software Systems** (3) Introduction to the engineering of complex software systems including software system specification, design and implementation, integration and test, and evolution.
Effective: Summer 1999

Prerequisite: IST 311

IST 413 **Usability Engineering** (3) This course addresses activities in the system development process that ensure usability. It considers the emerging concept of usability, requirements gathering and analysis, activity design, information design, interaction design, documentation design, user testing and usability evaluation.
Effective: Spring 2007
Prerequisite: IST 331

IST 420 **Fundamentals of Systems and Enterprise Integration** (3) Introductory course on integration of information technology into different venues, including the planning, development, and implementation of the integration.
Effective: Summer 2003
Prerequisite: IST 240, IST 301, IST 302

IST 421 **Advanced Enterprise Integration: Technologies and Applications** (3) Advanced course on the integration of information technology into systems applications.
Effective: Spring 2004
Prerequisite: IST 420

IST 425 (MGMT 425, ENGR 425) **New Venture Creation** (3) Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

IST 426 (ENGR 426, MGMT 426) **Invention Commercialization** (3) Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path each technology.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

IST 431 **The Information Environment** (3) Survey of social environment of information technology themes: Community, sovereignty, privacy, ethics, economics, and knowledge management.
Effective: Fall 2004
Prerequisite: IST 210, IST 220

IST 432 **Legal and Regulatory Environment of Information Science and Technology** (3) Legal environment of information technology, constitutional/political issues, intellectual property, management, e-commerce, privacy, access, computer contracting, cyberspace regulation.
Effective: Spring 2007
Prerequisite: IST 301 orSRA 231 or equivalent

IST 440W **Information Sciences and Technology Integration and Problem Solving** (3) Problem-based approach to technology integration by focussing on real-life problems faced by an organization.
Effective: Fall 2002
Prerequisite: ENGL 202C orENGL 202D seventh-semester standing (this course is intended for seniors) and the five common course requirements plus at least three of the required courses in an option

IST 441 **Information Retrieval and Organization** (3) Introductory course for seniors and graduate students covering the practices, issues, and theoretical foundations of organizing and analyzing information and information content for the purpose of providing access to textual and nontextual information resources. Introduces students to the principles of information storage and retrieval systems and databases.
Effective: Spring 2004
Prerequisite: IST 210, IST 240

IST 442 (IL) **Information Technology in an International Context** (3) International concepts to improve strategies for the design, dissemination, and use of information technology.
Effective: Summer 2006
Prerequisite: IST 110

IST 443 **IT Professional Services Theory and Practice** (3) Explores and applies the basic concepts, methodologies, tools, and techniques of consulting and professional service organizations in information sciences and technology.
Effective: Spring 2006
Prerequisite: IST 210, IST 220 . Prerequisite or concurrent:IST 302 orIST 412

IST 444 **Advanced IT Professional Services** (3) Explores advanced IT professional services topics, and the unique application of consulting methods in various industry sectors.
Effective: Summer 2005
Prerequisite: IST 443

IST 445H **Globalization Trends and World Issues** (3) This course covers trends in globalization and their influence on U.S. policy making as well as the role of the U.S. in international issues.
Effective: Summer 2005
Prerequisite: 6 credits of honors course work

IST 446 **An Introduction to Building Computer/Video Games** (3) An interdisciplinary course that introduces students to process and techniques involved in developing a video or computer game.
Effective: Summer 2006
Prerequisite: IST 311, IST 331 or approval of program

IST 451 **Network Security** (3) Fundamental issues and concepts of network security, network security technologies and protocols, and emerging technologies in network security.
Effective: Summer 2004
Prerequisite: IST 220

IST 452 **Legal and Regulatory Environment of Privacy and Security** (3) Exploration of legal, regulatory, public policy, and ethical issues related to security and privacy for information technology professionals in public institutions, private enterprise, and IT services.
Effective: Spring 2007
Prerequisite: IST 301 orSRA 231 or equivalent

IST 453 **Legal, Regulatory, Policy Environment of Cyber Forensics** (3) Legal, regulatory and public policy environment of computer and network forensics that constrain investigatory and monitoring activities in computer and network environments.
Effective: Summer 2006
Prerequisite: IST 110 and 6th-semester standing or higher

IST 454 **Computer and Cyber Forensics** (3) Fundamental issues and concepts of computer forensics; aspects of computer and cyber crime; methods to uncover, protect, exploit, and document digital evidence; tools, techniques, and procedure to perform computer and cyber crime investigation.
Effective: Summer 2006
Prerequisite: IST 220

IST 456 **Security and Risk Management** (3) Contemporary Security Issues; security management processes, architecture and models; risk analysis and management; security planning, analysis and safeguards; security policies development and administration; contingency planning, incidence handling and response; and security standards and certification processes.
Effective: Summer 2006
Prerequisite: IST 220

IST 461 **Database Management and Administration** (3) Introduces advanced topics in database management systems that are fundamental to effective administration of enterprise information systems.
Effective: Spring 2006
Prerequisite: IST 210, IST 240

IST 462 **Database Modeling and Applications** (3) This course introduces advanced topics in database modeling and applicaitons.
Effective: Spring 2006
Prerequisite: IST 210, IST 240

IST 489H **Research Methods for the Information Sciences and Technology** (3) Seminar course focused on approaches to studying information and communication technologies and writing theses and other research reports.
Effective: Summer 2006
Prerequisite: IST 110 honors standing or permission of program

IST 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 1999
Prerequisite: prior approval of proposed assignment by instructor

IST 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

IST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

IST 497A **Enterprise Architecture Fundamentals** (2) This course is designed to provide a first exposure to enterprise architecture (EA) and set a "common language" and understanding for IT professionals, functional business people, and customers that need an understanding of EA and its business value.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

IST 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

Last Import from UCM: May 29, 2010 3:00 AM

Information Systems (INFSY)

INFSY 430 **Programming for Business Applications** (3) Introduction to the syntax and grammar of COBOL language with emphasis on applications to business data processing.
Effective: Spring 2007
Prerequisite: IST 110 orMIS 204 andMIS 103 orCMPSC 203

Last Import from UCM: May 29, 2010 3:00 AM

Instructional Systems (INSYS)

INSYS 100 (GS;IL) **World Technologies and Learning** (3) This course examines the impact of learning technologies from email to online learning on world cultures from a socio-technical perspective.
Effective: Spring 2006

INSYS 200 **Technology as a Thinking Tool** (3) Use of technologies for knowledge representation, critical thinking, planning, and learning.
Effective: Spring 1999

INSYS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1996

INSYS 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special ineterest
Effective: Summer 1996

INSYS 411 **Orientation to Instructional Systems** (2-3) An orientation to selection, utilization, and curricular integration of instructional media.
Effective: Summer 1996
Prerequisite: EDPSY 014

INSYS 412 **Developing Effective Training Presentations** (3) The design, development, and presentation of effective training presentations for business and industry.
Effective: Summer 1996
Prerequisite: senior standing

INSYS 413 **Designing Instructional Manuals and Text** (3) Designing textual materials for information retrieval, performance, and learning using job aids, manuals, programmed instruction, information mapping, etc.
Effective: Fall 2001

INSYS 415 **Systematic Instructional Development** (3) Preparation in the use of a nine-step model for systematically analyzing instructional problems and developing validated, practical solutions.
Effective: Summer 1996

INSYS 425 **Corporate Instructional Systems** (3) Provides an overview of the applications and applicability of Instructional Systems Design in business/corporate environment.
Effective: Spring 1996
Prerequisite: INSYS 415

INSYS 441 **Design, Development, and Evaluation of Internet Resources** (3) Design, production, and evaluation of instructional materials for delivery on the Internet.
Effective: Fall 2001

INSYS 442 **Innovative Instructional Applications of Microcomputer Technology** (3) Educators experience and develop innovative instructional applications of text-processing, database management, spreadsheet, and telecommunication software in their classrooms.
Effective: Fall 2008
Prerequisite: EDTEC 440

INSYS 443 **Educational Applications of Logo** (3) Prepares educators to use and to teach the Logo programming language on microcomputers. Students write programs and develop course materials.
Effective: Fall 2008
Prerequisite: EDTEC 440

INSYS 447 **Instructional Design for Multimedia Technologies** (3) State of the art multimedia technology hardware such as interactive video, CD-ROM and digitizing audio and video.
Effective: Fall 2001

INSYS 471 **Introduction to Educational System Design** (3) Investigates systems theory and how components of educational systems interact; develops insights on current issues and models in Educational System Design.
Effective: Summer 1996

INSYS 472 **Communication and Educational Systems Design** (3) Develops communication and technology-based presentation skills in educational systems designers.
Effective: Spring 2001
Prerequisite: INSYS 471

INSYS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1996

INSYS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

INSYS 497B **Social Networking and Media** (3) Introduction to social networking tools including blogs, wikis, podcasts, and social bookmarking.
Effective: Summer 2010 Ending: Summer 2010

INSYS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

INSYS 498A **Internet Safety for Educators** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

INSYS 498A **Internet Safety for Educators** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

INSYS 498A **Internet Safety for Educators** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

INSYS 498B **Colloquium on Learning and Instruction for Individual Classroom Settings** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

INSYS 498B **Social Media and Learning** (3) This course introduces students to social media and Web 2.0 technologies with the intent of having them evaluate applications to learning in formal settings.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

INSYS 498C **Social Media and Learning** (3) This course introduces students to social media and Web 2.0 technologies with the intent of having them evaluation applications to learning in formal settings.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Insurance (INS)

INS 102 **Personal Insurance Planning** (3) Introduction to the principles and practices of personal insurance planning. May not be used to satisfy Smeal College baccalaureate degree requirements.
Effective: Fall 1983
Prerequisite: third-semester standing

INS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

INS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

INS 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INS 301 **Risk and Insurance** (3) Introduction to the principles and methods of handling business and personal risks; emphasis on insurance techniques.
Effective: Fall 1983
Prerequisite: fourth-semester standing

INS 305 **Property and Casualty Insurance** (3) Insurance coverages available for protection of property; fire and allied lines, consequential losses, casualty coverages, fidelity and surety bonds.
Effective: Fall 1983
Prerequisite: INS 301

INS 310W **Property and Liability Insurance Market** (3) Property and liability insurance industry and company operations.
Effective: Spring 1996
Prerequisite: INS 301

INS 320 **Life Insurance** (3) Protection and savings features of the life insurance contract as they affect the individual; business uses of life insurance.
Effective: Fall 1983
Prerequisite: INS 301

INS 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 1999
Prerequisite: prior approval of proposed assignment by instructor

INS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

INS 400 **Estate Planning** (3) Creation, conservation, and distribution of property rights, emphasizing investments, insurance, wills, trusts, and taxation.
Effective: Spring 1996
Prerequisite: B A 301 orINS 301

INS 401 **Fundamentals of Private Pensions** (3) Analysis of pension regulation, funding, vesting, retirement annuities under insured and self-insured plans, actuarial cost analysis, plan termination insurance.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: ACCTG 211, B A 301, ECON 002, SCM 200

INS 401 **Fundamentals of Private Pensions** (3) Analysis of pension regulation, funding, vesting, retirement annuities under insured and self-insured plans, actuarial cost analysis, plan termination insurance.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ACCTG 211;B A 301 orFIN 301;ECON 002 ; andSCM 200 orSTAT 200

INS 405 **Corporate Risk Management** (3) Insurance management for corporate organizations; self-insurance, risk transfer, and other alternatives to insurance.
Effective: Spring 1996 Ending: Fall 2010
Prerequisite: B A 301 orINS 301

INS 405 **Corporate Risk Management** (3) Insurance management for corporate organizations; self-insurance, risk transfer, and other alternatives to insurance.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301, FIN 301 orINS 301

INS 410 **Compound Interest and Annuities--Certain** (3) Compound interest and annuity functions; equations of value; determination of yield rates; construction of tables.
Effective: Spring 2001
Prerequisite: MATH 141

INS 411 **Life Contingencies I** (3) A study of the mathematical theory of life contingencies; single-life functions and their applications.
Effective: Fall 1989
Prerequisite: INS 410, STAT 414

INS 412 **Life Contingencies II** (3) Joint-life and survivor-life functions, population life tables, and multiple decrement theory, with applications to disability and retirement problems.
Effective: Summer 1984
Prerequisite: INS 411

INS 427 **Optimization for Business Decisions** (3) Optimization models quickly and efficiently analyze a large number of scenarios to find the best course of action for business applications.
Effective: Spring 2008
Prerequisite: MATH 110 orMATH 140 and eitherSCM 200 orSTAT 200

INS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

INS 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2008

INS 496 **Independent Studies** (1-18) Creative Projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

INS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

INS 497A **Basic Property & Casualty Ratemaking** (3) This course is intended to give a basic introduction to actuarial methods and concepts used to develop manual rates for property and casualty insurance.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

INS 497B **Financial Models for Actuarial Science** (3) This course covers material in the Society of Actuaries Actuarial Models - FE exam, such as interest rate models, valuation of derivative securities, and risk management techniques, and particularly their application to insurance, pensions, and investments.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

INS 497C **The Economics of Biotechnology, Phamaceuticals and Health Insurance** (3) The course provides an overview of the economic and management issues facing the biotechnology and pharmaceutical industries. Topics covered will include R&D, financing, alliances and joint ventures, M&A, production, marketing and the important role of public and private medical insurance on product development, pricing and product demand.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

INS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Integrative Arts (INART)

INART 001 (GA) **The Arts** (3) Develop critical perception, knowledge, and judgments through an examination of the basic concepts common among the arts.
Effective: Spring 2006

INART 003 (GA) **Reception of the Arts** (3) This course considers how art uses time, space, and causality to define culture and the human condition.
Effective: Spring 2004

INART 005 (GA) **Performing Arts** (3) Introduction to music, dance, and theatre. Orientation to the aesthetics, theory, and practice of professional performance.
Effective: Spring 2004

INART 010 (GA) **The Popular Arts in America: Mass Media Arts** (3) An introduction to the arts of the mass media with emphasis on how film, radio, television, and the print media influence and reflect society.
Effective: Spring 2004

INART 015 (GA) **The Popular Arts in America: Performing Arts** (3) The development of the performing arts of American popular culture; emphasis on popular music, dance, theatre, and variety arts.
Effective: Spring 2004

INART 050 (GN) **The Science of Music** (3) Waves, physics of sound, hearing, musical scales, musical instruments, and room acoustics.
Effective: Summer 2004

INART 055 (GA) **History of Electroacoustic Music** (3) A history of electroacoustic music as a consequence of developments in culture and technology from 1880 to present.
Effective: Spring 2004

INART 062 (GA;US;IL) **West African and African American Arts: from the 1960s to the present** (3) An introduction to West African and African American Arts from the 1960s to the present.
Effective: Summer 2005

INART 100 (GA) **Seminar in Integrative Arts** (3) A study of various arts with emphasis on comparison, contrast, and other aspects of interrelation. Topics will change each semester.
Effective: Spring 2004

INART 100W (GA) **Seminar in Integrative Arts** (3) A study of various arts with emphasis on comparison, contrast, and other aspects of interrelation. Topics will change each semester.
Effective: Spring 2004

INART 110 (GA) **The Dramatic Arts in the Mass Media** (3) The place of television-radio-film drama in our culture; relationship with other art forms; standards of evaluation.
Effective: Spring 2004

INART 115 (GA) **The Popular Arts in America: Popular Music** (3) An examination of the roots, development, and significance of popular music in our culture.
Effective: Spring 2004

INART 116 (GA;US) **The Popular Arts in America: The History of Rock and Roll-The 1950s** (3) This course examines the roots, development, and significance of rock and roll music in its first decade.
Effective: Summer 2007

INART 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2005

INART 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 200 (GA) **The Popular Arts in America: Elvis Presley - The King of Rock and Roll** (3) The significance and

influence of Elvis Presley as an artist and cultural force focusing on his recordings and major performances.
Effective: Spring 2007

INART 205 (GA) **Introducing the Beatles** (3) The influence and achievement of the Beatles as artists focusing on their recordings and films as sociocultural artifacts.
Effective: Summer 2008

INART 210 (GA) **Integrative Approaches to Computer-Aided Music Composition** (3) Interdisciplinary introduction to music composition using software to assist with notation; historical perspectives drawn from art, dance, theater, and literature.
Effective: Fall 2004
Prerequisite: MUSIC 008 or instructor permission

INART 214 **Introduction to Web Content and Design** (3) Introduction to website creation using project activities to explore writing and editing, navigation issues, usability, and overall website architecture.
Effective: Summer 2002

INART 258 (GA) **Fundamentals of MIDI and Digital Audio** (3) Music Technology (Introduction to how musical information is stored and processed in computer systems.)
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 008 or concurrent enrollment in eitherMUSIC 131 orMUSIC 132

INART 258A (GA) **Fundamentals of Digital Audio** (3) A thorough introduction to digital music production technologies, covering fundamentals of how digital musical information is stored, processed and transmitted.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 008 or concurrent enrollment in eitherMUSIC 131 orMUSIC 132

INART 258B (GA) **Fundamentals of Digital Audio** (1) A general overview of music technologies current to music educators and performers.
Effective: Summer 2010
Concurrent: concurrent enrollment in either MUSIC 131 or MUSIC 132

INART 294 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 1996

INART 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

INART 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1996

INART 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1996

INART 297A **Ivyside Pride** (3) Exploration and performance of choral music in a variety of genres. By audition only.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

INART 297B **The History of Punk Rock** (3) The History of Punk Rock examines the roots, development and significance of punk rock and underground music in American popular culture.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

INART 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1996

INART 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

INART 401 **Applications in Digital Imaging** (4) An advanced digital photography course that explores new methods in the creation and presentation of images using the latest technologies.
Effective: Fall 2006
Prerequisite: PHOTO 400

INART 410 (AM ST 410) **Early Pennsylvania Decorative Arts and Furniture** (3) The study of Pennsylvania and related furniture, pottery, paintings, and decorative arts of the seventeenth, eighteenth, and early nineteenth centuries.
Effective: Spring 2008

INART 415 (AM ST 415) **Nineteenth Century Pennsylvania Architecture and Restoration** (3) Interior and exterior design of early Pennsylvania architecture; understanding and evaluation of and experience in restoration.
Effective: Spring 2008
Prerequisite: INART 410

INART 494 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 1996

INART 494H **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

INART 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

INART 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an indivdual basis and which fall outside the scope of formal courses.
Effective: Spring 1996

INART 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1996

INART 497A **Ivyside Pride Advanced** (3) Exploration and performance of choral music in a variety of genres. By audition only.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

INART 497B **Management of Historic Sites and Museums** (3) Students will gain experience in the development, installation, promotion, and documentation of exhibits as they work within a budget.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

INART 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1996

INART 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Integrative Biosc (IBIOS)

IBIOS 450 **Molecular and Cellular Toxicology** (3) The course provides an in-depth coverage of the processes by which drugs and chemicals interact with biological systems.
Effective: Spring 2000
Prerequisite: B M B 401 orB M B 437 or consent of instructor

IBIOS 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

Last Import from UCM: May 29, 2010 3:00 AM

Interdisciplinary Humanities (I HUM)

I HUM 150 (GH;IL) **World Mythologies in the Arts** (3) Interdisciplinary, cross cultural, historical, and contemporary study of world mythologies as represented in the visual arts, literature, and film.
Effective: Spring 2009

I HUM 300W **Interpretations in the Humanities** (3) A study of selected themes, topics, or periods that introduces students to interdisciplinary approaches to knowledge, interpretation, and creative expression.
Effective: Fall 2001
Prerequisite: ENGL 015, ENGL 202 and at least 30 credits

I HUM 302 **Technology and the Humanities** (3) An interdisciplinary study of the effects on the individual of scientific and technological change.
Effective: Spring 2002

I HUM 311 (GH;IL) **The Western Tradition I** (3) From prehistory through the Roman world.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 312 (GH;IL) **The Western Tradition II** (3) The Middle Ages and the Renaissance.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 313 (GH;IL) **The Western Tradition III** (3) The making of the modern mind.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 400 **Expressions in the Humanities** (3) Capstone course for School of Humanities majors: students synthesize and apply approaches to a topic in creative expression and knowledge.
Effective: Fall 2001
Prerequisite: I HUM 300W seventh-semester standing

I HUM 410 (IL) **Religion and Culture** (3) A comparative examination of several world religions in their social and cultural contexts.
Effective: Summer 2005
Prerequisite: sixth-semester standing

I HUM 430 **Philosophy and Literature** (3) The study of philosophical viewpoints in literature.
Effective: Spring 2002
Prerequisite: fifth-semester standing

I HUM 453 **Texts and Culture** (3) Study of art, literature, film, and other creative genres to illustrate the interrelationships between creative expression and cultural practices.
Effective: Spring 2002
Prerequisite: fifth-semester standing

I HUM 460 **Thematic Studies** (3) Analysis of a group of related ideas in art, music, literature, and/or philosophy. (May be repeated for credit.)
Effective: Spring 2002
Prerequisite: fifth-semester standing

I HUM 461 (IL) **Selected Periods in the Humanities** (3) Interdisciplinary studies dealing with selected periods of world culture. (May be repeated for credit.)
Effective: Summer 2005
Prerequisite: fifth-semester standing

I HUM 491 **Seminar in Interdisciplinary Humanities** (3) Interdisciplinary studies dealing with selected periods of world culture. (May be repeated for credit.)
Effective: Fall 2001
Prerequisite: I HUM 300W seventh-semester standing

I HUM 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2002

I HUM 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

I HUM 495 **Internship** (1-6) Supervised internship for undergraduate or graduate Humanities majors in state offices, educational institutions, arts agencies, community organizations, or humanities councils.
Effective: Spring 2002
Prerequisite: senior-level status for undergraduate students; 18 credits of course work for graduate students; approval of

program required

I HUM 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2002

I HUM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2002

I HUM 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

International Agriculture (INTAG)

INTAG 100 (GS;IL) **Introduction to International Agriculture** (3) Survey of agriculture and food production in developing countries; focus on small traditional farmers, their methods, and socioeconomic environment. (NOTE: Write for a further listing of courses in and related to International Agriculture.)
Effective: Summer 2005

INTAG 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1986

INTAG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1986

INTAG 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

INTAG 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

INTAG 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

INTAG 481 **Problems in Agriculture in Tropical Areas** (3) Students apply their "expertise" to problems in agriculture. An integral component is a trip to tropical areas at their expense.
Effective: Spring 1983
Prerequisite: completion of six credits in applicant's major and successful completion of interview

INTAG 495 **Internship in International Agriculture** (1-3) Observation of and participation in the operation and management of a University-approved international agricultural firm or international agricultural development agency.
Effective: Spring 1986
Prerequisite: Prior approval of proposed internship plan

INTAG 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1986

INTAG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1986

INTAG 497A **Comparing US/French Agricultural Systems** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

INTAG 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

INTAG 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

International Business (I B)

I B 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I B 290 **International Business Goes to the Movies** (1 per semester/maximum of 3) A business elective to expose students to international and global issues through the eyes of film makers around the world.
Effective: Summer 2007

I B 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1991

I B 297 **Special Topics** (1-9) Formal courses given infrequently to explore in depth, a comparatively narrow subject interest.
Effective: Fall 1991

I B 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I B 303 (IL) **International Business Operations** (3) A survey of the major aspects of international business environment and operations with an emphasis on the cultural dimension.
Effective: Summer 2005
Prerequisite: fifth-semester standing

I B 395A **Practicum in International Business** (3-5) Professional and guided international business work experience taken as part of an approved education abroad program.
Effective: Summer 2000 Ending: Fall 2010
Prerequisite: B A 301, B A 302, B A 303, B A 304

I B 395A **Practicum in International Business** (3-5) Professional and guided international business work experience taken as part of an approved education abroad program.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 orFIN 301;B A 302 orSCM 301;B A 303 orMKTG 301 ; andB A 304 orMGMT 301

I B 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.
Effective: Spring 2008

I B 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

I B 403 **International Business and National Policies** (3) Evaluation of national economic policies in the light of international economic theory; their impacts on operations of the international business firm.
Effective: Spring 2008
Prerequisite: ACCTG 211, B A 301 orFIN 301

I B 404 **Contemporary Issues in International Business** (3) Investigation of issues in international business practice interpreted from the foundations of the social sciences. Topics will be chosen from contemporary issues in global business and economics.
Effective: Spring 2008
Prerequisite: ACCTG 211, B A 301 orFIN 301

I B 411 **International Business** (3) Analysis of business firms in international environments; effect of international economic, political, and sociocultural factors on multinational business operations.
Effective: Spring 2008
Prerequisite: MGMT 301, SCM 310, MKTG 301

I B 440 (US;IL) (AAA S 440, PL SC 440) **Globalization and Its Implications** (3) This course explores the socioeconomic implications of globalization.
Effective: Spring 2008
Prerequisite: AAA S 100 orAAA S 110 orPL SC 003 orPL SC 014 orPL SC 020 orPL SC 022

I B 450 **The Business Enviornment of Europe** (3) This course provides an overview of the economic, institutional, and regulatory environment in Europe at the EU and national levels.
Effective: Summer 2007
Prerequisite: ACCTG 211, B A 301 orFIN 301

I B 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Effective: Spring 2002

I B 496H **International Business Honors Thesis Research** (0-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

I B 496H **International Business Honors Thesis Research** (0-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

I B 497 **Special Topics** (1-9) Formal courses given infrequently to explore in depth, a comparatively narrow subject interest.
Effective: Fall 1991

I B 497A **International Business in Emerging Nations** (3) This course provides an overview of the international business strategy and economic environment of emerging Asian nations with special focus on China, India and South East Asia. It uses a selective group of other geographic areas and the United States as a basis for comparing these emerging business models.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

I B 497B **Urban Property Rights and Land Use Issues** (3) International perspectives on real estate as property, evaluation of land use regulations, and differences in real estate markets across countries.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

I B 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Internship (INTSP)

INTSP 295A **Internship in Arts and Humanities** (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

INTSP 295B **Internship in Business & Engineering** (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Writte and oral critique of activity required.
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

INTSP 295C **Internship in Education, Human Development, & Social Sciences** (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

INTSP 295D **Internship in Mathematics & Natural Sciences** (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

INTSP 370 **Internship Preparation** (1) Planning and preparation for upper-level or capstone internship experience, suited to students' individual academic and career interests.
Effective: Summer 2004
Prerequisite: formal acceptance into a College major; junior standing; minimum 2.0 GPA; completion of core research/skills course(s) for student's degree program

INTSP 495A **Internship in Business for non-Business Students** (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2004
Prerequisite: senior standing; minimum 2.0 GPA;ENGL 015, MATH 021, ECON 002 orECON 004, MGMT 301, MKTG 301, INTSP 370, ACCTG 211 or substitute approved by the instructor; prior approval of proposed assignment(s) by instructor

Last Import from UCM: May 29, 2010 3:00 AM

Intl Studies (INTST)

INTST 100 (GS;IL) **Introduction to International Studies** (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

INTST 100S (GS;IL) **Introduction to International Studies** (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.
Effective: Summer 2005

INTST 400 (IL) **Seminar in International Studies** (3) An upper-division seminar focusing on one or two critical international issues from an interdisciplinary perspective; individual projects.
Effective: Spring 2007
Prerequisite: INTST 100

INTST 493 **International Studies** (3) Selected topics in International Studies.
Effective: Spring 2008
Prerequisite: prior participation in an Education Abroad program or international work experience and enrollment in the International Studies major

INTST 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 1994

INTST 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

INTST 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written or oral critique of activity required.
Effective: Spring 2008
Prerequisite: Approval by International Studies or Global Studies Advisor

INTST 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 1994

INTST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1994

INTST 497A **Community Based Learning: Writing Local Jewish History** (3) Students in this course will participate in community-based learning (CBL) in Berks County, PA and will slo conduct and report research about CBL.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Italian (IT)

IT 001 **Elementary Italian I** (4) For beginners. Grammar, with reading and writing of simple Italian; oral and aural work stressed.
Effective: Spring 1988

IT 002 **Elementary Italian II** (4) Grammar and reading continued; oral and aural phrases progressively increased; composition.
Effective: Spring 1988
Prerequisite: IT 001

IT 003 **Intermediate Italian** (4) Advanced grammar; oral and written composition; reading of modern authors; Italian life and culture.
Effective: Winter 1978
Prerequisite: IT 002

IT 010 **Intensive Elementary Italian** (6) Intensive Italian basic reading, writing, listening, and speaking skills stressed. Lab. Equivalent to IT 001 and half of IT 002.
Effective: Spring 2005

IT 020 **Intensive Intermediate Italian** (6) Continuation of Intensive Elementary Italian, building on grammar and communication skills (reading, writing, listening, and speaking).
Effective: Summer 2004
Prerequisite: IT 010

IT 050 **Italian Conversation Tutorial** (1-3) Roundtable conversation practicum for students concurrently enrolled in IT 001, 002, 003, 010, or 020. May be repeated up to 3 times for credit.
Effective: Summer 2004
Prerequisite: Concurrent enrollment inIT 001, IT 002, IT 003, IT 010 orIT 020

IT 051 **Elementary Intensive Italian for Graduate Students I** (3) Intensive introduction to Italian: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

IT 052 **Elementary Intensive Italian for Graduate Students II** (3) Intensive introduction to Italian: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: IT 051 or equivalent and graduate standing

IT 053 **Intermediate Intensive Italian for Graduate Students** (3) Continued intensive study of Italian at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: IT 052 or equivalent and graduate standing

IT 083S (GH;IL) **First-Year Seminar in Italian Literature, Film, and Culture** (3) Introduction to the study of Italian literature, film, and culture.
Effective: Summer 2005

IT 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IT 110 **Topics in Italian Conversation** (3) Focus on intensive oral communication practice, especially aimed at preparation for study or work abroad and tourism.
Effective: Spring 2005
Prerequisite: IT 003 orIT 020

IT 130 (GH;IL) **Italian Culture and Civilization** (3) Italian life from antiquity to the present; literature, film, the arts, and contemporary problems in historical perspective.
Effective: Summer 2005

IT 131 (GH;US) **Italian American Culture and Civilization** (3) Italian-American experience from the late 19th century to present. Socio-political issues seen through cinema and through literary and other readings.
Effective: Summer 2005

IT 187 **Italian Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

IT 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which

may be topical or of special interest.
Effective: Spring 1995

IT 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IT 230 (GH) **Masterpieces of Italian Literature in English Translation** (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.
Effective: Summer 1995

IT 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

IT 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1998

IT 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1985

IT 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

IT 301 **Pathways to Fluency** (3) For majors, minors, and others with adequate preparation; deepening of grammatical skills, integrated conversation, composition, and reading.
Effective: Fall 2005
Prerequisite: IT 003

IT 320 **Introduction to Italian Culture; Food, Fashion, Family** (3) Focus on the social, historical, and socio-political issues of Italy in the last two centuries.
Effective: Summer 2004
Prerequisite: IT 003

IT 325 **Introduction to Italy's Genius** (3) Focus on the art, literature, and philosophy of Italy from the Renaissance to present. In Italian.
Effective: Spring 2005
Prerequisite: IT 003

IT 330W **Greatest Books of Italian Literature** (3) A survey of the greatest books of Italian literature (prose, poetry, drama). Time period varies each semester. In Italian.
Effective: Summer 2006
Prerequisite: IT 003, IT 020 or permission of program

IT 350 **Masterpieces of Italian Literature** (3) The literature of Italy from the origins to the end of the Renaissance.
Effective: Winter 1978
Prerequisite: IT 003

IT 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

IT 399 (IL) **Foreign Study--Italian** (1-12) Advanced training in Italian language skills.
Effective: Summer 2005
Prerequisite: IT 003

IT 412 **Theory and Practice of Translation** (3) Advanced practicum in Italian explores the technical, artistic, and practical applications of translation between Italian and American cultures.
Effective: Summer 2004
Prerequisite: any 300-level course in Italian

IT 415 **Dante** (3) Readings in the Divina Commedia and the related lesser works of Dante Alighieri.
Effective: Winter 1978
Prerequisite: IT 350

IT 422 **Topics in the Italian Renaissance** (3) Topics vary by year and may include "Theories of Love," "Magic, Witchcraft, Alchemy, and the Emergence of Modern Science," etc.
Effective: Fall 2005
Prerequisite: any Italian course at the 300-level

IT 450 **Nineteenth-Century Italian Literature** (3) Italian romanticism, Verismo and neoclassicism, their origin and development in the novel, poetry, and drama.

Effective: Winter 1978
Prerequisite: IT 351

IT 460 **Twentieth-Century Italian Literature** (3) Modern and contemporary Italian prose, drama, and poetry.
Effective: Winter 1978
Prerequisite: IT 351

IT 475 **Modern Italian Literature and Cinema** (3) Focus on silent films, fascism, WWII, Resistance, Neorealism, and reactions against Neorealism.
Effective: Spring 2003

IT 480 **Italian Women Writers Through the Centuries** (3) Analysis of the works of women authors in their historical and literary contexts.
Effective: Spring 2005
Prerequisite: any 300-level Italian course

IT 485 **Italian-American Cultural Studies** (3) In-depth exploration of Italian-American cultural contributions.
Effective: Spring 2005
Prerequisite: any 300-level Italian course

IT 490 **Dante in Translation** (3) The reading of Dante's Divine Comedy and selected minor works.
Effective: Fall 1983
Prerequisite: junior standing or permission of instructor

IT 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

IT 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

IT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

IT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

IT 497A **Boccaccio and His Influence** (3) Emphasis on gender issues raised in Boccaccio's oeuvre juxtaposed with retreatments of these in later work influenced/inspired by Boccaccian writing. Conducted in English.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Japanese (JAPNS)

JAPNS 001 **Elementary Japanese I** (4) Introduction to modern Japanese; development of audio-lingual facility and ability to read and write Japanese without aid of romanization.
Effective: Spring 2010 Ending: Fall 2010

JAPNS 001 **Level One Japanese A** (4) Introduction to modern Japanese; development of audio-lingual facility and ability to read and write Japanese without aid of romanization.
Effective: Spring 2011 Future: Spring 2011

JAPNS 002 **Elementary Japanese II** (4) Continuation of elementary Japanese, with emphasis on improving audio-lingual facility and strengthening reading and writing skills in modern Japanese.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 001

JAPNS 002 **Level One Japanese B** (4) Continuation of elementary Japanese, with emphasis on improving audio-lingual facility and strengthening reading and writing skills in modern Japanese.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 001

JAPNS 003 **Intermediate Japanese** (4) Continued study of modern Japanese at elementary level; extensive audio- lingual practice for conversational fluency; reading/writing original scripts.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 002

JAPNS 003 **Level Two Japanese A** (4) Continued study of modern Japanese at elementary level; extensive audio- lingual practice for conversational fluency; reading/writing original scripts.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 002

JAPNS 051 **Elementary Intensive Japanese for Graduate Students I** (3) Intensive introduction to Japanese: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: graduate standing

JAPNS 052 **Elementary Intensive Japanese for Graduate Students II** (3) Continued intensive study of Japanese at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: JAPNS 051 or equivalent and graduate standing

JAPNS 053 **Intermediate Intensive Japanese for Graduate Students** (3) Continued intensive study of Japanese at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: JAPNS 052 or equivalent and graduate standing

JAPNS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

JAPNS 099 (IL) **Foreign Study** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

JAPNS 110 (IL) **Intermediate Japanese II** (4) Intermediate Japanese - Continued study of modern Japanese at intermediate level; extensive audio-lingual practice for conversational fluency; reading/writing original scripts.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 003

JAPNS 110 (IL) **Level Two Japanese B** (4) Intermediate Japanese - Continued study of modern Japanese at intermediate level; extensive audio-lingual practice for conversational fluency; reading/writing original scripts.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 003

JAPNS 120 (GH;IL) **Japanese Literature in Its Cultural Context** (3) Japanese literature and film from classical through contemporary times, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

JAPNS 121 (GH;IL) **Japanese Film and New Media** (3) Survey of Japanese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.
Effective: Spring 2010

JAPNS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject

which may be topical or of special interest.
Effective: Spring 2010

JAPNS 199 (IL) **Foreign Study--Basic Japanese** (1-8) Small group instruction in spoken and written modern Japanese at the introductory level.
Effective: Spring 2010

JAPNS 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

JAPNS 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

JAPNS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2010

JAPNS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

JAPNS 299 (IL) **Foreign Study--Intermediate Japanese** (1-12) Small group instruction in spoken and written modern Japanese at the intermediate level.
Effective: Spring 2010
Prerequisite: JAPNS 002

JAPNS 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

JAPNS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

JAPNS 399 (IL) **Foreign Study** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

JAPNS 401 (IL) **Advanced Japanese I** (4) Further acquisition of the four language skills in Japanese--reading, writing, speaking and listening comprehension.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 110

JAPNS 401 (IL) **Level Three Japanese A** (4) Further acquisition of the four language skills in Japanese--reading, writing, speaking and listening comprehension.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 110

JAPNS 402 (IL) **Advanced Japanese II (Post Study Abroad)** (4) Exclusively for study abroad returnees. To further develop Japanese proficiency in speaking, listening, reading, and writing.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 401

JAPNS 402 (IL) **Level Three Japanese B** (4) Exclusively for study abroad returnees. To further develop Japanese proficiency in speaking, listening, reading, and writing.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 401

JAPNS 403Y (IL) **Practical Written Communication: Japanese for Professional and Academic Purposes I** (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.
Effective: Spring 2010
Prerequisite: JAPNS 402

JAPNS 404 (IL) **Practical Written Communication: Japanese for Professional and Academic Purposes II** (3) Continuation of emphasis on written styles used in newspapers, magazines, business reports, academic writing, and other texts; aspects of translation.
Effective: Spring 2010
Prerequisite: JAPNS 403Y

JAPNS 452 (IL) **Contemporary Japan: Cultures, Lifestyles, Trends** (3 per semester/maximum of 6) Survey of aspects of

modern Japanese society; includes readings from Japanese newspapers, magazines, and fiction; topics may vary each semester.
Effective: Spring 2010
Prerequisite: JAPNS 401

JAPNS 453 (IL) **Japanese Film** (3 per semester/maximum of 6) Selected films and directors representing various aspects of Japanese culture and cinema; topics may vary each semester.
Effective: Spring 2010
Prerequisite: JAPNS 401

JAPNS 454 (IL) **Japanese Literature** (3 per semester/maximum of 6) Selected works from important Japanese texts representing genres such as autobiography, poetry, fiction, and drama; topics may vary each semester.
Effective: Spring 2010
Prerequisite: JAPNS 401

JAPNS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

JAPNS 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

JAPNS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2010

JAPNS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1995

JAPNS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2010

JAPNS 499 (IL) **Foreign Study--Advanced Japanese** (1-15) Small group instruction in spoken and written modern Japanese at the advanced level.
Effective: Spring 2010
Prerequisite: JAPNS 110 orJAPNS 299

Last Import from UCM: May 29, 2010 3:00 AM

Jewish Studies (J ST)

J ST 004 (GH;US;IL) (CAMS 004, RL ST 004) **Jewish and Christian Foundations** (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationship to culture.
Effective: Summer 2005

J ST 005 (ANTH 010) **Mediterranean Prehistory** (3) Archaeology of the circum-Mediterranean area, from the Middle Pleistocene through the third millennium B.C., emphasizing the evolution of regional cultures.
Effective: Summer 1998

J ST 010 (GH;IL) (HEBR 010) **Jewish Civilization** (3) Life of the Jewish people from biblical times; emphasizing cultural, religious, and institutional developments.
Effective: Summer 2005

J ST 012 (GH;IL) (CAMS 012, RL ST 012) **Lands of the Bible** (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

J ST 012U (GH;IL) (CAMS 012U, RL ST 012U) **Lands of the Bible** (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

J ST 060 (GS;IL) (ANTH 060, PL SC 060, SOC 060) **Society and Cultures in Modern Israel** (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

J ST 070 (GH;IL) (CAMS 070, RL ST 070) **Prophecy: The Near East Then and Now** (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.
Effective: Summer 2007

J ST 083S (GH;IL) **First-Year Seminar in Jewish Studies** (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Summer 2005

J ST 083T (GH;IL) **First-Year Seminar in Jewish Studies** (3) Critical approaches to the history, sociology, and literature of Jewish Studies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

J ST 090 (GH;IL) (CAMS 090, RL ST 090) **Archaeology of Jerusalem: Past and Present** (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

J ST 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

J ST 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

J ST 102 (GH;IL) (CAMS 102, HIST 102, RL ST 102) **Canaan and Israel in Antiquity** (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

J ST 110 (GH;US;IL) (CAMS 110, RL ST 110) **Hebrew Bible: Old Testament** (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

J ST 111 (GH;IL) (CAMS 111, RL ST 111) **Early Judaism** (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

J ST 114 (GH;US;IL) (RL ST 114) **Modern Judaism** (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.
Effective: Summer 2005

J ST 115 (GH;US) (HIST 115, RL ST 115) **American Jewish History and Culture** (3) Examination of the history, culture, social tenstions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

J ST 118 (US;IL) (HIST 118) **Modern Jewish History: 1492 to Present** (3) Jewish social and political history from 1492 to the present.
Effective: Spring 2006

J ST 120 (GH) (CAMS 120, RL ST 120) **New Testament** (3) Introduction to the history, literature, and religion of early Christianity in the Jewish-Hellenistic setting.
Effective: Spring 2004

J ST 121 (GH;IL) (HIST 121) **History of the Holocaust 1933-1945** (3) Historical analysis of holocaust themes.
Effective: Summer 2005

J ST 124 (GH;US;IL) (CAMS 124, RL ST 124) **Early and Medieval Christianity** (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

J ST 131 (GH;US;IL) (CMLIT 110) **Jewish Literature: An International Perspective** (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.
Effective: Spring 2011 Future: Spring 2011

J ST 132 (GH;US) (ENGL 132) **Introduction to Jewish American Literature** (3) A historical and thematic survey of Jewish Literature of the United States.
Effective: Spring 2009

J ST 133 (GH) (CAMS 133, RL ST 133) **Archaeology of the Levant and Ancient Israel** (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.
Effective: Spring 2004

J ST 134 (GH;IL) (CAMS 134, RL ST 134) **Archaeology of Biblical Israel** (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

J ST 151 (CAMS 151, HEBR 151) **Introductory Biblical Hebrew** (3) Fundamentals of Biblical Hebrew grammar, syntax, and vocabulary.
Effective: Summer 2005

J ST 152 (HEBR 152, CAMS 152) **Intermediate Biblical Hebrew** (3) Intermediate study of Biblical Hebrew grammar, syntax, and vocabulary.
Effective: Summer 2005
Prerequisite: J ST 151

J ST 170 (RL ST 170) **Death and Afterlife in the Biblical Era** (3) Changing concepts of death and the afterlife in the Jewish and Christian traditions c. 1500 B.C.E.-300 C.E.
Effective: Spring 1997

J ST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

J ST 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

J ST 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 205 (GH;US) (HIST 205, RL ST 205) **American Antisemitism** (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.

Effective: Summer 2010

J ST 235 (US;IL) (HIST 235, RL ST 235) **The Church and the Jews** (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.
Effective: Spring 2006

J ST 280 (GH;IL) (WMNST 280, RL ST 280) **Women and Judaism** (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.
Effective: Fall 2006

J ST 294 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1998

J ST 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 1998
Prerequisite: prior approval of proposed assignment by instructor

J ST 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1994

J ST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

J ST 297H (CAMS 297H) **Gensis 1-3** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

J ST 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

J ST 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

J ST 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

J ST 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

J ST 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 401 (IL) (HIST 401) **Ancient Technologies and Socio-cultural History in the Ancient Levant** (3) Social and intellectual development in the Ancient Levant as they affected and were affected by technological development.
Effective: Spring 2006
Prerequisite: RL ST 110

J ST 409Y (IL) (HIST 409Y, RL ST 407Y) **European Anti-Semitism from Antiquity to the Present** (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

J ST 410 (US;IL) (HIST 410, RL ST 410) **Jews in the Medieval World** (3) Trends in medieval Jewish society under Islam and Western Christendom.
Effective: Spring 2006

J ST 411 (US;IL) (RL ST 411) **Jewish Studies** (3) Study of the life and thought of a particular period or movement in the history of Judaism.
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

J ST 412 (RL ST 412) **American Judaism** (3) The development of Jewish religion and culture in America from the colonial era to the present.
Effective: Summer 1999
Prerequisite: HEBR 010 orJ ST 010

J ST 416 (HIST 416) **Zionist History 1890-1948** (3) History of Zionist thought and politics to the foundation of Israel 1948.
Effective: Summer 1997

J ST 420 (ANTH 420) **Archaeology of the Near East** (3) Culture of the Near East and India from Paleolithic times through the Bronze Age.
Effective: Spring 1999
Prerequisite: ANTH 008, ANTH 009, ANTH 011 orANTH 012

J ST 424H (HIST 424H, PHIL 434H, RL ST 424H) **Monotheism and the Birth of the West** (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.
Effective: Spring 2002
Prerequisite: J ST 004, J ST 102, J ST 110 orJ ST 120

J ST 426 (US) (ADM J 426, HIST 426) **Jewish/American Organized Crime in New York City** (3) History of Jewish/American organized crime in New York City from 1890 through the Great Depression.
Effective: Spring 2006

J ST 427 (ENGL 427) **Topics in Jewish American Literature** (3) An in-depth examination of important themes, writers, and/or historical developments in Jewish Literature of the United States.
Effective: Spring 2009
Prerequisite: ENGL 015 orENGL 030;J ST 132 orCMLIT 110

J ST 457 (US;IL) (ANTH 457, SOC 457) **Jewish Communities: Identity, Survival, and Transformation in Unexpected Places** (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.
Effective: Summer 2006
Prerequisite: ANTH 001 orANTH 045, HEBR 010, J ST 010, SOC 001, SOC 005, SOC 007, SOC 015

J ST 468 (PHIL 468) **Modern Jewish Philosophy** (3) Explores the major figures in modern Jewish philosophy and their influences on contemporary philosophy.
Effective: Summer 2004
Prerequisite: one course in Philosophy and/or Jewish Studies

J ST 478 (PHIL 478, RL ST 478) **Ethics After the Holocaust** (3) Explores the philosophical effects of the Holocaust for thinking about the primary question: Is ethics possible?
Effective: Spring 2005
Prerequisite: one course in Jewish Studies or Philosophy

J ST 480 (CAMS 480) **Greeks and Persians** (3) Development and achievements of the Achaemenid kingdom; relationships between Persians and Greeks.
Effective: Spring 2001
Prerequisite: CAMS 010, CAMS 025 orCAMS 100

J ST 484 **Interdisciplinary Approaches in Jewish Studies** (3) An interdisciplinary approach to problems in Jewish Studies, including Art History, Literature, and Sociology.
Effective: Fall 1999
Prerequisite: J ST 010

J ST 494 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1998

J ST 494H **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

J ST 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 1998
Prerequisite: prior approval of proposed assignment by instructor

J ST 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1994

J ST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

J ST 497A (GER 497A) **Yiddish Reading** (3) This course is an introduction to the Yiddish language, focusing on grammar, vocabulary, and reading skills.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

J ST 497B (RL ST 497B) **Cultural History of Food From Biblical Times to the Modern Era** (3) Historical exploration of the Jewish food traditions in the Bible as they now find expression in modern "food movements."
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

J ST 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1998

J ST 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

J ST 499C (IL) (CAMS 499C, HIST 499C) **Archaeological Field School** (3-6) This course introduces students to the basics of archaeological field methods.
Effective: Summer 2010 Ending: Summer 2010

J ST 499D (IL) (CAMS 499D, HIST 499D, ANTH 499D) **Conservation and Public Archaeology** (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Kinesiology (KINES)

PROFESSIONAL COURSES

The following courses are designed for the major in Kinesiology and related disciplines as designated in the various curricular programs. They are pedagogically oriented and do not fulfill the Health Sciences and Physical Education (GPE) component of General Education.

KINES 001 (GHA) **Introduction to Outdoor Pursuits** (1.5-3 per semester, maximum of 12) Introduction to selected outdoor pursuit activities, such as, but not limited to, rock climbing, cross country skiing, backpacking, hiking, orienteering.
Effective: Fall 2008

KINES 003 **Drugs in Sports** (1) Nature of drug use, misuse, and abuse in the athletic setting with implications for counseling and controls.
Effective: Spring 2005

KINES 004 (GHA) **Principles of Fly Tying and Fly Fishing for Trout** (1.5) A course designed to enhance student's knowledge, skill, and performance in fly tying and the sport of fly fishing for trout.
Effective: Fall 2001

KINES 005 **Health Aspects of Sport** (1) Basic principles and concepts of safety, health, and fitness for recreation and sport.
Effective: Spring 2005

KINES 006 (GHA) **Cycling** (1.5) A course designed to give students an understanding of and the ability to establish an exercise program involving riding.
Effective: Summer 2003

KINES 008 (GHA) **Competition Casting** (1.5) A course designed to enhance student's knowledge, skills, and performance in all forms of casting for sport fishing.
Effective: Fall 2001

KINES 010 (GHA) **Indoor Rock Climbing** (1.5) A course designed to provide students with the basic skills, safety, and knowledge of rock climbing.
Effective: Summer 2003

KINES 010A (GHA) **Lead Rock Climbing** (1.5) A course designed to provide students with skills, safety, and knowledge of lead rock climbing in a top rope environment.
Effective: Summer 2003
Prerequisite: KINES 010 or with permission of program

KINES 011 (GHA) **Basic Downhill Skiing** (1) Students will gain a comprehensive understanding and basic level of proficiency in Downhill Skiing.
Effective: Summer 2004

KINES 011A (GHA) **Intermediate Downhill Skiing** (1) Students will gain a comprehensive understanding and intermediate to advanced level of proficiency in Downhill Skiing.
Effective: Summer 2004

KINES 012 (GHA) **Snowboarding** (1) Students will gain a comprehensive understanding and basic level of proficiency in Snowboarding.
Effective: Summer 2004

KINES 013 (GHA) **First Aid, Personal Safety, and CPR** (1) A course designed to provide students with the opportunity for Red Cross certification in Community First Aid, Safety, and CPR.
Effective: Fall 2003

KINES 015 **Lifestyles for Health** (1) Concepts of health, life-style, and risk factors; development and implementation of personal action plans.
Effective: Spring 2005

KINES 017 (GHA) **Ballroom Dance** (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.
Effective: Summer 2003

KINES 017S (GHA) **Ballroom Dance** (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.
Effective: Fall 2007

KINES 019 (GHA) **Jazz Dance** (1.5) A course designed to teach the basic skills of jazz dance and develop a further appreciation of jazz dance.
Effective: Summer 2003

KINES 020 (GHA) **Modern Dance** (1.5) A course designed to teach the basic skills of modern dance and to develop a further appreciation of modern dance.
Effective: Summer 2002

KINES 024 (GHA) **Introduction to Lifetime Sports** (1.5) Students participate in lifetime sports such as archery, bowling, golf, and at least one racquet and/or winter sport.
Effective: Summer 2002

KINES 025 (GHA) **Introduction to Court Sports** (1.5) A course designed to introduce students to various court sports such as tennis, racquetball, handball, squash, and/or badminton.
Effective: Summer 1999

KINES 026 (GHA) **Archery/Indoor & Outdoor** (1.5) Course designed to introduce students to Archery/Bowhunting.
Effective: Summer 2003

KINES 027 (GHA) **Badminton 1** (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.
Effective: Summer 2002

KINES 027S (GHA) **Badminton 1** (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 028 (GHA) **Fencing I** (1.5) Kinesiology 028 is designed to give students knowledge of the rules, strategies and skills of the sport of Fencing.
Effective: Summer 2004

KINES 029 (GHA) **Golf I** (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.
Effective: Summer 1999

KINES 029A (GHA) **Golf II** (1.5) A course designed to provide a further understanding of and a more advanced proficiency in golf skills, rules and etiquette.
Effective: Summer 2004
Prerequisite: KINES 029 or equivalent

KINES 029S (GHA) **Golf I** (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 041 (GHA) **Handball** (1.5) A course designed to introduce students to a basic instructional course in the fundamentals of 4-wall handball.
Effective: Spring 2001

KINES 042 (GHA) **Ice Skating--Beginning** (1.5) A course of instruction focused on the physical development and knowledge of basic ice skating skills.
Effective: Summer 2002

KINES 042A (GHA) **Ice Skating--Advanced Beginning** (1.5) A course of instruction focused on the physical development and knowledge of basic ice skating skills.
Effective: Summer 2002
Prerequisite: KINES 042 or some experience with the activity

KINES 042B (GHA) **Ice Skating--Intermediate/Advanced** (1.5) A course of instruction in basic figure skating: field moves, freestyle, choreography, pairs skating, and ice dance.
Effective: Summer 2002
Prerequisite: KINES 042 and/orKINES 042A or equivalent skating experience

KINES 043 (GHA) **Power Skating** (1.5) A course of instruction in basic power skating specifically designed for ice hockey, applicable to other ice sports.
Effective: Summer 2002

Prerequisite: KINES 042 orKINES 042A or equivalent skating experience

KINES 044 (GHA) **Racquetball I** (1-1.5) The course promotes health, fitness, and enjoyment of the game of racquetball.
Effective: Spring 2001

KINES 045 (GHA) **NAUI Basic Scuba** (1.5) A course to introduce students to the fundamentals of Scuba diving.
Effective: Summer 2002
Prerequisite: meet NAUI standards and/or by permission of the instructor

KINES 046 (GHA) **Squash I** (1-1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of squash.
Effective: Spring 2001

KINES 047 (GHA) **Beginning Swimming** (1.5) A course designed to give students skills and knowledge necessary to be safe in shallow and deep water.
Effective: Summer 2002

KINES 047A (GHA) **Advanced Beginner Swimming** (1.5) A course designed to give students skills and knowledge necessary to be safe in shallow and deep water.
Effective: Summer 2002
Prerequisite: students should be comfortable in shallow and deep water and be moderately proficient in front crawl elementary backstroke sidestroke and breaststroke

KINES 047B (GHA) **Intermediate Swimming** (1.5) A course designed to teach students a variety of swimming strokes and increase their knowledge of fitness using aquatic activities.
Effective: Summer 2002
Prerequisite: KINES 047A or equivalent skills; students should be safe in deep water and have proficiency in the front crawl elementary backstroke sidestroke and breaststroke

KINES 048 (GHA) **Tennis I** (1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of tennis.
Effective: Spring 2001

KINES 048A (GHA) **Tennis II** (1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of tennis.
Effective: Summer 2004
Prerequisite: KINES 048 or for students who demonstrate reasonable consistency in depth and placement of ground strokes and the serve and who have not had instruction at Penn State.

KINES 054 (GHA) **Aikido** (1.5) Students will gain a comprehensive understanding and basic level of proficiency in the Japanese Traditional martial art of Aikido.
Effective: Summer 2003

KINES 055 **Dance Forms** (1.5) Baskic skills and methods of teaching and assessing creative movement and folk, square, social, and modern dance.
Effective: Summer 1996

KINES 056 (GHA) **Introduction to Martial Arts** (1.5) A course designed to give students an introduction to martial arts, and the use of martial arts for lifelong fitness.
Effective: Summer 2002

KINES 057 (GHA) **Personal Defense** (1.5) A course designed to give students an understanding of and a proficiency in martial arts and self-defense.
Effective: Summer 2004

KINES 058 (GHA) **Judo I** (1.5) Kinesiology 058 will help students develop stamina, confidence and discipline, and promote general fitness through the introduction to basic Judo.
Effective: Summer 2003

KINES 059 (GHA) **Introduction to Karate** (1.5) A course designed to give students an understanding of and a proficiency in Karate.
Effective: Summer 2003

KINES 060 **Principles and Practices of Healthful Living** (3) Facts and principles as related and applied to the science of living serve as a basis for health instruction and student guidance.
Effective: Spring 2005

KINES 061 (GHA) **Fitness Theory and Practice** (3) Students will learn about the science of fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.
Effective: Spring 2001

KINES 061S (GHA) **Fitness Theory and Practice** (3) Students will learn about the science of fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.
Effective: Summer 2005

KINES 062 (GHA) **Introduction to Cardiovascular Activities** (1.5) A course designed to give students an introduction to various types of cardiovascular training.
Effective: Summer 2002

KINES 063 (GHA) **Aerobic Dance** (1.5) A course designed to involve students in daily aerobic activity while teaching the fundamentals of overall health and well-being.
Effective: Summer 2002

KINES 065 (GHA) **Jogging** (1.5) A course designed to give students an understanding of and the ability to establish an exercise program involving jogging.
Effective: Summer 2003

KINES 067 (GHA) **Physical Conditioning** (1.5) A course designed to give students an experience with an understanding of vigorous physical training.
Effective: Spring 2001

KINES 067S (GHA) **Physical Conditioning** (1.5) A course designed to give students an experience with an understanding of vigorous physical training.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 068 (GHA) **Strength Training** (1.5) Designed to improve students' muscular strength/endurance, teaches students how to develop an effective personal strength/endurance training program for lifelong fitness.
Effective: Summer 2002

KINES 070 (GHA) **Swim Conditioning** (1.5) A course designed to provide students an understanding of and proficiency in swimming conditioning.
Effective: Summer 2002
Prerequisite: KINES 047A

KINES 071 (GHA) **Triathlete Training** (1.5) A course designed to give students a foundation for skills in cross-training: swimming, cycling, and running.
Effective: Summer 2003

KINES 072 (GHA) **Fitness Walking** (1-1.5) A course designed to give students an understanding of and a proficiency in fitness walking.
Effective: Spring 2001

KINES 076 (GHA) **Introduction to Tai Chi Ch'uan** (1.5) A course designed to introduce students to Tai Chi Ch'uan, a traditional Chinese system of personal cultivation and self-defense.
Effective: Summer 2004

KINES 077 (GHA) **Yoga 1** (1.5) A course designed to give students an understanding of and proficiency in yoga.
Effective: Summer 2002

KINES 077A (GHA) **Advanced Yoga** (1.5) A course designed to expand on a student's fundamental understanding of and proficiency in yoga.
Effective: Summer 2003
Prerequisite: KINES 077

KINES 077S (GHA) **Yoga 1** (1.5) A course designed to give students an understanding of and proficiency in yoga.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 081 (GHA) **Wellness Theory** (3) Focused on preparing and engaging students in the attitudes and behaviors that enhance quality of life and maximize personal potential.
Effective: Summer 2002

KINES 082 (GHA) **Action Methods for Stress Management** (3) Achieving wellness by studying the effects of stressors on systems of the body and effectiveness of activity to relieve stress.
Effective: Summer 2002

KINES 083 (GHA) **Exercise for Stress Management** (1.5) A course designed to identify the factors that contribute to

student stress and develop strategies that will manage these factors. Students who receive credit for KINES 083 will not receive credit for KINES 082.
Effective: Summer 2002

KINES 084 (GHA) **Fitness for Life** (1.5-2) A course designed to give students an understanding of the fundamental principles of physical fitness. Students who receive credit for KINES 084 shall not receive credit for either KINES 061 or 081.
Effective: Summer 1999

KINES 088 (GHA) **Varsity Sport Experience** (2) A course designed to promote an active and healthful lifestyle through participation in a varsity sport sanctioned by Penn State.
Effective: Summer 2004

KINES 089 (GHA) **Student Wilderness Experience** (3) Incoming student wilderness experience. Backpacking and one additional adventure: rock climbing, high ropes course/canoeing. One-day of community service.
Effective: Summer 2003

KINES 090 (GHA) **Introduction to Team Sports/Indoor** (1-1.5) A course designed to introduce students to indoor team sports.
Effective: Spring 2001

KINES 090A (GHA) **Introduction to Team Sports/Indoor - Volleyball** (1.5 per semester/maximum of 99) A course designed to introduce students to the team sport of volleyball.
Effective: Spring 2004

KINES 090B (GHA) **Introduction to Team Sports/Indoor - Basketball** (1.5 per semester/maximum of 99) A course designed to introduce students to the team sport of basketball.
Effective: Spring 2004

KINES 090C (GHA) **Introduction to Team Sports/Indoor - Team Handball** (1.5 per semester/maximum of 99) A course designed to introduce students to the sport of team handball.
Effective: Spring 2004

KINES 091A (GHA) **Introduction to Team Sports/Outdoor - Soccer** (1.5 per semester) A course designed to introduce students to the outdoor team sport of Soccer.
Effective: Summer 2004

KINES 091B (GHA) **Introduction to Team Sports/Outdoor - Speedball** (1.5 per semester) A course designed to introduce students to the outdoor team sport of Speedball.
Effective: Summer 2004

KINES 091C (GHA) **Introduction to Team Sports/Outdoor - Rugby** (1.5 per semester) A course designed to introduce students to the outdoor team sport of Rugby.
Effective: Summer 2004

KINES 091D (GHA) **Introduction to Team Sports/Outdoor-Ultimate Frisbee** (1.5 per semester) A course designed to introduce students to the outdoor team sport of Ultimate Frisbee.
Effective: Summer 2004

KINES 092 (GHA) **Adaptive Physical Education** (1.5) A course designed to give students with medically defined disabilities an opportunity to maximize their physical potential through individualized programs.
Effective: Summer 2003

KINES 093 (GHA) **Masters Activity (Sport)** (1.5 per semester/maximum of 12) A course that introduces students to movement subcultures by providing the knowledge, habits, and skills for activity across the lifespan.
Effective: Spring 2003
Prerequisite: successful completion of relevant activity course or permission of the instructor

KINES 096 (GHA) **Independent Study in Physical Activity** (.5-3 per semester) This course is designed to meet the needs of students to expand Kinesiology experiences beyond the designed course curriculum.
Effective: Spring 2006

KINES 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

KINES 097C **Certified Lifeguard** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 097K **History, Culture and Practice of Traditional Aikido in Japan** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

KINES 120 **Strength Training** (1.5) Strength training activities and program planning for students and athletes.
Effective: Summer 1996
Prerequisite: KINES 150

KINES 126 **The Health Program for the Elementary School Child** (1.5) Introduction to the Coordinated School Health Program. Overview of contemporary school-based health education theory, content, methods, and practice.
Effective: Fall 2006
Prerequisite: EDPSY 014

KINES 127 **The Physical Education Program for the Elementary School Child** (1.5) Theoretical and practical overview of developmentally appropriate physical education for children.
Effective: Fall 2006

KINES 135 **Introduction to Athletic Training** (3) Foundation of injury recognition and prevention; ethical, legal, and professional issues for the athletic trainer. A laboratory based course.
Effective: Fall 2006

KINES 141 (US;IL) **Physical Activity: Historical and Cultural** (3) Evolution of cultural values in physical activity from antiquity to the present.
Effective: Spring 2006

KINES 165 **Health Education Concepts** (3) Principles of healthy living which are the basis for health instruction in schools and health care settings.
Effective: Summer 1999

KINES 170 **Introduction to Fitness Through Physical Activity** (3) An exploration of the needs and scientific bases of exercise and lifetime sports for adults.
Effective: Summer 1996

KINES 180 **Introduction to Kinesiology** (3) The foundation course of the Kinesiology degree, providing an interdisciplinary approach to the study of movement through problem based learning.
Effective: Summer 2003

KINES 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

KINES 197A **The Biophysical Basis of Kinesiology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 197A **Biophysical Basis of Kinesiology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 197E **ROTC Lab** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 200 **Muscle Training: Physiology, Programs, Techniques** (3) Physiological basis of strength training emphasizing mechanisms of muscle contraction and growth, program and facility design, and individual exercise technique.
Effective: Spring 2000
Prerequisite: BIOL 141

KINES 201 **Cardiorespiratory Training for Health and Performance** (3) Exploration of the principles and practical applications of cardiorespiratory training for health and performance enhancement.
Effective: Spring 2006

KINES 202 **Functional Human Anatomy** (4) In-depth examination of the, musculoskeletal, nervous, cardiovascular, and respiratory systems, and their relationship to human movement.

Effective: Spring 2004

KINES 203 **Medical Terminology for Allied Health Professionals** (3) Comprehensive review of terms related to functions, disorders, diagnosis, and treatment of body systems related to physical activity and movement.
Effective: Summer 2010

KINES 220 **Inner Sports: Strategies for Maximizing Performance** (1) Theory and research in competitive anxiety. Identification of athletic goals with training in cognitive skills and strategies to maximize performance.
Effective: Summer 1996
Prerequisite: active participation in competitive sports

KINES 231 **Athletic Training Clinical Practice I** (3) Preparation in basic psychomotor skills required in the clinical practice of athletic training. This is a laboratory fee based course.
Effective: Fall 2006
Prerequisite: Athletic Training Application Completed Concurrent: KINES 135 KINES 202 KINES 233

KINES 232 **Athletic Training Clinical Practice II** (3) Preparation in advanced psychomotor skills required in the clinical practice of athletic training. This is a laboratory fee based course.
Effective: Fall 2006
Prerequisite: admitted to the Athletic Training OptionKINES 231 Concurrent: KINES 334

KINES 233 **Emergency Care in Athletic Training** (3) Introduction into emergency medical care with emphasis on management of common emergency situations occuring during athletic participation. This is a laboratory fee based course.
Effective: Fall 2006
Prerequisite: Athletic Training Option Application Completed Concurrent: KINES 135 KINES 231 KINES 202

KINES 260 **Research Skills in Kinesiology** (3) Development of research skills employed in kinesiology, including experimental design, statistical testing and information technology, through experiential learning.
Effective: Spring 2006
Prerequisite: KINES 180

KINES 261 **Educational Gymnastics** (1) This course provides an introduction to developmentally appropriate gymnastics for K-12 students.
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

KINES 262 **Educational Dance** (1) This course provides an introduction to a variety of dance forms typically taught as part of K-12 physical education curricula.
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

KINES 264 **Health-Related Physical Fitness** (1) Basic skills and methods of teaching, assessing, and prescribing health-related fitness and strength training activities.
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

KINES 266 **Adventure/Outdoor Recreational Activities** (1) Introduction to adventure/outdoor recreational activities teaching and assessment strategies for K-12 and community groups.
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

KINES 268 **Technology Applications in Health and Physical Education** (1) Integration of technology into health and physical education curriculum.
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

KINES 270 **Folk, Square, and Ballroom Dance** (1) Techniques, performance analysis, and teaching methods for folk, square, and ballroom dance.
Effective: Summer 1996

KINES 295A **Observation of Health and Physical Education in the Public Schools** (1) Introduction to the career of teaching including guided observation of HPE in K-12 public schools.
Effective: Fall 2006

KINES 295B **Careers/Observations in Kinesiology** (1) Introduction to career information and observational experiences in the Kinesiology field.
Effective: Spring 2000
Prerequisite: third-semester standing

KINES 295C **Professional Development - Field Experience** (1-2 per semester/maximum of 8) Develops the necessary professional skills needed to maximize the benefits obtained from a professional conference.
Effective: Summer 2010
Prerequisite: completion of three credits in Kinesiology

KINES 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Effective: Summer 1996

KINES 296A **Independent StudY Athletic Training** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296A **Independent Study Athletic Training** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296A **Independent Study Athletic Training** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296B **Independent Study Biomechanics** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296B **Independent Study Biomechanics** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296B **Independent Study Biomechanics** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296C **Independent Study Exercise Physiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296C **Independent Study Exercise Physiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296C **Independent Study Exercise Physiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296D **Independent Study History and Philosophy** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296D **Independent Study History & Philosophy of Sport** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296D **Independent Study History and Philosophy** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296E **Independent Study Motor Control** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296E **Independent Study Motor Control** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296E **Independent Study Motor Control** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296F **Independent Study Psychology of Movement and Sport** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296F **Independent Study Psychology of Movement** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296F **Independent Study Psychology of Movement and Sport** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296G **Independent Study Teaching Prep/Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296G **Independent Study Teaching/Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296G **Independent Study Teaching/Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 296K **Independent Study Applied Kinesiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 296K **Independent Study Applied Kinesiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 296K **Independent Study Applied Kinesiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

KINES 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

KINES 298D **Professional Development-Field Experience Pedagogy** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 303 (GHA) **Emergency Care - First Aid/Safety/AED** (3) Develop skills for First Responder Certification in CPR/AED, First Aid and Safety by American Red Cross or National Safety Council.
Effective: Fall 2003

KINES 304 **First Aid: Instructors** (1) Competencies leading to certification for teaching American Red Cross Advanced First Aid and Emergency Care and American Heart Association Cardiopulmonary Resuscitation. Laboratory.
Effective: Spring 1998
Prerequisite: KINES 303

KINES 310 **Physical Growth and Motor Development** (3) Study of biologically programmed growth processes and environmental influences leading to attained adult form and biomechanical function.
Effective: Spring 2004
Prerequisite: KINES 180

KINES 321 **Psychology of Movement Behavior** (3) Basic concepts and application of psychological knowledge for organized sport, physical activity, and athletic training.
Effective: Spring 2004
Prerequisite: KINES 180

KINES 334 **Mechanisms and Evaluation of Lower Body Athletic Injuries** (3) Etiology of athletic injuries with scientific and practical rationales for evaluation of injuries to the lower extremity and lumbosacral spine.
Effective: Fall 2006
Prerequisite: Admitted to the Athletic Training OptionKINES 231 Concurrent: KINES 232

KINES 335 **Mechanisms and Evaluation of Upper Body Athletic Injuries** (3) Etiology of athletic injuries with scientific and practical rationales for evaluation of injuries to upper extremity, neck, head, and trunk.
Effective: Fall 2006
Prerequisite: KINES 334 Concurrent: KINES 395F KINES 434

KINES 336 **Medical Aspects of Athletic Training** (3) Pathology, assessment, and treatment (including pharmacology) of general medical conditions commonly seen in physically active populations.
Effective: Fall 2006
Prerequisite: KINES 335 Concurrent: KINES 395G KINES 435 KINES 436

KINES 345 **Meaning, Ethics, and Movement** (3) Development of philosophic reasoning skills to better understand the values of physical activity and ethics in a variety of performance settings.
Effective: Summer 1996
Prerequisite: KINES 141

KINES 350 **Exercise Physiology** (3) Structure and function of the human body as applied to health, wellness, exercise, and sports.
Effective: Summer 2007
Prerequisite: KINES 180;KINES 202;BIOL 141 ; andCHEM 001, CHEM 003, CHEM 110 orCHEM 202 ; or permission by instructor for non-kinesiology majors

KINES 356 **Activity and Disease** (3) Examination of hypokinetic disease on human wellness involving identification, assessment, research, and exercise design of human activity for disease prevention.
Effective: Spring 2000
Prerequisite: BIOL 141

KINES 358 **Ergogenic Aids** (1) Skills development including research identification and evaluation of work-enhancing methods and devices as related to human performance and wellness.
Effective: Spring 2000
Prerequisite: BIOL 141, NUTR 251

KINES 360 **The Neurobiology of Motor Control and Development** (3) The neurobiological foundations of human movement, with an emphasis on applications in rehabilitation and athletics.
Effective: Fall 2006
Prerequisite: KINES 180, KINES 202;BIOL 141

KINES 362 **Teaching Individual Activities** (1.5) This course introduces teacher candidates to the spectrum of individual activities being taught in the K-12 school setting.
Effective: Spring 2010
Prerequisite: KINES 261, KINES 262, KINES 264, KINES 266 andKINES 268

KINES 364 **Teaching Group Activities** (1.5) This course introduces teacher candidates to the spectrum of group activities being taught in the K-12 school setting.
Effective: Spring 2010
Prerequisite: KINES 261, KINES 262, KINES 264, KINES 266 andKINES 268

KINES 366 **The Process of Teaching Physical Education** (3) Analysis of pedagogical skills and methods applied to K-12 physical education.
Effective: Spring 2010
Prerequisite: KINES 261, KINES 262, KINES 264, KINES 266 andKINES 268

KINES 384 **Biomechanics** (3) Basic mechanical knowledge required to understand human movement.
Effective: Fall 2006
Prerequisite: KINES 180, KINES 202, MATH 022

KINES 395A **Leadership Practicum for Teachers** (1) Supervised experiences in guiding individuals and in leading groups in the motor skill learning process.
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364, KINES 366

KINES 395B **Leadership Practicum: KINES** (1) Supervised experience in leading/assisting in tasks associated with fitness testing/prescription in a variety of settings.
Effective: Summer 1996
Prerequisite: KINES 295B fifth-semester standing

KINES 395F **Practicum in Athletic Training** (3) Practical experience in the athletic training room and with selected sports activities under direct supervision of the medical staff.
Effective: Fall 2006
Prerequisite: KINES 232 Concurrent: KINES 335 KINES 434

KINES 395G **Practicum in Athletic Training** (3) Practical experience in the athletic training room and with selected sports activities under direct supervision of the medical staff.
Effective: Fall 2006
Prerequisite: KINES 395F Concurrent: KINES 336 KINES 435 KINES 436

KINES 395I **Practicum in Athletic Training** (3) Practical experience in the athletic training room and with selected sports activities under direct supervision of the medical staff.
Effective: Fall 2006
Prerequisite: KINES 395G Concurrent: KINES 438W

KINES 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1997

KINES 398 **Special Topics Course** (1-9) Forman courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

KINES 400 **Adapted Physical Education** (3) Basic concepts of planning and conducting physical education programs for children with physical, sensory, and/or intellectual impairments.
Effective: Fall 2001
Prerequisite: KINES 202

KINES 402 **Physical Activities for Children in Special Education** (3) Study of physical and intellectual disabilities peculiar to students in special education programs and activities that may benefit them.
Effective: Summer 1996
Prerequisite: 6 credits in special education

KINES 403 **Emergency Medical Technology** (4) Theoretical and practical aspects of emergency medical techniques as applied in the pre-hospital environment.
Effective: Spring 1998
Prerequisite: KINES 303 and/or current advanced first aid and cardiopulmonary resuscitation certification

KINES 404 **Emergency Medical Technology Instructor** (2) Educational concepts and skills necessary to present instruction in emergency care; lesson planning, methods of instruction, and evaluation techniques.
Effective: Summer 1997
Prerequisite: KINES 403 with current Pennsylvania Emergency Medical Technician certification

KINES 409 **Inflammatory Responses to Injury and Environmental Stress** (3) An examination of mechanisms involved in the inflammatory response and their relationship to general health, injury, and environmental adaptation.
Effective: Spring 1996
Prerequisite: B M B 251

KINES 420 **Psychosocial Dimensions of Physical Activity** (3) Discussion of theoretical and empirical findings, structuring a frame of reference for exploring man's involvement in physical activity.
Effective: Spring 2001
Prerequisite: KINES 321 or 3 credits in psychology or sociology

KINES 421 **Exercise Psychology** (3) Psychological antecedents and consequences of physical activity behaviors.
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

KINES 422 **Physical Activity Interventions** (3) Principles of designing, planning, and implementing theory- and evidence-based physical activity interventions.
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

KINES 423 **Psychology of Sports Injuries** (3) Psychological causes and consequences of sports related injuries in athletes.
Effective: Spring 2008
Prerequisite: KINES 321

KINES 424 (US) (WMNST 424) **Women and Sport** (3) An interdisciplinary approach to contemporary issues related to women and sport from historical, physiological, psychological, and sociological perspectives.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 231, PSYCH 479, SOC 001 orWMNST 001

KINES 427 (HD FS 427) **Developmental Sport & Exercise Psychology** (3) Developmental changes in the antecedents and consequences of physical activity across the lifespan.
Effective: Spring 2008
Prerequisite: PSYCH 100 andKINES 321 orHD FS 129 orPSYCH 212

KINES 428 **Motivation and Emotion in Movement** (3) Theories of motivational and emotional processes and their applications in movement settings.
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

KINES 429 **Psychology of Sport Performance** (3) Psychological theories of talent development and performance enhancement in sport.
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

KINES 434 **Rehabilitation of Injuries to the Lower Extremities** (3) Theoretical foundation and laboratory experience in manual therapy techniques and therapeutic exercises for the lower extremities.
Effective: Fall 2006
Prerequisite: KINES 334 Concurrent: KINES 335 KINES 395F

KINES 435 **Rehabilitation of Injuries to the Trunk and Upper Extremitie** (3) Theoretical foundation and laboratory experience in manual therapy techniques and therapeutic exercises for the trunk and upper extremities.
Effective: Fall 2006

Prerequisite: KINES 434 Concurrent: KINES 336 KINES 435 KINES 395G

KINES 436 **Therapeutic Modalities in Athletic Training** (4) Lecture and laboratory course exploring physiological principles and clinical evidence to the use of therapeutic modalities in athletic training.
Effective: Fall 2006
Prerequisite: KINES 434 Concurrent: KINES 336 KINES 435 ; KINES 395G

KINES 438W **Administration and Issues in Athletic Training** (3) Theoretical and practical aspects for management of an Athletic Training professional practice and identifying contemporary issues related to the profession.
Effective: Fall 2006
Prerequisite: KINES 436 Concurrent: KINES 395I

KINES 439W **Ethics in Sport and Sport Management** (3) Analysis of moral dilemmas in sport and sport management utilizing the tools of ethics.
Effective: Spring 2001
Prerequisite: KINES 345 or 3 credits in humanities

KINES 440 **Philosophy and Sport** (3) An examination of human nature from the perspective of our participation in sport.
Effective: Spring 2001
Prerequisite: KINES 345 or 3 credits in philosophy

KINES 441 (US) (AM ST 441) **History of Sport in American Society** (3) Background, establishment, and growth of sport in America from colonial times to the present.
Effective: Fall 2007
Prerequisite: KINES 141 or 3 credits of United States history

KINES 442 (IL) (CAMS 442) **Sport in Ancient Greece and Rome** (3) An examination of the continuity of sport in ancient Greek and Roman societies.
Effective: Spring 2008
Prerequisite: CAMS 025, CAMS 033, CAMS 140, CAMS 150, CAMS 100, CAMS 101 orKINES 141

KINES 443 (IL) **The Modern Olympic Games** (3) An analysis of the modern Olympic Games from their inception through the current festival.
Effective: Spring 2006
Prerequisite: KINES 141 or 3 credits of history or philosophy

KINES 444 (US) **History of Athletics in Higher Education** (3) Origin and development of athletics in American higher education from colonial times to the present.
Effective: Spring 2006
Prerequisite: KINES 141 or 3 credits of American history

KINES 445 **Alcohol and Drug Education** (3) Principles of integration and coordination of alcohol and drug education programs for health education and other health related professions.
Effective: Spring 1998
Prerequisite: 9 credits of health science and/or psychology

KINES 446 (IL) **History of Sport in the Modern World** (3) History of sport in modern world, ca. A.D. 1500 to present; concentrates on role of sport in societies outside United States.
Effective: Summer 2005
Prerequisite: KINES 141 or 3 credits of non-United States history

KINES 448 **Coping with Life After Sport** (1) Psychosocial concerns affecting student-athletes as they enter the transition period following sport disengagement, focusing on coping interventions.
Effective: Summer 2002
Prerequisite: seventh-semester standing or higher; major or minor in Kinesiology or intercollegiate sport participation

KINES 450 **Physiological Limits in Exercise** (3) This course examines physiological function during the stress of maximal or prolonged exercise in conjunction with environmental stress.
Effective: Summer 2000
Prerequisite: KINES 350

KINES 451 **Worksite Health Promotion** (3) Nature of drug use, misuse, and abuse in the athletic setting with implications for counseling and controls.
Effective: Spring 1998

KINES 452 **Applied Cardiovascular Physiology** (3) In-depth study of cardiovascular regulation during postural, environmental, and exercise stress.
Effective: Spring 2010
Prerequisite: KINES 350

KINES 454 **Women's Health and Exercise Across the Lifespan** (3) In-depth study of the physiological role of exercise in modulating the health of girls and women during different phases of the lifespan.
Effective: Summer 2010
Prerequisite: KINES 350

KINES 456 **Physical Fitness Appraisal** (4) The basic components of physical fitness, how it can be measured, and how it can be developed.
Effective: Summer 1996
Prerequisite: or concurrent:KINES 350 3 credits in statistics

KINES 457 **Exercise Prescription and Case Studies** (3) Principles of exercise prescription; application of fitness appraisal based on current practices using evaluation and discussion of case studies.
Effective: Spring 2002
Prerequisite: KINES 350, KINES 456

KINES 459 **Laboratory Experience in Physical Fitness Assessment** (3) A hands-on experience in a fitness assessment laboratory. Prepares students for certification and employment in the fitness industry.
Effective: Spring 2005
Prerequisite: KINES 456

KINES 460 **Movement Disorders** (3) Major peripheral and central movement disorders and methods of their treatment.
Effective: Summer 1999
Prerequisite: KINES 360, KINES 384

KINES 461W **Preparation for Research Project** (2) Planning and preparation for research project.
Effective: Fall 2006
Prerequisite: KINES 180, KINES 260, STAT 200, KINES 321, KINES 345, KINES 350, KINES 360, KINES 384

KINES 462W **Research Project** (2) Completion of research topic.
Effective: Fall 2006
Prerequisite: KINES 461W

KINES 463 **Acquisition of Motor Skills** (3) Examination of principles of motor learning; the application of strategic factors such as: practice types, schedules, augmented information, and motivation.
Effective: Summer 2000
Prerequisite: KINES 360

KINES 464 **Children's Physical Education Curriculum and Practicum** (3) Curriculum for elementary school physical education emphasizing the skill theme approach.
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364, KINES 366

KINES 466 **Assessment and Evaluation in Physical Education and Health Education** (2) Explores measurement as an important and distinct component in a variety of physical education and health education contexts.
Effective: Spring 2006
Prerequisite: KINES 362, KINES 364, KINES 366

KINES 468 **Health Instruction in the School--Content and Method** (3) Methods, materials, and units of instruction.
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364 andKINES 366

KINES 469W **Curriculum Development in Health and Physical Education** (3) The content and process of K-12 school health and physical education curriculum development for public school students.
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364, KINES 366

KINES 481W **Scientific Basis of Exercise for Older Adults** (3) Study of age-associated physical changes and the effects of exercise on the aging process.
Effective: Spring 2001
Prerequisite: KINES 350

KINES 483 **Motor Patterns of Children** (3) Development of motor patterns. Fundamentals of movement, basic motor skills, and adaptation of the body to external forces.
Effective: Summer 1996
Prerequisite: KINES 202

KINES 484 **Advanced Biomechanics** (3) The use of advanced biomechanics to provide an in-depth understanding of the principles which underpin human movement.
Effective: Spring 1999
Prerequisite: KINES 384

KINES 485 **Science of Training Athletes** (3) Application of scientific data knowledge to analyze sport training.
Effective: Fall 1996
Prerequisite: KINES 350, KINES 384

KINES 486 **Legal Issues in Sport** (3) Contemporary legal issues in sport and their implications for sport managers.
Effective: Summer 1996
Prerequisite: seventh-semester standing

KINES 488 **Mechanics of Locomotion** (3) This course examines the forces and motions characteristic of locomotion, with emphasis on walking, the most common human activity.
Effective: Summer 2002
Prerequisite: KINES 384 or previous coursework in biomechanics (or mechanics) and musculoskeletal anatomy

KINES 489 **Intramural Athletics** (3) Programs of activities, types of competition, scoring, awards, schedules, organization, publicity, and other topics related to intramural athletics in schools and colleges.
Effective: Summer 1996
Prerequisite: 4 credits of activities or teaching experience

KINES 492W **Programming for Business and Agencies** (3) Fundamentals of program development applied to corporate and private physical fitness businesses.

Effective: Fall 2006
Prerequisite: KINES 395B

KINES 493 **Principles and Ethics of Coaching** (3) Integration of the practical and theoretical knowledge necessary for effective coaching through classroom and field experiences.
Effective: Fall 2006
Prerequisite: KINES 180 orKINES 366

KINES 494H **Senior Honors Thesis** (1-6) Independent study directed by a faculty supervisor that culminates in the production of a thesis.
Effective: Summer 2008
Prerequisite: Approval of honors thesis advisor

KINES 495A **Practicum in Student Teaching** (12) Supervised teaching of health and physical education in K-12 public schools with seminars focused on transition from student to professional.
Effective: Fall 2006
Prerequisite: A grade of C or higher in all required courses in the Teacher Preparation Option

KINES 495B **Field and/or Research Practicum in Kinesiology** (6) Participation under supervision in a field or research practicum.
Effective: Fall 2006
Prerequisite: KINES 395B seventh-semester standing 9 credits of 400-level KINES courses 2.00 cumulative GPA

KINES 495C **Exercise Science Practicum** (3 per semester/maximum of 6) Participation under supervision in a health and fitness setting.
Effective: Fall 2006
Prerequisite: KINES 141, KINES 180, KINES 200, KINES 202 and fifth semester standing

KINES 495D **Expanded Field and/or Research Practicum in Kinesiology** (1-6) Additional participation under supervision in a field or research practicum.
Effective: Spring 2006
Concurrent: KINES 495B

KINES 495F **Field Practicum in Athletic Training** (3) Participation under supervision in a field practicum.
Effective: Summer 1996
Prerequisite: KINES 395I

KINES 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1996

KINES 496A **Independent Study Athletic Training** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496A **Independent Study Athletic Training** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496A **Independent Study Athletic Training** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496B **Independent Study Biomechanics** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496B **Independent Study Biomechanics** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496B **Independent Study Biomechanics** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496C **Independent Study Exercise Physiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496C **Independent Study Exercise Physiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496C **Independent Study Exercise Physiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496D **Independent Study History & Philosophy** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496D **Independent Study History & Philosophy of Sport** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496D **Independent Study History and Philosophy** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496E **Independent Study Motor Control** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496E **Independent Study Motor Control** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496E **Independent Study Motor Control** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496F **Independent Study Psychology of Movement** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496F **Independent Study Psychology of Movement** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496F **Independent Study Psychology of Movement and Sport** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496G **Independent Study Teaching/Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496G **Independent Study Teaching/Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496G **Independent Study Teaching/Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 496I **Independent Study Teaching and Coaching** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496K **Independent Study Applied Kinesiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

KINES 496K **Independent Study Applied Kinesiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 496K **Independent Study Applied Kinesiology** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

KINES 497A **Sports Sciences for Coaches** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

KINES 497A **Genetics and Human Performance** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 497A **Muscluloskeletal Dysfunctional for Allied Health and Fitness Professionals** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497B **Environmental Physiology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 497B **Exercise Medicine** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497C **Women's Health and Exercise Across the Lifespan** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: KINES 350, BIOL 141

KINES 497C **Special Topics in Kinesiology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497D **Ergogenic Aids** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: KINES 345, KINES 350

KINES 497D **Ergogenic Aids** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497E **Bone Health and Exercise** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 497E **Growth and Body Composition** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497F **Physical Activity and Public Health** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 497F **Physical Activity and Public Health** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497G **Sporting Hollywood** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 497G **Sporting Hollywood** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow

subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

KINES 497K **Marathon** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

KINES 498A **EMS Assistant Instructor** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 498B **EMS Teaching Practicum** (1-2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 498C **Introduction to Ambulance Operations** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 498D **EVOC** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 498E **EMS Field Practicum** (1-2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

KINES 498F **ALS Assistant Technology** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Korean (KOR)

KOR 001 **Elementary Korean I** (4) Listening, speaking, reading, writing Korean: an introduction for beginners; basic structures and vocabulary; cultural elements.
Effective: Spring 2010 Ending: Fall 2010

KOR 001 **Level One Korean A** (4) Listening, speaking, reading, writing Korean: an introduction for beginners; basic structures and vocabulary; cultural elements.
Effective: Spring 2011 Future: Spring 2011

KOR 002 **Elementary Korean II** (4) Listening, speaking, reading, writing Korean: structures and vocabulary; cultural elements.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: KOR 001

KOR 002 **Level One Korean B** (4) Listening, speaking, reading, writing Korean: structures and vocabulary; cultural elements.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: KOR 001

KOR 003 **Intermediate Korean** (4) Further development of listening, speaking, reading, writing skills in Korean; cultural elements.
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: KOR 002

KOR 003 **Level Two Korean A** (4) Further development of listening, speaking, reading, writing skills in Korean; cultural elements.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: KOR 002

KOR 051 **Elementary Intensive Korean for Graduate Students I** (3) Intensive introduction to Korean: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: graduate standing

KOR 052 **Elementary Intensive Korean for Graduate Students II** (3) Intensive introduction to Korean: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: KOR 051 or equivalent and graduate standing

KOR 053 **Intermediate Intensive Korean for Graduate Students** (3) Continued intensive study of Korean at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Spring 2010
Prerequisite: KOR 052 or equivalent and graduate standing

KOR 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

KOR 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

KOR 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

KOR 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

KOR 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Effective: Spring 2010

KOR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

KOR 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

KOR 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

KOR 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

KOR 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

KOR 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2010

KOR 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2010

KOR 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2010

KOR 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2010

Last Import from UCM: May 29, 2010 3:00 AM

Labor, Emplym Relati (LER)

LER 083S (GS) **First-Year Seminar in Labor Studies and Employment Relations** (3) Critical approaches to the dimensions and direction in Labor and Employment Relations.
Effective: Spring 2008

LER 100 (GS) **Employment Relations** (3) Introductory analysis of the employment relationship and of the interrelated interests of managements, workers, unions, and the public.
Effective: Spring 2008

LER 136 (US) (WMNST 136) **Race, Gender, and Employment** (3) Employment relations and legislative and policy responses to labor force issues of racial and gender inequality.
Effective: Spring 2008

LER 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

LER 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LER 201 (GS) **Employment Relationship: Law and Policy** (3) An examination of basic legal principles underlying the employment relationship and their social, political, and economic bases.
Effective: Spring 2008

LER 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

LER 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2008

LER 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

LER 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LER 312 **Research Methods in Labor Studies and Employment Relations** (4) Provides an understanding of social science research as employed in the field of Human Resources and Employment Relations.
Effective: Spring 2008

LER 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

LER 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

LER 400 (IL) **Comparative Employment Relations Systems** (3) Analysis of structure and elements of employment relations systems in developed and developing areas.
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations

LER 401 **The Law of Labor-Management Relations** (3) Development of Anglo-American law regulating collective bargaining, with emphasis on American labor-management relations under Wagner, Taft-Hartley, and other acts.
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations or Political Science

LER 404 **Trends in Employment Relations** (3) Examines contemporary trends and developments in employment relations and collective bargaining.
Effective: Spring 2008

Prerequisite: ECON 315 orLER 100

LER 411 **Employment Relations Organizations** (3) Organizational factors in the actions of trade unions, other employee organizations, and their consequences for workers and society.
Effective: Spring 2008
Prerequisite: LER 100

LER 414W **Labor and Employment Relations Theory** (3) Content and implications of major and minor theories of Labor and Employment Relations.
Effective: Spring 2008
Prerequisite: 6 credits in Labor and Employment Relations

LER 424 **Employment Compensation** (3) Development and management of employee compensation systems.
Effective: Spring 2008
Prerequisite: LER 201 and sixth-semester standing

LER 425 **Employee Benefits** (3) The examination of employee benefits programs used by employers to meet the welfare needs of employees and their families.
Effective: Spring 2008
Prerequisite: LER 201 and 6th semester standing

LER 426 **Staffing and Training Strategies in Organizations** (3) This course focuses on the theory and practice of human resource staffing and training in organizations.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: LER 201, STAT 200 or any other 200 level Statistics course

LER 426 **Staffing and Training Strategies in Organizations** (3) This course focuses on the theory and practice of human resource staffing and training in organizations.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in Labor and Employment Relations (LER) or Human Resources and Employment Relations (HRER)

LER 434 **Collective Bargaining and Contract Administration** (3) Theory, practice, and economic impact of collective bargaining, including administration of the collective bargaining agreement.
Effective: Spring 2008
Prerequisite: LER 100

LER 435 **Labor Relations in the Public Sector** (3) Analysis of labor relations problems within different areas of public employment.
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations

LER 437 **Workplace Dispute Resolution** (3) Dispute resolution practices and procedures used in the workplace and employment law settings.
Effective: Spring 2008
Prerequisite: LER 100

LER 437W **Work Dispute Resolution** (3) Dispute resolution practices and procedures used in the workplace and employment law settings.
Effective: Spring 2008
Prerequisite: LER 100

LER 444 **Occupational Health: Policy and Practice** (3) The role of employees, unions, employers, and government in dealing with work-related health issues.
Effective: Spring 2008
Prerequisite: LER 100 or sixth-semester standing

LER 445Y (US) (AAA S 445Y, PL SC 445Y) **Politics of Affirmative Action** (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course andPL SC 001 orPL SC 007

LER 458Y (US) (HIST 458Y) **History of Work in America** (3) A study of selected problems in the history of work in the United States, especially since 1877.
Effective: Spring 2008
Prerequisite: HIST 021, HIST 156 orLER 100

LER 460 **Human Resources Ethics** (3) Ethics of human resources management.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: ARMY 402, H P A 460, HRIM 466, MGMT 341, MANGT 341, MANGT 441, MANGT 463, NAVSC 402, NURS 432 orPSYCH 281

LER 460 **Human Resources Ethics** (3) Ethics of human resources management.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: Take one of the following courses:ARMY 402, H P A 460, HRIM 466, MGMT 341, MGMT 441, NAVSC 402, NURS 432, PSYCH 281 3 credits in Labor and Employment Relations (LER) or Human Resources and Employment Relations (HRER)

LER 464 **Communication Skills for Leaders in Groups and Organizations** (3) Theory-and research-based communication skills for leaders dealing with work-related problems in contemporary groups and organizations.
Effective: Spring 2008

LER 465 **Collective Decision Making** (3) Application of theories of decision making to work-related issues in groups and organizations requiring collective resolution and action.
Effective: Spring 2008

LER 470 **Employee Involvement** (3) Historical, theoretical, legal, and industrial relations aspects of employee involvement in the United States and other countries.
Effective: Spring 2008
Prerequisite: LER 100

LER 472 (WMNST 472) **Work-Life Practices and Policies** (3) Explore the causes and consequences of conflicts between work, family, and other life commitments, and how these may be resolved.
Effective: Spring 2008
Prerequisite: 3 credits of LER

LER 475H (GEOG 475H) **Labor in the Global Economy: U.S. and South African Perspectives** (3) This course focuses on how the nature of work is changing in the global economy, and the implications for economic opportunity and inequality in both .
Effective: Spring 2008
Prerequisite: A minimum of 12 GEOG or LER credits before taking the course (or the permission of the program).

LER 480 **Current Issues in Human Resources** (3) Examines current issues in the field of human resource management, including innovative work schedules, telecommuting, non-traditional office environments, etc.
Effective: Spring 2008
Prerequisite: 3 credits of LER

LER 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

LER 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

LER 495 **Labor Studies Internship** (1-12) Supervised practicum in labor relations setting with union, management, or government agency.
Effective: Spring 2008
Prerequisite: prior approval by department

LER 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2008

LER 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

LER 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Landscape Architecture (LARCH)

LARCH 003 (GA) **The Natural and Historic Landscape** (3) Man's changing attitudes toward urban and rural outdoor spaces and their aesthetic and cultural value.
Students may take only one course for General Education credit from LARCH 003 GA or 060 GA. Effective: Summer 1988

LARCH 060 (GA) **History of Landscape Architecture** (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century.
Students may take only one course for General Education credit from LARCH 003 GA or 060 GA. Effective: Spring 2002
Ending: Summer 2010

LARCH 060 (GA;US;IL) **History of Design on the Land** (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century.
Students may take only one course for General Education credit from LARCH 003 GA or 060 GA. Effective: Fall 2010
Future: Fall 2010

LARCH 065 (GA;US;IL) **Built Environment and Culture** (3) Investigates the relationship between socio-cultural practices and the development and organization of contemporary built environments.
Effective: Summer 2005

LARCH 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

LARCH 112 **Introductory Design Studio** (3) Provides students with an interdisciplinary introduction to studio work in landscape design.
Effective: Summer 2008
Prerequisite: admission into the Department of Landscape ArchitectureLARCH 121S, LARCH 151, LARCH 060

LARCH 121S **Landscape Architecture Orientation Seminar** (1) Introductory seminar involving readings on significant issues in landscape architecture. LARCH majors only.
Effective: Spring 2007

LARCH 129 **Landscape Ecology for Planning and Design** (3) Application of ecological principles to design and management of environment, with particular emphasis on conservation and restoration of natural resources. For Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 241

LARCH 151 **Introduction to Design Visualization** (3) Provides students with an introduction to visualization techniques for landscape architectural design and planning.
Effective: Summer 2008
Prerequisite: admission into the Department of Landscape Architecture Concurrent: LARCH 121S

LARCH 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

LARCH 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

LARCH 211 **Design and Theory I: Introduction to Principles of Landscape ArchitecturalDesign** (4) An introduction to design theories and principles of landscape architecture. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 121S, A&A 101, A&A 102S, A&A 103, A&A 104 Concurrent: LARCH 221

LARCH 212 **Design and Theory II: Introduction to Issues of Place** (4) Studio design addressing issues of nature and culture; application of theories, processes, and presentation methods learned in course and concurrent courses. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 211, LARCH 221, LARCH 231, LARCH 251 Concurrent: LARCH 222

LARCH 221 **Design Theory Seminar** (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 211.
Effective: Spring 2007
Prerequisite: LARCH 121S, A&A 101, A&A 102S, A&A 103, A&A 104 Concurrent: LARCH 211

LARCH 222 **Design Theory Seminar** (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 212.

Effective: Spring 2007
Prerequisite: LARCH 211   Concurrent: LARCH 212

LARCH 231 **Introduction to Design Implementation** (3) Introduction of basic principles and tools supporting landform data, site systems, grading, visualization representation and site circulation.
Effective: Spring 2009
Prerequisite: LARCH 251

LARCH 232 **Landscape Architectural Design Implementation I** (3) Principles of landform design and grading, including the use of landform as a design element, visualization and representation of landforms, methods for integrating site and structure, standards for grading and drainage, and the development of detailed grading plans. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 212, LARCH 222, MATH 026 or higher

LARCH 241 **Vegetation Ecology and Landscape Design** (3) Application of ecological knowledge to landscape design and management; emphasis on the use of plant communities in contemporary design. LARCH or Landscape Contracting Majors only.
Effective: Spring 2007 Ending: Summer 2010

LARCH 241 **Ecological Principles for Landscape Design** (3) The development of basic ecological knowledge that becomes the basis for sensitive ecological design.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: LARCH majors only or permission of the program.

LARCH 251 **Design Visualization and Graphics I** (3) Advanced visualization principles and techniques; computer=aided design, image processing, color theory and application; visual thinking and problem solving. For Landscape Architecture majors only.
Effective: Fall 2008
Prerequisite: LARCH 151

LARCH 272 **Landscape Architecture Field Trip** (1) A week-long class trip to visit recent projects, offices, and outstanding historical developments.
Effective: Spring 2007
Prerequisite: LARCH 241

LARCH 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

LARCH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

LARCH 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

LARCH 311 **Design and Theory III: Site Planning and Design** (4) An introduction to site planning, management, and design.
Effective: Spring 2007
Prerequisite: LARCH 241, LARCH 212, LARCH 222   Concurrent: LARCH 321

LARCH 312 **Design and Theory IV: Site and Regional Planning** (4) An introduction to large site and regional planning. For landscape architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 311, LARCH 321   Concurrent: LARCH 322

LARCH 321 **Design Theory Seminar** (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 311.
Effective: Spring 2007
Prerequisite: LARCH 241, LARCH 212, LARCH 222   Concurrent: LARCH 311

LARCH 322 **Design Theory Seminar** (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 312.
Effective: Spring 2007
Prerequisite: LARCH 311, LARCH 321   Concurrent: LARCH 312

LARCH 331 (IL) **Landscape Architectural Design Implementation III** (3) Introduction to landscape construction materials and their use in design; includes principles and techniques for detailed design of site elements. For Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 232

LARCH 332 **Landscape Architectural Design Implementation II** (3) Introduces the principles and techniques of road alignment, including horizontal curves, vertical curves, and superelevation; principles and techniques of site scale layout and dimensioning. For Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 331

LARCH 341 **Plants, People and Place: Plants in Landscape Architectural Design** (3) The ecological, historic, and aesthetic values of native and ornamental herbaceous and woody plants and their use in landscape design.
Effective: Summer 2006
Prerequisite: LARCH 241

LARCH 361W **Historic Issues in Landscape Architecture** (3) A review of design history (precedent studies), an introduction to historic method, history as an informant to design, reading the historic landscape, and issues of preservation and restoration. Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 060 Concurrent: LARCH 445 LARCH 445A

LARCH 382 **Professional Practice** (3) An investigation of current professional and business practices in the field of landscape architecture. For Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 311

LARCH 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

LARCH 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2006

LARCH 400 **Introduction to Design and Theory (IUG)** (5) Introductory landscape architectural design and applied theory for IUG students.
Effective: Summer 1998
Prerequisite: admission to the IUG program Concurrent: LARCH 400A

LARCH 400A **Introduction to Design Theory Seminar (IUG)** (1) Introductory landscape architectural design theory seminar for IUG students.
Effective: Spring 2001
Prerequisite: admission to the IUG program Concurrent: LARCH 400

LARCH 414 **Design and Theory V: Advanced Landscape Architectural Design** (5 per semester/maximum of 15) Review of landscape architectural theories and issues; supports development of comprehensive design study and/or independent honors (Thesis-Based) design projects. LARCH Majors only.
Effective: Spring 2007
Prerequisite: LARCH 312, LARCH 322

LARCH 424 **Design Theory Seminar** (1-3 per semester/maximum of 3) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of the associated design studio course, LARCH 414.
Effective: Spring 2007
Prerequisite: LARCH 312, LARCH 322

LARCH 450 **Interactive Digital Design: Information Technology for Designers** (3) A student centered paperless interactive digital design studio.
Effective: Spring 2007

LARCH 455 **Design and Theory IX (IUG)** (6) Integrated urban design and implementation studio for IUG students.
Effective: Spring 2007
Prerequisite: admission to the BLA/MLA program;LARCH 332, LARCH 414

LARCH 472 **Planning and Public Policy** (3) A review of design and planning movements of this century, with emphasis on the contemporary planning techniques and future trends.
Effective: Summer 1984

LARCH 495 **Internship** (1-13) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.
Effective: Fall 1981
Prerequisite: prior approval of proposed assignment by instructor

LARCH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

LARCH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

LARCH 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LARCH 499A (IL) **Design Theory Seminar** (1) Inquiry-based reading and discussion of design theory literature relevant to

the focus and content of the associated design studio course, LARCH 499B. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 361W Concurrent: LARCH 499B LARCH 499C LARCH 499D

LARCH 499B (IL) **Design and Theory VI: Contemporary/International Landscape Architectural Design Issues** (4) Study of and design for sites, programs, and social groups associated with ongoing contemporary landscape architectural concerns. LARCH majors only.
Effective: Spring 2007
Prerequisite: LARCH 361W Concurrent: LARCH 499A LARCH 499C LARCH 499D

LARCH 499D (IL) **Contemporary/International Special Topics** (4) Special topics related to, and study in conjunction with, LARCH 499A, 499B, and 499C. Landscape Architecture majors only.
Effective: Spring 2007
Prerequisite: LARCH 361W Concurrent: LARCH 499A LARCH 499B LARCH 499C

LARCH 499E (IL) **Seminar: People and Protected Areas** (3) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010 Ending: Summer 2010

LARCH 499F (IL) **Studio: Community Design in the Vicinity of Udzungwa Mountains National Park** (5) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010 Ending: Summer 2010

LARCH 499G (IL) **Colloquium: Student-directed Readings and Discussion: The Contribution of Service-learning to Students and Community** (1) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Language and Literacy Education (LL ED)

LL ED 005 **College Reading Improvement I** (3) Improvement of basic reading skills: vocabulary development; literal and interpretive comprehension; application of these skills more efficiently into college work.
Effective: Spring 1992
Prerequisite: limited to students whose academic profile sheets indicate help in reading is needed

LL ED 010 **College Reading Improvement II** (3) Development of higher level comprehension, vocabulary, and study skills incorporated into content area reading.
Effective: Spring 1992
Prerequisite: LL ED 005

LL ED 123 **Critical Reading** (3) Critical analysis of nonfiction prose, with practice in using analytical reading skills in comprehending texts of various content areas.
Effective: Spring 1992
Prerequisite: ENGL 015

LL ED 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1992

LL ED 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1992

LL ED 297A **Language and Composition** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

LL ED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

LL ED 400 **Teaching Reading in the Elementary School** (3) Introduction to the reading program; acquaintance with materials and techniques; observations of reading instruction; correlation with human growth and development.
Effective: Spring 2007
Prerequisite: C I 295 for EK ED majors;EDPSY 014, PSYCH 212;EDTHP 115 or EDTHP selection Concurrent: LL ED 402 for EK ED majors LL ED 401

LL ED 401 **Teaching Language arts in Elementary School** (3) Principles, problems, materials, and techniques involved in teaching speaking, listening, writing, and reading in the elementary school.
Effective: Spring 2007
Prerequisite: C I 295 for EK ED majors;EDPSY 014, PSYCH 212;EDTHP 115 or EDTHP selection Concurrent: LL ED 402 for EK ED majors LL ED 400

LL ED 402 **Teaching Children's Literature** (3) Survey of children's literature with an emphasis on the importance of literature in the development of the elementary school curriculum.
Effective: Spring 2007
Prerequisite: C I 295 for EK ED majors;EDPSY 014, PSYCH 212;EDTHP 115 or EDTHP selection. Concurrent: LL ED 401 for EK ED majors. LL ED 400

LL ED 411 **Teaching Language Arts in Secondary Schools I** (3) Exploration of language, literacy, and culture and development of curricular designs for teaching language arts in secondary schools.
Effective: Spring 1994
Prerequisite: ENGL 200 or 200-level literature courseENGL 444 Concurrent: LL ED 420

LL ED 412W **Teaching Language Arts in Secondary Schools II** (3) Exploration of language, literacy, and culture and development of curricular designs for teaching language arts in secondary schools.
Effective: Summer 2010
Prerequisite: LL ED 411 Concurrent: C I 412W

LL ED 420 **Adolescent Literature and Literacy** (3) Exploration of adolescent literacy and curricular designs for using the diversity of cultural voices in adolescent literature in secondary schools.
Effective: Spring 1992
Concurrent: LL ED 411

LL ED 445 **Teaching English in Bilingual/Dialectal Education** (3) Theories, techniques, materials for teaching English speaking, reading, and writing to bilingual and nonnative speakers in elementary and secondary schools.
Effective: Spring 1992
Prerequisite: WL ED 422 orWL ED 414

LL ED 446 **Remedial Reading in the Classroom** (3) Exploration of reading difficulties in the regular classroom; use of assessment information in the design and delivery of appropriate instruction.

Effective: Spring 1992
Prerequisite: LL ED 440 orLL ED 500

LL ED 450 **Content Area Reading** (3) Study of reading skills and materials for specific content areas; diagnostic and instructional procedures for classroom teachers.
Effective: Spring 2007
Prerequisite: EDPSY 014 orPSYCH 212 or teaching experience

LL ED 462 **The Art of the Picturebook** 3 An in-depth study of picturebooks as art objects providing aesthetic experiences and contributing to our aesthetic development in literacy education.
Effective: Summer 2009
Prerequisite: ENGL 015 and 5th semester standing or higher

LL ED 465 **Fantasy Literature for Children** (3) A study of fantasy literature for children looking at a variety of fantasy stories and examining them from different perspectives.
Effective: Summer 2010
Prerequisite: ENGL 015 and 5th semester standing or higher

LL ED 467 **Children's Literature in the Classroom** (3) Study of the theory and practice of using children's literature in the elementary school classroom.
Effective: Spring 1992
Prerequisite: LL ED 400 orLL ED 402

LL ED 480 **Media Literacy in the Classroom** (3) Exploration of media languages and literacy in classrooms, learning in an electronic age; issues, ideas, and teaching strategies.
Effective: Spring 2005
Concurrent: LL ED 420 LL ED 411

LL ED 495 **School Practicum in Reading** (1-18) Supervised practicum providing field experiences at any grade level, with opportunities to assume various teaching roles.
Effective: Spring 1992
Prerequisite: LL ED 400

LL ED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1992

LL ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1992

LL ED 497A **Art and Literacy Block** (15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

LL ED 497A **Elementary Education Literacy Block** (15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

LL ED 497A **Elementary Education Literacy Block** (15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

LL ED 497B **Children's/Young Adult Africana Literature and Literacy** (3) Students will read and respond to a selection of children's/adolescent texts from/about Africa and the Africa diaspora to gain an understanding of how authors contruct Black identities.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

LL ED 497D **Formative Literacy Assessments** (3) Emphasis is on literacy assessments (reading, writing, spelling) and follow- up instruction in primary grades at Easterly Parkway School.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

LL ED 497K **Fantasy Literature for Children** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

LL ED 497K **Fantasy Literature for Children** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

LL ED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Effective: Fall 1992

LL ED 498A **AP English Literature and Composition** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

LL ED 498B **AP Spanish Language** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

LL ED 498C **Summer Invitational Writing Institute** (3-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Languages (LANG)

LANG 051 **Elementary Intensive Less Commonly Taught Language for Graduate Students I** (3) Intensive introduction to a less commonly taught language: first half of elementary sequence in reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

LANG 052 **Elementary Intensive Less Commonly Taught Language for Graduate Students II** (3) Intensive introduction to a less commonly taught language: second half of elementary sequence in reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: LANG 051 and graduate standing

LANG 053 **Intermediate Intensive Less Commonly Taught Language for Graduate Students** (3) Continued intensive study of a less commonly taught language at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: LANG 052 or equivalent and graduate standing

LANG 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 196 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2007

LANG 196A **Elementary Hindi Language Course** (4) Introduction to listening, speaking, reading, and writing of the Hindi Language, with emphasis on the first two skills.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

LANG 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

LANG 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2007

LANG 296A **Intermediate Hindi Language Course** (4) Continuing study of listening, speaking, reading, and writing of the Hindi Language.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

LANG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

LANG 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

LANG 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2007

LANG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

LANG 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Spring 2007

Last Import from UCM: May 29, 2010 3:00 AM

Latin (LATIN)

Knowledge of Greek or Latin not required. See also CLASSICS AND ANCIENT MEDITERRANEAN STUDIES and GREEK.

LATIN 001 **Elementary Latin** (4) Pronunciation; inflections; simple rules of syntax.
Effective: Winter 1978

LATIN 002 **Elementary Latin** (4) Advanced syntax and sentence structure.
Effective: Winter 1978
Prerequisite: LATIN 001

LATIN 003 **Intermediate Latin** (4) Selected readings from representative authors.
Effective: Winter 1978
Prerequisite: LATIN 002

LATIN 051 **Elementary Intensive Latin for Graduate Students I** (3) Intensive introduction to Latin: first half of graduate intensive sequence in elementary reading, writing, syntax, and cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

LATIN 052 **Elementary Intensive Latin for Graduate Students II** (3) Intensive introduction to Latin: second half of graduate intensive sequence in elementary reading, writing, syntax, and cultural contexts.
Effective: Summer 2008
Prerequisite: LATIN 051 and graduate standing

LATIN 053 **Intermediate Intensive Latin for Graduate Students** (3) Continued intensive study of Latin at the intermediate level: reading, writing, syntax, and cultural contexts.
Effective: Summer 2008
Prerequisite: LATIN 052 or equivalent and graduate standing

LATIN 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 101 **Introductory Latin** (4) Introduction to Latin forms, syntax, and vocabulary.
Effective: Summer 2007

LATIN 102 **Advanced Latin** (4) Advanced study of Latin grammar, syntax, and vocabulary.
Effective: Summer 2007
Prerequisite: LATIN 101 or evidence of advanced placement through a Latin A.P. exam (minimum grade of 3) or a placement exam set by the instructor

LATIN 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

LATIN 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 203 **Latin Reading and Composition** (4) The course reviews Latin grammar, syntax, and vocabulary and introduces students to classical Latin poetry and prose.
Effective: Summer 2008
Prerequisite: LATIN 102

LATIN 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

LATIN 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2001

LATIN 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1983

LATIN 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

LATIN 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LATIN 400 **Latin Syntax and Stylistics** (3) Latin style and stylistics as examined and appreciated through standard exercises in composition and parallel selected prose readings.
Effective: Fall 2005
Prerequisite: LATIN 003 or 12th-credit level of proficiency

LATIN 402 **Republican Literature** (3-12) Selected works by Plautus, Lucretius, Catullus, Cicero (content varies).
Effective: Summer 1995
Prerequisite: LATIN 003

LATIN 403 **Augustan Age Literature** (3-12) Selected works by Virgil, Horace, Propertius, Tibullus, Ovid, Livy (content varies).
Effective: Summer 1995
Prerequisite: LATIN 003

LATIN 404 **Silver Age Literature** (3-12) Selected works by Petronius, Seneca, Tacitus, Juvenal, Martial, Pliny the Younger (content varies).
Effective: Summer 1995
Prerequisite: LATIN 003

LATIN 420 **Medieval Latin Literature** (3-6) Survey of Medieval Latin literature.
Effective: Spring 1995
Prerequisite: LATIN 003

LATIN 450W **History of Latin** (3) History of the Latin language and its speakers, from their origins to the 2nd century C.E.
Effective: Summer 1994
Prerequisite: LING 102;LATIN 401, LATIN 402 orLATIN 403

LATIN 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

LATIN 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

LATIN 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

LATIN 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

LATIN 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Latin American Studies (LATAM)

LATAM 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Last Import from UCM: May 29, 2010 3:00 AM

Latina/O Studies (LTNST)

LTNST 100 (GH;US) **Introduction to Latina/s Studies** (3) This course provides an interdisciplinary introduction to the study of Latinas/os in the U.S.
Effective: Summer 2006

LTNST 127 (US) (HIST 127) **Introduction to U.S. Latina/o History** (3) This course introduces students to the history of U.S. Latina/os, including Puerto Ricans, Dominicans, Chicanos, Cubans, and Central Americans.
Effective: Spring 2008

LTNST 197 **Special Topics** (1-9) Formal courses given infrequently to eplore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

LTNST 226 (GH;US;IL) (ENGL 226) **Latina and Latino Border Theories** (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.
Effective: Spring 2007

LTNST 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2006

LTNST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

LTNST 300 (US) (WMNST 300) **Latina Feminisms** (3) This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States.
Effective: Summer 2006
Prerequisite: LTNST 100

LTNST 315 (GH;US) (SPAN 315) **Spanish and Spanish-speakers in the U.S.** (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.
Effective: Summer 2006

LTNST 326 (GH;US) (SPAN 326) **Reading the Border/Lands** (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.
Effective: Summer 2006

LTNST 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

LTNST 403 (US) (CMLIT 403) **Varieties of Latina/o Cultural Expression** (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

LTNST 403 (US) (CMLIT 403) **Latina/o Literature and Culture** (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

LTNST 426 (US) (ENGL 426) **Chicana and Chicano Cultural Production: Literature, Film, Music** (3) An in-depth study of Chicana/Chicano literature, film, and music from the inception of the Chicano Movement (1965-1975) to the present.
Effective: Spring 2007
Prerequisite: 3 credits in English

LTNST 467 (US;IL) (HIST 467) **Latin America and the United States** (3) Historical development of policies of the United States with regard to Latin- American affairs from colonial times to the present.
Effective: Fall 2008

LTNST 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2006

LTNST 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2006

LTNST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

Last Import from UCM: May 29, 2010 3:00 AM

Liberal Arts (L A)

L A 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 101H (GWS) **Honors Rhetoric and Civic Life** (4) Within a liberal arts framework and with attention to public discourse-- speaking, writing, online communication, and visual presentation--this course instructs students in the arts, practices, and principles of rhetoric.
Effective: Fall 2009

L A 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 199 (IL) **Foreign Study--Liberal Arts** (1-9) Study in selected foreign countries of the cultural, institutional, and/or social development of the host country.
Effective: Summer 2005

L A 200 **Business and the Liberal Arts** (1) Introduction to business careers and concepts for students enrolling in the Business and the Liberal Arts minor.
Effective: Summer 2007

L A 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis. (No course under L A 294/494 may be offered without approval of the associate dean of liberal arts. All courses must have a specific title and letter suffix.)
Effective: Spring 1994

L A 295 **Undergraduate Field Experience or Practicum** (1-18) Approved experience, related to student career objectives, in agencies external to the University.
Effective: Fall 1983

L A 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

L A 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

L A 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

L A 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

L A 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical of of special interest.
Effective: Summer 2003

L A 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

L A 400 **Changing Life-Styles** (1) Guest lecturers address the subject of futurism and impact of changes on individuals and society from different academic perspectives.
Effective: Winter 1979

L A 401 **Professional Development for the Liberal Arts Student** (1) Provides Liberal Arts students with the techniques and information necessary to specify and implement postgraduation educational and career plans.
Effective: Fall 1983

L A 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis. (No course under L A 294/494 may be offered without approval of the associate dean of liberal arts. All courses must have a specific title and letter suffix.)
Effective: Spring 1994

L A 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis. (No course under L A 294/494 may be offered without approval of the associate dean of liberal arts. All courses must have a specific title and letter suffix.)
Effective: Fall 2007

L A 495 **Undergraduate Field Experience or Practicum** (1-12) Approved experience, related to student career objectives, in agencies external to University.
Effective: Fall 1981

L A 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

L A 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

L A 497A **Children's Theatre** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

L A 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

L A 498H **Honors Leadership Mentor** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

L A 499 (IL) **Foreign Study--Liberal Arts** (1-9) Study in selected foreign countries of the cultural, institutional, and/or social development of the host country.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Library Studies (L ST)

L ST 083S **The Twenty-First Century Researcher** (1) Students learn to use technology and Libraries resources to access and cite relevant information into academic research projects.
Effective: Fall 2009

L ST 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

L ST 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2001

L ST 100 **Information Search Strategy** (1) Concepts and methodology for determining informational needs and planning efficient strategies to locate information in a library.
Effective: Spring 1985
Prerequisite: or concurrent:ENGL 015 orENGL 030

L ST 100H **Information Search Strategy** (1) Concepts and methodology for determining informational needs and planning efficient strategies to locate information in a library.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:ENGL 015 orENGL 030

L ST 101S **Stories and Storytelling: How Humans Become People** (3) This First-year seminar uses story and collaborative storytelling to examine how knowledge is organized, found, evaluated, used, and communicated.
Effective: Summer 1999

L ST 101T **Stories and Storytelling: How Humans Become People** (3) This First-year seminar uses story and collaborative storytelling to examine how knowledge is organized, found, evaluated, used, and communicated.
Effective: Summer 1999

L ST 110 **Information Organization and Retrieval** (3) Information structure and resource related to search and problem-solving procedures to identify, organize, and locate print and nonprint materials.
Effective: Fall 1983
Prerequisite: ENGL 015 orENGL 030

L ST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

L ST 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

L ST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

L ST 301H **Information Research Methods and Systems** (1) Survey of information theories, structures and resources as related to library research methods for social, behavioral sciences and the humanities.
Effective: Fall 1983

L ST 370 **Research Methods for Law and Government Information Resources** (3) Evaluating, retrieving and integrating Federal and Legal Information Resources into scholarly research.
Effective: Spring 2005
Prerequisite: 3 credits in Administration of Justice Political Science Communication History or Sociology

L ST 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

L ST 490 (HIST 490) **Archival Management** (1-3) Introduction to the principles and procedures in the management of archives and historical manuscripts.
Effective: Fall 1978

L ST 495 **Internship** (1-9) Directed internship in library studies, archival administration, rare books curation and/or preservation.
Effective: Summer 1995
Prerequisite: L ST 490 orL ST 496

L ST 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses. Students may not register for these courses without prior written approval of a faculty member in the department in which the courses are listed.
Effective: Fall 1983

L ST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

Last Import from UCM: May 29, 2010 3:00 AM

Linguistics (LING)

LING 001 (GS;US;IL) **The Study of Language** (3) A non-technical introduction to the study of human language, and its role in human interaction. Students who have successfully completed LING 100 may not enroll in LING 001.
Effective: Summer 2005

LING 083S (GS;US;IL) **1st Year Seminar in Linguistics** (3) Non-technical exploration of aspects of human language.
Effective: Summer 2005

LING 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 100 **Foundations of Linguistics** (3) Systematic study of linguistic structures in a variety of the world's languages; an overview of language, and its organization.
Effective: Fall 1987 Ending: Fall 2010

LING 100 (GS) **Foundations of Linguistics** (3) Systematic study of linguistic structures in a variety of the world's languages; an overview of language, and its organization.
Effective: Spring 2011 Future: Spring 2011

LING 102 (GH) **Introduction to Historical Linguistics** (3) How languages change and evolve over time; language families; effects of borrowing and language contact.
Effective: Spring 2002
Prerequisite: LING 010 orLING 100

LING 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LING 294 **Research Project** A1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

LING 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1983

LING 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LING 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

LING 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

LING 401 **Introduction to Linguistic Theory** (3) A survey of the principles of modern linguistic analysis; current approaches to phonological, morphological, and syntactic methods and analyses.
Effective: Fall 2001

LING 402 **Syntax I** (3) Principles of grammatical analysis in the generative framework; an overview of syntactic structures across languages.
Effective: Fall 2001

LING 404 **Phonology I** (3) The analysis of the sound systems of human languages; focus on common phonological processes across languages and on phonetics-phonology interface.
Effective: Fall 2001

LING 429 (PSYCH 426) **Language and Thought** (3) Relations between language and cognition; cognitive implications of normal and impaired language development; cognition and bilingualism.
Effective: Spring 2007
Prerequisite: PSYCH 100, LING 001 orLING 100

LING 446 (PSYCH 427) **L1 Acquisition** (3) How children learn their first language; psycholinguistic aspects of lexical, syntactic, semantic, and phonological development.
Effective: Spring 2010
Prerequisite: LING 100 orPSYCH 002 or permission of program

LING 447 **Bilingualism** (3) Explores the social and psychological aspects of bilingualism; topics include languages in contact, transference, maintenance, and loss.
Effective: Fall 2001

LING 448 **Sociolinguistics** (3) Issues in the study of language in its sociocultural context; analysis of social dialects and speech styles.
Effective: Fall 2001

LING 449 **Semantics I** (3) The study of meaning in human language; methods of analysis; study of sense, reference, compositionality, quantification, presupposition, and sentence- level meaning.
Effective: Fall 2001

LING 493 **Field Methods** (3) Primary linguistic investigation of a language different from English; field work with a native speaker; data gathering; linguistic analysis.
Effective: Fall 2001

LING 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

LING 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

LING 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

LING 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1983

LING 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Fall 1992

LING 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Literature (LIT)

LIT 440 **Literary Genres** (3) The study of one of the major literary genres. (May be repeated for credit.)
Effective: Spring 1994

Last Import from UCM: May 29, 2010 3:00 AM

Management (MGMT)

MGMT 001S **Business Leadership** (3) The aim of this course is to introduce fundamental concepts of business management and leadership.
Effective: Spring 2000

MGMT 100 **Survey of Management** (3) Introduction to organizational factors relevant to management processes, including leadership, motivation, job design, technology, organizational design and environments, systems, change. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 304 or MGMT 301.
Effective: Fall 1989

MGMT 100W **Survey of Management** (3) Introduction to organizational factors relevant to management processes, including leadership, motivation, job design, technology, organizational design and environments, systems, change. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 304 or MGMT 301.
Effective: Summer 1993

MGMT 150 **Supervisory Management** (3) Preparation for supervisory positions in formal organizations. Emphasis placed on the motivational aspects of the supervisor's job.
Effective: Summer 1990
Prerequisite: MGMT 100

MGMT 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2008

MGMT 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MGMT 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Spring 2008

MGMT 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1989

MGMT 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1989

MGMT 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MGMT 301 **Basic Management Concepts** (3) Study of fundamental principles and processes applicable to the understanding of management. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 304.
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: ENGL 015, MATH 021;ECON 002 orECON 004

MGMT 301 **Basic Management Concepts** (3) Study of fundamental principles and processes available to the understanding of managmenet. Not available to students who have taken B A 304.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MGMT 301H **Basic Management Concepts** (3) Study of fundamental principles and processes available to the understanding of managmenet. Not available to students who have taken B A 304.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MGMT 301W **Basic Management Concepts** (3) Examination of fundamental principles and processes applicable to the study of managment. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 304.
Effective: Summer 2003 Ending: Summer 2010
Prerequisite: ENGL 015;MATH 021;ECON 002 orECON 004

MGMT 301W **Basic Management Concepts** (3) Examination of fundamental principles and processes applicable to the study of management. Not availabe to students who have taken B A 304.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MGMT 321 **Leadership and Motivation** (3) Applies organizational behavior theories, concepts, and skills to leading and motivating individuals and groups.
Effective: Spring 2001
Prerequisite: B A 304, MGMT 301 or 3 credits of psychology sociology or cultural anthropology

MGMT 326 **Organizational Behavior and Design** (3) Concepts, theories, and methods of managing people and designing organizations.
Effective: Spring 2008
Prerequisite: B A 304 orMGMT 301

MGMT 331 **Management and Organization** (3) Designing organizations to effectively manage new technologies, structures, and people in changing global contexts.
Effective: Spring 2001
Prerequisite: B A 304, MGMT 100 orMGMT 301 ; or 3 credits of psychology sociology or cultural anthropology

MGMT 341 **Human Resource Management** (3) Introduction to the strategic planning and implementation of human resource management, including staffing, development, appraisal, and rewards.
Effective: Spring 2001
Prerequisite: B A 304 orMGMT 301

MGMT 350 **Problem Solving and Models for Management** (3) A hands-on introduction to modeling and solving typical business problems using commonly used techniques and software tools.
Effective: Spring 2008
Prerequisite: SCM 200 orSTAT 200 ; fifth-semester standing

MGMT 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

MGMT 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2003

MGMT 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2003

MGMT 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MGMT 400 **Organization Development** (3) A study of organizational change and methodologies related with change and improvement. Examination of planned change on processes, strategies, people and culture in organizations.
Effective: Spring 2008
Prerequisite: MGMT 301

MGMT 401 **Contemporary Issues in Management** (3) Advanced treatment of topics of current managerial significance. Issues examined will differ by instructor, section, and semester. Consult departmental office.
Effective: Spring 2008
Prerequisite: MGMT 321, MGMT 331 ; orMGMT 326

MGMT 402 **Experiences in Organizational Relations** (3) An experiential approach to study of behavior in organizations, applying concepts and theories of management to interpersonal situations.
Effective: Spring 2008
Prerequisite: MGMT 301

MGMT 409 **Project Management for Engineers** (3) The course provides a real-time experience to students in engineering and engineering technology in project management with a focus on leadership behavior and decision making.
Effective: Spring 2008
Prerequisite: 7th semester standing

MGMT 410 **Project Management** (3) A problem-based, interdisciplinary course in project management skills and techniques needed to manage projects in a modern business environment.
Effective: Spring 2008
Prerequisite: MGMT 301, SCM 310

MGMT 420 **Conflict Management** (3) An exploration of the sources of interpersonal conflict and strategies of resolution in the managerial context.
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: MGMT 301 orB A 304

MGMT 420 **Negotiation and Conflict Management** (3) An exploration of the sources of interpersonal conflict and strategies of resolution in the managerial context.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MGMT 301 orB A 304

MGMT 424 **Interpersonal Relationships in Organizations** (3) Developing individual skills in interpersonal and group settings and experience-based and conceptual training in relating effectively to other people.
Effective: Spring 2008
Prerequisite: MGMT 321 orMGMT 326

MGMT 425 (IST 425, ENGR 425) **New Venture Creation** (3) Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

MGMT 426 (ENGR 426, IST 426) **Invention Commercialization** (3) Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path each technology.
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

MGMT 427 **Managing an Entrepreneurial Start-Up Company** (3) Exploration of the tensions and experiences of starting and growing a new company.
Effective: Spring 2009
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100 ; 5th semester standing

MGMT 431 **Entrepreneurship and Small Business Management** (3) Entrepreneurship, new ventures, and management of small firms.
Effective: Spring 2008
Prerequisite: ACCTG 211, MGMT 301, MKTG 301

MGMT 432 **Small Business Field Study** (3) Supervised field study with a small firm.
Effective: Spring 2008
Prerequisite: MGMT 431

MGMT 433 **Leadership and Team Building** (3) Team-based learning approach to developing conceptual knowledge, skills sets, and personal competencies needed for leading and managing organizations.
Effective: Spring 2008
Prerequisite: MGMT 301

MGMT 440 **Advanced Human Resource Management** (3) In depth study of human resource management and personnel administration functions and processes.
Effective: Spring 2008
Prerequisite: MGMT 341

MGMT 441 **HRM Professional Seminar (Part 1): Staffing and Development** (3) This course focuses on the skills and methods managers need to manage staffing and development activities in organizations.
Effective: Summer 2001 Ending: Fall 2010
Prerequisite: MGMT 341 Concurrent: MGMT 442

MGMT 441 **Organizational Staffing and Development** (3) This course focuses on the skills and methods managers need to manage staffing and development activities in organizations.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MGMT 341

MGMT 443 **HRM Professional Seminar (Part 2): Performance Management** (3) This course focuses on skills and methods managers need to enhance the contribution of employees to organizational performance and effectiveness.
Effective: Fall 2001 Ending: Fall 2010
Prerequisite: MGMT 341 Concurrent: MGMT 444

MGMT 443 **Performance Management** (3) This course focuses on skills and methods managers need to enhance the contribution of employees to organizational performance and effectiveness.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MGMT 341

MGMT 445 (US) **Managing Differences in Organizations** (3) This course focuses on developing knowledge and skills for dealing with demographic, functional, occupational and identity-based differences within and among organizations.
Effective: Spring 2008
Prerequisite: B A 304 orMGMT 301;MGMT 341

MGMT 450 **Labor Management Relations** (3) Study of the key concepts and processes involved in current American labor/management relations.
Effective: Spring 2008
Prerequisite: MGMT 301

MGMT 451W **Business, Ethics, and Society** (3) Advanced examination of social, ethical, legal, economic, equity, environmental, public policy, and political influences on managerial decisions and strategies.
Effective: Spring 2004
Prerequisite: B A 241 andB A 242 orB A 243

MGMT 453 **Creativity and Innovation** (3) Analysis of the process of innovation in organzations and of how creativity and other variables influence the process.

Effective: Summer 2007
Prerequisite: MGMT 301

MGMT 461 (IL) **International Management** (3) Examines issues of nations and cultures including motivation, communication, negotiation, leadership, ethics and social responsibility, and women in management.
Effective: Spring 2008
Prerequisite: B A 304 orMGMT 301

MGMT 466 **Organizational Learning and Knowledge Management** (3) Examination of the social processes through which organizations continuously develop, acquire, interpret, and apply information and knowledge for performance enhancement and continuous improvement.
Effective: Spring 2008
Prerequisite: MGMT 301

MGMT 471 **Strategic Management** (3) Issues that influence the competitive performance of the firm are identified and examined.
Effective: Spring 2004
Prerequisite: MGMT 326, B A 411 or taken concurrently

MGMT 471W **Strategic Management and Business Policy** (3) Study of strategic management and business policy formulation and implementation processes.
Effective: Spring 2008
Prerequisite: MGMT 301, MKTG 301, FIN 301, SCM 301

MGMT 475W **Strategic Product Development** (3) Study of an organization, industry, and evaluation of the introduction to a new product. Preparation of proposal for industry product.
Effective: Summer 2008
Prerequisite: 7th semester standing;MGMT 300;FIN 301;SCM 310;MKTG 301;M E 300 orMET 330;MCH T 213 orE MCH 213;EET 101 orE E 211

MGMT 476 **Product Realization Capstone** (3) Study of an organization, industry, and evaluation of the introduction of a new product. Preparation of proposal for industry product.
Effective: Summer 2008
Prerequisite: MGMT 475W ; 8th semester standing

MGMT 483 **Compliance and Fairness in Organizations** (3) Compliance with employment laws with respect to managing human resources and fair treatment in employer-employee relationships.
Effective: Summer 2007
Prerequisite: MGMT 341

MGMT 489 **Seminar in Management** (3) A capstone course in management for students of high academic achievement. Emphasis on in-depth research of current interest.
Effective: Spring 2008
Prerequisite: MGMT 301 and at least senior status

MGMT 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

MGMT 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

MGMT 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

MGMT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1989

MGMT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1989

MGMT 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2003

MGMT 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Mangt Info Systems (MIS)

MIS 103 **Microcomputer Applications in Business** (3) Introduction to current business uses of the microcomputer, including spreadsheets, database management, word processing, and decision-making models.
Effective: Spring 2007

MIS 120 **Microcomputer Operating Systems and User Interfaces** (3) Management of microcomputer hardware and software, including systems software, user interfaces, file management, security features, and applica- tions software installation.
Effective: Spring 2007
Prerequisite: MIS 103

MIS 130 **Advanced Database Management Systems for Microcomputers** (3) Advanced relational database design, data integrity, data security, operational procedures, business applications using microcomputer database software.
Effective: Spring 2007
Prerequisite: MIS 103

MIS 190 **Microcomputer Accounting and Transaction Processing** (3) Use of accounting software to manage small to medium sized businesses, transaction processing, general ledger, payables, receivables, inventory management, payroll.
Effective: Spring 2007
Prerequisite: CMPSC 203 orMIS 103 . Prerequisite or concurrent: 2 credits in Financial Accounting

MIS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

MIS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MIS 204 **Introduction to Business Information Systems** (3) Introduction to the use of information systems in business organizations.
Effective: Summer 2007

MIS 204H **Honors Introduction to Management Information Systems** (3) Introduction to the use of information systems in business organizations.
Effective: Spring 2009

MIS 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Spring 2007

MIS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2007

MIS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

MIS 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MIS 301 **Introduction to Business Applications Development** (3) Event-driven programming in a visual environment in which students will learn how to build business applications using current, state of the art technology.
Effective: Spring 2007
Prerequisite: MIS 204 andSCM 200   Concurrent: SCM 302

MIS 305 **Microcomputers in Business** (3) Introduces microcomputer applications in business. Provides hands-on experience in using major applications software relevant to various concepts and functions.
Effective: Spring 2007

MIS 307 **Algorithmic Concepts** (3) Using state-of-art programming language; concepts, program structure and design, documentation, file handling, and elementary data structures are introduced.
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 101 orCMPSC 121

MIS 321 **Introduction to Management Information Systems** (3) An introduction to management information systems in

organizations.
Effective: Spring 2008
Prerequisite: CMPSC 100 orCMPSC 101

MIS 336 **Database Management Systems** (3) Theory and utilization of database management systems in organizations, including data modeling and applications development.
Effective: Spring 2008
Prerequisite: MIS 204 orMIS 321 orMIS 110 orCMPSC 121 orCMPSC 102

MIS 387 **Website Design and Administration** (3) Applied, hands-on, interdisciplinary website design/administration course. Acquired concepts, techniques and tools are exercised in individual and team projects.
Effective: Summer 2008
Prerequisite: MIS 204

MIS 390 **Information Systems Management and Applications** (3) Specification, design and implementation of information systems directed at aiding decision making in organizations.
Effective: Spring 2008
Prerequisite: MIS 204

MIS 391 **E-Commerce Strategies** (3) Introduction to the fundamental Principles of Electronic Commerce (E-Commerce) technologies, applications, and management of E-Commerce in modern organizations.
Effective: Spring 2007
Prerequisite: MIS 390

MIS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

MIS 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

MIS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MIS 404 **Introduction to ERP and Business Processes** (3) A problem-based, interdisciplinary course on Enterprise Resource Planning (ERP) concepts and business processes.
Effective: Summer 2010
Prerequisite: MIS 204 or 1st Level Programming Course or with the permission of the program

MIS 405 **Supply Chain Information Systmes with Oracle** (3) Strategic design and implementation of Oracle supply chain management information systems in an ERP environment.
Effective: Summer 2010
Prerequisite: SCM 301, MIS 204

MIS 406 **Customer Information Systems with Oracle** (3) A technology-based exploration of the various Oracle Order Management and Customer Relationship Management tools.
Effective: Summer 2010
Prerequisite: MIS 405

MIS 407 **Enterprise Integration with Oracle** (3) This is a technology course focusing on software development in an Oracle eBusiness ERP Environment.
Effective: Summer 2010
Prerequisite: MIS 336 andMIS 405

MIS 413 **Interface design for Information Systems Applications** (3) The study of interface design emphasizing application and user requirements, development and testing techniques, and information processing issues.
Effective: Spring 2007
Prerequisite: MIS 307, MIS 465

MIS 430 **Systems Analysis** (3) Information analysis and the logical specification of the system.
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:MIS 336

MIS 431 **Business Data Management** (3) The architecture of business information processing systems and technical aspects of database management.
Effective: Spring 2007
Prerequisite: MIS 204 Concurrent: SCM 302

MIS 432 **Business Information System Analysis** (3) The analysis of business information systems and the requirements specifications of redesigned systems.
Effective: Spring 2007
Prerequisite: MIS 431

MIS 434 **Internet Technologies** (3) Technical foundations of the eBusiness environment and web applications development to support internet-based commerce.
Effective: Spring 2007
Prerequisite: MIS 431 Concurrent: M I S 432

MIS 435 **Systems Design and Implementation** (3) Logical and physical design of information systems and implementation.
Effective: Spring 2010
Prerequisite: MIS 430 and a second-level programming course

MIS 436 **Business Data Communications** (3) Introduction to the principles and techniques of business data communication encompassing transmission concepts, network analysis, design, implementation, and administration.
Effective: Spring 2007
Prerequisite: MIS 431

MIS 440 **Expert Systems** (3) Introduction to expert systems technology; course covers expert system concepts, techniques, development, and management.
Effective: Spring 2007
Prerequisite: 3 credits of programming

MIS 442 **Business Information Systems Design** (3) Object-oriented concepts such as: object, instance, class, inheritance, polymorphism; application of these methodologies and design patterns to business system analysis.
Effective: Summer 2007
Prerequisite: MIS 432

MIS 445 **Management Reporting Systems** (4) Develops insights and skills required to analyze current management reporting systems, propose improvements, and develop reports using a report generator.
Effective: Fall 2009
Prerequisite: MIS 336

MIS 446 **Information Technology and Business Strategy** (3) Strategic use and management of information technology in digital global economy.
Effective: Spring 2008
Prerequisite: MIS 390

MIS 448 **Business Telecommunications** (3) Introduces telecommunication concepts, its evolution, and present applications in business. Discusses the software and hardware components of telecommunication networks.
Effective: Spring 2007
Prerequisite: MIS 390

MIS 450 **System Design Project** (3) A project in the design, specification, and programming of a system in an application area.
Effective: Spring 2009
Prerequisite: MIS 307, MIS 465;MIS 448 ; 3 additional credits of MIS at the 300- or 400-level; seventh or eighth semester standing

MIS 460 **Object Oriented Design in Business** (3) Object oriented programming concepts and analysis and design methodologies with an emphasis on business applications.
Effective: Spring 2007
Prerequisite: MIS 307

MIS 461 **Web Technologies** (3) Fundamentals of Web development for e-business and related project management.
Effective: Spring 2007
Prerequisite: MIS 307 andMIS 465

MIS 465 **DataBase Management** (3) Provides a comparison of techniques, methodology of systems, limitatins, and applications of various data base management systems.
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 101 orCMPSC 121 andMIS 390

MIS 466 **Business Programming for the WEB** (3) Advanced programming for WEB-based applications.
Effective: Spring 2007
Prerequisite: MIS 307

MIS 470 **Advanced Applications Development** (4) Focus on concepts and practice of advanced tools and techniques such as application generators, object-oriented methods, and client/server development.
Effective: Fall 2009
Prerequisite: MIS 435 orCMPSC 122 orCMPSC 302

MIS 479 **Management of Operations Information/ERP** (3) Management and implementation of enterprise information systems for business integration and supply chain management.
Effective: Summer 2007
Prerequisite: MIS 390 orMIS 431

MIS 479W **Management of Operations Information/ERP** (3) Management and implementation of enterprise information systems for business integration and supply chain management.
Effective: Spring 2008
Prerequisite: MIS 390 orMIS 431

MIS 489 **Seminar in Information Systems** (3) Covers new trends and concepts in information/processing technology and their applications and impact on computer information systems.
Effective: Spring 2007
Prerequisite: MIS 307 andMIS 465

MIS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or

small-group basis.
Effective: Spring 2007

MIS 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

MIS 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

MIS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2007

MIS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

MIS 497A **Enterprise Integration with Oracle** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MIS 497B **Supply Chain Information System with Oracle** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MIS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

MIS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Manufacturing Technology (MFTBD)

MFTBD 060 **Introduction to Plastics Technology** (3) Introduction to the nature of plastics and polymers, concepts of molecules, molecular weight, molecular shape and stoichiometry, transitions and viscosity.
Effective: Spring 2001
Concurrent: MATH 021 or MATH 081

MFTBD 061 **Plastics Processing Equipment and Operation** (4) Mechanical, hydraulic/pneumatic, and electrical aspects of plastic processing equipment are discussed.
Effective: Spring 1999
Prerequisite: MFTBD 060

MFTBD 061W **Plastics Processing Equipment and Operation** (4) Mechanical, hydraulic/pneumatic, and electrical aspects of plastic processing equipment are discussed.
Effective: Summer 1999
Prerequisite: MFTBD 060

MFTBD 062 **Tooling and part Design Principles** (3) Introduction to the relationship between part design and processing techniques.
Effective: Spring 1999
Prerequisite: or concurrent:MFTBD 061

MFTBD 161 **Injection Molding Processing** (3) Fundamentals of the injection molding process and the complex interaction of the components on the product produced.
Effective: Fall 2007
Prerequisite: IET 109, MFTBD 061, MFTBD 062

MFTBD 162 **Injection Molding Process Optimization** (3) Advanced issues in injection molding processing, such as use of design of experiments and SPC/SQC to monitor production.
Effective: Spring 1999
Prerequisite: MFTBD 161

MFTBD 167 **Extrusion Processes** (3) The mechanical aspects of the extruder, melt processing, and process optimization.
Effective: Spring 1999
Prerequisite: MFTBD 061

MFTBD 168 **Alternate Plastic Processes** (3) Special processes to manufacture plastic products.
Effective: Spring 1999
Prerequisite: MFTBD 061

Last Import from UCM: May 29, 2010 3:00 AM

Manufacturing/Engineering Technology (MFET)

MFET 202 **Hydraulics and Pneumatics** (3) Introduction to principles of hydraulic and pneumatic systems as applied to practical problems with emphasis on operation, assembly, and checking.
Effective: Summer 2002
Prerequisite: MCH T 111, PHYS 150

MFET 205 **Geometric Dimensioning and Tolerances** (3) Introduction to principles of methods of geometric dimensioning and tolerances used in technical graphics.
Effective: Summer 2002
Prerequisite: EG T 114

MFET 206 **Tooling and Part Design Principles** (3) Introduction to relationship between tooling and part design and processing techniques.
Effective: Summer 2002
Prerequisite: EG T 101, EG T 102, MCH T 111

MFET 210W **Product Design for Manufacturing** (3) Design of mechanical parts and assemblies for manufacturing with writing skills.
Effective: Fall 2007
Prerequisite: MCH T 213, IET 101, EG T 114

Last Import from UCM: May 29, 2010 3:00 AM

Marketing (MKTG)

MKTG 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 220 **Introduction to Selling Techniques** (3) Principles underlying the sales process and practical application of these principles to selling situations. Studies role of selling in total marketing process.
Effective: Spring 2008
Prerequisite: third-semester standing

MKTG 221 **Contemporary American Marketing** (3) Social and economic aspects, movement of goods and services from producers to consumers; analysis of marketing functions, systems, and institutions. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 303 or MKTG 301.
Effective: Spring 1996
Prerequisite: 3 credits in economics

MKTG 221W **Contemporary American Marketing** (3) Social and economic aspects; movement of goods and services from producers to consumers; analysis of marketing functions, systems, and institutions. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 303 or MKTG 301.
Effective: Spring 1993
Prerequisite: 3 credits in economics

MKTG 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MKTG 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MKTG 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 301 **Principles of Marketing** (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: ENGL 015, MATH 021;ECON 002 orECON 004

MKTG 301 **Principles of Marketing** (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MKTG 301H **Principles of Marketing** (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MKTG 301H **Principles of Marketing** (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MKTG 301W **Principles of Marketing** (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken BA 303.
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: ENGL 015, MATH 021;ECON 002 orECON 004

MKTG 301W **Principles of Marketing** (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken BA 303.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

MKTG 302 **Marketing Techniques for Electronic Commerce** (3) Explores methods to implement/adapt marketing methods to the Internet; builds upon introductory marketing classes to examine what does/doesn't work.
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

MKTG 310 **Public Relations and Marketing** (3) Examination of the role of public relations in a company's efforts to

manufacture and market its products and services.
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

MKTG 327 **Retailing** (3) Management of marketing institutions in distribution channels from producers to consumers. Emphasis on retail institutions: location, personnel, merchandising, control, promotion.
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

MKTG 330 **Consumer Behavior** (3) Application of behavioral science concepts to the understanding of buyer behavior as a basis for marketing management decision making.
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

MKTG 342 **Marketing Research** (3) Research approaches, methods, and applications studied as a formal approach to problem solving for marketing decisions.
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301;SCM 200 orSTAT 200

MKTG 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2003

MKTG 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2003

MKTG 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

MKTG 410 **Personal Selling** (3) Principles underlying the selling process and practical application of these principles to selling situations.
Effective: Spring 2008
Prerequisite: MKTG 301

MKTG 420 **Direct Marketing** (3) Applies principles of marketing management to the direct marketing of products by mail, telephone, print, and broadcast media.
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

MKTG 422 **Advertising and Sales Promotion Management** (3) Perspectives and models of the key decisions involved in managing advertising and sales promotion campaigns.
Effective: Spring 2008
Prerequisite: MKTG 330 orMKTG 342

MKTG 426 **Business Marketing** (3) Developing marketing strategies and programs. The course emphasizes the special nature of the business and organizational markets.
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

MKTG 428 **Advanced Sales Management** (3) Approaches to planning, organizing, staffing, training, directing, and controlling the sales force in support of marketing objectives.
Effective: Spring 2008
Prerequisite: MKTG 330, MKTG 342

MKTG 435 **Marketing and Society** (3) Analysis of marketing's impact on and obligation to social and environmental issues, marketing and ethics, and the regulation of marketing.
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

MKTG 437 **Advanced Retailing and Merchandise Management** (3) Analyzing planning and controlling the retail merchandising effort, including procurement, resource selection, vendor relations, product presentation, inventory control.
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

MKTG 440 **Services Marketing** (3) Marketing theory and methods applied to profit and nonprofit service industries such as health care, finance, transportation, tourism, arts and consulting.
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

MKTG 443 **Sports Marketing** (3) This course will focus on how companies develop, execute and measure marketing strategies and tactics to use sports teams, familities, leagues and other organizations to market their products and services domestically and internationally to consumers and business partners. The course will examine the marketing strategies employed by sports teams and leagues.
Effective: Summer 2010
Prerequisite: B A 303 orMKTG 301

MKTG 445 (IL) **Global Marketing** (3) Role of international marketing in the global environment; political, economic, geographic, historical, cultural conditions; developing and implementing international marketing strategies.
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

MKTG 450W **Marketing Strategy** (3) Market-oriented problems of the firm; identification and selection of market opportunities; formulation of competitive strategies; marketing policies and programs.
Effective: Spring 2008
Prerequisite: MKTG 330, MKTG 342

MKTG 476 **Sales Management** (3) Application of modern management principles to field sales force planning, organization, and administration; selection, training, and compensation plans.
Effective: Spring 2008
Prerequisite: MKTG 301 andMGMT 301

MKTG 478 **Services Marketing Management** (3) Conceptual understanding of services and the analytical tools that are used in solving strategic services marketing problems.
Effective: Spring 2008
Prerequisite: MKTG 301

MKTG 485 **Business-to-Business Marketing** (3) Application of marketing principles to commercial enterprises, industrial firms, government, and other non-profit institutions.
Effective: Spring 2008
Prerequisite: MKTG 301

MKTG 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

MKTG 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2008

MKTG 495 **Internship** (1-18) Supervised off campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: B A 303 ORMKTG 301

MKTG 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MKTG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MKTG 497A **Sports Marketing** (3) MKTG 497A focuses on how companies develop, execute and measure marketing strategies and tactics to use sports teams, facilities, leagues and other organizations to market their products and services domestically and internationally to consumers and business partners. Case studies would be developed and guest speakers and a seminar would be included, along with internship opportunities. The Penn State Athletic Department has committed to interview and place some of the internships to students who complete this course as interns in their extensive sports operation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: B A 303

MKTG 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2003

MKTG 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Materials Engineering Technology (MAE T)

MAE T 201 **Introduction to Materials Engineering Technology** (3) An introduction to Materials Engineering Technology emphasizing relationships between structure and properties of engineering materials.
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 082

MAE T 202 **Materials Testing** (3) A review of industrial methods and testing standards used for mechanical property testing and evaluation of engineering materials.
Effective: Spring 2005
Prerequisite: MATH 082, PHYS 150

MAE T 203 **Introduction to Powder Metallurgy** (3) A comprehensive study of powdered metal technology including production, characterization, compaction, sintering, and finishing operations.
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 082

MAE T 204W **Structure Characterization Laboratory** (3) A hands-on experience course with emphasis on equipment and lab techniques used for microstructural evaluation of metals.
Effective: Summer 2007
Prerequisite: MAE T 201, CHEM 111, PHYS 150

MAE T 205 **Powder Metallurgy Laboratory** (4) A capstone course emphasizing hands-on laboratory experience in powder metallurgy and semester project; field trips to nearby P/M industries.
Effective: Summer 2007
Prerequisite: MAE T 201, MAE T 202, MAE T 203, CHEM 111, MATH 083

MAE T 294 **Research Topics** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Summer 2009
Prerequisite: third semester standing

MAE T 296 **Independent Study** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 2009
Prerequisite: prior written approval of MAE T faculty member

MAE T 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2005

Last Import from UCM: May 29, 2010 3:00 AM

Materials Science and Engineering (MATSE)

MATSE 081 (GN;IL) **Materials in Today's World** (3) A survey of the properties, manufacture, and uses of polymers, ceramics and metals in today's world with emphasis on modern developments and new materials.
Effective: Summer 2005

MATSE 090H **High-Tech Materials** (1) A series of introductory seminars concerning the most important aspects of modern materials technology; some laboratory visits will be included.
Effective: Summer 1994

MATSE 091 (GN) **Polymers, Life and Society** (3) An exploration of the science and use of polymer materials and their impact on society using a case study approach.
Effective: Summer 2005

MATSE 101 (GN) (EGEE 101) **Energy and the Environment** (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

MATSE 101A (GN;IL) (EGEE 101A) **Energy and the Environment** (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.
Effective: Fall 2007

MATSE 112 (GN) **Applied Materials Chemistry for Engineers** (3) Chemistry of materials with emphasis on intermolecular forces between atoms, molecules, ions, and dense materials and inorganic and organic physical chemistry. In most majors, this course is not a substitute for CHEM 013 or CHEM 112.
Effective: Spring 2009
Prerequisite: CHEM 110

MATSE 201 **Introduction to Materials Science** (3) Concepts of relationships between structure and thermal, optical, magnetic, electrical, and mechanical properties of metals, ceramics, glasses, and polymers.
Effective: Summer 2007
Prerequisite: CHEM 112;MATH 231

MATSE 259 **Properties and Processing of Engineering Materials** (3) Relationship of structure and processing variables to the properties and service behavior of metals, polymers, and ceramics.
Effective: Spring 2008
Prerequisite: E MCH 213 orE MCH 210

MATSE 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1994

MATSE 400 **Crystal Chemistry** (3) Principles of crystal chemistry applied to structures, structural defects and properties of organic, inorganic, intermetallic, and metallic crystals.
Effective: Summer 2007
Prerequisite: CHEM 112, CHEM 113, MATH 231, MATH 251, PHYS 214

MATSE 401 **Thermodynamics of Materials** (3) Review of equilibrium thermodynamics and applications to metallurgical and material systems.
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 214

MATSE 402 **Materials Process Kinetics** (3) A treatment of process kinetics including chemical reaction kinetics and momentum, energy and mass transport.
Effective: Spring 2001
Prerequisite: MATH 251, PHYS 214

MATSE 403 (BIOE 443) **Biomedical Materials** (3) Describe properties of materials and composites and their in vivo interactions.
Effective: Spring 2007
Prerequisite: MATSE 201

MATSE 404 (IL) (BIOE 444) **Surfaces and the Biological Response to Materials** (3) Focus is on the special properties of surfaces as an important causative and mediating agent in the biological response to materials.
Effective: Summer 2007
Prerequisite: CHEM 111, CHEM 113

MATSE 409 (NUC E 409) **Nuclear Materials** (3) Nuclear reactor materials: relationship between changes in material properties and microstructural evolution of nuclear cladding and fuel under irradiation.
Effective: Summer 2002
Prerequisite: PHYS 214

MATSE 410 **Phase Relations in Materials Systems** (3) Phase rule; construction and interpretations of equilibrium diagrams; importance of nonequilibrium in materials.
Effective: Fall 2006
Prerequisite: MATSE 201, MATSE 401 Concurrent: MATSE 201 MATSE 400 MATSE 430

MATSE 411 **Processing of Ceramics** (3) Principles of ceramic processing, including powder preparation and characterization, forming operations, and the basic phenomena underlying these operations.
Effective: Fall 2005
Prerequisite: MATSE 400, MATSE 402

MATSE 412 **Thermal Properties of Materials** (3) Generation of high temperatures, measurement of temperature, heat transfer and furnace design, thermal stability of ceramic materials, applied thermodynamics.
Effective: Fall 2005
Prerequisite: MATSE 259 orMATSE 201 Concurrent: MATSE 401

MATSE 413 **Solid-State Materials** (3) Structures of metallic, ionic, and covalent solids, amorphous materials, and surfaces; electronic structure; electronic properties of solids and their manipulation.
Effective: Spring 2001
Prerequisite: or concurrent:MATSE 201

MATSE 414 **Mechanical Properties of Ceramics** (3) This course will give students a fundamental understanding and appreciation for the relationship between the structure and mechanical behavior of ceramic materials.
Effective: Summer 2002
Prerequisite: E MCH 210, MATH 220, MATSE 201, MATSE 400, MATSE 430 Concurrent: MATSE 401

MATSE 415 **Introduction to Glass Science** (3) Composition, melting, fabrication, properties, and uses of glass; combinations of glass with metals and other materials.
Effective: Summer 2002
Prerequisite: MATSE 400, MATSE 401, MATSE 402, MATSE 462

MATSE 417 (E SC 417) **Electrical and Magnetic Properties** (3) Electrical conductivity, dielectric properties, piezoelectric and ferroelectric phenomena; magnetic properties of ceramics.
Effective: Spring 2007
Prerequisite: MATSE 400, MATSE 402, PHYS 214

MATSE 420 **Corrosion and Degradation of Engineering Materials** (3) General principles and forms of corrosion/degradation, preventative measures and designs which avoid corrosion and environmental degradation, failure analysis.
Effective: Summer 2002
Prerequisite: PHYS 212

MATSE 421 **Corrosion Engineering** (3) Industrial forms of corrosion and preventive methods, and their description in terms of basic thermodynamic and kinetic considerations.
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 212

MATSE 422 **Thermochemical Processing** (3) Physico-chemical aspects of high temperature extraction and processing of metals and alloys. Design and evaluation of processes and process options.
Effective: Summer 2002
Prerequisite: MATSE 401, MATSE 402

MATSE 424 **Materials Selection and Design** (1) Introduction to the selection and design of materials for structural applications.
Effective: Summer 2002
Prerequisite: MATSE 201 orMATSE 259

MATSE 425 **Processing of Metals** (3) Modern methods of shaping metals in liquid and solid states: casting, joining, powder and deformation processing. Design of new technology.
Effective: Fall 2006
Prerequisite: MATSE 402, MATSE 410

MATSE 426 (MN PR 426) **Aqueous Processing** (3) A study of the chemical and engineering principles pertinent to metal processing in aqueous systems: hydrometallurgical extraction, plating, materials preparation.
Effective: Fall 2009
Prerequisite: EME 301 orMATSE 401

MATSE 427 **Ferrous Physical Metallurgy** (3) Phase transformations in, and mechanical properties of ferrous systems; heat treatment principles.
Effective: Fall 2006
Prerequisite: MATSE 410, MATSE 424

MATSE 428 (E SC 455) **Electrochemical Methods in Corrosion Science and Engineering** (3) The objective of the course is to give students hands-on experience in assessing environmental degradation of engineering materials.
Effective: Summer 2002
Prerequisite: E SC 414M orMATSE 259;MATSE 420 orMATSE 421

MATSE 430 **Materials Characterization** (3) Elements of crystallography and the characterization of crystalline and non-crystalline materials using x-ray diffraction, electron microscopic, and other instrumental techniques.
Effective: Spring 2001
Prerequisite: PHYS 214

MATSE 435 **Optical Properties of Materials** (3) Electromagnetic spectrum, interaction of light with materials, color, thin film optical coatings, electro-, integrated and nonlinear optics.
Effective: Spring 1996
Prerequisite: MATSE 400

MATSE 436 **Mechanical Properties of Materials** (3) Fundamental relationships between structure and mechanical behavior of materials.
Effective: Summer 2002
Prerequisite: MATH 231, MATH 250 orMATH 251, PHYS 214, MATSE 201 orMATSE 259 orE SC 314

MATSE 440 (E MCH 440) **Nondestructive Evaluation of Flaws** (3) Methods and limitations of nondestructive evaluation of mechanical flaws; optical, acoustical, electromagnetic, x-ray, radiography, thermography, and dye techniques.
Effective: Spring 2008
Prerequisite: E MCH 213 orE MCH 210H orE MCH 210

MATSE 441 **Polymeric Materials I** (3) Manufacture of industrially significant polymers together with discussion of their major chemical, physical, and mechanical properties.
Effective: Summer 2007
Prerequisite: CHEM 210, MATH 231, PHYS 214

MATSE 442 **Polymer Synthesis** (3) Preparation of commercially useful polymers and their molecular structure characterization.
Effective: Fall 2002

MATSE 443 **Introduction to the Materials Science of Polymers** (3) Introduction to the nature and structure of high polymers. Characteristics of polymers and polymer systems.
Effective: Summer 2007
Prerequisite: CHEM 210, MATH 231, PHYS 214

MATSE 443H **Introduction to the Materials Science of Polymers** (3) Introduction to the nature and structure of high polymers. Characteristics of polymers and polymer systems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 210, MATH 231, PHYS 214

MATSE 444 **Solid State Properties of Polymeric Materials** (3) Structure/property relationships in the bulk solid state of polymers. Characterization of bulk properties and structure.
Effective: Spring 2003
Prerequisite: MATSE 443

MATSE 445 **Thermodynamics, Microstructure, and Characterization of Polymers** (3) The properties of individual polymer chains. Theoretical and experimental techniques pertaining to the characterization of polymeric microstructure.
Effective: Fall 2002
Prerequisite: MATSE 443

MATSE 446 **Mechanical and Electrical Properties of Polymers and Composities** (3) The mechanical (viscoelastic) and electric properties of polymers and poly-based composites.
Effective: Spring 2003
Prerequisite: MATSE 443

MATSE 447 **Rheology and Processing of Polymers** (3) This course deals with the fluid mechanics, rheology, and processing of polymeric materials.
Effective: Fall 2002
Prerequisite: MATSE 443

MATSE 448 (CH E 442) **Polymer Processing Technology** (3) Basic principles of polymer melt processing are reviewed and subsequently applied to the most important industrial processing operations.
Effective: Spring 2006
Prerequisite: MATSE 447 orCH E 302A

MATSE 450 (E SC 450) **Synthesis and Processing of Electronic and Photonic Materials** (3) The materials science of applying thin film coatings, etching, and bulk crystal growth; includes materials transport, accumulation, epitaxy, and defects.
Effective: Fall 2005
Prerequisite: MATSE 201 orE SC 414H sixth semester standing

MATSE 455 **Properties and Characterization of Electronic and Photonic Materials** (3) Materials characterization in general; electrical properties of crystals, contacts, films; optical properties of single phase materials, waveguide, and multilayer stacks.
Effective: Fall 2005
Prerequisite: MATSE 201 orE SC 414M, E SC 314

MATSE 460 **Introductory Laboratory in Materials** (1) An introduction to comparative physical properties and characteristics of various materials including mechanical, electrical thermal, and structure/ morphology.
Effective: Spring 2001
Prerequisite: or concurrent:MATSE 201

MATSE 461 **Introduction to Electronic and Photonic Materials Laboratory** (1) An introductory lab course to demonstrate important physical, thermal, and electronic properties of materials, as well as, methods of materials characterization.
Effective: Summer 2007

Prerequisite: CHEM 112, PHYS 214 Concurrent: MATSE 400

MATSE 462 **General Properties Laboratory in Materials** (1) An introduction to comparative physical properties of various materials including mechanical, thermal electrical properties and the measurement of said properties.
Effective: Spring 2005
Prerequisite: MATSE 460

MATSE 463 **Characterization and Processing of Electronic and Photonic Materials Laboratory** (1) Provides experience with key processing methods for EPM materials and advanced characterization methods for EPM materials and simple device structures.
Effective: Spring 2009
Prerequisite: MATSE 400, MATSE 430, MATSE 450, MATSE 455, MATSE 460 Concurrent: MATSE 450 MATSE 455

MATSE 468 **Ceramics Laboratory III** (1) Cermaic processing and powder characteristics.
Effective: Spring 2009
Prerequisite: MATSE 462

MATSE 471 **Metallurgy Laboratory I** (1) A laboratory integrating experimental aspects of material contained in MATSE 402, 413, and 410, e.g. phase diagram determination, solidification micro- structures, etc.
Effective: Fall 2005
Prerequisite: MATSE 430

MATSE 472 **Metallurgy Laboratory II** (1) Application of principles of mechanical metallurgy, pyroprocessing, corrosion and metal processing.
Effective: Fall 2006
Prerequisite: MATSE 410, MATSE 471

MATSE 473 **Polymeric Materials Laboratory--Synthesis** (1) Principles and practices of polymerization, including condensation, free radical (bulk, solution, suspension, emulsion), ionic, and Zeigler-Natta procedures.
Effective: Spring 2003
Prerequisite: MATSE 443

MATSE 474 **Polymeric Materials Laboratory--Characterization** (1) Principles and practices involved in determination of properties, structure and morphology, employing thermal, mechanical, spectroscopic, viscometric and computer techniques.
Effective: Spring 2003
Prerequisite: MATSE 443

MATSE 475 (E SC 475) **Particulate Materials Processing** (3) Fundamentals of processing particulate materials including production, characterization, handling, compaction, and sintering of metal, carbide, intermetallic, and composite powders.
Effective: Spring 2008
Prerequisite: E MCH 315, E SC 414 orMATSE 259

MATSE 483 (E SC 483) **Simulation and Design of Nanostructures** (3) Introduction to computer simulation techniques and their applications at the physical/life sciences interface.
Effective: Fall 2007
Prerequisite: PHYS 214 orE SC 312, MATH 230

MATSE 484W (IL) **International Internship in Materials: Research Definition and Methodology** (3) A course focused on international research, specific design and methodology, facilitated through the International Internship in Materials and Program.
Effective: Summer 2006
Prerequisite: Sixth-semester standing in Materials Science and Engineering;MATSE 201, MATSE 460, MATSE 492W satisfactory completion of cultural class from Office of Education Abroad

MATSE 485W (IL) **International Internship in Materials: Experimentation and Documentation** (3) A course focused on international research, specifically experimentation and documentation, facilitated through the International Internship in Materials Program.
Effective: Summer 2006
Prerequisite: Seventh-semester standing in Materials Science and Engineering;MATSE 484W ; satisfactory completion of cultural class from Office of Education Abroad

MATSE 492W **Materials Engineering Methodology and Design** (3) Designed to familiarize students with the literature and technology developments in the use of, and design with, materials in industrial applications.
Effective: Fall 2005
Prerequisite: sixth semester standing in Materials Science and Engineering

MATSE 494M **Research and Design Senior Project** (1-3) Continuation of a research problem in materials culminating in a bound thesis describing the work.
Effective: Fall 2007

MATSE 494W **Research and Design Senior Project** (1-3) Continuation of a research problem in materials culminating in a bound thesis describing the work.
Effective: Spring 2006

MATSE 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1994

MATSE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1994

MATSE 497A **Physical Metallurgy of Structural Metals** (3) Understanding the physical metallurgy principles of steel, titanium, and aluminum, and using this knowledge for alloy selection and design.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

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Mathematics (MATH)

MATH 001 **Developmental Mathematics** (6) Arithmetic operations, ratios, proportions, percents; measurement; polynomial and rational expressions; exponents, radicals; equations, inequalities, systems of equations; graphing; applications. Students who have passed MATH 003 may not schedule this course for credit. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Spring 1994

MATH 002 **Elementary Geometry With Problem Solving** (4) Geometric congruence, similarity, area, surface area, volume, introductory trigonometry; emphasis on logical reasoning skills and the solution of applied problems. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Summer 2009
Prerequisite: MATH 001 2 units of high school algebra or satisfactory performance on the mathematics FTCAP examination

MATH 003 **Basic Skills** (3) Natural numbers; integers; rational numbers; decimals; ratio, proportion; percent; graphs; applications. Students who have passed MATH 001 may not schedule this course for credit. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Spring 1992

MATH 004, 021 GQ, AND 022 GQ form a three-semester sequence in intermediate algebra, college algebra, and analytic geometry. MATH 026 GQ is a one-semester course in plane trigonometry. Students are placed in the appropriate course depending on the results of the mathematics FTCAP examinations.

MATH 004 **Intermediate Algebra** (3) Algebraic expressions; linear, absolute value equations and inequalities; lines; systems of linear equations; integral exponents; polynomials; factoring. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.
Effective: Summer 2009
Prerequisite: basic arithmetic skills or satisfactory performance on the mathematics FTCAP examination

MATH 017 (GQ) **Finite Mathematics** (3) Introduction to logic, sets, probability.
Effective: Summer 1988
Prerequisite: 2 units of high school mathematics

MATH 018 (GQ) **Elementary Linear Algebra** (3) Linear functions; systems of equations; matrices; linear programming.
Effective: Fall 1999
Prerequisite: 2 units of high school mathematics

MATH 021 (GQ) **College Algebra I** (3) Quadratic equations; equations in quadratic form; word problems; graphing; algebraic fractions; negative and rational exponents; radicals.
Effective: Summer 2009
Prerequisite: MATH 004 or satisfactory performance on the mathematics FTCAP examination

MATH 022 (GQ) **College Algebra II and Analytic Geometry** (3) Relations, functions, graphs; polynomial, rational functions, graphs; word problems; nonlinear inequalities; inverse functions; exponential, logarithmic functions; conic sections; simultaneous equations.
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination

MATH 026 (GQ) **Plane Trigonometry** (3) Trigonometric functions; solutions of triangles; trigonometric equations; identities.
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination; l unit of geometry

MATH 030 (GQ) **Problem Solving** (3) Concepts in problem solving; reducing new problems to old ones; techniques for attacking problems; building mathematical models.
Effective: Spring 1994

MATH 034 (GQ) **The Mathematics of Money** (3) Simple interest, simple discount, compound interest, annuities, investments, retirement plans, taxes, credit cards, and mortgages.
Effective: Summer 2009
Prerequisite: one unit of algebra orMATH 004

MATH 035 (GQ) **General View of Mathematics** (3) Survey of mathematical thought in logic, geometry, combinatorics, and chance.
Effective: Summer 1992

MATH 036 (GQ) **Insights Into Mathematics** (3) Examples of mathematical applications in many areas including voting theory, fair division, apportionment, and Euler and Hamilton circuits.
Effective: Fall 2008
Prerequisite: one unit of algebra orMATH 004

MATH 037 **Diverse Cultural Aspects of Mathematics** (3) The mathematics of the following civilizations and individuals:

Egyptian, Babylonian, Islamic, Hypatia, deBreteuil, German, Agnesi, and Noether.
Effective: Summer 1998

MATH 040 GQ covers all the topics in MATH 004, 021 GQ, 022 GQ, and 026 GQ in one semester, MATH 041 GQ covers the same topics in trigonometry and analytic geometry as MATH 040 GQ. These courses are designed to prepare students for MATH 140 GQ. Students are placed in the appropriate course depending upon the results of the mathematics FTCAP examinations.

MATH 040 (GQ) **Algebra, Trigonometry, and Analytic Geometry** (5) Concepts of algebra; equations; inequalities; functions; graphs; polynomial and rational functions; exponential and logarithmic functions; trigonometry; analytic geometry; complex numbers.
Effective: Summer 2009
Prerequisite: satisfactory performance on the mathematics FTCAP examination

MATH 041 (GQ) **Trigonometry and Analytic Geometry** (3) Straight lines; circles; functions and graphs; graphs of polynomial and rational functions; exponential and logarithmic functions; trigonometry; conic sections.
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination

MATH 081 (GQ) **Technical Mathematics I** (3) Algebraic expressions, equations, systems of equations, trigonometric functions, graphs, solution of triangles, vectors.
Effective: Summer 2009
Prerequisite: MATH 004 or satisfactory performance on the mathematics FTCAP examination

MATH 082 (GQ) **Technical Mathematics II** (3) Exponents, radicals, complex numbers, theory of equations, inequalities, half angle and double angle formulas, inverse trigonometric functions, exponential, logarithm, conic sections.
Effective: Summer 1995
Prerequisite: MATH 081

MATH 083 (GQ) **Technical Calculus** (4) Limits, derivatives of algebraic functions, implicit differentiation, related rates, applied extrema problems, curve sketching, integration, numerical integration, applications of integration, integration techniques, differential equations.
Effective: Summer 1995
Prerequisite: MATH 082

MATH 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MATH 097C **Introduction Algebra Problem Solving** (4) Problem solving: Math 021 (3) Math 097C is a college level introduction to algebra combined with individualized review of basic algebra.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MATH 110 GQ and MATH 140 GQ, 141 GQ are two sequences that discuss differential and intergral calculus. They differ in the areas where calculus is applied. The MATH 110 GQ, 111 GQ sequence includes applications from business: the engineering sciences. A student who wants to change from one sequence to another should consult with the chair of the mathematics department.

MATH 110 (GQ) **Techniques of Calculus I** (4) Functions, graphs, derivatives, integrals, techniques of differentiation and integration, exponentials, improper integrals, applications. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022 or satisfactory performance on the mathematics FTCAP examination

MATH 111 (GQ) **Techniques of Calculus II** (2) Analytic geometry, partial differentiation, maxima and minima, differential equations.
Effective: Summer 1988
Prerequisite: MATH 110

MATH 140 (GQ) **Calculus With Analytic Geometry I** (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, 140B, and 140H.
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 140A (GQ) **Calculus, Analytic Geometry, Algebra, and Trigonometry** (6) Review of algebra and trigonometry; analytic geometry; functions; limits; derivatives, differentials, applications; integrals, applications. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: satisfactory performance on the mathematics FTCAP examination

MATH 140B (GQ) **Calculus and Biology I** (4) Functions, limits, analytic geometry; derivatives, differentials, applications from biology; integrals, applications from biology. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on mathematics FTCAP

examination

MATH 140E (GQ) **Calculus with Engineering Applications I** (4) Functions; limits; analytic geometry; derivatives; differentials, applications; integrals, applications.
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance in the mathematics FTCAP examination

MATH 140G (GQ) **Calculus with Earth and Mineral Sciences Applications I** (4) Functions, limits, analytic geometry; derivatives, differentials, applications from the earth and mineral sciences; integrals, applications from the earth and mineral sciences. Students may only take one course for credit from MATH 110, 140, 140A, 140B, 140E, and 140G.
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 140H (GQ) **Honors Calculus with Analytic Geometry I** (4) Honors course in functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, 140B, and 140H.
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 140S (GQ) **Calculus With Analytic Geometry I** (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, and 140B.
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

MATH 141 (GQ) **Calculus with Analytic Geometry II** (4) Derivatives, integrals, applications; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, and 141H.
Effective: Spring 1996
Prerequisite: MATH 140, MATH 140A, MATH 140B orMATH 140H

MATH 141B (GQ) **Calculus and Biology II** (4) Derivatives, integrals, applications from biology; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141 and 141B.
Effective: Spring 1996
Prerequisite: MATH 140B

MATH 141E (GQ) **Calculus with Engineering Applications II** (4) Integration, applications; sequences and series; parametric equations, application.
Effective: Fall 2001
Prerequisite: MATH 140, MATH 140A, MATH 140B orMATH 140E

MATH 141G (GQ) **Calculus with Earth and Mineral Sciences Applications II** (4) Derivatives, integrals, applications from the earth and mineral sciences; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, 141E, and 141G.
Effective: Summer 2005
Prerequisite: MATH 140, MATH 140A, MATH 140B, MATH 140E orMATH 140G

MATH 141H (GQ) **Honors Calculus with Analytic Geometry II** (4) Honors course in derivatives, integrals, applications; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, and 141H.
Effective: Summer 2006
Prerequisite: MATH 140, MATH 140A, MATH 140B orMATH 140H

MATH 142 **Mathematica for Calculus I** (1) Problem solving using Mathematica in a UNIX environment.
Effective: Fall 2001
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 Concurrent: MATH 140

MATH 143 **Mathematica II** (1) Problem solving using Mathematica in a UNIX environment.
Effective: Fall 2001
Prerequisite: MATH 140D

MATH 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MATH 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MATH 200 (GQ) **Problem Solving in Mathematics** (3) Fundamental concepts of arithmetic and geometry, including problem solving, number systems, and elementary number theory. For elementary and special education teacher certification candidates only. A student who has passed EDMTH 444 may not take MATH 200 for credit.
Effective: Summer 2009

MATH 210 **Calculus with Engineering Technology Applications** (3) Topics in calculus with an emphasis on applications in engineering technology.
Effective: Spring 2007

Prerequisite: trigonometry and an introductory course in calculus

MATH 211 **Intermediate Calculus and Differential Equations with Applications** (3) Topics in ordinary differential equations, linear algebra, complex numbers, Eigenvalue solutions and Laplace transform methods.
Effective: Spring 2007
Prerequisite: MATH 210

MATH 220 (GQ) **Matrices** (2-3) Systems of linear equations; matrix algebra; eigenvalues and eigenvectors; linear systems of differential equations.
Effective: Spring 2009
Prerequisite: MATH 110, MATH 140 orMATH 140H

MATH 220H (GQ) **Honors Matrices** (2-3) Honors course in systems of linear equations; matrix algebra; eigenvalues and eigenvectors; linear systems of differential equations.
Effective: Spring 2009
Prerequisite: MATH 110, MATH 140 orMATH 140H

MATH 230 **Calculus and Vector Analysis** (4) Three-dimensional analytic geometry; vectors in space; partial differentiation; double and triple integrals; integral vector calculus. Students who have passed either Math 231 or 232 may not schedule Math 230 or 230H for credit.
Effective: Spring 1996
Prerequisite: MATH 141 orMATH 141H

MATH 230H **Honors Calculus and Vector Analysis** (4) Honors course in three-dimensional analytic geometry; vectors in space; partial differentiation; double and triple integrals; integral vector calculus. Students who have passed either MATH 231 or 232 may not schedule MATH 230 or 230H for credit.
Effective: Spring 2006
Prerequisite: MATH 141 orMATH 141H

MATH 231 **Calculus of Several Variables** (2) Analytic geometry in space; partial differentiation and applications. Students who have passed MATH 230 or MATH 230H may not schedule this course.
Effective: Spring 1996
Prerequisite: MATH 141 orMATH 141H

MATH 231H **Honors Calculus of Several Variables** (2) Honors course in analytic geometry in space; partial differentiation and applications. Students who have passed MATH 230 or MATH 230H may not schedule this course.
Effective: Summer 2006
Prerequisite: MATH 141 orMATH 141H

MATH 232 **Integral Vector Calculus** (2) Multidimensional analytic geometry, double and triple integrals; potential fields; flux; Green's, divergence and Stokes' theorems. Students who have passed MATH 230 may not schedule this course for credit.
Effective: Spring 1996
Prerequisite: MATH 231

MATH 250 **Ordinary Differential Equations** (3) First- and second-order equations; special functions; Laplace transform solutions; higher order equations. Students who have passed MATH 251 may not schedule this course for credit.
Effective: Fall 1988
Prerequisite: MATH 141

MATH 251 **Ordinary and Partial Differential Equations** (4) First- and second-order equations; special functions; Laplace transform solutions; higher order equations; Fourier series; partial differential equations.
Effective: Fall 1988
Prerequisite: MATH 141 orMATH 141H

MATH 251H **Honors Ordinary and Partial Differential Equations** (4) Honors course in first- and second-order equations; special functions; Laplace transform solutions; higher order equations; Fourier series; partial differential equations.
Effective: Summer 2006
Prerequisite: MATH 141 orMATH 141H

MATH 277 **An Introduction to Mathematical Modeling** (3) In-depth treatment of case studies in application of mathematics to real world problems. Emphasis is on developing modeling skills.
Effective: Summer 2005
Prerequisite: MATH 141, MATH 220 Concurrent: MATH 250 MATH 251

MATH 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1995

MATH 296 **Independent Studies** (1-18) Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MATH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MATH 310 **Elementary Combinatorics** (3) Fundamental techniques of enumeration and construction of combinatorial structures, permutations, recurrences, inclusion-exclusion, permanents, 0, 1- matrices, Latin squares, combinatorial designs.
Effective: Spring 1985
Prerequisite: MATH 220

MATH 311M **Honors Concepts of Discrete Mathematics** (3) Basic methods of mathematical thinking and fundamental mathematical structures, primarily in the context of numbers, groups, and symmetries.
Effective: Spring 2006
Prerequisite: MATH 141

MATH 311W **Concepts of Discrete Mathematics** (3-4) Introduction to mathematical proofs; elementary number theory and group theory. Students who have passed CMPSC 360 may not schedule this course for credit.
Effective: Spring 2007
Prerequisite: MATH 141

MATH 312 **Concepts of Real Analysis** (3) An introduction to rigorous analytic proofs involving properties of real numbers, continuity, differentiation, integration, and infinite sequences and series.
Effective: Spring 1994
Prerequisite: MATH 141

MATH 312H **Honors Concepts of Real Analysis** (3) Basic methods of mathematical thinking and fundamental structures, primarily in the context of infinite sets, real numbers, and metric spaces.
Effective: Summer 2006
Prerequisite: MATH 141

MATH 315 **Foundations of Mathematics** (3) A consideration of selected topics in the foundations of mathematics, with emphasis on development of basic meaning and concepts.
Effective: Spring 2007
Prerequisite: MATH 141

MATH 318 (STAT 318) **Elementary Probability** (3) Combinatorial analysis, axioms of probability, conditional probability and independence, discrete and continuous random variables, expectation, limit theorems, additional topics. Students who have passed either MATH(STAT) 414 or 418 may not schedule this course for credit.
Effective: Spring 1989
Prerequisite: MATH 141

MATH 319 (STAT 319) **Applied Statistics in Science** (3) Statistical inference: principles and methods, estimation and testing hypotheses, regression and correlation analysis, analysis of variance, computer analysis. Students who have passed MATH(STAT) 415 may not schedule this course for credit.
Effective: Spring 1989
Prerequisite: MATH 318 or knowledge of basic probability

MATH 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MATH 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MATH 401 **Introduction to Analysis I** (3) Review of calculus, properties of real numbers, infinite series, uniform convergence, power series. Students who have passed Math. 403 may not schedule this course.
Effective: Fall 1983
Prerequisite: MATH 230 orMATH 231

MATH 403 **Classical Analysis I** (3) Topology of Rn, compactness, continuity of functions, uniform convergence, Arzela-Ascoli theorem in the plane, Stone-Wierstrass theorem.
Effective: Spring 1996
Prerequisite: MATH 312

MATH 403H **Honors Classical Analysis I** (3) Development of a thorough understanding and technical mastery of foundations of classical analysis in the framework of metric spaces.
Effective: Spring 2010
Prerequisite: MATH 311M, MATH 312H

MATH 404 **Classical Analysis II** (3) Differentiation of functions from Rn to Rm, implicit function theorem, Riemann integration, Fubini's theorem, Fourier analysis.
Effective: Fall 1985
Prerequisite: MATH 403

MATH 405 **Advanced Calculus for Engineers and Scientists I** (3) Vector calculus, linear algebra, ordinary and partial differential equatinos. Students who have passed MATH 411 or 412 may not take this course for credit.
Effective: Spring 1994
Prerequisite: MATH 231;MATH 250 orMATH 251

MATH 406 **Advanced Calculus for Engineers and Scientists II** (3) Complex analytic functions, sequences and series, residues, Fourier and Laplace transforms. Students who have passed MATH 421 may not take this course for credit.
Effective: Spring 1994
Prerequisite: MATH 405

MATH 408 **Advanced Calculus** (3) Differential and integral calculus of functions of several variables, line and surface integrals, infinite series, series of functions, power series.
Effective: Spring 2007
Prerequisite: MATH 141

MATH 411 **Ordinary Differential Equations** (3) Linear ordinary differential equations; existence and uniqueness questions; series solutions; special functions; eigenvalue problems; Laplace transforms; additional topics and applications.
Effective: Fall 1983
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251

MATH 412 **Fourier Series and Partial Differential Equations** (3) Orthogonal systems and Fourier series; derivation and classification of partial differential equations; eigenvalue function method and its applications; additional topics.
Effective: Spring 2009
Prerequisite: MATH 230;MATH 250 orMATH 251

MATH 414 (STAT 414) **Introduction to Probability Theory** (3) Probability spaces, discrete and continuous random variables, transformations, expectations, generating functions, conditional distributions, law of large numbers, central limit theorems. Students may take only one course from MATH(STAT) 414 and 418 for credit.
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

MATH 415 (STAT 415) **Introduction to Mathematical Statistics** (3) A theoretical treatment of statistical inference, including sufficiency, estimation, testing, regression, analysis of variance, and chi-square tests.
Effective: Fall 1989
Prerequisite: MATH 414

MATH 416 (STAT 416) **Stochastic Modeling** (3) Review of distribution models, probability generating functions, transforms, convolutions, Markov chains, equilibrium distributions, Poisson process, birth and death processes, estimation.
Effective: Spring 1984
Prerequisite: MATH 318 orMATH 414;MATH 230

MATH 417 **Qualitative Theory of Differential Equations** (3) Linear differential equations, stability of stationary solutions, ordinary bifurcation, exchange of stability, Hopf bifurcation, stability of periodic solutions, applications.
Effective: Spring 2009
Prerequisite: MATH 220;MATH 250 orMATH 251

MATH 418 (STAT 418) **Probability** (3) Fundamentals and axioms, combinatorial probability, conditional probability and independence, probability laws, random variables, expectation; Chebyshev's inequality. Students may take only one course from MATH(STAT) 414 and 418 for credit.
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

MATH 419 (PHYS 419) **Theoretical Mechanics** (3) Principles of Newtonian, Lagrangian, and Hamiltonian mechanics of particles with applications to vibrations, rotations, orbital motion, and collisions.
Effective: Spring 2007
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251;PHYS 212, PHYS 213 andPHYS 214

MATH 420 **Elementary Introduction to Chaotic Dynamics and Fractal Geometry** (3) An introduction to the theory of fractals for undergraduates in mathematics, science, engineering, economics, and computer science.
Effective: Summer 2000
Prerequisite: MATH 140, MATH 141, MATH 220 orMATH 110, MATH 111, MATH 220

MATH 421 **Complex Analysis** (3) Infinite sequences and series; algebra and geometry of complex numbers; analytic functions; integration; power series; residue calculus; conformal mapping, applications.
Effective: Summer 1993
Prerequisite: MATH 230, MATH 232 orMATH 405;MATH 401 orMATH 403

MATH 422 **Wavelets and Fourier Analysis: Theory and Applications** (3) Fundamental mathematical issues of the theory of wavelets for senior undergraduate and graduate students in mathematics, engineering, physics, and computer science.
Effective: Summer 2000
Prerequisite: complete one of the following:MATH 312, MATH 401, MATH 403, MATH 405 orMATH 412

MATH 425 **Introduction to Operations Research** (3) Nature of operations research, problem formulation, model construction, deriving solution from models, allocation problems, general linear allocation problem, inventory problems.
Effective: Spring 2007
Prerequisite: MATH 141

MATH 426 **Introduction to Modern Geometry** (3) Plane and space curves; space surfaces; curvature; intrinsic geometry of surfaces; Gauss-Bonnet theorem; covariant differentiation; tensor analysis.
Effective: Spring 1994
Prerequisite: MATH 401 orMATH 403

MATH 427 **Foundations of Geometry** (3) Euclidean and various non-Euclidean geometries and their development from postulate systems. Students who have passed MATH 427 may not schedule MATH 471.
Effective: Spring 1994
Prerequisite: MATH 230 orMATH 231

MATH 428 **Geometry for Teachers** (1) Research in mathematics education using ideas from Euclidean and non-Euclidean geometry. Students who have passed MATH 471 may not schedule MTHBD 478.

Effective: Spring 2007
Prerequisite: MATH 311W . Prerequisite or concurrent:MATH 427

MATH 429 **Introduction to Topology** (3) Metric spaces, topological spaces, separation axioms, product spaces, identificaiton spaces, compactness, connectedness, fundamental group.
Effective: Spring 1994
Prerequisite: MATH 311W

MATH 430 **Linear Algebra and Discrete Models I** (3) Vector spaces, linear transformations, matrices determinants, characteristic values and vectors, systems of linear equations, applications to discrete models.
Effective: Spring 2010
Prerequisite: MATH 220

MATH 431 **Linear Algebra and Discrete Models II** (3) Vector spaces and linear transformations, matrices, determinants, characteristics values and vectors, systems of linear equations, applications to discrete models.
Effective: Spring 2007
Prerequisite: MATH 430

MATH 435 **Basic Abstract Algebra** (3) Elementary theory of groups, rings, and fields. Students who have passed MATH 435 may not schedule MATH 470.
Effective: Fall 1983
Prerequisite: MATH 311W

MATH 435 **Basic Abstract Algebra** (3) Elementary theory of groups, rings, and fields. Students who have passed MATH 435 may not schedule MATH 470.
Effective: Spring 2010
Prerequisite: MATH 311W orMATH 315

MATH 436 **Linear Algebra** (3) Vector spaces and linear transformations, canonical forms of matrices, elementary divisors, invariant factors; applications. Students who have passed MATH 436 may not schedule MATH 441.
Effective: Fall 1983
Prerequisite: MATH 311W

MATH 437 **Algebraic Geometry** (3) Study of curves in the plane defined by polynomial equations p(x,y)= 0. Projective equivalence, singular points, classification of cubics.
Effective: Spring 2009
Prerequisite: MATH 230 orMATH 231;MATH 311W

MATH 441 **Matrix Algebra** (3) Determinants, matrices, linear equations, characteristic roots, quadratic forms, vector spaces. Students who have passed Math 436 may not schedule this course.
Effective: Fall 1985
Prerequisite: MATH 220

MATH 444 **Mathematical Statistics and Applications I** (3) Distributions of random variables, special distributions, limiting distributions, sampling, statistical inference, point and interval estimation, orthogonal polynomials, and least squares.
Effective: Spring 2007
Prerequisite: MATH 141

MATH 445 **Mathematical Statistics and Applications II** (3) Further topics in point estimation, statistical hypotheses, other statistical tests, nonparametric methods.
Effective: Spring 2007
Prerequisite: MATH 444

MATH 446 **Introduction to Applied Statistics I** (3) Descriptive statistics, probability theory, discrete and continuous probability distributions, statistical inferences for means and proportions.
Effective: Spring 2007
Prerequisite: MATH 022 orMATH 040

MATH 447 **Introduction to Applied Statistics II** (3) Regression, correlation, analysis of variance, contingency tables, nonparametric methods, time series, index numbers.
Effective: Spring 2007

MATH 448 **Sampling Methods and Practice and Experimental Design** (3) An introduction to the procedures and techniques of statistical sampling methods and experimental design.
Effective: Spring 2007
Prerequisite: MATH 444, MATH 445

MATH 449 **Applied Ordinary Differential Equations** (3) Differential and difference equations and their application to biology, chemistry, and physics; techniques in dynamical systems theory.
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251

MATH 450 **Mathematical Modeling** (3) Constructing mathematical models of physical phenomena; topics include pendulum motion, polymer fluids, chemical reactions, waves, flight, and chaos.
Effective: Spring 2007
Prerequisite: MATH 315 andMATH 430 orMATH 405 orMATH 412

MATH 451 (CMPSC 451) **Numerical Computations** (3) Algorithms for interpolation, approximation, integration, nonlinear equations, linear systems, fast FOURIER transform, and differential equations emphasizing computational properties and

implementation. Students may take only one course for credit from MATH 451 and 455.
Effective: Spring 2008
Prerequisite: 3 credits of programming;MATH 230 orMATH 231

MATH 455 (CMPSC 455) **Introduction to Numerical Analysis I** (3) Floating point computation, numerical rootfinding, interpolation, numerical quadrature, direct methods for linear systems. Students may take only one course for credit from MATH 451 and MATH 455.
Effective: Spring 2008
Prerequisite: CMPSC 201, CMPSC 202 orCMPSC 121;MATH 220;MATH 230 orMATH 231

MATH 456 (CMPSC 456) **Introduction to Numerical Analysis II** (3) Polynomial and piecewise polynomial approximation, matrix least squares problems, numerical solution of eigenvalue problems, numerical solution of ordinary differential equations.
Effective: Spring 2008
Prerequisite: MATH 455

MATH 457 **Introduction to Mathematical Logic** (3) Propositional logic, first-order predicate logic, axioms and rules of inference, structures, models, definability, completeness, compactness.
Effective: Fall 1983
Prerequisite: MATH 311W orPHIL 212 ; 3 additional credits in philosophy

MATH 459 **Computability and Unsolvability** (3) An introduction to the theory of recursive functions; solvable and unsolvable decision problems; applications.
Effective: Fall 1983
Prerequisite: MATH 311W

MATH 461 (PHYS 461) **Theoretical Mechanics** (3) Continuation of Math.(Phys.) 419. Theoretical treatment of dynamics of a rigid body, theory of elasticity, aggregates of particles, wave motion, mechanics of fluids.
Effective: Fall 1986
Prerequisite: MATH 419

MATH 465 **Number Theory** (3) Elements, divisibility of numbers, congruences, residues, and forms.
Effective: Spring 2009
Prerequisite: MATH 311W

MATH 467 (CMPSC 467) **Factorization and Primality Testing** (3) Prime sieves, factoring, computer numeration systems, congruences, multiplicative functions, primitive roots, cryptography, quadratic residues. Students who have passed MATH 465 may not schedule this course.
Effective: Spring 1995
Prerequisite: MATH 311W

MATH 468 **Mathematical Coding Theory** (3) Shannon's theorem, block codes, linear codes, Hamming codes, Hadamard codes, Golay codes, Reed-Muller codes, bounds on codes, cyclic codes.
Effective: Fall 1983
Prerequisite: MATH 311W ; advanced calculus

MATH 469 **Mathematics of Algorithms** (3) Binomial identities; recurrence relations, operator methods; asymptotic methods.
Effective: Fall 1983
Prerequisite: advanced calculus

MATH 470 **Algebra for Teachers** (3) An introduction to algebraic structures and to the axiomatic approach, including the elements of linear algebra. Designed for teachers and prospective teachers. Students who have passed Math 435 may not schedule this course.
Effective: Fall 1988
Prerequisite: MATH 311W

MATH 471 **Geometry for Teachers** (4) Problem solving oriented introduction to Euclidean and non-Euclidean geometries; construction problems and geometrical transformations via "Geometer's Sketchpad" software. Intended primarily for those seeking teacher certification in secondary mathematics. Students who have passed MATH 427 may not schedule this course.
Effective: Spring 1996
Prerequisite: MATH 311W

MATH 475 (US;IL) **Introduction to the History of Mathematics** (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.
Effective: Spring 2010
Prerequisite: CMATH 221 orMATH 141

MATH 475W (US;IL) **History of Mathematics** (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.
Effective: Spring 2010
Prerequisite: MATH 141

MATH 479 (PHYS 479) **Special and General Relativity** (3) Mathematical description, physical concepts, and experimental tests of special and general relativity.
Effective: Spring 2007
Prerequisite: PHYS 237, PHYS 400, PHYS 419;MATH 250 orMATH 251;MATH 230 orMATH 231

MATH 481 **Life Contingencies I** (3) A study of the mathematical theory of life contingencies; single-life functions and their applications.

Effective: Spring 2007
Prerequisite: MATH 444, MATH 445, MATH 480

MATH 482 **Mathematical Methods of Operations Research** (3) Survey of linear and nonlinear programming; mathematics of optimization; queues; simulation.
Effective: Spring 2007
Prerequisite: MATH 220, MATH 230, STAT 301

MATH 483 **Applied Modern Algebra II** (3) Semigroups, groups, permutation groups, machines, Polya enumeration theory, switching functions, de Bruijn's theorem, fast adders.
Effective: Fall 1986
Prerequisite: MATH 311W

MATH 484 **Linear Programs and Related Problems** (3) Introduction to theory and applications of linear programming; the simplex algorithm and newer methods of solution; duality theory.
Effective: Spring 1987
Prerequisite: MATH 220;MATH 230 orMATH 231

MATH 485 **Graph Theory** (3) Introduction to the theory and applications of graphs and directed graphs. Emphasis on the fundamental theorems and their proofs.
Effective: Spring 1987
Prerequisite: MATH 311W

MATH 486 **Mathematical Theory of Games** (3) Basic theorems, concepts, and methods in the mathematical study of games of strategy; determination of optimal play when possible.
Effective: Spring 2006
Prerequisite: MATH 220

MATH 493 **Mathematics Recitation Instructor Training** (1 per semester/maximum of 3) Instruction and practice in the role of recitation instructor.
Effective: Fall 1983
Prerequisite: 18 credits in mathematics

MATH 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1995

MATH 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

MATH 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

MATH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MATH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.
Effective: Fall 1983

MATH 497A **Function Field Arithmetic** (4) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MATH 497B **Differential Equations from an Algebraic Perspective** (4) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MATH 497C **Dynamics, Mechanics and Geometry** (4) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MATH 497D **MASS Interdisciplinary Seminar** (3) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MATH 497E **MASS Colloquium** (1) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MATH 497F **Complex Analysis for Mathematics and Engineering** (3) Complex analysis with applications to science and engineering, complex algebra, analytic functions, complex contour integrals, series representations, residue theory.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 230

MATH 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MATH 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NOTE: Courses in computer science and statistics are listed separately.

Last Import from UCM: May 29, 2010 3:00 AM

Mathematics Education (MTHED)

MTHED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MTHED 411 **Teaching Secondary Mathematics I** (3) Conditions for learning mathematics; problem solving; subject matter types; curriculum; learning goals; nature and history of mathematics at secondary level
Effective: Spring 2007
Prerequisite: acceptance into Secondary Education/Mathematics Option certification program;C I 295 ; a grade of C or better inCMPSC 101, MATH 140, MATH 141, MATH 220, MATH 230, MATH 311W Concurrent: MTHED 427

MTHED 412W **Teaching Secondary Mathematics II** (3) Assessing learning and instruction; methods of evaluation and grading; long- term planning; accommodating needs of diverse learners; connecting theory and practice.
Effective: Summer 2010
Prerequisite: a grade of C or better inMTHED 411 Concurrent: C I 412W C I 495C

MTHED 420 **Teaching Mathematics in the Elementary Schools** (3) Strategies for teaching mathematics at the elementary school level; analysis of the philosophy and content of contemporary programs of instruction.
Effective: Spring 2007
Prerequisite: LL ED 400, LL ED 401, LL ED 402 ; a grade of C or better required inMATH 200;PSYCH 212 Concurrent: C I 495A or C I 495B ; SCIED 458 SS ED 430W

MTHED 424 **Contemporary School Mathematics Programs** (3) In-depth analysis of school mathematics programs and the factors and forces influencing them; contemporary curriculum developments.
Effective: Summer 2010
Prerequisite: MTHED 412W orMTHED 420

MTHED 427 **Teaching Mathematics in Technology-Intensive Environments** (3) Interaction among pedagogy, content, and technology in mathematics teaching and learning in technology-intensive environments; secondary, early college curricula; laboratory experience.
Effective: Spring 2007
Prerequisite: acceptance into Secondary Education/Mathematics Option certification program;C I 295 ; a grade of C or better inCMPSC 101, MATH 140, MATH 141, MATH 220, MATH 230, MATH 311W Concurrent: MTHED 411

MTHED 430 **Students' Mathematical Thinking** (3 per semester, maximum of 6) Develop abilities in planning, conducting, and interpreting mathematics interviews to gain an understanding of students' thinking processes and current knowledge.
Effective: Summer 1994
Prerequisite: C I 495D, C I 495E or experience teachnig mathematics

MTHED 431 **Data Analysis in Secondary School Mathematics** (3) Intense development of foundations of data analysis for secondary mathematics as a process using statistical concepts for predictions and inferences.
Effective: Summer 2006
Prerequisite: CMPSC 101 or equivalent; at least 18 credits of mathematics at or above the calculus level; acceptance into secondary mathematics certification program or permission of program

MTHED 432 **Mathematical Modeling in Secondary School Mathematics** (3) Students work from teaching and curricular perspective to explore and apply school and undergraduate mathematics to model real-world phenomena.
Effective: Summer 2006
Prerequisite: CMPSC 101 or equivalent; at least 18 creidts of mathematics at or above the calculus level; acceptance into secondary mathematics certification program or permission of program

MTHED 433 **Function Concept in Secondary School Mathematics** (3) This course develops the concept of function as an essential topic that underlies and connects school and collegiate mathematics.
Effective: Summer 2006
Prerequisite: CMPSC 101 or equivalent; at least 18 credits of mathematics at or above the calculus level; acceptance into secondary mathematics certification program or permission of program

MTHED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MTHED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MTHED 497A **Inquiry Into Big Ideas** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MTHED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MTHED 498A **AP Statistics** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

MTHED 498B **AP Calculus AB** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Mechan Engr Technolg (MET)

MET 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

MET 105 **Mechanical Systems** (3) Mechanical Systems with Laboratory is an introductory course for Engineering Technology major students to broadly introduce Mechanical Engineering Technology.
Effective: Spring 2008

MET 107 **Computer Applications for Technologists** (3) Programming spreadsheets, data bases and presentation software for solutions of technical problems; introduction to languages allowing creation of program macros.
Effective: Spring 2010
Prerequisite: MATH 081 orMATH 022 orMATH 026 Concurrent: MATH 026 MATH 081 or MATH 022 or

MET 108 **Microcomputer Applications** (3) Microcomputer methods for analysis and design of engineering systems.
Effective: Spring 2007

MET 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

MET 206 **Dynamics** (3) Kinematics (particles and rigid bodies), kinetics, work-energy, impulse- momentum; select mechanisms associated with local industries.
Effective: Fall 2008
Prerequisite: MCH T 111 Concurrent: MATH 083 or MATH 140

MET 210W **Machine Design** (3) Design machine elements including bearings, springs, levers, shafts, gears, belts, and small mechanical devices; writing skills and computer applications.
Effective: Spring 2008
Prerequisite: MET 206 orE MCH 212;MCH T 213 orE MCH 213 orET 322 orEMET 322

MET 281 **Elementary Thermo- and Fluid Dynamics** (4) Basic problems in compressible fluid flow. Laws of dynamics and thermodynamics, mechanical properties of fluids, elementary heat transfer.
Effective: Spring 2007
Prerequisite: or concurrent:MATH 083, PHYS 150 orPHYS 250

MET 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2007

MET 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

MET 303 **Computer-Aided Design** (3) Study of the fundamentals of computer-aided design and manufacturing systems; hands-on exercises utilizing a microcomputer-based CAD/CAM system.
Effective: Spring 2007
Prerequisite: junior standing

MET 306 **Computer-Aided Design** (3) Computer-aided drafting and design; computer software solutions to mechanical engineering technology design problems.
Effective: Spring 2010
Prerequisite: MET 107;EG T 121 orEG T 201 andEG T 205

MET 308 **Computer Aided Solid Modeling and Analysis** (3) Basic techniques necessary to perform Computer Aided Design and Analysis in three dimensions for machine components.
Effective: Spring 2007

MET 320 **Strength of Materials** (3) Principles of stress and strain in 3D, indeterminate structures, failure theory, fatigue and fracture mechanics.
Effective: Spring 2008
Prerequisite: E MCH 213 orMCH T 213;MCH T 214

MET 321 **Analytical Techniques** (2) A study of engineering methods of problem formulation and solution; includes differential methods, dimensional analysis, and graphical analysis.
Effective: Spring 2008
Prerequisite: E MCH 212 orET 321, MATH 140 Concurrent: integral calculus

MET 330 **Thermodynamics** (3) Introduction for technologists to the basic concepts and applications of thermodynamics.

Effective: Summer 2007 Ending: Summer 2010
Prerequisite: PHYS 151, PHYS 212 orPHYS 251 . Prerequisite or concurrent:CHEM 110, CHEM 111;MATH 141 orMATH 210

MET 330 **Thermodynamics** (3) Introduction for technologists to the basic concepts and applications of thermodynamics.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250, PHYS 211 orPHYS 150 . Prerequisite or concurrent:CHEM 110, CHEM 111;MATH 141 orMATH 210

MET 331W **Heat Transfer** (4) Introduction for technologists to the basic concepts and applications of heat transfer. Includes a thermodynamics and heat transfer laboratory.
Effective: Fall 2007
Prerequisite: M E 300 orMET 330 . Prerequisite or concurrent:MET 341

MET 332 **Thermal Engineering A** (3) Basic thermodynamic units, concepts, properties of ideal gases and vapors, first and second laws, gaseous mixtures, one-dimensional compressible flow.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, MATH 140

MET 334 **Engineering Thermodynamics and Heat Transfer** (3) Basic thermodynamic concepts and definitions, first and second laws; properties of pure substances; cycle analysis; power generation; heat transfer.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, MATH 140

MET 336 **Engineering Fluid Mechanics** (3) Thermal and dynamic principles applied to fluid behavior, ideal, viscous, and compressible fluids under internal and external flow conditions.
Effective: Spring 2008
Prerequisite: E MCH 211 Concurrent: Chemistry Physics Calculus

MET 341 **Mechanical Measurements and Instrumentation** (3) Measurement concepts, transducers, electronic-aided measurement, mechanical and electrical measurements. Intended for mechanical engineering technologists.
Effective: Spring 2010
Prerequisite: MCH T 214;EET 105 orEET 100 orE E 211;PHYS 151, PHYS 212 orPHYS 251 Concurrent: PHYS 151 PHYS 212 or PHYS 251

MET 342 **Instrumentation** (2) Measuring system responses of first and second order instruments; fundamentals of mechanical measurements, including pressure, temperature, fluid flow, etc.
Effective: Spring 2007

MET 358 **Process Design Engineering** (3) Introduction to process design for production applications from job shop to world-class manufacturing environments.
Effective: Spring 2010
Prerequisite: IET 321 orIET 215 andIET 216

MET 365 **Design of Machine Elements** (3) Design of structural and mechanical elements with emphasis on theories of fatigue failure.
Effective: Fall 2008
Prerequisite: E MCH 213 orET 322

MET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

MET 401 **Advanced Kinematics** (3) Analysis and design of planar and space mechanisms using advanced techniques, including computers; robotics.
Effective: Spring 2008
Prerequisite: E MCH 212, MET 108, MET 321

MET 403 **Advanced Mechanical Design** (3) Continuation of strength of materials and machine design, with emphasis on advanced methods of design and analysis of machine elements.
Effective: Spring 2007
Prerequisite: MET 365

MET 415 **Finite Element Analysis Applications I** (3) Solutions of advanced engineering design problems using finite elements. Intended for engineering technologists.
Effective: Spring 2007
Prerequisite: MET 320 ; Concurrent:MET 306

MET 417 **Finite Element Analysis** (3) Formulation and computer implementation of finite element models for solving problems in heat transfer, fluid flow, and solid mechanics.
Effective: Spring 2007
Prerequisite: MET 365

MET 418 **Finite Element Analysis for Plastics Design** (3) Solutions of advanced engineering problems using finite element and finite difference techniques; advanced topics in computer-aided manufacturing; problems in optimization and design.
Effective: Spring 2007
Prerequisite: MCH T 213, PL ET 232, PL ET 235 . Prerequisite or concurrent:PL ET 350

MET 425 **Finite Element Analysis Applications II** (3) Solutions of advanced engineering design problems using finite element methods.

Effective: Spring 2007
Prerequisite: MET 415

MET 431 **Heat Transfer** (3) Basic principles of conduction, convection, and radiation with applications.
Effective: Spring 2007
Prerequisite: MET 332

MET 432 **Fluid Power** (3) Principles of fluid flow, hydraulic components, and hydraulic circuits having application to industry.
Effective: Fall 2007
Prerequisite: M E 300 orMET 330;MET 331W

MET 435 **Building Energy Systems** (3) Analysis and design of components and systems for building heating and cooling; emphasis on applying the thermal sciences.
Effective: Spring 2007
Prerequisite: MET 332, MET 336

MET 438 **Thermal Engineering B** (3) Applied thermodynamics of power cycles; refrigeration and air conditioning cycles; combustion; psychometrics; and gas mixtures.
Effective: Spring 2007
Prerequisite: MET 332

MET 440 **Vibrations for Technologists** (3:) Principles of basic vibration theory, vibration measurement, data acquisition and analysis, and the effective presentation of vibration data.
Effective: Spring 2008
Prerequisite: E MCH 212 orMET 206;MATH 231 andMATH 250 orMATH 211;MET 341;MET 415

MET 441 **Vibration Analysis** (4) Analysis of motion arising from lateral and torsional vibrations of systems; free and forced vibrations; damping; isolation; balancing.
Effective: Spring 2008
Prerequisite: E MCH 212, MET 321

MET 448 **Mechanical Engineering Technology Laboratory B** (2) Laboratory exercises in the areas of instrumentation, strength of materials, fluid flow, vibrations, thermodynamics, etc.
Effective: Spring 2007
Prerequisite: MET 336, MET 342, ENGL 202C and senior standing

MET 450 **Manufacturing Engineering** (3) Design, analysis and operational issues related to improved productivity and efficiency in modern manufacturing systems.
Effective: Spring 2007
Prerequisite: MET 358

MET 452 **Rapid Prototyping** (3) Introduction to the production of prototypes directly from computer models.
Effective: Fall 2007
Prerequisite: IET 216, MET 306

MET 454 **Automatic Controls** (3) An introduction to basic automatic control theory, practical applications of automatic controls to typical industrial machinery, HVAC equipment, etc.
Effective: Spring 2008
Prerequisite: E MCH 212, MET 321

MET 457 **Lean Manufacturing** (3) Principles and methods of Lean Manufacturing currently used in modern industries.
Effective: Summer 2007
Prerequisite: 7th semester standing; andIE T 215 orM E 468 or permission of program

MET 461 **Advanced Machine Design** (3) Stress analysis, material selection, design of machine elements, design of connections, and computer-aided design.
Effective: Spring 2007
Prerequisite: MET 210W, MET 415

MET 462 **Internal Combustion Engine Design** (3) The effect of operation requirements on design and construction of internal combustion engines; study of support systems and emissions control.
Effective: Spring 2007
Prerequisite: MET 332

MET 470 **Materials Engineering** (3) Study of material selection, material properties, material test methods, and special topics.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, MET 320

MET 480 **Senior Capstone** (1) Career and professional topics; development of year-long senior project with industry.
Effective: Fall 2007
Prerequisite: M E 300 orMET 330;MET 415

MET 481 **Project Design** (1) Design of system or machine, including decision making, engineering analysis, layout, detail drawings, specifications, construction.
Effective: Spring 2007
Prerequisite: MET 365, MET 431 and senior standing

MET 485 **Senior Industrial Project** (3) Individual or group design projects in mechanical design or materials.
Effective: Spring 2007

Prerequisite: MET 425, MET 470, MET 480

MET 486 **Project Design** (3) Design of system or machine, including decision making, engineering analysis, layout, detail drawings, specifications, construction.
Effective: Spring 2007
Prerequisite: MET 365, MET 431, MET 481 and senior standing

MET 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica or internships. Written and oral critique of activity required.
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

MET 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2007

MET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

MET 497B **Energy Conservation Systems** (3) Analyze processes and systems for energy conversion, including power, refrigeration and air conditioning cycles, thermoelectric, and fuel cells.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MET 330

Last Import from UCM: May 29, 2010 3:00 AM

Mechanical Engineering (M E)

M E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1998

M E 101S **Toy Fundamentals: First-Year Seminar** (1) First-Year Seminar focusing on toy design and manufacture.
Effective: Fall 1999

M E 102S **Smart Lego Robots & Design** (1) First-Year Seminar focusing on the development of technology exploration kits for middle-school-aged children.
Effective: Fall 2004

M E 103S **The Art and Science of Manufacturing: First-Year Seminar** (1) A First-Year Seminar focusing on the practical and non-technical aspects of manufacturing.
Effective: Fall 1999

M E 104S **Environmentally Conscious Engineering: First-Year Seminar** (1) A First-Year Seminar focusing on environmental issues as they pertain to the engineering profession.
Effective: Fall 1999

M E 105S **Product Dissection A: Bicycles--First-Year Seminar** (1) A First-Year Seminar in which students analyze and disassemble a multi-speed bicycle.
Effective: Fall 1999

M E 106S **Product Dissection B: Household Appliances--First-Year Seminar** (1) A First-Year Seminar in which students analyze and disassemble household appliances.
Effective: Fall 1999

M E 107S **Product Dissection C: The Enigmatic Engine--First-Year Seminar** (1) A First-Year Seminar in which students analyze and disassemble a single-cylinder lawnmower engine.
Effective: Fall 1999

M E 190S **Special Topics in Mechanical Engineering: First-Year Seminar** (1) A First-Year Seminar focusing on issues related to Mechanical Engineering.
Effective: Fall 1999

M E 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

M E 201 **Introduction to Thermal Science** (3) Application of the basic concepts of thermodynamics, fluid dynamics, and heat transfer to the solution of engineering problems.
Effective: Fall 2007
Prerequisite: CHEM 110

M E 240 **Product Dissection** (3) Dissection of products and processes; reverse engineering, examination of materials usage, manufacturing processes, design, invention, and consumer issues.
Effective: Fall 2007
Prerequisite: EDSGN 100, PHYS 211

M E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1995

M E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

M E 300 **Engineering Thermodynamics I** (3) Basic thermodynamics concepts, properties of pure substances, first and second law analysis of systems and control volumes.
Effective: Fall 2007
Prerequisite: CHEM 110, MATH 141

M E 302 **Engineering Thermodynamics** (4) Engineering thermodynamics and heat transfer, with pertinent applications to devices important in mechanical engineering. For students in engineering science.
Effective: Fall 2007

Prerequisite: CHEM 112, PHYS 211 andMATH 230 orMATH 231

M E 308 **Fluid Flow and Heat Transfer Laboratory** (1) Experimental work to enhance understanding of thermodynamics, fluid dynamics, and heat transfer.
Effective: Fall 2007
Prerequisite: M E 320 . Prerequisite or concurrent:M E 410

M E 315 **Heat Transfer Laboratory** (1) Application of the fundamental concepts associated with conduction, convection, and radiation to the actual measurements of heat transfer.
Effective: Fall 2007
Prerequisite: M E 320 . Prerequisite or concurrent:M E 345, M E 410

M E 320 **Fluid FLow** (3) Thermodynamic and dynamic principles applied to fluid behavior; ideal, viscous, and compressible fluids under internal and external flow conditions.
Effective: Spring 2008
Prerequisite: E MCH 212, MATH 251;M E 201 orM E 300;MATH 230 orMATH 231

M E 325 **Fluids Laboratory** (1) Laboratory experience with fluid mechanics measurement techniques: flow visualization, pressure measurement, hot-wire anemometry, laser Doppler anemometry, computer data acquisition.
Effective: Fall 2007
Prerequisite: M E 320, M E 345

M E 340 **Mechanical Engineering Design Methodology** (3) The design process; problem definition, conceptual design, system design, detail design, evaluation and test, implementation, documentation and communication.
Effective: Fall 2007
Prerequisite: EDSGN 100, M E 320 Prerequisite or concurrent:M E 360

M E 345 **Instrumentation, Measurements, and Statistics** (4) Fundamentals of statistics, sensors, instrumentation, and measurement of mechanical phenomena such as temperature, flow, pressure, force, stress, displacement, and acceleration.
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent:E E 212 orE E 211 or equivalent

M E 345W **Instrumentation, Measurements, and Statistics** (4) Measurement concepts, probability and statistics, error analysis; electro- mechanical transducers, applied electrical and mechanical measurements, electrical and electronics instruments, data acquisition and instrumentation systems.
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent:E E 212 orE E 211 or equivalent

M E 347 **Computer-Aided Engineering** (3) Introduction to the tools and techniques of computer-aided design, including CAD, spreadsheets, numerical methods, and finite element analysis.
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;EDSGN 100 orEDSGN 100S . Prerequisite or concurrent:E MCH 213, MATH 220, MATH 251

M E 355 **Automatic Controls Laboratory** (1) Experimental investigation of simple position, velocity, and temperature control systems with analog and digital controllers.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: M E 345, M E 450

M E 355 **Dynamic Systems Laboratory** (1) Experimental investigation of simple position, velocity, and temperature control systems with analog and digital controllers.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: M E 345 ; Prerequisite or concurrent:M E 450

M E 357 **System Dynamics** (3) Mathematical modeling and analysis of linear dynamic systems; performance and design of simple controllers.
Effective: Spring 2009
Prerequisite: CMPSC 201 orCMPSC 202;E E 211 orE E 212;MATH 251

M E 360 **Mechanical Design** (3) Specification of components such as shafts, bearings, and power transformers; optimal designs for operational, environmental, and manufacturing requirements.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 315;CMPSC 201 orCMPSC 202

M E 360 **Mechanical Design** (3) Specification of components such as shafts, bearings, and power transformers; optimal designs for operational, environmental, and manufacturing requirements.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 315;CMPSC 200

M E 365 **Materials Testing Laboratory** (1) Laboratory for materials testing, property identification and modification, failure analysis, and metallurgical testing.
Effective: Summer 2008
Concurrent: MATSE 259

M E 367 **Machine Design** (3) Design and selection of machine components and connections. Stress analysis and modes of failure of materials used in machine components.
Effective: Spring 2009
Prerequisite: M E 347 Concurrent: MATSE 259

M E 368 **Materials Properties and Characterization** (4) Properties and characteristics of materials.

Effective: Spring 2008
Prerequisite: CHEM 110, E MCH 213

M E 370 **Vibration of Mechanical Systems** (3) Modeling and analysis of vibration characteristics of mechanical systems with single degree and multiple degrees of freedom. Vibration control by isolation, absorption and balancing.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 212, CMPSC 201 orCMPSC 202, MATH 220, MATH 251

M E 370 **Vibration of Mechanical Systems** (3) Modeling and analysis of vibration characteristics of mechanical systems with single degree and multiple degrees of freedom. Vibration control by isolation, absorption and balancing.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212, CMPSC 200, MATH 220, MATH 251

M E 375 **Vibrations Laboratory** (1) Experimental measurement and analysis of mechanical system dynamics.
Effective: Fall 2007
Prerequisite: or concurrent:M E 370, M E 345

M E 380 **Machine Dynamics** (3) Kinematic analysis of mechanisms such as linkages, flywheels, cams and gears. Dynamic forces and vibrations of mechanisms.
Effective: Spring 2009
Prerequisite: E MCH 212, MATH 251

M E 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

M E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

M E 400 **Thermodynamics of Propulsion and Power Systems** (3) Analysis and modeling of propulsion and power systems, including combustion, compressible flow through nozzles, chemical equilibrium, and moist air systems.
Effective: Fall 2007
Prerequisite: M E 300 andM E 320 ; Prerequisite or concurrent:M E 410

M E 401 **Refrigeration and Air Conditioning** (3) Theoretical principles, design, performance, and selection of various refrigeration and air-conditioning systems; building heat and cooling loads; solar heating.
Effective: Fall 2007
Prerequisite: M E 410

M E 402 **Power Plants** (3) A study of fossil-fuel steam generation and utility plants, including cogeneration, gas turbine, and combined cycles.
Effective: Fall 2007
Prerequisite: M E 410

M E 403 **Polymer Electrolyte Fuel Cell Engines** (3) Introduction to Fundamentals of Polymer Electrolyte Fuel Cells (PEFCs). Includes fundamentals of electrochemistry, thermodynamics, fluid mechanics, heat transfer materials, and manufacturing issues of PEFCs. A brief survey of other fuel cell types is also included.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: M E 300, M E 320, CMPSC 201 Concurrent: M E 410 or equivalent

M E 403 **Polymer Electrolyte Fuel Cell Engines** (3) Introduction to Fundamentals of Polymer Electrolyte Fuel Cells (PEFCs). Includes fundamentals of electrochemistry, thermodynamics, fluid mechanics, heat transfer materials, and manufacturing issues of PEFCs. A brief survey of other fuel cell types is also included.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: M E 300 Prerequisite or concurrent:M E 320 Concurrent: M E 410 or equivalent

M E 404 **Gas Turbines** (3) Thermodynamic cycles relating to gas turbines; analysis and performance of compressors, combustion chambers, single- and multi-stage turbines; recent developments.
Effective: Fall 2007
Prerequisite: M E 320 orM E 302

M E 405 **Indoor Air Quality Engineering** (3) Prediction of the motion of contaminants (both gaseous particulate) in gas streams; analysis of ventilation systems and air pollution control systems; comparison of experimental sampling techniques.
Effective: Fall 2007
Prerequisite: M E 320 or equivalent

M E 406 (NUC E 406) **Introduction to Statistical Thermodynamics** (3) Statistical description of systems composed of large numbers of particles in the context of classical and quantum mechanics; basic concepts of probability theory and thermodynamics as they relate to statistical mechanics.
Effective: Fall 2007
Prerequisite: M E 300 orM E 201 orM E 302 orCH E 303;MATH 230 orMATH 231

M E 408 **Energy Systems** (3) Theory, analysis, design, selection, and application of energy conversion systems.
Effective: Fall 2007
Prerequisite: M E 320, M E 410, M E 347

M E 410 **Heat Transfer** (3) Transient heat conduction; convection in laminar and turbulent flow; heat exchanger devices; boiling and condensation; radiation.

Effective: Spring 2008 Ending: Fall 2010
Prerequisite: AERSP 308, AERSP 311, C E 360 orM E 320;CMPSC 201 orCMPSC 202;MATH 220 orNUC E 309;MATH 251

M E 410 **Heat Transfer** (3) Thermal energy transfer mechanisms: conduction (steady, transient), convection (internal, external), radiation; lumped parameter method; heat exchangers; introduction to numerical methods.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: AERSP 308, AERSP 311, C E 360 orM E 320;CMPSC 200 orCMPSC 202;MATH 220 orNUC E 309;MATH 251

M E 411 **Heat-Exchanger Design** (3) Thermal design and application of different heat-exchanger types, including surface selection and design optimization.
Effective: Fall 2007
Prerequisite: M E 410

M E 420 **Compressible Flow I** (3) Introductory compressible flow (gas dynamics), mathematical background, and physical concepts of isentropic flow, shock waves, expansion waves, and applications.
Effective: Fall 2007
Prerequisite: M E 320

M E 421 **Viscous Flow Analysis and Computation** (3) Investigate analytical and computational methods for solving the differential equations describing fluid flow. Incompressible external flows past objects and internal flows in pipes and ducts are some problems considered.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: M E 320, M E 302, AERSP 311 orC E 261;CMPSC 201 orCMPSC 202;MATH 220, MATH 251

M E 421 **Viscous Flow Analysis and Computation** (3) Apply analytical and computational methods to solve the differential equations describing fluid flow. Incompressible external flows past objects and internal flows in pipes and ducts are some problems considered.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: M E 201, M E 320, AERSP 308, AERSP 311 orC E 361;CMPSC 200 orCMPSC 201 orCMPSC 202;MATH 220;MATH 250 orMATH 251

M E 422 **Principles of Turbomachinery** (3) Application of Newton's laws of motion and basic laws of thermodynamics to analysis of fluid flow in turbomachinery.
Effective: Fall 2007
Prerequisite: M E 320

M E 427 **Incompressible Aerodynamics** (3) Analysis of lift and drag using potential flow theory, effects of viscosity on potential flow calculations, wind tunnel testing.
Effective: Fall 2007
Prerequisite: M E 320

M E 428 **Applied Computational Fluid Dynamics** (3) Introduction to theory and application of computational techniques for solving fluid flow and heat transfer.
Effective: Fall 2007
Prerequisite: M E 320, M E 410, M E 347

M E 430 (EGEE 430) **Introduction to Combustion** (3) Concepts related to laminar and turbulent premixed and nonpremixed combustion with applications to propulsion and stationary systems.
Effective: Fall 2009
Prerequisite: M E 201 orM E 300 orEME 301

M E 431 **Internal Combustion Engines** (3) Thermodynamic aspects of internal combustion engine design and performance; two- and four-stroke cycle, supercharged and non-supercharged, diesel and spark-ignition types.
Effective: Fall 2007
Prerequisite: M E 302

M E 432 **Rocket Propulsion** (3) Design and performance of rocket propulsion components and systems; thermodynamics, solid and liquid fuels, heat transfer, materials, controls, and instrumentation.
Effective: Fall 2007
Prerequisite: M E 320, M E 410

M E 433 **Fundamentals of Air Pollution** (3) Natural and man-made sources of pollution; atmospheric dispersion; biological and health effects; control systems; legislation and regulations.
Effective: Fall 2007
Prerequisite: M E 201 orM E 300

M E 440W **Mechanical Systems Design Project** (3) Design and analysis of mechanical components and systems. Application of fundamental design and analysis methods to open ended engineering problems.
Effective: Fall 2007
Prerequisite: ENGL 202C, I E 312, M E 360, M E 370, M E 340

M E 441W **Thermal Systems Design Project** (3) Design of thermal systems through component design and/or selection, system simulation and optimization. Assessment of system economics and energy efficiency.
Effective: Fall 2007
Prerequisite: ENGL 202C, M E 340, M E 410

M E 442W **Advanced Vehicle Design I** (2) Part one of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical Elective requirements (when combined with M E 443W).
Effective: Summer 2010
Prerequisite: ENGL 202C, I E 312, M E 340, M E 360, M E 370 Concurrent: M E 410

M E 443W **Advanced Vehicle Design II** (1) Part two of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical Elective requirements (when combined with M E 442W).
Effective: Summer 2010
Prerequisite: M E 442W

M E 444 **Engineering Optimization** (3) Problem formulation, algorithms and computer solution of various engineering optimization problems.
Effective: Spring 2010
Prerequisite: MATH 220, MATH 230 orMATH 231, CMPSC 201 orCMPSC 202 orCMPSC 200

M E 445 **Microcomputer Interfacing for Mechanical Engineers** (4) Interfacing of electro-mechanical systems to microcomputers for data acquistion, data analysis and digital control.
Effective: Fall 2007
Prerequisite: M E 345 and seventh-semester standing

M E 446 (NUC E 446) **Reliability and Risk Concepts in Design** (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MATH 250 orMATH 251;M E 345 orSTAT 401 orI E 424 orNUC E 309

M E 446 (NUC E 446) **Reliability and Risk Concepts in Design** (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 250 orMATH 251;M E 345 orNUC E 309

M E 448 **Engineering Design Concepts** (3) Engineering design and modelling, engineering economic analysis techniques, technical communication skills, project planning and design.
Effective: Spring 2009
Prerequisite: M E 380 seventh-semester standing Concurrent: M E 367 M E 410

M E 449 **Mechanical Design Projects** (3) Group or individual design projects in the areas of mechanical engineering.
Effective: Fall 2007
Prerequisite: M E 448, eighth-semester standing

M E 450 **Modeling of Dynamic Systems** (3) Modeling and analysis of dynamic interactions in engineering systems. Classical and state variable methods; digital simulation; stability and dynamic response.
Effective: Fall 2007
Prerequisite: M E 370, M E 345

M E 452 **Vehicle Road Dynamics** (3) Investigations of three-dimensional dynamics and design into the study of vehicle dynamics including tire forces, suspension, and stability.
Effective: Fall 2007
Prerequisite: M E 370

M E 455 **Automatic Control Systems** (3) Dynamic analysis of systems involving automatic control of position, speed, power, flow, pressure, temperature, and other physical quantities.
Effective: Fall 2007
Prerequisite: M E 320, M E 450

M E 456 (I E 456) **Industrial Robot Applications** (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 328 orM E 360;CMPSC 201 orCMPSC 202

M E 456 (I E 456) **Industrial Robot Applications** (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 305 orM E 360;CMPSC 200 orCMPSC 201

M E 460 **Advanced Machine Design Problems** (3) Special machine design problems in unusual types of springs; gear problems and involutometry; cam design and application; multiple diameter shaft deflections and ball bearings.
Effective: Fall 2007
Prerequisite: M E 360, M E 370

M E 461 (E MCH 461) **Finite Elements in Engineering** (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;CMPSC 201 orCMPSC 202

M E 461 (E MCH 461) **Finite Elements in Engineering** (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;CMPSC 200, CMPSC 201 orCMPSC 202

M E 462 **Lubrication in Machine Design** (3) Lubricants and lubrication with applications to design aspects of machines and mechanisms including bearings, gears, cams, and automotive engines.
Effective: Fall 2007

Prerequisite: MATH 251, M E 360

M E 465 **Introduction to Manufacturing Laboratory** (1) A laboratory-based introduction to manufacturing processes including material removal, forming, casting and joining for metals and non-metals.
Effective: Summer 2008
Concurrent: M E 468

M E 467 **Applied Finite Element Analysis** (3) Review of matrix algebra; discretization; finite element formulation; application of finite element computer codes.
Effective: Fall 2007
Prerequisite: M E 410, M E 347

M E 468 **Engineering for Manufacturing** (3) Manufacturability, the selection of the most effective materials and processes, and quality assurance.
Effective: Spring 2009
Prerequisite: MATSE 259

M E 469 **Metallic Manufacturing Processes** (3) Principles of metal working and introduction to current theories; analysis of deformation, joining, and metal removal processes.
Effective: Summer 2008
Prerequisite: Prerequisite or concurrent:M E 468

M E 470 (E MCH 470) **Analysis and Design in Vibration Engineering** (3) Application of Lagrange's equations to mechanical system modeling, multiple- degree-of-freedom systems, experimental and computer methods; some emphasis on design applications.
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;M E 370 orE SC 407H

M E 471 **Noise Control in Machinery** (3) Nature of noise sources in machine elements and systems. Propagation and reduction of noise. Effects of noise on man.
Effective: Fall 2007
Prerequisite: M E 320, M E 370

M E 480 **Machine Dynamics** (3) Force and motion relationships in constrained mechanisms; analysis of cam, gear, and linkage systems for motion and power transmission.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 212 ; Prerequisite or Concurrent:CMPSC 201 orCMPSC 202

M E 480 **Mechanism Design and Analysis** (3) Design and analysis of mechanical linkages including kinematic synthesis and dynamic analysis. Linkages for a variety of applications are considered.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212 . Prerequisite or Concurrent:CMPSC 200

M E 481 **Introduction to Computer-Aided Analysis of Machine Dynamics** (3) Techniques and formulations for computer based kinematic and dynamic analyses of machines.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: M E 480

M E 481 **Introduction to Computer-Aided Analysis of Machine Dynamics** (3) Techniques and formulations for computer based kinematic and dynamic analyses of machines.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212 ; Prerequisite or concurrent:CMPSC 200

M E 491 **Bioengineering Applications of Mechanical Engineering** (3) Application of mechanical engineering knowledge in the context of life sciences.
Effective: Summer 2008
Prerequisite: E E 211, M E 320, M E 357, E MCH 213 or permission of program

M E 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

M E 494H **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Spring 2007
Prerequisite: Junior or senior status in the University Scholars Program

M E 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

M E 496 **Independent Studies** (1-18) Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

M E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

M E 497A **Fundamentals of Nuclear Engineering** (3) An intensive course providing introduction to NucE to undergraduate co-op students, non-NucE graduate, and returning students.
Effective: Summer 2010 Ending: Summer 2010

M E 497B **Advanced Vehicle Design I** (2) Part one of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical requirements (when combined with M E 443W).
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 202C, I E 312, M E 340, M E 360, M E 370 ; Prerequisite or concurrent:M E 410

M E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

Last Import from UCM: May 29, 2010 3:00 AM

Mechanical Technology (MCH T)

MCH T 111 **Mechanics for Technology: Statics** (3) Forces; moments; resultants; two- and three-dimensional equilibrium of force systems; friction; centroids and moments of inertial of areas.
Effective: Fall 2008
Prerequisite: MATH 026 orMATH 081

MCH T 112 **Statics Laboratory** (1) Laboratory experimentation associated with basic engineering mechanics principles and concepts including forces, moments, equilibrium, trusses, frames, friction, and centroids.
Effective: Spring 2008
Prerequisite: MATH 026 orMATH 081 Concurrent: MCH T 111

MCH T 212 **Introduction to Dynamics** (3) Absolute and relative motion related to particles and simple linkages. Force-mass-acceleration, work-energy, and impulse-momentum solution techniques.
Effective: Spring 1996
Prerequisite: MCH T 111 . Prerequisite or concurrent:MATH 083

MCH T 213 **Strength and Properties of Materials** (3) Axial stress and strain; shear; torsion; beam stresses and deflections; combined axial and bending stresses; columns, ductility, resilience, and toughness.
Effective: Fall 2008
Prerequisite: MCH T 111, MATH 026 orMATH 081

MCH T 214 **Strength and Properties of Materials Laboratory** (1) Measurement of mechanical properties of materials; structural testing, data acquisition and analysis; technical laboratory report writing.
Effective: Spring 2010
Prerequisite: MCH T 213 Concurrent: MCH T 213

MCH T 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

Last Import from UCM: May 29, 2010 3:00 AM

Medieval Studies (MEDVL)

MEDVL 083S (GH;IL) **First-Year Seminar in Medieval Studies** (3) Critical approaches to the dimensions and directions in Medieval Studies.
Effective: Spring 2006

MEDVL 107 (GH;IL) (HIST 107) **Medieval Europe** (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.
Effective: Spring 2006

MEDVL 108 (GH;IL) **Medieval Civilization** (3) An interdisciplinary introduction to literature, art, and thought of the Middle Ages.
Effective: Spring 2006

MEDVL 187 **Medieval Studies Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1992
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

MEDVL 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

MEDVL 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MEDVL 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

MEDVL 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MEDVL 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

MEDVL 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MEDVL 411 (IL) (HIST 411) **Medieval Britain** (3) Political, cultural, and economic history of Britain from circa 400 to 1485 with an emphasis on the kingdom of England.
Effective: Spring 2006
Prerequisite: 6 credits in European history or medieval studies

MEDVL 413 (IL) (HIST 413) **Medieval Celtic Studies** (3) Celtic civilization from antiquity to the end of the middle ages.
Effective: Spring 2006
Prerequisite: 3 credits in medieval studies or in language literature or European history of the medieval period

MEDVL 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

MEDVL 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

MEDVL 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2002
Prerequisite: prior approval of proposed assignments by instructor

MEDVL 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1995

MEDVL 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

MEDVL 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Meteorology (METEO)

METEO 002 (GN) **Our Changing Atmosphere: Personal and Societal Consequences** (3) A survey of meteorology emphasizing how the nature of our lives, individually/societally, depends upon atmospheric structure, quality, and processes.
Effective: Spring 2003

METEO 003 (GN) **Introductory Meteorology** (3) Nontechnical treatment of fundamentals of modern meteorology and the effects of weather and climate. A student who took METEO 002 may take the laboratory part of this course for 1 credit only.
Effective: Spring 2003

METEO 004 (GN) **Weather and Risk** (3) Non-technical introduction to the science and historical development of meteorology, and the role of weather forecasting as a tool for risk management by individuals, businesses, and societies.
Effective: Summer 2007

METEO 022 **The Oceans** (2) A survey of oceanic properties and processes, with emphasis on the mechanisms of tides, waves, and ocean currents.
Effective: Fall 1983

METEO 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010

METEO 101 (GN) **Understanding Weather Forecasting** (3) Fundamental principles of synoptic and physical meteorology, satellite and radar imagery, and data analysis in the setting of mid-latitude weather forecasting.
Effective: Fall 2001

METEO 122 (GN) (AGECO 122) **Atmospheric Environment: Growing in the Wind** (3) Students will learn about the effect of weather on plants, animals, and humans.
Effective: Summer 2006

METEO 200A **Introduction to Weather Analysis I** (1.5) Introduction to the collection, display, and application of weather observations used by the operational meteorologist. Students who have passed METEO 201 may not schedule this course for credit.
Effective: Fall 1998

METEO 200B **Introduction to Weather Analysis II** (1.5) Introduction to the collection, display, and application of numerical weather forecasts used by the operational meteorologist. Students who have passed MET EO 201 may not schedule this course for credit.
Effective: Fall 1998
Prerequisite: METEO 200A

METEO 201 **Introduction to Weather Analysis** (3) Introduction to the collection, display, and application of weather observations and numerical forecasts used by the operational meteorologists. Students who have passed both METEO 200A and 200B may not schedule this course for credit.
Effective: Spring 1999

METEO 241 **Fundamentals of Tropical Forecasting** (3) Applying atmospheric principles to the tropics, with an emphasis on the development, structure, prediction and destructive impact of hurricanes.
Effective: Spring 2004
Prerequisite: METEO 101

METEO 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

METEO 297 **Special Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1989

METEO 297A **Weather Camp Workshop II** (1) One week intensive meteorology workshop designed for youth entering their senior year of high school.
Effective: Summer 2010 Ending: Summer 2010

METEO 297F **Weather Challenge Forecast Preparation Laboratory** (0.5) Forecast methods/data discussed prior to nightly weather forecast entry. Satisfactory performance will be determined by attendance and forecast accuracy.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

METEO 300 **Fundamentals of Atmospheric Science** (4) An introduction to the fundamentals of atmospheric dynamics, physics, and chemistry.
Effective: Fall 2009
Prerequisite: CHEM 110, PHYS 211 Concurrent: MATH 230 or MATH 231

METEO 361 **Fundamentals of Mesoscale Weather Forecasting** (3) Applying atmospheric principles to small-scale weather systems, with an emphasis on the conceptual modeling and short-range prediction of severe thunderstorms.
Effective: Spring 2004
Prerequisite: METEO 101

METEO 395A **Internship in Meteorological Communication** (3 per semester/maximum of 6) Meteorology internship focusing on communication of weather forecasts or other atmospheric information.
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

METEO 395B **Private Sector Meteorology Internship** (3 per semester/maximum of 6) Private sector internship focusing on atmospheric problems and applications.
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

METEO 395C **Internship in Meteorological Operations** (3 per semester/maximum of 6) Internship focusing on time-sensitive operational meteorological applications such as weather or climate forecasts.
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

METEO 395D **International Meteorological Internship** (3 per semester/maximum of 6) An internship in an international setting that focuses on applying meteorological knowledge.
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

METEO 395E **Off-Campus Meteorological Research Internship** (3 per semester/maximum of 6) Meteorological internship focusing on an off-campus research project.
Effective: Summer 2010
Prerequisite: METEO 101, METEO 200A andMETEO 200B orMETEO 201 andMETEO 300

METEO 410 **Advanced Topics in Weather Forecasting** (3) Exploring highly specialized topics and techniques in weather forecasting that span from mesoscale to planetary spatial scales and short-term to long- range time scales.
Effective: Spring 2004
Prerequisite: METEO 101, METEO 241, METEO 361

METEO 411 **Synoptic Meteorology Laboratory** (4) Techniques of analyzing synoptic scale weather situations; introduction to weather forecasting.
Effective: Spring 2004
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201;MATH 230 orMATH 231 Prerequisite or concurrent:METEO 421 andMETEO 431

METEO 412 **Synoptic Applications of Dynamic Meteorology** (4) Study of development and structure of large-scale weather systems and fronts.
Effective: Summer 1989
Prerequisite: METEO 411;METEO 422

METEO 413 **Map Analysis** (3) Analysis of actual surface weather observations, with emphasis on the Norwegian cyclone model, missing or bad data, and mesoscale phenomena.
Effective: Fall 2002
Prerequisite: METEO 411

METEO 414 **Mesoscale Meteorology** (4) A survey of conceptual models and analysis techniques for mesoscale atmospheric features.
Effective: Summer 1996
Prerequisite: METEO 411

METEO 415 **Forecasting Practicum** (3) Modern techniques in weather analysis and forecasting.
Effective: Spring 2001 Ending: Fall 2010
Prerequisite: or concurrent:METEO 414

METEO 415 **Forecasting Practicum** (3) Modern techniques in weather analysis and forecasting.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: METEO 411

METEO 416 **Advanced Forecasting** (3) Competitive, simulated, operational, real-time forecasting is covered.
Effective: Spring 1998
Prerequisite: METEO 414, METEO 415

METEO 417 **Hydrometeorology** (3) Theory and application of precipitation meteorology, hydrology, and regional forecast planning; control of the hydrometeorological system and its societal effects.
Effective: Spring 1998

Prerequisite: METEO 414

METEO 418W **Topics in Mesoscale Meteorology** (3) Topics in mesoscale meteorology will be investigated in an independent study environment through computer-based modules, papers, and semester project.
Effective: Fall 1995
Prerequisite: METEO 414

METEO 419 **Air Quality Forecasting** (3) Issues relating to the prediction and dispersion of air pollutants as discussed.
Effective: Summer 2010
Prerequisite: CHEM 110 andMETEO 003 orMETEO 101 orMETEO 200A andMETEO 201B orMETEO 201

METEO 421 **Atmospheric Dynamics** (4) Balanced and unbalanced flows, vorticity, circulation and potential vorticity, an introduction to wave dynamics and stability analysis, and a quantitative discussion of the general circulation.
Effective: Fall 2009
Prerequisite: METEO 300;MATH 230 orMATH 231 andMATH 232 Concurrent: METEO 431 MATH 251 PHYS 212

METEO 422 **Advanced Atmospheric Dynamics** (3) Survey of advanced dynamical topics including instabilities, numerical modeling, and others of current interest.
Effective: Fall 2009
Prerequisite: METEO 421

METEO 431 **Atmospheric Thermodynamics** (3) Classical thermodynamics applied to both the dry and the moist atmosphere.
Effective: Spring 2001
Prerequisite: PHYS 212

METEO 434 **Radar Meteorology** (3) Fundamental operating principles of radars, with application to observation of meteorological phenomena.
Effective: Fall 2001
Prerequisite: METEO 437 Concurrent: METEO 414

METEO 436 **Radiation and Climate** (3) Elements of earth-sun geometry, radiative transfer, photochemistry, remote sensing of the atmosphere, physical climatology, climate forcing.
Effective: Fall 2009
Concurrent: METEO 431

METEO 437 **Atmospheric Chemistry and Cloud Physics** (3) Properties of aerosols and clouds, cloud nucleation and precipitation processes, atmospheric electricity, cloud and precipitation chemistry, biogeochemical cycles.
Effective: Fall 2009
Prerequisite: METEO 431

METEO 440W **Principles of Atmospheric Measurements** (3) Theory and practices used in measurement and analysis of meteorological variables.
Effective: Summer 2006 Ending: Summer 2010
Prerequisite: METEO 300, METEO 431, STAT 301 orSTAT 401 orENNEC 472

METEO 440W **Principles of Atmospheric Measurements** (3) Theory and practices used in measurement and analysis of meteorological variables.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: METEO 300, METEO 431, STAT 301 orSTAT 401 orE B F 472

METEO 445 **Laboratory in Atmospheric Physics I** (1) Measurement practices, data analysis and management, radiometry lidars and radars, trace gas measurements.
Effective: Spring 1991
Prerequisite: or concurrent:METEO 436

METEO 446 **Laboratory in Atmospheric Physics II** (1) Experimental practices in cloud and aerosol physics, atmospheric electricity, atmospheric chemistry, radar meteorology.
Effective: Spring 1991
Prerequisite: or concurrent:METEO 437

METEO 448 **Stormwater Hydrology** (3) Relationship between surface runoff, rainfall and water chemistry during rainfall events for the purpose of assessing urbanization, non-point source contamination.
Effective: Spring 2002

METEO 451 **Introduction to Physical Oceanography** (3) Air-sea interaction, wind-driven and thermohaline circulations, upwelling, El Nino, waves, and tides.
Effective: Spring 2007
Prerequisite: METEO 421

METEO 452 **Tropical Meteorology** (3) Atmospheric processes in the tropics; mass, heat, energy, momentum, and water vapor budgets, cumulus convection, hurricanes and other disturbances.
Effective: Fall 1983
Prerequisite: METEO 411, METEO 421

METEO 454 **Introduction to Micrometeorology** (3) Physical processes and their measurement in the lowest layers of the atmosphere; application to hydrology, plant systems, and air pollution.
Effective: Fall 2009
Prerequisite: METEO 421 andMETEO 431 orEME 301

METEO 455 **Atmospheric Dispersion** (3) The basic principles of atmospheric flow, introduction to the modeling of turbulent diffusion, and the use of EPA dispersion models.
Effective: Fall 2009
Prerequisite: EME 301, C E 360, M E 320, METEO 454, METEO 456 orEGEE 470

METEO 456 **Environmental Meteorology** (3) Atmospheric processes and phenomena relevant to the environmental sciences and engineering, including boundary layer meteorology and air pollution dispersion.
Effective: Spring 1997
Prerequisite: C E 360, MATSC 401

METEO 460 **Weather Risk and Financial Markets** (3) This course will introduce the role that weather plays as a source of financial and operational risk for businesses, market and other institutions.
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: METEO 411;ENNEC 472;E B F 301 orEM SC 473

METEO 460 **Weather Risk and Financial Markets** (3) This course will introduce the role that weather plays as a source of financial and operational risk for businesses, market and other institutions.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: METEO 411;E B F 472;E B F 301 orEM SC 473

METEO 465 **Middle Atmosphere Meteorology** (3) A topical survey of physical, chemical, and dynamical processes at work in the stratosphere and mesosphere (middle atmosphere).
Effective: Spring 1988
Prerequisite: METEO 421, METEO 431

METEO 466 **Planetary Atmospheres** (3) A survey of planetary atmospheres and the chemical and physical processes by which they form and evolve.
Effective: Spring 2001
Prerequisite: MATH 141, PHYS 211

METEO 469 **From Meteorology to Mitigation: Understanding Global Warming** (3) Introduction to global warming and climate change: the basic, science, projected impacts, and approaches to mitigation.
Effective: Summer 2010
Prerequisite: MATH 110

METEO 470 **Climate Dynamics** (3) The fundamental principles that govern Earth's climate and their relevance to past and future climate change.
Effective: Spring 2002
Prerequisite: METEO 300, METEO 421, METEO 431 Concurrent: METEO 436

METEO 471W **Observing Meteorological Phenomena** (3) Teaching the observational and interpretative skills needed to read the sky.
Effective: Spring 1999
Prerequisite: METEO 421 . Prerequisite or concurrent:METEO 436

METEO 472W **Topics in Climatology** (3) Selected topics of current interest in physical and dynamic climatology and climatic change.
Effective: Summer 2002
Concurrent: METEO 300

METEO 473 **Application of Computers to Meteorology** (3) Application of statistical and numerical methods to practical problems in meteorology.
Effective: Spring 2008
Prerequisite: CMPSC 101, CMPSC 201 orCMPSC 202

METEO 474 **Computer Methods of Meteorological Analysis and Forecasting** (3) Distribution of scalars and vectors; sampling; regression and correlation in two and three dimensions; time series, statistical forecasting; forecast verification.
Effective: Summer 2010
Prerequisite: STAT 301 orSTAT 401 orE B F 472

METEO 475W (GEOSC 475W) **Global Biogeochemical Cycles** (3) The study of Earth's major global biogeochemical cycles (carbon, oxygen, nitrogen, phosphorus, and sulfur) in the context of the climate system.
Effective: Summer 2007
Prerequisite: MATH 110 andMATH 111 orMATH 140 andMATH 141 andCHEM 110

METEO 476 **Atmospheric Natural Disasters Seminar** (2) Survey of naturally occurring, catastrophic meteorological events, including severe thunderstorms, tornadoes, aviation hazards, floods, and severe winter storms.
Effective: Fall 1998
Prerequisite: METEO 411 Concurrent: METEO 414

METEO 477 (E E 477) **Fundamentals of Remote Sensing Systems** (3) The review of fundamental physical properties leads into discussions of various techniques, including imaging, spectroscopy, radiometry, and active sensing.
Effective: Spring 2008
Prerequisite: E E 330 orMETEO 436

METEO 480M **Undergraduate Research** (3) A research thesis will be prepared. A written and oral presentation required.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: junior or senior standing as a Meteorology Major

METEO 480M **Undergraduate Research** (3) A research thesis will be prepared. A written and oral presentation required.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Prerequisite: junior or senior standing as a Meteorology Major

METEO 480W **Undergraduate Research** (3) A research thesis will be prepared. A written and oral presentation required.
Effective: Summer 1991
Prerequisite: junior or senior standing as a Meteorology Major

METEO 481 **Weather Communications I** (3) Multi-instructor weather communications survey including forecasting, science teaching and writing, television and radio broadcasting, climate studies, forensics, industrial applications.
Effective: Spring 2004
Prerequisite: METEO 201 orMETEO 101

METEO 482 **Weather Communications II** (3) Multi-instructor workshop designed to mimic real-life applications of weather communications in industry, broadcasting, the courtroom, and the classroom.
Effective: Spring 2002
Prerequisite: METEO 481

METEO 483 **Weather Communications III** (3) Individualized course designed for in-depth study of weather communications in industry, broadcasting, the courtroom and/or the classroom.
Effective: Spring 2002
Prerequisite: METEO 411, METEO 482

METEO 484 **Weather Communications Apprenticeship** (3) Mentor-led course that focuses on a specific issue of problem in weather communications related to broadcasting, climate or industry.
Effective: Summer 2003
Prerequisite: METEO 481, METEO 482 andMETEO 483

METEO 485 **National Weather Service Operations** (2-3) Joint instruction with lead personnel from the State College National Weather Service Office on a variety of operational weather topics.
Effective: Summer 2003
Prerequisite: prerequisite or concurrent:METEO 481, METEO 415

METEO 486 **Pennsylvania Climate Studies** (1-2 per semester/maximum of 3) An overview of the Pennsylvania State Climate Office and an introduction to various aspects of its operations.
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: METEO 101

METEO 486 **Pennsylvania Climate Studies** (1-2 per semester/maximum of 3) An overview of the Pennsylvania State Climate Office and an introduction to various aspects of its operations.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201

METEO 491 **Joint National Weather Service Map Discussion** (1) Students evaluate and discuss real-time, regional and local weather conditions and forecasts with University instructors and National Weather Service forecasters.
Effective: Spring 1998
Prerequisite: METEO 411, METEO 415 Concurrent: METEO 414

METEO 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2010

METEO 495A **Meteorology Communications Internship** (3 per semester/maximum of 6) Internship focusing on communication of weather forecasts or other meteorological information.
Effective: Summer 2010
Prerequisite: METEO 411

METEO 495B **Meteorology Private Sector Internship** (3 per semester/maximum of 6) Internship focusing on meteorological problems and applications pursued by private sector companies.
Effective: Summer 2010
Prerequisite: METEO 411

METEO 495C **Meteorological Operations Internship** (3 per semester/maximum of 6) Internship focusing on time-sensitive meteorological applications such as weather or climate forecasts that are produced.
Effective: Summer 2010
Prerequisite: METEO 411

METEO 495D **Meteorological International Internship** (3 per semester/maximum of 6) Meteorological internship in an international setting.
Effective: Summer 2010
Prerequisite: 6 credits of 400-level Meteorology coursework

METEO 495E **Meteorological Off-Campus Research Internship** (3 per semester/maximum of 6) Off-campus meteorological internship focusing on a research project.
Effective: Summer 2010
Prerequisite: 9 credits of 400-level Meteorology coursework

METEO 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

METEO 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

METEO 497A **Aerobiology Field Methods** (3) Field measurement and modeling of the dispersion of biological particles and atmospheric conditions within and above plant canopies.
Effective: Summer 2010 Ending: Summer 2010

METEO 497A **Communications Internship** (3) Supervised internship of at least 100 hours at a facility that focuses on disseminating weather forecasts or weather-related information.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

METEO 497B **Private Secotr Internship** (3) Supervised internship of at least 100 hours at a private company that focuses on creating or applying meteorological knowledge.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

METEO 497C **Operations Internship** (3) Supervised internship of at least 100 hours at a governmental facility that focuses on operational weather forecasting.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

METEO 497D **International Internship** (3) Supervised internship of at least 100 hours at an international meteorological facility.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

METEO 497E **Off Campus Research Internship** (3) Supervised internship of at least 100 hours in which the student engages in off-campus research. .
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

METEO 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

METEO 498K **Supervised Teaching** (1) Select undergraduates help prepare lessons and get in front of the classroom.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Microbiology (MICRB)

MICRB 106 (GN) **Elementary Microbiology** (3) Importance of microorganisms in health and disease, agriculture, and industry; descriptive course for students not planning advanced study in microbiology. The combination of MICRB 106 GN and 107 GN must be taken to receive General Education credit in biology.
Students must take a combination of MICRB 106 GN and 107 GN to receive General Education credit in biology. Effective: Spring 2002

MICRB 107 (GN) **Elementary Microbiology Laboratory** (1) Selected techniques used to observe, identify and count bacteria; effects of chemical and physical agents on microorganisms. The combination of MICRB 106 GN and 107 GN must be taken to receive General Education credit in biology.
Students must take a combination of MICRB 106 GN and 107 GN to receive General Education credit in biology. Effective: Spring 2002
Prerequisite: or concurrent:MICRB 106

MICRB 150 **Introductory Medical Laboratory Technology** (4) Introduction to basic principles and procedures of clinical laboratory work. Practicum emphasizes proper collection, handling, and preparation of biological samples.
Effective: Spring 2000
Prerequisite: admission to 2-MLT program

MICRB 151A **Seminar and Practicum for Medical Laboratory Technicians--Clinical Chemistry** (7) Basic principles and procedures for measuring chemical components of blood and other body fluids.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

MICRB 151C **Seminar and Practicum for Medical Laboratory Technicians--Hematology** (6) Red and white blood cell identification and enumeration. Related procedures for diagnosing normal or disease states.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

MICRB 151D **Seminar and Practicum for Medical Laboratory Technicians--Immunohematology** (4) Immunologic considerations necessary for the transfusion of blood and blood products.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

MICRB 151E **Seminar and practicum for Medical Laboratory Technicians--Urinalysis** (2) Identification of cellular and crystalline urinary sediments. Qualitative chemical analysis of urine.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

MICRB 151F **Seminar and Practicum for Medical Laboratory Technicians--Immunology/ Serology** (2) Antigen-antibody interactions of diagnostic importance; methods used to identify and quantify antigen-antibody complexes.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

MICRB 151W **Seminar and Practicum for Medical Laboratory Technicians--Clinical Microbiology** (6) Properties of normal and abnormal human microbial flora and procedures for their identification.
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

MICRB 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MICRB 201 **Introductory Microbiology** (3) Elementary principles of microbial and viral structure, reproduction, genetics and physiology; relationship to food, water, soil, industrial and disease processes.
Effective: Summer 2007
Prerequisite: CHEM 110

MICRB 201H **Introductory Microbiology** (3) Elementary principles of microbial and viral structure, reproduction, genetics and physiology; relationship to food, water, soil, industrial and disease processes.
Effective: Summer 2007
Prerequisite: CHEM 110

MICRB 202 **Introductory Microbiology Laboratory** (2) Qualitative and quantitative techniques with regard to recognition of bacteria and their processes on a microscopic, colonial, and physiological basis.
Effective: Summer 2007
Prerequisite: CHEM 110 . Prerequisite or concurrent:MICRB 201

MICRB 251 (B M B 251) **Molecular and Cell Biology I** (3) Biomolecules, genetic mechanisms, organization of cells and their organelles, DNA replication, protein synthesis, membranes, the cell nucleus, energy conversion.
Effective: Summer 2007
Prerequisite: CHEM 112

MICRB 252 (B M B 252) **Molecular and Cell Biology II** (3) Continuation of BIOCH/B M B/MICRB 251: cytoskeleton, cell

growth, division, adhesion, signalling, germ cells, differentiation, immune system, nervous system, plant cells.
Effective: Spring 1995
Prerequisite: MICRB 251

MICRB 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

MICRB 398 **Special Topics** (1-9) Formal courses give infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2009

MICRB 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

MICRB 400 **Introductory Environmental Microbiology** (2) Elementary ecological relationships of microorganisms in the biosphere; role of bacteria in water pollution and purification. This course should not be scheduled by students who have taken Micrb. 201 or 202.
Effective: Summer 2007
Prerequisite: CHEM 202

MICRB 401 **Microbial Physiology and Structure** (3) Physiology and structure of bacteria important in microbiological research. Designed for science majors.
Effective: Summer 2007
Prerequisite: CHEM 202 orCHEM 210;MICRB 201, MICRB 202

MICRB 405A **Seminar and Practicum in Medical Technology** (8) Chemistry. Fundamental principles and the quantitative measurement of chemical components in the blood and other body fluids.
Effective: Fall 1987

MICRB 405B **Seminar and Practicum in Medical Technology** (1) Urinalysis. Identification of cellular and noncellular urinary sediments. Qualitative chemical analysis of urine.
Effective: Fall 1988

MICRB 405C **Seminar and Practicum in Medical Technology** (6) Hematology. Principles of red and white blood cell development. Identification of normal and pathological conditions.
Effective: Fall 1988

MICRB 405D **Seminar and Practicum in Medical Technology** (5) Immunohematology. Immunologic and genetic principles governing the transfusion of blood and blood products.
Effective: Fall 1987

MICRB 405E **Seminar and Practicum in Medical Technology** (7) Microbiology. Identification of normal and abnormal microbial flora from various locations on and within the human body.
Effective: Fall 1987

MICRB 405F **Seminar and Practicum in Medical Technology** (3) Serology-Immunology. Immunological principles and their application in the identification of present or past disease states of the human.
Effective: Fall 1987

MICRB 408 **Laboratory Instructional Practice** (1-2) Participation in the instruction of undergraduate laboratory courses, including classroom preparation; discussion of principles and objectives of each exercise.
Effective: Spring 1994
Prerequisite: 8 credits in microbiology and permission of department head

MICRB 410 **Principles of Immunology** (3) Theories of immunity; focuses on the basis for the acquired immune response at the organ, cell, and molecular levels.
Effective: Summer 1998
Prerequisite: B M B 251, MICRB 201 orMICRB 251

MICRB 411 **Survey of Microbiology Literature** (1 per semester) An introduction to readings and oral presentations in microbiology.
Effective: Spring 1994
Prerequisite: 8 credits in microbiology courses

MICRB 412 **Medical Microbiology** (3) Characteristics, methods of identification, and pathogenesis of bacteria that cause human disease; principles of disease dynamics and control.
Effective: Fall 1993
Prerequisite: MICRB 201

MICRB 413 **Microbial Diversity** (2) survey of microorganisms having special adaptive mechanisms for life in common and unique environments; topics include ecology, evolution, and bioremedia- tion.

Effective: Spring 1997
Prerequisite: MICRB 201, MICRB 202

MICRB 415 **General Virology: Bacterial and Animal Viruses** (3) The interaction of different types of viruses with bacterial and animal cells, including mechanisms of infection and viral synthesis.
Effective: Summer 2000
Prerequisite: B M B 251, B M B 252 orBIOL 110, BIOL 230W;MICRB 201

MICRB 416 (BIOTC 416) **Microbial Biotechnology** (2) Fundamentals of applied biotechnology; the use of microorganisms in the synthesis of biologically-important and industrially-useful products.
Effective: Spring 2009
Prerequisite: MICRB 201, MICRB 202;B M B 442 orMICRB 442

MICRB 421W **Laboratory of General and Applied Microbiology** (3) Laboratory exercises demonstrating fundamental techniques and principles of experimentation of general and applied microbiology.
Effective: Spring 2001
Prerequisite: MICRB 201, MICRB 202

MICRB 422 **Medical Microbiology Laboratory** (2) Laboratory exercises demonstrating properties and classification of medically important microorganisms and techniques used in their identification.
Effective: Fall 1993
Prerequisite: MICRB 202   Concurrent: MICRB 412

MICRB 432 (B M B 432, VB SC 432) **Advanced Immunology: Signaling in the Immune System** (3) The study of signaling pathways that regulate the immune response.
Effective: Fall 2007
Prerequisite: B M B 400, MICRB 410

MICRB 435 (VB SC 435, B M B 435) **Viral Pathogensis** (2) A study of the molecular, immunological and pathological aspects of viral diseases as well as laboratory methods of diagnosis.
Effective: Fall 2007
Prerequisite: MICRB 201;B M B 251 andB M B 252 orBIOL 110 andBIOL 230W

MICRB 442 (B M B 442) **Laboratory in Proteins, Nucleic Acids, and Molecular Cloning** (3) Laboratory in enzyme purifications and assay techniques; nucleic acid isolation and characterization, including plasmid preparation.
Effective: Spring 2009
Prerequisite: B M B 251, BIOL 230W orMICRB 201;CHEM 202 orCHEM 210 . Prerequisite or concurrent:B M B 211 orB M B 401

MICRB 447 **Laboratory in Molecular Immunology** (1) Laboratory in molecular techniques to assay antigens, antibodies, and receptor sites.
Effective: Fall 1995
Prerequisite: MICRB 410

MICRB 450 (B M B 450) **Microbial/Molecular Genetics** (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: BIOL 222, MICRB 201

MICRB 450 (B M B 450) **Microbial/Molecular Genetics** (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BIOL 222 orBIOL 322, MICRB 201

MICRB 460 (B M B 460) **Cell Growth and Differentiation** (3) Mechanisms and regulation of protein trafficking, organelle biosynthesis, cell development, signaling and cell cycle control. Emphasizes experimental design and analysis.
Effective: Spring 2006
Prerequisite: B M B 252

MICRB 480 (B M B 480) **Tumor Viruses and Oncogenes** (3) Oncogenes, DNA and RNA tumor viruses, and relevant experimental techniques with emphasis on molecular basis of carcinogenesis and gene regulation.
Effective: Spring 2001
Prerequisite: or concurrent:MICRB 415, MICRB 435 orMICRB 460

MICRB 496 **Independent Studies** (1-18) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MICRB 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1995

MICRB 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1995

MICRB 498A (B M B 498A) **Antibiotics: Development and Resistance** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MICRB 498A **Antibiotics: Development and Resistance** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MICRB 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Mineral Engineering (MIN E)

MIN E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

MIN E 415 **Management in the Mineral Industries for Environmental, Legal, and Health and Safety Problems** (3) Mineral industries management and labor structure analyzed, with emphasis on environmental, health and safety, and legal aspects.
Effective: Spring 1999
Prerequisite: sixth-semester standing

MIN E 471 **Aggregates Production** (3) Design and analysis of quarries, sand and gravel pits, and ancillary operations.
Effective: Spring 1999
Prerequisite: sixth-semester standing

MIN E 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1999

MIN E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1999

Last Import from UCM: May 29, 2010 3:00 AM

Mineral Processing (MN PR)

MN PR 301 **Elements of Mineral Processing** (3) Introduction to mineral process engineering. Sampling, sizing, comminution, physical and chemical processes, applications to industrial practice. Pollution control.
Effective: Summer 2007
Prerequisite: CHEM 110 orCHEM 106;MATH 141

MN PR 401 **Mineral Process Engineering** (3) Unit operations for processing particulate materials: comminution, screening, classification, slurry pumping, thickening, filtration, etc.; application to mineral processing plant design.
Effective: Spring 2001
Prerequisite: MN PR 301, MATH 250 orMATH 251

MN PR 410 **Introduction to Quantitative Mineral Processing Engineering Analysis** (3) This course examines the use of quantitative engineering techniques such as simulation, optimization, parameter estimation, etc., to calculate the expectations of mineral processing circuitry.
Effective: Spring 1999
Prerequisite: MN PR 301, MN PR 401

MN PR 413 **Mineral Processing Laboratory** (1) A laboratory study of the chemical and physical principles involved in practical mineral processing operations.
Effective: Spring 1999
Prerequisite: or concurrent:MN PR 301

MN PR 421 **Particle Technology Laboratory** (1-3) Particle sizing techniques used in mineral separations. Sampling, sieving, perturbation, adsorption, microscopic methods. Separations based on size, shape, density, paramagnetism.
Effective: Spring 2001
Prerequisite: MATH 250 orMATH 251;PHYS 212

MN PR 424 **Coal Preparation** (3) Unit operations, flowsheets, and testing methods used in preparation of coal.
Effective: Spring 1999
Prerequisite: MN PR 301

MN PR 425 **Interfacial Phenomena and Flotation** (3) Surface and interfacial phenomena related to flotation agglomeration, flocculation, and dispersion of particles. Application to mineral separation and related processes.
Effective: Fall 2009
Prerequisite: EME 301;MATH 250 orMATH 251;MN PR 301

MN PR 426 (MATSE 426) **Aqueous Processing** (3) A study of the chemical and engineering principles pertinent to metal processing in aqueous systems: hydrometallurgical extraction, plating, materials preparation.
Effective: Fall 2009
Prerequisite: EME 301 orMATSE 401

MN PR 451 **Senior Projects** (1-6) Independent research and/or design projects under the supervision of the mineral processing faculty.
Effective: Spring 1999
Prerequisite: seventh-semester standing

MN PR 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1999

MN PR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1999

Last Import from UCM: May 29, 2010 3:00 AM

Mining (MNG)

MNG 023 **Mineral Land and Mine Surveying** (2) Surveying theory and practice applied to mineral lands and mines, traversing, leveling, mapping, underground surveying, microcomputer drafting and graphics.
Effective: Fall 2006
Prerequisite: ED&G 100, EG T 101 orE G 010 ; 1/2 unit of secondary school trigonometry

MNG 030 **Introduction to Mining Engineering** (2) Examination, development, and exploitation of mineral deposits; mining methods; unit operations; mining equipment; fundamentals of explosives.
Effective: Spring 1999 Ending: Fall 2010

MNG 030 **Introduction to Mining Engineering** (3) Examination, development, and exploitation of mineral deposits; mining methods; unit operations; mining equipment; fundamentals of explosives.
Effective: Spring 2011 Future: Spring 2011

MNG 400 (IL) **Mining and Our Environment** (3) For nonmining students. Nontechnical treatment of mining methods, practices, and role in today's civilization; socioeconomic and environmental problems.
Effective: Summer 2005

MNG 401 **Introduction to Mining Operations** (1) An introduction to underground and surface mining methods; selection of extraction equipment; relevant auxiliary operations. Not intended for Mining Engineering majors.
Effective: Spring 2008
Prerequisite: E MCH 211

MNG 402 **Mine Plant Engineering** (3) Theory and concepts of electrical power systems and loads in mining and similar industrial applications; drive systems for materials handling.
Effective: Spring 2001
Prerequisite: PHYS 212

MNG 403 **Mine Power System Design** (3) Mine power system arrangements; design and specification of components and equipment.
Effective: Spring 2008
Prerequisite: MNG 402 orE E 211 orE E 387

MNG 404 **Mine Materials Handling Systems** (2) Analysis and design of materials-handling systems in mining, such as belt conveyors, locomotives, and hoisting.
Effective: Spring 1999
Prerequisite: MNG 402

MNG 410 **Underground Coal Extraction** (2) Underground coal-mine design; extraction techniques; description of the various auxiliary operations as they relate to the mining methods.
Effective: Spring 1999
Prerequisite: MNG 404, MNG 422, MNG 431

MNG 411 **Mine Systems Engineering** (2) Applied operations research and systems methods for decision making in mine operations; time and systems studies to improve productivity.
Effective: Spring 1999
Prerequisite: MNG 404

MNG 412 **Mineral Property Evaluation** (3) Ore reserve estimation using statistics and geostatistics, mine cost estimation, engineering economy concepts applied to mineral deposits.
Effective: Spring 1999
Prerequisite: MNG 030

MNG 422 **Mine Ventilation and Air Conditioning** (3) Quality, quantity, and temperature-humidity control of the mine atmosphere; general mine environmental control.
Effective: Fall 2007
Prerequisite: C E 360, MNG 030 . Prerequisite or concurrent:M E 300

MNG 431 **Rock Mechanics** (3) Ground stresses, laboratory rock properties, laboratory and field instrumentation, rock mass characteristics, subsidence, slope stability, design of mine workings.
Effective: Fall 2003
Prerequisite: E MCH 210

MNG 441 **Surface Mining Systems and Design** (3) Design of surface mining for noncoal and coal minerals; emphasis on quarry and strip mining planning parameters: unit operations, systems, haulroads, draglines, spoil stability, reclamation, legal requirements, and health and safety.
Effective: Spring 1999
Prerequisite: MN PR 301, MNG 030

MNG 442 **Surface Mine Sedimentation Control** (2) Design principals and practices for rainfall runoff control, erosion control systems, and sedimentation pond sizing and construction.
Effective: Spring 1999
Prerequisite: C E 360, MNG 441

MNG 443 **Strip Mine Cut Planning** (2) Analysis of cut planning, sequencing, and spoil placement in mine and outside dumps for contour, area, and mountain-top mining.
Effective: Spring 1999
Prerequisite: MNG 441

MNG 444 **Groundwater Aspects in Mining** (2) Physical and chemical hydrology specific to mining and the environment; mine drainage formation, abatement, and remediation.
Effective: Spring 1999

MNG 445 **Environmental Concerns in the Mining Industry** (3) Environmental aspects of mining including water and soil contamination; remediation techniques; revegetation and land use planning and legislation.
Effective: Summer 2007
Prerequisite: CHEM 110

MNG 451W **Mining Engineering Project** (1-5) Independent and integrative design and report of specific mine evaluation, layout, equipment selection, environmental control, permitting, and financial analysis.
Effective: Spring 1999
Prerequisite: seventh-semester standing in mining engineering plus six months of mining work experience

MNG 460 **Mine Maintenance Engineering** (3) Mine maintenance system design; maintenance planning and management; safety and cost analysis of maintenance programs.
Effective: Spring 1999

MNG 470 **Mining and Geologic Structures** (3) Study of geologic structures and their impacts on mining operations.
Effective: Summer 2009
Prerequisite: GEOSC 001, GEOSC 201

MNG 497 **Special Topics** (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently; several different topics may be taught in one year or term.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Mining Technology (MNG T)

MNG T 030 **Introduction to Mining Technology** (2) Examination, development, exploitation of mineral deposits; history of mining, common mining methods, operation methods, equipment types, explosives fundamentals.
Effective: Spring 2006

MNG T 100 **Mining Technology Orientation** (1) Introduction to the underground mining industry including history, terminology, current mining equipment and methods, regulations, organization.
Effective: Spring 2006

MNG T 110 **Mining Administration and Law** (3) Introduction to mine organization and management structure, and government regulations regarding permitting, reporting and recordkeeping.
Effective: Spring 2006

MNG T 202 **Mining Ventilation** (3) Introduction to mine ventilation systems at mine face, mine gases and use of gas detection equipment, state and federal regulations.
Effective: Summer 2007
Prerequisite: CHEM 101, PHYS 150, MNG T 030

MNG T 203 **Introduction to Strata Control** (1) Review basic concepts of geology and impact of geologic features on mining con conditions; introduce strata control theory and methods. (Nominal first 5 weeks of spring semester)
Effective: Spring 2006
Prerequisite: MNG T 030

MNG T 204 **Mine Plant Technology** (3) Electrical, transportation, ventilation, and other systems required to operate underground coal mine, and to transport and process coal.
Effective: Spring 2006
Prerequisite: PHYS 150

MNG T 205W **Mining Systems Technology** (3) Comparison of mining methods with focus on preventative maintenance, coal transport, and estimating production and manpower needs.
Effective: Summer 2006
Prerequisite: MNG T 030

MNG T 207 **Electric Mine Machine Circuits** (3) Application of electric power and safety issues related to the installation and maintenance of circuits and various power control devices.
Effective: Spring 2006
Prerequisite: MNG T 204

MNG T 208 **Mine Power Distribution** (3) Topics of high voltage curcuits, underground transmission, power stations, power conversion, safety regulations and power devices.
Effective: Spring 2006
Prerequisite: MNG T 204

MNG T 209 **Mine Machinery Control Methods** (2) Basic principles and applications of solid state, variable frequency, PLC, electro hydraulic and networked controls in mine machinery.
Effective: Spring 2006
Prerequisite: PHYS 150, MNG T 030, MATH 082

MNG T 210 **Mine Machine Dynamics** (3) Operation and interaction of mechanized equipment used at the coal face including common electrical, hydraulic and mechanical systems.
Effective: Spring 2006
Prerequisite: PHYS 150

MNG T 211 **Practicum in Mining Technology** (3) Field and shop techniques in procedures of electrical, mechanical and ventilation phases of mine maintenance
Effective: Spring 2006
Prerequisite: MNG T 204

MNG T 213 **Strata Control Methods** (2) Introduce pillar-design parameters, roof control planning, roof bolting, standing supports, rib stability, floor condition problems, and longwall strata control.
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: MNG T 203

MNG T 213 **Strata Control Methods** (3) Introduce pillar-design parameters, roof control planning, roof bolting, standing supports, rib stability, floor condition problems, and longwall strata control.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: GEOSC 020

MNG T 214 **Mining Management I** (3) Leadership skill development for supervisors, managing change, tools to plan, organize, control, communicate and monitor effectively.
Effective: Spring 2006

MNG T 215 **Mining Management II** (3) Financial management, effective meeting management, critical thinking, project management and cost and risk control.
Effective: Spring 2006
Prerequisite: MNG T 214

MNG T 216 **Mine Regulations and Laws** (3) State and federal mining regulations and application to underground coal mines. Relationship with company policies and consequences of non-compliance.
Effective: Spring 2006
Prerequisite: MNG T 110

Last Import from UCM: May 29, 2010 3:00 AM

Music (MUSIC)

Individual instruction in technique, literature, and pedagogy is offered in six categories covering eighteen instruments:

BRASS: Trumpet, French horn, trombone, euphonium, tuba
KEYBOARD: Piano, organ
STRINGS: Violin, viola, violoncello, doublebass
WOODWINDS: Flute, oboe, clarinet, bassoon, saxophone
PERCUSSION
VOICE

For each instrument individual instruction in offered to different types of students at different levels:

Primary instrument: Student in B.A. (Music) and B.S. (Music Ed) Levels I-VII
Performance instrument: Students in B.Mus. Level I-VII
Secondary instrument: Nonmajor students or others using this as secondary instrument.

The courses are designated according to a particular pattern for identification on the student's transcript and in the *Schedu* *Schedule of Classes.* Applied music fees are required for individualized instruction: $175 for a 1-credit course; $250 for a 2-credit course; $250 for a 3-credit course. Examples of listings:

Course Abbrev	Number & Suffix	Instrument	Type of Student	Level	Credit	Fee
BRASS	100J	TRUMPET:	Secondary:		1	$175
	110J	TRUMPET:	Secondary:		2	$250
BRASS	120J	TRUMPET:	Primary:	Level I	2	$250
	170J	TRUMPET:	Primary:	Level II	2	$250
BRASS	200J	TRUMPET:	Primary:	Level III	2	$250
	270J	TRUMPET:	Primary	Level IV	2	$250
BRASS	320J	TRUMPET:	Primary:	Level V	2	$250
	370J	TRUMPET:	Primary:	Level VI	2	$250
BRASS	420J	TRUMPET:	Primary:	Level VII	2	$250
	470J	TRUMPET:	Primary:	Level VIII	2	$250
BRASS	130J	TRUMPET:	Performance:	Level I	3	$250
	180J	TRUMPET:	Performance:	Level II	3	$250
BRASS	230J	TRUMPET:	Performance:	Level III	3	$250
	280J	TRUMPET:	Performance:	Level IV	3	$250
BRASS	330J	TRUMPET:	Performance:	Level V	3	$250
	380J	TRUMPET:	Performance:	Level VI	3	$250
BRASS	430J	TRUMPET:	Performance:	Level VII	3	$250
	480J	TRUMPET:	Performance:	Level VIII	3	$250

MUSIC 004 (GA) **Film Music** (3) An introductory examination of music's role in Hollywood narrative film from the classic era (1930s and 1940s) to the present.
Effective: Summer 2009

MUSIC 005 (GA) **An Introduction to Western Music** (3) A general survey of art music in western society, highlighting important composers and stylistic developments.
Effective: Spring 2004

MUSIC 005H (GA) **An Introduction to Western Music** (3) A general survey of art music in western society, highlighting important composers and stylistic developments.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 005S (GA) **An Introduction to Western Music** (3) A general survey of art music in western society, highlighting important composers and stylistic developments.
Effective: Summer 2006

MUSIC 007 (GA;US) **Evolution of Jazz** (3) Study of the origins and development of jazz as an art form.
Effective: Summer 2005

MUSIC 008 (GA) **Rudiments of Music** (3) Introduction to the elements of music: notation, scales, meter, rhythm, intervals; basic chord structure.
Effective: Fall 2004

MUSIC 009 (GA;IL) **Introduction to World Musics** (3) An overview of the music of India, China, Japan, Indonesia, Africa, and the Middle East.
Effective: Summer 2005

MUSIC 040S **First-Year Seminar in Music Education** (1) Introduction to the University, the School of Music, the music education degree program, and the music teaching profession.
Effective: Fall 2006

MUSIC 050 (GA) **Beginning Piano: Non-Music Major** (1) Introduction to the keyboard, notation, chord progressions, transposition, improvisation, and simple accompanying techniques for the non-music major. An additional fee is required for this course.
Effective: Fall 2004

MUSIC 051 (GA) **Intermediate Class Piano: Non-Music Major** (1) Instruction in harmonizing melodies, accompanying techniques, improvisation, and repertoire.
Effective: Fall 2004
Prerequisite: MUSIC 050 or placement audition

MUSIC 052 (GA) **Voice CLass: Non-Music Major** (1) Group study emphasizing development of rudimentary skills and their recreational use in a range of popular and art music.
Effective: Fall 2004

MUSIC 053 (GA) **Class Voice Practicum** (1) Voice study in group and individual formats, supervised by in-class lessons and discussions, enhanced by additional individual instruction with pedagogy students.
Effective: Fall 2004
Prerequisite: audition

MUSIC 054 (GA) **Beginning Class Guitar: Non-Music Major** (1) Class instruction in guitar for non-music majors.
Effective: Fall 2004

MUSIC 076 **Chamber Orchestra** (1 per semester, maximum of 8) Chamber orchestra rehearsal and performance.
Effective: Spring 2001
Prerequisite: audition

MUSIC 077 (GA) **Philharmonic Orchestra** (1 per semester/maximum of 8) Orchestra rehearsal and performance.
Effective: Fall 2004
Prerequisite: audition

MUSIC 078 (GA) **Symphonic Wind Ensemble** (1 per semester/maximum of 8) Rehearsal and performance of wind repertoire and concert band literature.
Effective: Fall 2004
Prerequisite: audition

MUSIC 079 **Pep Band** (1 per semsester/maximum of 4) A band to perform at selected athletic events.
Effective: Spring 2001
Prerequisite: audition

MUSIC 080 (GA) **Symphonic Band** (1 per semester/maximum of 8) Rehearsal and performance of symphonic band literature. A select group using standard instrumentation.
Effective: Fall 2004
Prerequisite: audition

MUSIC 081 (GA) **Marching Blue Band** (1 per semester/maximum of 4) Rehearsal and performance of appropriate music and maneuvers for football games and related events.
Effective: Fall 2004
Prerequisite: audition

MUSIC 082 (GA) **Concert Band** (1 per semester/maximum of 8) Rehearsal and performance of concert band literature.
Effective: Fall 2004
Prerequisite: audition

MUSIC 083 (GA) **Campus Band** (1 per semester/maximum of 8) Rehearsal and performance of concert band literature.
Effective: Spring 2002
Prerequisite: audition

MUSIC 084 (GA) **Jazz Ensemble** (1 per semester/maximum of 8) Survey and performance of historic and contemporary big band styles.
Effective: Fall 2004
Prerequisite: audition

MUSIC 085 (GA) **Singing Lions** (1 per semester/maximum of 8) Rehearsal and performance of popular music of all eras, including swing, jazz, and show choir styles.
Effective: Summer 1995
Prerequisite: placement audition

MUSIC 086 (GA) **Percussion Ensemble** (1 per semester/maximum of 8) Study and performance of percussion chamber music in various instrumental combinations, focusing on the classical and contemporary repertoire.
Effective: Spring 2004
Prerequisite: audition

MUSIC 087 **Mallet Ensemble** (1) Study and performance of music for keyboard percussion instruments.
Effective: Spring 2001
Prerequisite: audition

MUSIC 088 (GA) **Campus Choir** (1 per semester/maximum of 8) Building skills needed for successful choral singing including vocal production, sight singing, ear training, and music fundamentals.
Effective: Fall 2001

MUSIC 089 (GA) **University Choir** (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of 100-150 voices.
Effective: Spring 2004
Prerequisite: audition

MUSIC 090 (GA) **Glee Club** (1 per semester/maximum of 8) Rehearsal and performance of music composed for male voices from the sixteenth to the twentieth centuries, including sacred and secular compositions.
Effective: Spring 2004
Prerequisite: audition

MUSIC 091 (GA) **Oriana Singers** (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire for treble voices from the sixteenth to twentieth centuries, including sacred and secular compositions.
Effective: Spring 2004
Prerequisite: audition

MUSIC 092 (GA) **Chamber Music for Voices** (1 per semester/maximum of 8) Select groups of singers performing choral chamber music.
Effective: Spring 2004
Prerequisite: audition

MUSIC 093 (GA;US;IL) **Essence of Joy** (1 per semester, maximum of 8) Rehearsal and performance of choral repertoire from the African/American tradition.
Effective: Spring 2006
Prerequisite: audition

MUSIC 094 (GA) **Women's Chorale** (1 per semester, maximum of 8) Rehearsal and performance of treble choral literature.
Effective: Spring 2004
Prerequisite: audition

MUSIC 101 **Music Common Hour** (1) Student and faculty recitals, master classes, lectures by faculty and guests, and Common Hour attendance.
Effective: Fall 1985

MUSIC 103 (GA) **Concert Choir** (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of approximately sixty voices.
Effective: Spring 2004
Prerequisite: audition

MUSIC 104 (GA) **Chamber Singers** (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of approximately twenty-four voices.
Effective: Spring 2004
Prerequisite: audition

MUSIC 106 (GA) **Early Music Ensemble** (1 per semester/maximum of 8) Ensemble for the performance and study of Baroque or early music on instruments of the era.
Effective: Spring 2004
Prerequisite: audition

MUSIC 110 **Keyboard Skills I: Music Major** (1) Introduction to the keyboard, chord progressions, transposition, improvisation, and simple accompanying techniques.
Effective: Fall 1985

MUSIC 112 **Class Guitar** (0.5-1) Functional guitar techniques and materials.
Effective: Fall 1993

MUSIC 113 **Music Theatre--Class Voice I** (1) Group study emphasizing development of sound vocal and musicianship skills fundamental for music theatre.
Effective: Spring 2001
Prerequisite: admission into the School of Theatre with intent to major in Music Theatre

MUSIC 114 **Music Theatre--Class Voice II** (1) Group study emphasizing development of sound vocal and musicianship skills fundamental for music theatre.
Effective: Spring 2001
Prerequisite: MUSIC 113

MUSIC 115 **Voice Class** (1) Class study of voice, with emphasis on pedagogical experiences and techniques useful in public school music classrooms.
Effective: Spring 1995

MUSIC 116 **Intermediate Voice Class: Music Major** (1) Class study of voice, with emphasis on pedagogical experiences and techniques useful in public school music classrooms. For Music Majors only.
Effective: Summer 1994
Prerequisite: MUSIC 115

MUSIC 119S **First-Year Music Seminar** (2) Individual applied instruction and group activities; orientation, area recitals, and studio classes as required by instructor.
Effective: Summer 1999
Prerequisite: permission of instructor

MUSIC 121 **Basic Musicianship I** (1) Elementary sight singing and dictation.
Effective: Fall 1989
Prerequisite: ability to reproduce simple rhythm and tonal patterns Concurrent: MUSIC 131

MUSIC 122 **Basic Musicianship II** (1) Continuation of Music 121.
Effective: Fall 1989
Prerequisite: MUSIC 121 Concurrent: MUSIC 132

MUSIC 129S **First-Year Performance Seminar** (3) Individual applied instruction and group activities; orientation, area recitals, and studio classes as required by instructor.
Effective: Summer 1999
Prerequisite: permission of instructor

MUSIC 131 **Music Theory I** (2) Review of rudiments; introduction to the fundamental linear and vertical features of tonal music, integration of written and aural skills.
Effective: Fall 1989
Prerequisite: ability to read musical notation; knowledge of musical rudiments. Concurrent: MUSIC 121

MUSIC 132 **Music Theory II** (2) Continuation of Music 131.
Effective: Fall 1989
Prerequisite: MUSIC 131 Concurrent: MUSIC 122

MUSIC 151 **Brass Techniques I** (1) Introduction to basic performance techniques on brass instruments; teaching strategies and materials for use in a heterogeneous instrument setting.
Effective: Fall 2007

MUSIC 152 **Percussion Techniques I** (1) Introduction to basic performance techniques on percussion instruments; teaching strategies and materials for use in a heterogeneous instrument setting.
Effective: Fall 2007

MUSIC 153 **String Techniques I** (1) Performance techniques on stringed instruments for music education majors.
Effective: Fall 2007

MUSIC 154 **Woodwind Techniques I** (1) Performance and teaching techniques for woodwind instruments.
Effective: Fall 2007

MUSIC 162 (IL) **Introduction to Music History** (2) An introduction to Western music history and world music of selected cultures through the study of representative works.
Effective: Spring 2006
Concurrent: MUSIC 132

MUSIC 170 **Keyboard Skills II: Music Major** (1) Instruction in secondary chord progressions, transposition, improvisation, accompanying techniques, simple score reading.
Effective: Fall 1985
Prerequisite: MUSIC 050, MUSIC 110 or placement audition

MUSIC 173 **Composition I** (2) Composition instruction for first-year composition majors.
Effective: Spring 1998

Prerequisite: admission to the B.M. degree in Composition

MUSIC 173S **First-Year Composition Seminar** (2) Individual composition instruction for freshman composition majors (Fall semester) and group activities.
Effective: Summer 1999
Prerequisite: admission to the BM degree in Composition

MUSIC 174 **Composition II** (2) Composition instruction for first-year composition majors.
Effective: Spring 1998
Prerequisite: MUSIC 173

MUSIC 181 **Jazz Improvisation I** (2) A study of the fundamentals of jazz theory, harmonic functions, and their applications to jazz improvisation.
Effective: Fall 1991
Prerequisite: MUSIC 132

MUSIC 182 **Jazz Improvisation II** (2) A study of advanced harmonic concepts and their application to jazz improvisation.
Effective: Summer 1986
Prerequisite: MUSIC 181

MUSIC 190 (GA) **Chamber Music for Strings** (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily string instruments--string quartets, piano trios, clarinet quintets.
Effective: Spring 2004
Prerequisite: permission of instructor

MUSIC 191 (GA) **Chamber Music for Woodwinds** (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily woodwind instruments--woodwind quintets and quartets.
Effective: Spring 2004
Prerequisite: permission of instructor

MUSIC 192 (GA) **Chamber Music for Brass** (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily brass instruments--brass quartets and quintets.
Effective: Spring 2004
Prerequisite: permission of instructor

MUSIC 193 **Sonata Duos** (1 per semester/maximum of 8) Preparation for performance of advanced sonata literature for various individual instruments with keyboard.
Effective: Fall 1983
Prerequisite: permission of instructor

MUSIC 194 **Studio and Recital Accompanying** (1 per semester/maximum of 8) Keyboard accompaniment of student soloists in the studio and in public performance under faculty supervision.
Effective: Fall 1983
Prerequisite: KEYBD 120J orKEYBD 130J or consent of supervising faculty member

MUSIC 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

MUSIC 210 **Keyboard Skills III: Music Major** (1) Playing accompaniments from chord symbols and full notation, transposition, improvisation, modulation, score-reading, and standard literature.
Effective: Fall 1985
Prerequisite: MUSIC 170 or placement audition

MUSIC 212 **Guitar Techniques II** (1) Intermediate performance and teaching techniques for guitar.
Effective: Summer 2006
Prerequisite: MUSIC 112

MUSIC 216 **Care and Nuture of Young Singing Voices** (0.5) The nature of singing voices in children from birth through adolescence; strategies for helping all children become successful singers.
Effective: Summer 2006

MUSIC 221 **Basic Musicianship III** (1) Intermediate sight singing and dictation.
Effective: Fall 1991
Prerequisite: MUSIC 122 Prerequisite or concurrent:MUSIC 231

MUSIC 222 **Basic Musicianship IV** (1) Continuation of Music 221.
Effective: Spring 1997
Prerequisite: MUSIC 221 . Prerequisite or concurrent:

MUSIC 231 **Music Theory III** (2) Intermediate concepts of tonal theory.
Effective: Fall 1989
Prerequisite: MUSIC 132

MUSIC 240 **Music in Early Childhood** (3) Development of musical knowledge and skills; materials and methods for musical experiences for children in educational and recreational settings.
Effective: Spring 2001
Prerequisite: for students in the N-3 Teacher Certification Program only

MUSIC 241 **Music for Classroom Teachers** (3) Development of competencies for guiding musical experiences of children in the elementary classroom.

Effective: Spring 2001
Prerequisite: for students in the K-6 Teacher Certification Program only

MUSIC 251A **Brass Techniques II: Trumpet** (0.5) A class setting in which trumpet performance techniques, teaching/diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.
Effective: Summer 2006
Prerequisite: MUSIC 151

MUSIC 251B **Brass Techniques II: Horn** (0.5) A class setting in which horn performance techniques, teaching/diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.
Effective: Summer 2006
Prerequisite: MUSIC 151

MUSIC 251C **Brass Techniques II: Trombone** (0.5) A class setting in which trombone performance techniques, teaching/diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.
Effective: Summer 2006
Prerequisite: MUSIC 151

MUSIC 251D **Brass Techniques II: Euphonium/Tuba** (0.5) A class setting in which euphonium and tuba performance techniques, teaching/ diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.
Effective: Summer 2006
Prerequisite: MUSIC 151

MUSIC 253A **String Techniques II: Violin** (0.5) Performance techniques on violin for music education majors.
Effective: Summer 2006
Prerequisite: MUSIC 153

MUSIC 253B **String Techniques II: Viola** (0.5) Performance techniques on viola for music education majors.
Effective: Summer 2006
Prerequisite: MUSIC 153

MUSIC 253C **String Techniques II: Cello** (0.5) Performance techniques on cello for music education majors.
Effective: Summer 2006
Prerequisite: MUSIC 153

MUSIC 253D **String Techniques II: Double Bass** (0.5) Performance techniques on double bass for music education majors.
Effective: Summer 2006
Prerequisite: MUSIC 153

MUSIC 254A **Woodwind Techniques II: Flute** (0.5) Performance and teaching techniques and materials selection for flute.
Effective: Summer 2006
Prerequisite: MUSIC 154

MUSIC 254B **Woodwind Techniques II: Oboe** (0.5) Performance and teaching techniques and materials selection for oboe.
Effective: Summer 2006
Prerequisite: MUSIC 154

MUSIC 254C **Woodwind Techniques II: Clarinet** (0.5) Performance and teaching techniques and materials selection for clarinet.
Effective: Summer 2006
Prerequisite: MUSIC 154

MUSIC 254D **Woodwind Techniques II: Saxophone** (0.5) Performance and teaching techniques and materials selection for saxophone.
Effective: Summer 2006
Prerequisite: MUSIC 154

MUSIC 254E **Woodwind Techniques II: Bassoon** (0.5) Performance and teaching techniques and materials selection for bassoon.
Effective: Summer 2006
Prerequisite: MUSIC 154

MUSIC 256 **Introduction to Finale** (1) Introduction to music notation processing using Finale on both the IBM and Macintosh platforms.
Effective: Spring 1998
Prerequisite: MUSIC 132

MUSIC 261 (IL) **Survey of Music History I** (3) A survey of music history to 1750, with readings, listening, and lecture.
Effective: Spring 2006
Prerequisite: MUSIC 131, MUSIC 162

MUSIC 262 (IL) **Survey of Music History II** (3) A survey of music history from 1750 to the present, with readings, listening, and lecture.
Effective: Spring 2006
Prerequisite: MUSIC 132, MUSIC 162

MUSIC 266 **Basic Conducting** (1) Basic instruction and practicum in conducting, both choral and instrumental.
Effective: Fall 1993
Prerequisite: MUSIC 221, MUSIC 231

MUSIC 267 **Techniques of Composition** (2) Basic instruction in the techniques of composition in all idioms.

Effective: Fall 1993
Prerequisite: or concurrent:MUSIC 231

MUSIC 270 **Keyboard Skills IV: Music Major** (1) Instruction in secondary chord progressions, transposition, improvisation, accompanying techniques, score reading.
Effective: Summer 1987
Prerequisite: MUSIC 210 or placement audition

MUSIC 273 **Composition III** (2) Composition instruction for second-year composition majors.
Effective: Spring 1998
Prerequisite: MUSIC 174

MUSIC 274 **Composition IV** (2) Composition instruction for second-year composition majors.
Effective: Spring 1998
Prerequisite: MUSIC 273

MUSIC 295A **Early Field Experience in Music Education** (1) Observation of music learning and teaching processes, development of basic teaching skills and reflective behaviors.
Effective: Spring 2008
Prerequisite: fourth semester standingMUSIC 115, MUSIC 210

MUSIC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MUSIC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MUSIC 297A **Choral Conducting Practicum** (1) For undergraduates who creat their own choirs from the membership of Penn State Ensembles.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 297A **Choral Conducting Practicum** (1) For students who create their own choirs from the membership of Penn State Ensembles.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 297B **Choral Conducting Project** (1) For undergraduate students who serve as assistants and interns with non-penn state ensembles.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 297B **Choral Conducting Project** (1) For undergraduate students who serve as assistants and interns with non-Penn State Ensembles.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 297C **Sinfonietta** (1) String training ensemble for those who wish to improve their orchestral reading skills and repertoire.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 297C **Sinfonietta** (1) String training ensemble for those who wish to improve their orchestral reading skills and repertoire.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 297D **Fall Athletic Pep Band** (1) For students not in Blue Band to participate in special athletic events.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 297E **World Music Classroom** (3) Explore the nature of music and musical cultures globally. Students will experience music through listening, singing, and dance.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 297F **Class Voice** (1) Group study emphasizing development of rudimentary skills and their recreational use in a range of popular and art music.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MUSIC 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.

Effective: Spring 2007

MUSIC 312 **Performance of Diverse Musical Styles** (1) Exploration of world instruments and singing through performance and study.
Effective: Summer 2006

MUSIC 325 **History of Music II** (3) Music from 1700 to 1827; the music of the late baroque and the classical periods.
Effective: Spring 2007

MUSIC 326 **History of Music III** (3) Music from 1827 to the present; the romantic era to the contemporary.
Effective: Spring 2007

MUSIC 331 **Tonal Analysis** (2) Introduction to standard procedures of tonal analysis, including concepts of form and structure.
Effective: Spring 1997
Prerequisite: MUSIC 221, MUSIC 231

MUSIC 332 **Analysis of Twentieth Century Music** (2) Application of analytical techniques and compositional theories to music of the twentieth century.
Effective: Summer 1996
Prerequisite: MUSIC 331

MUSIC 336 **Orchestration** (2) Scoring for the orchestra.
Effective: Spring 1988
Prerequisite: MUSIC 222, MUSIC 232

MUSIC 340 **Music Learning and Development** (2) Application of psychological principles to teaching of music, including curriculum design and contemporary practices in music education.
Effective: Fall 2008
Prerequisite: acceptance into Teacher Education Degree Program in Music Concurrent: MUSIC 341 MUSIC 395A

MUSIC 341 **Instructional Materials in Music** (2) Exploration of instructional materials and repertoire for use in K-12 music settings. Limited to Music Education majors who have been accepted into the Teacher Education Degree Program in Music.
Effective: Summer 2006
Concurrent: MUSIC 340 MUSIC 395A

MUSIC 345 **Instrucational Practices in Music** (2) For music education students to learn about instrucational techniques and practices for music performance and general music classes.
Effective: Summer 2006
Prerequisite: MUSIC 340, MUSIC 341, MUSIC 395A piano and voice proficiencies passed. Concurrent: MUSIC 395B

MUSIC 366 **Intermediate Conducting** (1) Intermediate instruction in conducting; conducting techniques specific to instrumental or choral music; introduction to rehearsal technique.
Effective: Fall 2008
Prerequisite: MUSIC 266, MUSIC 270, MUSIC 331

MUSIC 373 **Composition V** (3) Composition instruction for third-year position majors.
Effective: Spring 1998
Prerequisite: MUSIC 274

MUSIC 374 **Composition VI** (3) Composition instruction for third-year composition majors.
Effective: Spring 1998
Prerequisite: MUSIC 373

MUSIC 387 **Language Diction for Singers: Italian and English** (1) Intensive drill in the pronunciation, phonetic transcription, and singing of Italian and English.
Effective: Summer 1991
Prerequisite: VOICE 170J orVOICE 180J or 2 semesters ofVOICE 100J orVOICE 110J

MUSIC 388 **Language Diction for Singers: French** (1) Intensive drill in the pronunciation, phonetic transcription, and singing of French.
Effective: Spring 1987
Prerequisite: VOICE 170J orVOICE 180J or two semesters ofVOICE 100J orVOICE 110J

MUSIC 389 **Language Diction for Singers: German** (1) Intensive drill in the pronunciation, phonetic transcription, and singing of German.
Effective: Spring 1987
Prerequisite: VOICE 170J orVOICE 180J or two semesters ofVOICE 100J orVOICE 110J

MUSIC 395A **Cohort Practicum I** (1) Observation and pre-service experience in the schools. Limited to Music Education Majors.
Effective: Fall 2008
Prerequisite: Acceptance into Teacher Education Degree Program in Music Concurrent: MUSIC 340 MUSIC 341

MUSIC 395B **Cohort Practicum II** (1) Observation and teaching experiences in a variety of musical instruction settings.
Effective: Spring 2009

Prerequisite: MUSIC 341, MUSIC 395A piano proficiency passed Concurrent: MUSIC 345

MUSIC 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

MUSIC 400 **Solo Recital** (1) Required recital for Performer's Certificate.
Effective: Spring 1994
Prerequisite: permission of the director of the school of music

MUSIC 412 **Jazz Pedagogy** (2) The development of advanced skills in pedagogy for teaching jazz bands.
Effective: Summer 1994
Prerequisite: admission to the Music Education program or certification

MUSIC 414 **String Pedagogy** (1-2) The development of skills in pedagogy for teaching strings.
Effective: Spring 1992
Prerequisite: completion of 300-level strings course

MUSIC 415 **Woodwind Pedagogy** (1-2) The development of skills in pedagogy for teaching woodwinds.
Effective: Spring 1992
Prerequisite: completion of 300-level woodwind course

MUSIC 416 **Brass Pedagogy** (1-2) The development of skills in pedagogy for teaching brass.
Effective: Spring 1992
Prerequisite: completion of 300-level brass course

MUSIC 417 **Percussion Pedagogy** (1-2) The development of advanced skills in pedagogy for teaching percussion.
Effective: Summer 1992
Prerequisite: MUSIC 152;PERCN 320J orPERCN 330J or permission of instructor

MUSIC 418 **Voice Pedagogy** (2) Analysis of techniques of teaching voice and studies of related music literature and pedagogical writings.
Effective: Spring 2004
Prerequisite: VOICE 270J orVOICE 280J ; or four semesters ofVOICE 100J orVOICE 110J

MUSIC 419 **Piano Pedagogy I** (2) Analysis of beginning teaching methods and teaching strategies for children.
Effective: Spring 1997
Prerequisite: KEYBD 270 orKEYBD 280;MUSIC 331

MUSIC 421 **Jazz Combo Class** (1) Study and performance of small group jazz.
Effective: Summer 1994
Prerequisite: MUSIC 181

MUSIC 422 **Jazz Harmony and Arranging** (3) Analysis and composition of jazz tunes and chord progressions; instrumental and vocal arranging in the jazz idiom.
Effective: Fall 1983
Prerequisite: MUSIC 222, MUSIC 232

MUSIC 424 **Piano Pedagogy II** (2) Analysis of techniques of teaching intermediate-early advanced level piano and studies of music literature and pedagogical writings.
Effective: Spring 1997
Prerequisite: KEYBD 270 orKEYBD 280;MUSIC 331

MUSIC 425 **Advanced Voice Pedagogy** (2) Analysis of techniques of teaching voice, supervised teaching, studies of studio materials and related topics.
Effective: Spring 2004
Prerequisite: MUSIC 418

MUSIC 427 **Masters of Music** (3) An intensive investigation of the works of a major composer in Western music history. (May be repeated for credit.)
Effective: Spring 2007

MUSIC 428 **Graduate Review of Tonal Analysis** (2) Application of analytical techniques to music from Bach to Brahms.
Effective: Spring 1997
Prerequisite: undergraduate core in music theory and literature at an accredited university or elementary analysis; MUSIC 429 and 430 if indicated on entering competency exam

MUSIC 429 **Aural Review for Graduate Students** (1) An intensive review of the aural skills required for a theoretical understanding of 18th- and 19th-century music.
Effective: Summer 1994
Prerequisite: MUSIC 221 or undergraduate core in music theory at an accredited university

MUSIC 430 **Harmony Review for Graduate Students** (2) An intensive review of tonal harmony from a linear approach, including part- writing and counterpoint.
Effective: Spring 1995
Prerequisite: MUSIC 232 or undergraduate core in music theory at an accredited university

MUSIC 431 **ADVANCED TONAL ANALYSIS** (2-3) Advanced techniques of musical analysis.
Effective: Fall 1996
Prerequisite: MUSIC 331

MUSIC 432 **Graduate Review of Twentieth-Century Analysis** (2-3) The theory and analysis of style in music of the twentieth century.
Effective: Fall 1997
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 433 **Advanced Analysis of Twentieth Century Music** (2-3) In-depth studies of selected twentieth-century repertoires and/or analytical models.
Effective: Summer 1996
Prerequisite: MUSIC 262, MUSIC 332

MUSIC 435 **Score Reading** (1) Introduction in score reading at the keyboard.
Effective: Spring 1991
Prerequisite: MUSIC 232 ; piano proficiency passed

MUSIC 438 **Figured Bass** (2) Learning to realize and play figured basses at the keyboard with emphasis on examples from Italy, Germany, France, and England from 1600 to 1800.
Effective: Spring 1991
Prerequisite: MUSIC 232 ; piano proficiency passed

MUSIC 440 **Forms in Music** (3) An investigation of the traditional forms of tonal music in Western culture. (May be repeated for credit.)
Effective: Spring 2007

MUSIC 441W **Capstone Experience in Elementary General and Choral Music** (3) Selection and application of materials, methods, teaching and assessment strategies for elementary general and choral music settings.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395B

MUSIC 441W **Emphasis in Elementary General and Choral Music** (3) Selection and application of materials, methods, teaching and assessment strategies for elementary general and choral music settings.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395B

MUSIC 442W **Capstone Experience in Middle School General and Choral Music** (3) Capstone experience to teaching in general and choral middle school settings.
Effective: Fall 2007
Prerequisite: Limited to Music Education Majors.MUSIC 345, MUSIC 395B

MUSIC 443 **Choral Methods and Materials: Emphasis** (3) Selection and analysis of choral literature, study of the adolescent voice; administration of school choral programs. Intended for those with a choral emphasis.
Effective: Fall 2007
Prerequisite: MUSIC 266, MUSIC 295A, MUSIC 340, MUSIC 348 piano proficiency passed

MUSIC 444W **Capstone Experiences in Elementary and Intermediate Band** (3) Examination and application of teaching strategies and materials for students planning to teach band in the elementary and middle schools.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395A, MUSIC 366 piano proficiency passes

MUSIC 444W **Emphasis in Elementary and Intermediate Band** (3) Examination and application of teaching strategies and materials for students planning to teach band in the elementary and middle schools.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395A, MUSIC 366 piano proficiency passes

MUSIC 445W **Capstone Experiences in High School Band** (3) Examination and application of teaching strategies and materials for students planning to teach high school bands.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395B

MUSIC 445W **Emphasis in High School Band** (3) Examination and application of teaching strategies and materials for students planning to teach high school bands.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395B

MUSIC 446W **Capstone Experiences in Strings and Orchestra** (3) Development of teaching techniques for instructing elementary and secondary string/orchestra student musicians for music education majors.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395B

MUSIC 446W **Emphasis in Strings and Orchestra** (3) Development of teaching techniques for instructing elementary and secondary string/orchestra student musicians for music education majors.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395B

MUSIC 450 **Teaching Marching Band** (2) Traditional and contemporary drill design principles, show development strategies, instructional techniques, and organizational procedures involved in teaching marching band.
Effective: Fall 2007
Prerequisite: MUSIC 345 or three years collegiate marching band experience or permission of program

MUSIC 451 **Computer Programming for Musicians** (3 per semester/maximum of 12) In-depth study of music programming techniques.

Effective: Summer 2008
Prerequisite: INART 258, MUSIC 455 or permission of program

MUSIC 455 **Technology in Music** (1-3:1.5:1.5) Survey of how musical information is stored and processed in computer systems.
Effective: Spring 2008
Prerequisite: CMPSC 100, CMPSC 101, CMPSC 121 orMUSIC 231

MUSIC 458 **Electronic Music Composition** (3) An introduction to the art of composition in the electronic audio medium.
Effective: Spring 2006
Prerequisite: INART 258

MUSIC 459 **Project in Electronic Music** (1-3 per semester, maximum of 12) A studio course in the theory and practice of electronic music. Enrollment is restricted to 10 students.
Effective: Spring 1998
Prerequisite: MUSIC 458

MUSIC 460 **Teaching Musical Cultures** (2) Exploration of the world's musical cultures and the implication of and procedures for teaching multicultural music. Limited to upper division music majors or permission of program.
Effective: Summer 2006
Prerequisite: MUSIC 262 or permission of program

MUSIC 461W **Studies in Music History: Antiquity to 1600** (3) In-depth study of selected aspects of music and culture from antiquity to 1600, with emphasis on writing and research.
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 261, MUSIC 331

MUSIC 461W **Studies in Music History: Antiquity to 1600** (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from antiquity to 1600, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 261, MUSIC 331

MUSIC 462W **Studies in Music History: 1550-1750** (3) In-depth study of selected aspects of music and culture from 1550-1750, with emphasis on writing and research.
Effective: Fall 1996 Ending: Summer 2010
Prerequisite: MUSIC 261, MUSIC 331

MUSIC 462W **Studies in Music History: 1550-1750** (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1550-1750, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 261, MUSIC 331

MUSIC 463W **Studies in Music History: 1700-1900** (3) In-depth study of selected aspects of music and culture from 1700-1900, with emphasis on writing and research.
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 463W **Studies in Music History: 1700-1900** (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1700-1900, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 464W **Studies in Music History: 1850-Present** (3) In-depth study of selected aspects of music and culture from 1850 to the present, with emphasis on writing and research.
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 262, MUSIC 332

MUSIC 464W **Studies in Music History: 1850-Present** (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1850 to the present, with emphasis on writing and research.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 262, MUSIC 332

MUSIC 465 **Advanced Conducting I** (3) Advanced instruction in conducting; conducting techniques specific to instrumental or choral music; emphasis on score study and rehearsal technique.
Effective: Summer 1994
Prerequisite: MUSIC 366

MUSIC 466 **Advanced Conducting II** (2 per semester/maximum of 8) Standard scores of symphonies, tone poems, operas, oratorios, and shorter vocal and instrumental works studied from the viewpoint of the conductor.
Effective: Spring 1995
Prerequisite: MUSIC 465

MUSIC 467 **Opera Workshop** (1-3 per semester/maximum of 6) History, analysis, and production of operas from sixteenth century to present.
Effective: Spring 2001
Prerequisite: audition

MUSIC 468 **Acting for Singers** (2 per semester/maximum of 4) To help students develop authentic and specific characters/portrayals on stage through physical and emotional awareness.
Effective: Fall 2008
Prerequisite: Must be currently enrolled for voice jury track at the level of V220J or higher or register with permission of

the program

MUSIC 471 **Structural and Sixteenth-Century Counterpoint** (2) Advanced species counterpoint and its application to the sixteenth-century style.
Effective: Fall 1983
Prerequisite: MUSIC 222, MUSIC 232

MUSIC 472 **Eighteenth-Century Counterpoint** (2) Imitative and nonimitative counterpoint in the style of Bach.
Effective: Fall 1983
Prerequisite: MUSIC 222, MUSIC 232

MUSIC 473 **Composition VII** (3) Composition instruction for fourth-year composition majors.
Effective: Spring 1998
Prerequisite: MUSIC 374

MUSIC 474 **Composition VIII** (3) Composition instruction for fourth-year composition majors.
Effective: Spring 1998
Prerequisite: MUSIC 473

MUSIC 476W **B.A. Senior Project** (3) A semester project appropriate to student's option in B.A. program (e.g., research paper, performance with program notes, or related paper).
Effective: Spring 1992
Prerequisite: seventh-semester standing

MUSIC 478 **Vocal Literature** (3) Introduction to the literature for solo voice in opera, oratorio, cantata, art song, and chamber music from the baroque to the present.
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 480 **Opera Literature** (3) Studies in the development of the opera from 1600 to the present, treating both libretto and music.
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 481 **Keyboard Literature** (3) Studies in the development of keyboard music and instruments; a survey of all eras using listening, analysis, and performance.
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 483 **Seminar in Voice Pedagogy** (2) Survey of literature relevant to the teaching of voice from historical sources through recent pedagogical scholarship.
Effective: Spring 2004
Prerequisite: MUSIC 418

MUSIC 485 **Chamber Music Literature** (3) Survey of chamber music for strings, winds, and brass instruments from the mid-16th century to the present day.
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 487 **Orchestral Literature** (3) Survey of orchestral literature.
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

MUSIC 489 **Studio and Recital Accompaniment** (1 per semester/maximum of 4) Advanced keyboard accompaniment of student soloists in the studio and in public performance under faculty supervision.
Effective: Fall 1983
Prerequisite: MUSIC 194 or permission of instructor

MUSIC 493 **Sonata Duos** (1 per semester/maximum of 4) Preparation for performance of advanced sonata literature for various individual instruments with keyboard.
Effective: Fall 1983
Prerequisite: MUSIC 193 or equivalent; permission of instructor

MUSIC 494 **Research Topics** (1-3) Supervised research leading to senior thesis or project.
Effective: Fall 1983

MUSIC 494H **Research Topics** (1-3) Supervised research leading to senior thesis or project.
Effective: Fall 2007

MUSIC 495A **Student Teaching: General Music** (5-7) Observation and teaching under supervision.
Effective: Fall 2001
Prerequisite: completion of all courses in the major with a grade of "C" or better Concurrent: MUSIC 442

MUSIC 495B **Student Teaching: Choral Music** (5-7) Observation and teaching under supervision.
Effective: Fall 2001
Prerequisite: completion of all courses in the major with a grade of "C" or better Concurrent: MUSIC 443

MUSIC 495C **Student Teaching: Instrumental Music** (5-7) Observation and teaching under supervision.
Effective: Fall 2001
Prerequisite: completion of all courses in the major with a grade of "C" or better Concurrent: MUSIC 444

MUSIC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

MUSIC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

MUSIC 497A **Survey Music History** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497A **Essence of Joy** (1) Ensemble to perform sacred and secular repertoire from the african american traditions.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 497B **Oriana Singers** (1) Performs music written for treble voices.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497B **Survey Music History** (3) For graduate students who need remedial work in music history.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 497C **Women's Chorale** (1) Performs selected treble repertoire from the past five centuries.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497C **Oriana Singers** (1) Performs music written for treble voices.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 497D **University Choir** (1) Presents both major large-scale choral works and appropriate shorter work. 18th, 19th, and 20th century major works.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497D **Mallet Ensemble** (1) Study and Performance of Music for keyboard percussion instruments.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 497E **Essence of Joy** (1) Ensemble to perform sacred and secular repertoire from the African American traditions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497E **Viola Orchestral Excerpts** (1) An introduction to excerpts from the viola parts of standard orchestral literature required for professional orchestral auditions.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 497F **Glee Club** (3) Male voices singing music from the renaissance through the twentieth-century.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497F **Business of Music** (1) Survey of topics related to a career in music performance - including auditions, competitions, finances, work abroad, etc. Gues lecturers included.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

MUSIC 497G **Hi-Lo's** (1) Select group performing choral chamber music.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497I **Viola Orchestral Excerpts** (1) An introduction to excerpts from the viola parts of standard orchestral literature required for professional orchestral auditions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 497J **Mallet Ensemble** (1) Study and performance of music for keyboard percussion instruments.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

MUSIC 498A **Review of Harmony/Analysis** (2) Devoted to an in-depth study of tonal harmony and analysis, beginning

with a review of diatonic progressions and continuing with chromatic harmony.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 498B **Bass Orchestral Excerpts** (1) This course is designed to study in depth a series of double bass excerpts from the standard orchestral and opera repertoire. We will look at how to prepare and mock audition behind a screen at the end of the semester.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

MUSIC 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

Last Import from UCM: May 29, 2010 3:00 AM

Music - Brass (BRASS)

BRASS 100J (GA) **Trumpet: Secondary** (1 per semester, maximum of 8) Individual instruction in trumpet one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 101J (GA) **French Horn: Secondary** (1 per semester, maximum of 8) Individual instruction in French horn one-half hour per week. For students who qualify.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 102J (GA) **Trombone: Secondary** (1 per semester, maximum of 8) Individual instruction in trombone one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 103J (GA) **Euphonium: Secondary** (1 per semester, maximum of 8) Individual instruction in euphonium/baritone one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 104J (GA) **Tuba: Secondary** (1 per semester, maximum of 8) Individual instruction in tuba one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 110J (GA) **Trumpet: Secondary** (2 per semester, maximum of 16) Individual instruction in trumpet one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 111J (GA) **French Horn: Secondary** (2 per semester, maximum of 16) Individual instruction in French horn one hour per week. For students who qualify.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 112J (GA) **Trombone: Secondary** (2 per semester, maximum of 16) Individual instruction in trombone one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 113J (GA) **Euphonium: Secondary** (2 per semester, maximum of 16) Individual instruction in euphonium/baritone one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 114J (GA) **Tuba: Secondary** (2 per semester, maximum of 16) Individual instruction in tuba one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

BRASS 120J **Trumpet: Primary I** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 121J **French Horn: Primary I** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 122J **Trombone: Primary I** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 123J **Euphonium: Primary I** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 124J **Tuba: Primary I** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 130J **Trumpet: Performance I** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 131J **French Horn: Performance I** (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 132J **Trombone: Performance I** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 133J **Euphonium: Performance I** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 134J **Tuba: Performance I** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

BRASS 170J **Trumpet: Primary II** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 120J and permission of faculty jury

BRASS 171J **French Horn: Primary II** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 121J and permission of faculty jury

BRASS 172J **Trombone: Primary II** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 122J and permission of jury

BRASS 173J **Euphonium: Primary II** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 123J and permission of faculty jury

BRASS 174J **Tuba: Primary II** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 124J and permission of faculty jury

BRASS 180J **Trumpet: Performance II** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 130J and permission of faculty jury

BRASS 181J **French Horn: Performance II** (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 131J and permission of faculty jury

BRASS 182J **Trombone: Performance II** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 132J and permission of faculty jury

BRASS 183J **Euphonium: Performance II** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: BRASS 133J and permission of faculty jury

BRASS 184J **Tuba: Performance II** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 134J and permission of faculty jury

BRASS 220J **Trumpet: Primary III** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 170J and permission of faculty jury

BRASS 221J **French Horn: Primary III** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 171J and permission of faculty jury

BRASS 222J **Trombone: Primary III** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 172J and permission of faculty jury

BRASS 223J **Euphonium: Primary III** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 173J and permission of faculty jury

BRASS 224J **Tuba: Primary III** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B. S. majors.
Effective: Fall 1983
Prerequisite: BRASS 174J and permission of faculty jury

BRASS 230J **Trumpet: Performance III** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 180J and permission of faculty jury

BRASS 231J **French Horn: Performance III** (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 181J and permission of faculty jury

BRASS 232J **Trombone: Performance III** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 182J and permission of faculty jury

BRASS 233J **Euphonium: Performance III** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: BRASS 183J and permission of faculty jury

BRASS 234J **Tuba: Performance III** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 184J and permission of faculty jury

BRASS 270J **Trumpet: Primary IV** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 220J and permission of faculty jury

BRASS 271J **French Horn: Primary IV** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 221J and permission of faculty jury

BRASS 272J **Trombone: Primary IV** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 222J and permission of faculty jury

BRASS 273J **Euphonium: Primary IV** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 223J and permission of faculty jury

BRASS 274J **Tuba: Primary IV** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 224J and permission of faculty jury

BRASS 280J **Trumpet: Performance IV** (3) individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 230J and permission of faculty jury

BRASS 281J **French Horn: Performance IV** (3) Individual instruction in French Horn one hour per week. For B.Mus. French Horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 231J and permission of faculty jury

BRASS 282J **Trombone: Performance IV** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 232J and permission of faculty jury

BRASS 283J **Euphonium: Performance IV** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus euphonium/baritone majors.

Effective: Fall 1983
Prerequisite: BRASS 233J and permission of faculty jury

BRASS 284J **Tuba: Performance IV** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 234J and permission of faculty jury

BRASS 320J **Trumpet: Primary V** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 270J and permission of faculty jury

BRASS 321J **French Horn: Primary V** (2) Individual instruction in French Horn one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 271J and permission of faculty jury

BRASS 322J **Trombone: Primary V** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 272J and permission of faculty jury

BRASS 323J **Euphonium: Primary V** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 273J and permission of faculty jury

BRASS 324J **Tuba: Primary V** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 274J and permission of faculty jury

BRASS 330J **Trumpet: Performance V** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 280J and permission of faculty jury

BRASS 331J **French Horn: Performance V** (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 281J and permission of faculty jury

BRASS 332J **Trombone: Performance V** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 282J and permission of faculty jury

BRASS 333J **Euphonium: Performance V** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: BRASS 283J and permission of faculty jury

BRASS 334J **Tuba: Performance V** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 284J and permission of faculty jury

BRASS 370J **Trumpet: Primary VI** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 320J and permission of faculty jury

BRASS 371J **French Horn: Primary VI** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 321J and permission of faculty jury

BRASS 372J **Trombone: Primary VI** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 322J and permission of faculty jury

BRASS 373J **Euphonium: Primary VI** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 323J and permission of faculty jury

BRASS 374J **Tuba: Primary VI** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 324J and permission of faculty jury

BRASS 380J **Trumpet: Performance VI** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 330J and permission of faculty jury

BRASS 381J **French Horn: Performance VI** (3) Individual instruction of French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 331J and permission of faculty jury

BRASS 382J **Trombone: Performance VI** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 332J and permission of faculty jury

BRASS 383J **Euphonium: Performance VI** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: BRASS 333J and permission of faculty jury

BRASS 384J **Tuba: Performance VI** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 334J and permission of faculty jury

BRASS 420J **Trumpet: Primary VII** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 370J and permission of faculty jury

BRASS 421J **French Horn: Primary VII** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 321J and permission of faculty jury

BRASS 422J **Trombone: Primary VII** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 372J and permission of faculty jury

BRASS 423J **Euphonium: Primary VII** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 373J and permission of faculty jury

BRASS 424J **Tuba: Primary VII** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: BRASS 374J and permission of faculty jury

BRASS 430J **Trumpet: Performance VII** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 380J and permission of faculty jury

BRASS 431J **French Horn: Performance VII** (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 381J and permission of faculty jury

BRASS 432J **Trombone: Performance VII** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 382J and permission of faculty jury

BRASS 433J **Euphonium: Performance VII** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: BRASS 383J and permission of faculty jury

BRASS 434J **Tuba: Performance VII** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 384J and permission of faculty jury

BRASS 470J **Trumpet: Primary VIII** (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 420J and permission of faculty jury

BRASS 471J **French Horn: Primary VIII** (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983

Prerequisite: BRASS 421J and permission of faculty jury

BRASS 472J **Trombone: Primary VIII** (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 422J and permission of faculty jury

BRASS 473J **Euphonium: Primary VIII** (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 423J and permission of faculty jury

BRASS 474J **Tuba: Primary VIII** (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: BRASS 424J and permission of faculty jury

BRASS 480J **Trumpet: Performance VIII** (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.
Effective: Fall 1983
Prerequisite: BRASS 430J and permission of faculty jury

BRASS 481J **French Horn: Performance VIII** (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.
Effective: Fall 1983
Prerequisite: BRASS 431J and permission of faculty jury

BRASS 482J **Trombone: Performance VIII** (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.
Effective: Fall 1983
Prerequisite: BRASS 432J and permission of faculty jury

BRASS 483J **Euphonium: Performance VIII** (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.
Effective: Fall 1983
Prerequisite: BRASS 433J and permission of faculty jury

BRASS 484J **Tuba: Performance VIII** (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.
Effective: Fall 1983
Prerequisite: BRASS 434J and permission of faculty jury

Last Import from UCM: May 29, 2010 3:00 AM

Music - Keyboard (KEYBD)

KEYBD 100J (GA) **Piano: Secondary** (1 per semester, maximum of 8) Individual instruction in piano one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 101J (GA) **Organ: Secondary** (1 per semester, maximum of 8) Individual instruction in pipe organ one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 102J (GA) **Harpsichord: Secondary** (1 per semester, maximum of 8) Individual instruction in harpsichord one-half hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 110J (GA) **Piano: Secondary** (2 per semester, maximum of 16) Individual instruction in piano one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 111J (GA) **Organ: Secondary** (2 per semester, maximum of 16) Individual instruction in pipe organ one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 112J (GA) **Harpsichord: Secondary** (2 per semester, maximum of 16) Individual instruction in harpsichord one hour per week.
Effective: Fall 2004
Prerequisite: permission of instructor

KEYBD 120J **Piano: Primary I** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

KEYBD 121J **Organ: Primary I** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

KEYBD 130J **Piano: Performance I** (3) Individual instruction in piano one hour per week. For B.Mus. performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

KEYBD 131J **Organ: Performance I** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performane majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

KEYBD 170J **Piano: Primary II** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 120J and permission of faculty jury

KEYBD 171J **Organ: Primary II** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 121J and permission of faculty jury

KEYBD 180J **Piano: Performance II** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 130J and permission of faculty jury

KEYBD 181J **Organ: Performance II** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 131J and permission of faculty jury

KEYBD 220J **Piano: Primary III** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 170J and permission of faculty jury

KEYBD 221J **Organ: Primary III** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Effective: Fall 1983
Prerequisite: KEYBD 171J and permission of faculty jury

KEYBD 230J **Piano: Performance III** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 180J and permission of faculty jury

KEYBD 231J **Organ: Performance III** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 181J and permission of faculty jury

KEYBD 270J **Piano: Primary IV** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 220J and permission of faculty jury

KEYBD 271J **Organ: Primary IV** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 221J and permission of faculty jury

KEYBD 280J **Piano: Performance IV** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 230J and permission of faculty jury

KEYBD 281J **Organ: Performance IV** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 231J and permission of faculty jury

KEYBD 320J **Piano: Primary V** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 270J and permission of faculty jury

KEYBD 321J **Organ: Primary V** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 321J and permission of faculty jury

KEYBD 330J **Piano: Performance V** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 280J and permission of faculty jury

KEYBD 331J **Organ: Performance V** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 281J and permission of faculty jury

KEYBD 370J **Piano: Primary VI** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 320J and permission of faculty jury

KEYBD 371J **Organ: Primary VI** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S majors.
Effective: Fall 1983
Prerequisite: KEYBD 321J and permission of faculty jury

KEYBD 380J **Piano: Performance VI** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 330J and permission of faculty jury

KEYBD 381J **Organ: Performance VI** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 331J and permission of faculty jury

KEYBD 420J **Piano: Primary VII** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 370J and permission of faculty jury

KEYBD 421J **Organ: Primary VII** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983

Prerequisite: KEYBD 371J and permission of faculty jury

KEYBD 430J **Piano: Performance VII** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 380J and permission of faculty jury

KEYBD 431J **Organ: Performance VII** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 381J and permission of faculty jury

KEYBD 470J **Piano: Primary VIII** (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 420J and permission of faculty jury

KEYBD 471J **Organ: Primary VIII** (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: KEYBD 421J and permission of faculty jury

KEYBD 480J **Piano: Performance VIII** (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 430J and permission of faculty jury

KEYBD 481J **Organ: Performance VIII** (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.
Effective: Fall 1983
Prerequisite: KEYBD 431J and permission of faculty jury

Last Import from UCM: May 29, 2010 3:00 AM

Music - Percussion (PERCN)

PERCN 100J (GA) **Percussion: Secondary** (1 per semester, maximum of 8) Individual instruction in percussion one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

PERCN 110J (GA) **Percussion: Secondary** (2 per semester, maximum of 16) Individual instruction in percussion one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

PERCN 120J **Percussion: Primary I** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: Acceptance into program by faculty jury

PERCN 130J **Percussion: Performance I** (3) Individual instruction in percussion one hour per week. For B.Mus percussion majors.
Effective: Fall 1983
Prerequisite: acceptance into program by permission of faculty jury

PERCN 170J **Percussion: Primary II** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 120J and permission of faculty jury

PERCN 180J **Percussion: Performance II** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 130J and permission of faculty jury

PERCN 220J **Percussion: Primary III** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 170J and permission of faculty jury

PERCN 230J **Percussion: Performance III** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 180J and permission of faculty jury

PERCN 270J **Percussion: Primary IV** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 220J and permission of faculty jury

PERCN 280J **Percussion: Performance IV** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 230J and permission of faculty jury

PERCN 320J **Percussion: Primary V** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 270J and permission of faculty jury

PERCN 330J **Percussion: Performance V** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 280J and permission of faculty jury

PERCN 370J **Percussion: Primary VI** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 320J and permission of faculty jury

PERCN 380J **Percussion: Performance VI** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 330J and permission of faculty jury

PERCN 420J **Percussion: Primary VII** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 370J and permission of faculty jury

PERCN 430J **Percussion: Performance VII** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 380J and permission of faculty jury

PERCN 470J **Percussion: Primary VIII** (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: PERCN 420J and permission of faculty jury

PERCN 480J **Percussion: Performance VIII** (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.
Effective: Fall 1983
Prerequisite: PERCN 430J and permission of faculty jury

Last Import from UCM: May 29, 2010 3:00 AM

Music - String (STRNG)

STRNG 100J (GA) **Violin: Secondary** (1 per semester, maximum of 8) Individual instruction in violin one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 101J (GA) **Viola: Secondary** (1 per semester, maximum of 8) Individual instruction in viola one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 102J (GA) **Violoncello: Secondary** (1 per semester, maximum of 8) Individual instruction in violoncello one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 103J (GA) **Double Bass: Secondary** (1 per semester, maximum of 8) Individual instruction in double bass one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 110J (GA) **Violin: Secondary** (2 per semester, maximum of 16) Individual instruction in violin one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 111J (GA) **Viola: Secondary** (2 per semester, maximum of 16) Individual instruction in viola one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 112J (GA) **Violoncello: Secondary** (2 per semester, maximum of 16) Individual instruction in violoncello one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 113J (GA) **Double Bass: Secondary** (2 per semester, maximum of 16) Individual instruction in double bass one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

STRNG 114J (GA) **Guitar: Secondary** (2 per semester, maximum of 16) Individual instruction in guitar one hour per week.
Effective: Summer 1995
Prerequisite: permission of instructor

STRNG 120J **Violin: Primary I** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 121J **Viola: Primary I** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: permission of instructor

STRNG 122J **Violoncello: Primary I** (2) Individualized instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 123J **Double Bass: Primary I** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 130J **Violin: Performance I** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 131J **Viola: Performance I** (3) Individual instruction in viola one hour per week. For B.Mus. guitar performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 132J **Violoncello: Performance I** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 133J **Double Bass: Performance I** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

STRNG 170J **Violin: Primary II** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 120J and permission of faculty jury

STRNG 171J **Viola: Primary II** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 121J and permission of faculty jury

STRNG 172J **Violoncello: Primary II** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 122J and permission of faculty jury

STRNG 173J **Double Bass: Primary II** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 123J and permission of faculty jury

STRNG 180J **Violin: Performance II** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance major.
Effective: Fall 1983
Prerequisite: STRNG 130J and permission of faculty jury

STRNG 181J **Viola: Performance II** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 131J and permission of faculty jury

STRNG 182J **Violoncello: Performance II** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 132J and permission of faculty jury

STRNG 183J **Double Bass: Performance II** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.
Effective: Fall 1983
Prerequisite: STRNG 133J and permission of faculty jury

STRNG 220J **Violin: Primary III** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 170J and permission of faculty jury

STRNG 221J **Viola: Primary III** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 171J and permission of faculty jury

STRNG 222J **Violoncello: Primary III** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 172J and permission of faculty jury

STRNG 223J **Double Bass: Primary III** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 173J and permission of faculty jury

STRNG 230J **Violin: Performance III** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: STRNG 180J and permission of faculty jury

STRNG 231J **Viola: Performance III** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 181J and permission of faculty jury

STRNG 232J **Violoncello: Performance III** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 182J and permission of faculty jury

STRNG 233J **Double Bass: Performance III** (3) Individual instruction in double bass one hour per week. For B.Mus. double

bass majors.
Effective: Fall 1983
Prerequisite: STRNG 183J and permission of faculty jury

STRNG 270J **Violin: Primary IV** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students .
Effective: Fall 1983
Prerequisite: STRNG 220J and permission of faculty jury

STRNG 271J **Viola: Primary IV** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 221J and permission of faculty jury

STRNG 272J **Violoncello: Primary IV** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 222J and permission of faculty jury

STRNG 273J **Double Bass: Primary IV** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 223J and permission of faculty jury

STRNG 280J **Violin: Performance IV** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: STRNG 230J and permission of faculty jury

STRNG 281J **Viola: Performance IV** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 231J and permission of faculty jury

STRNG 282J **Violoncello: Performance IV** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 232J and permission of faculty jury

STRNG 283J **Double Bass: Performance IV** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.
Effective: Fall 1983
Prerequisite: STRNG 233J and permission of faculty jury

STRNG 320J **Violin: Primary V** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 270J and permission of faculty jury

STRNG 321J **Viola: Primary V** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 271J and permission of faculty jury

STRNG 322J **Violoncello: Primary V** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 272J and permission of faculty jury

STRNG 323J **Double Bass: Primary V** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 273J and permission of faculty jury

STRNG 330J **Violin: Performance V** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: STRNG 280J and permission of faculty jury

STRNG 331J **Viola: Performance V** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 281J and permission of faculty jury

STRNG 332J **Violoncello: Performance V** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 282J and permission of faculty jury

STRNG 333J **Double Bass: Performance V** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Effective: Fall 1983
Prerequisite: STRNG 283J and permission of faculty jury

STRNG 370J **Violin: Primary VI** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 320J and permission of faculty jury

STRNG 371J **Viola: Primary VI** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 322J and permission of faculty jury

STRNG 372J **Violoncello: Primary VI** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 322J and permission of faculty jury

STRNG 373J **Double Bass: Primary VI** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 323J and permission of faculty jury

STRNG 380J **Violin: Performance VI** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: STRNG 330J and permission of faculty jury

STRNG 381J **Viola: Performance VI** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 331J and permission of faculty jury

STRNG 382J **Violoncello: Performance VI** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 332J and permission of faculty jury

STRNG 383J **Double Bass: Performance VI** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.
Effective: Fall 1983
Prerequisite: STRNG 333J and permission of faculty jury

STRNG 420J **Violin: Primary VII** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 370J and permission of faculty jury

STRNG 421J **Viola: Primary VII** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 371J and permission of faculty jury

STRNG 422J **Violoncello: Primary VII** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 372J and permission of faculty jury

STRNG 423J **Double Bass: Primary VII** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 373J and permission of faculty jury

STRNG 430J **Violin: Performance VII** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: STRNG 380J and permission of faculty jury

STRNG 431J **Viola: Performance VII** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 381J and permission of faculty jury

STRNG 432J **Violoncello: Performance VII** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 382J and permission of faculty jury

STRNG 433J **Double Bass: Performance VII** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.
Effective: Fall 1983

Prerequisite: STRNG 383J and permission of faculty jury

STRNG 470J **Violin: Primary VIII** (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 420J and permission of faculty jury

STRNG 471J **Viola: Primary VIII** (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 421J and permission of faculty jury

STRNG 472J **Violoncello: Primary VIII** (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 422J and permission of faculty jury

STRNG 473J **Double Bass: Primary VIII** (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.
Effective: Fall 1983
Prerequisite: STRNG 423J and permission of faculty jury

STRNG 480J **Violin: Performance VIII** (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.
Effective: Fall 1983
Prerequisite: STRNG 430J and permission of faculty jury

STRNG 481J **Viola: Performance VIII** (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.
Effective: Fall 1983
Prerequisite: STRNG 431J and permission of faculty jury

STRNG 482J **Violoncello: Performance VIII** (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.
Effective: Fall 1983
Prerequisite: STRNG 432J and permission of faculty jury

STRNG 483J **Double Bass: Performance VIII** (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.
Effective: Fall 1983
Prerequisite: STRNG 433J and permission of faculty jury

Last Import from UCM: May 29, 2010 3:00 AM

Music - Voice (VOICE)

VOICE 100J (GA) **Voice: Secondary** (1 per semester, maximum of 8) Individual instruction in voice one-half hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

VOICE 110J (GA) **Voice: Secondary** (2 per semester, maximum of 16) Individual instruction in voice one hour per week.
Effective: Spring 2004
Prerequisite: permission of instructor

VOICE 120J **Voice: Primary I** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

VOICE 130J **Voice: Performance I** (3) Individual instruction in voice one hour per week. For B.Mus voice performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury permission

VOICE 170J **Voice: Primary II** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 120J and permission of faculty jury

VOICE 180J **Voice: Performance II** (3) Individual instruction in voice one hour per week. For B.Mus voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 130J and permission of faculty jury

VOICE 212J **Music Theatre Voice I** (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

VOICE 220J **Voice: Primary III** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 170J and permission of faculty jury

VOICE 230J **Voice: Performance III** (3) Individual instruction in voice one hour per week. For B.Music voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 180J and permission of faculty jury

VOICE 262J **Music Theatre Voice II** (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

VOICE 270J **Voice: Primary IV** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 220J and permission of faculty jury

VOICE 280J **Voice: Performance IV** (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 230J and permission of faculty jury

VOICE 312J **Music Theatre Voice III** (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

VOICE 320J **Voice: Primary V** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 270J and permission of faculty jury

VOICE 330J **Voice: Performance V** (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 280J and permission of faculty jury

VOICE 362J **Music Theatre Voice IV** (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.

Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

VOICE 370J **Voice: Primary VI** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 320J and permission of faculty jury

VOICE 380J **Voice: Performance VI** (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 330J and permission of faculty jury

VOICE 412J **Musical Theatre Voice V** (2) Individual instruction in voice. Intended for Theatre BFA in Music Theatre students.
Effective: Fall 2006
Prerequisite: admission into Theatre BFA in Musical Theatre

VOICE 420J **Voice: Primary VII** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 370J and permission of faculty jury

VOICE 430J **Voice: Performance VII** (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 380J and permission of faculty jury

VOICE 462J **Musical Theatre Voice VI** (2) Individual instruction in voice. Intended for Theatre BFA in Music Theatre students.
Effective: Fall 2006
Prerequisite: Admission into Theatre BFA in Musical Theatre

VOICE 470J **Voice: Primary VIII** (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: VOICE 420J and permission of faculty jury

VOICE 480J **Voice: Performance VIII** (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.
Effective: Fall 1983
Prerequisite: VOICE 430J and permission of faculty jury

Last Import from UCM: May 29, 2010 3:00 AM

Music - Woodwinds (WWNDS)

WWNDS 100J (GA) **Flute: Secondary** (1 per semester, maximum of 8) Individual instruction in flute one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 101J (GA) **Oboe: Secondary** (1 per semester, maximum of 8) Individual instruction in oboe one-half hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 102J (GA) **Clarinet: Secondary** (1 per semester, maximum of 8) Individual instruction in clarinet one-half hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 103J (GA) **Bassoon: Secondary** (1 per semester, maximum of 8) Individual instruction in bassoon one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 104J (GA) **Saxophone: Secondary** (1 per semester, maximum of 8) Individual instruction in saxophone one-half hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 110J (GA) **Flute: Secondary** (2 per semester, maximum of 16) Individual instruction in flute one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 111J (GA) **Oboe: Secondary** (2 per semester, maximum of 16) Individual instruction in oboe one hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 112J (GA) **Clarinet: Secondary** (2 per semester, maximum of 16) Individual instruction in clarinet one hour per week. For both music and non-music students.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 113J (GA) **Bassoon: Secondary** (2 per semester, maximum of 16) Individual instruction in bassoon one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 114J (GA) **Saxophone: Secondary** (2 per semester, maximum of 16) Individual instruction in saxophone one hour per week. For both music and non-music majors.
Effective: Spring 2004
Prerequisite: permission of instructor

WWNDS 120J **Flute: Primary I** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

WWNDS 121J **Oboe: Primary I** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: permission of faculty jury

WWNDS 122J **Clarinet: Primary I** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: permission of faculty jury

WWNDS 123J **Bassoon: Primary I** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

WWNDS 124J **Saxophone Primary I** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

WWNDS 130J **Flute: Performance I** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

WWNDS 131J **Oboe: Performance I** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: permission of faculty jury

WWNDS 132J **Clarinet: Performance I** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.
Effective: Fall 1983
Prerequisite: permission of faculty jury

WWNDS 133J **Bassoon: Performance I** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

WWNDS 134J **Saxophone: Performance I** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

WWNDS 170J **Flute: Primary II** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 120J and permission of faculty jury

WWNDS 171J **Oboe: Primary II** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 121J and permission of faculty jury

WWNDS 172J **Clarinet: Primary II** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 122J and permission of faculty jury

WWNDS 173J **Bassoon: Primary II** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 123J and permission of faculty jury

WWNDS 174J **Saxophone: Primary II** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 124J and permission of faculty jury

WWNDS 180J **Flute: Performance II** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 130J and permission of faculty jury

WWNDS 181J **Oboe: Performance II** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 131J and permission of faculty jury

WWNDS 182J **Clarinet: Performance II** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinetmajors.
Effective: Fall 1983
Prerequisite: WWNDS 132J and permission of faculty jury

WWNDS 183J **Bassoon: Performance II** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 133J and permission of faculty jury

WWNDS 184J **Saxophone: Performance II** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 134J and permission of faculty jury

WWNDS 220J **Flute: Primary III** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 170J and permission of faculty jury

WWNDS 221J **Oboe: Primary III** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 171J and permission of faculty jury

WWNDS 222J **Clarinet: Primary III** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 172J and permission of faculty jury

WWNDS 223J **Bassoon: Primary III** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 173J and permission of faculty jury

WWNDS 224J **Saxophone: Primary III** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 174J and permission of faculty jury

WWNDS 230J **Flute: Performance III** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 180J and permission of faculty jury

WWNDS 231J **Oboe: Performance III** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 181J and permission of faculty jury

WWNDS 232J **Clarinet: Performance III** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.
Effective: Fall 1983
Prerequisite: WWNDS 182J and permission of faculty jury

WWNDS 233J **Bassoon: Performance III** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 183J and permission of faculty jury

WWNDS 234J **Saxophone: Performance III** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 184J and permission of faculty jury

WWNDS 270J **Flute: Primary IV** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 220J and permission of faculty jury

WWNDS 271J **Oboe: Primary IV** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 221J and permission of faculty jury

WWNDS 272J **Clarinet: Primary IV** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 222J and permission of faculty jury

WWNDS 273J **Bassoon: Primary IV** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 223J and permission of faculty jury

WWNDS 274J **Saxophone: Primary IV** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 224J and permission of faculty jury

WWNDS 280J **Flute: Performance IV** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 230J and permission of faculty jury

WWNDS 281J **Oboe: Performance IV** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 231J and permission of faculty jury

WWNDS 282J **Clarinet: Performance IV** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.
Effective: Fall 1983
Prerequisite: WWNDS 232J and permission of faculty jury

WWNDS 283J **Bassoon: Performance IV** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 233J and permission of faculty jury

WWNDS 284J **Saxophone: Performance IV** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 234J and permission of faculty jury

WWNDS 320J **Flute: Primary V** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 270J and permission of faculty jury

WWNDS 321J **Oboe: Primary V** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 271J and permission of faculty jury

WWNDS 322J **Clarinet: Primary V** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 272J and permission of faculty jury

WWNDS 323J **Bassoon: Primary V** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 273J and permission of faculty jury

WWNDS 324J **Saxophone: Primary V** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 274J and permission of faculty jury

WWNDS 330J **Flute: Performance V** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 280J and permission of faculty jury

WWNDS 331J **Oboe: Performance V** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 281J and permission of faculty jury

WWNDS 332J **Clarinet: Performance V** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinetmajors.
Effective: Fall 1983
Prerequisite: WWNDS 282J and permission of faculty jury

WWNDS 333J **Bassoon: Performance V** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 283J and permission of faculty jury

WWNDS 334J **Saxophone: Performance V** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 284J and permission of faculty jury

WWNDS 370J **Flute: Primary VI** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 320J and permission of faculty jury

WWNDS 371J **Oboe: Primary VI** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 321J and permission of faculty jury

WWNDS 372J **Clarinet: Primary VI** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 322J and permission of faculty jury

WWNDS 373J **Bassoon: Primary VI** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 323J and permission of faculty jury

WWNDS 374J **Saxophone: Primary VI** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 324J and permission of faculty jury

WWNDS 380J **Flute: Performance VI** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983

Prerequisite: WWNDS 330J and permission of faculty jury

WWNDS 381J **Oboe: Performance VI** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 331J and permission of faculty jury

WWNDS 382J **Clarinet: Performance VI** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.
Effective: Fall 1983
Prerequisite: WWNDS 332J and permission of faculty jury

WWNDS 383J **Bassoon: Performance VI** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 333J and permission of faculty jury

WWNDS 384J **Saxophone: Performance VI** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 334J and permission of faculty jury

WWNDS 420J **Flute: Primary VII** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 370J and permission of faculty jury

WWNDS 421J **Oboe: Primary VII** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 371J and permission of faculty jury

WWNDS 422J **Clarinet: Primary VII** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 372J and permission of faculty jury

WWNDS 423J **Bassoon: Primary VII** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 373J and permission of faculty jury

WWNDS 424J **Saxophone: Primary VII** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 374J and permission of faculty jury

WWNDS 430J **Flute: Performance VII** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 380J and permission of faculty jury

WWNDS 431J **Oboe: Performance VII** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 381J and permission of faculty jury

WWNDS 432J **Clarinet: Performance VII** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.
Effective: Fall 1983
Prerequisite: WWNDS 382J and permission of faculty jury

WWNDS 433J **Bassoon: Performance VII** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 383J and permission of faculty jury

WWNDS 434J **Saxophone: Performance VII** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 384J and permission of faculty jury

WWNDS 470J **Flute: Primary VIII** (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 420J and permission of faculty jury

WWNDS 471J **Oboe: Primary VIII** (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 421J and permission of faculty jury

WWNDS 472J **Clarinet: Primary VIII** (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983

Prerequisite: WWNDS 422J and permission of faculty jury

WWNDS 473J **Bassoon: Primary VIII** (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 423J and permission of faculty jury

WWNDS 474J **Saxophone: Primary VIII** (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.
Effective: Fall 1983
Prerequisite: WWNDS 424J and permission of faculty jury

WWNDS 480J **Flute: Performance VIII** (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 430J and permission of faculty jury

WWNDS 481J **Oboe: Performance VIII** (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.
Effective: Fall 1983
Prerequisite: WWNDS 431J and permission of faculty jury

WWNDS 482J **Clarinet: Performance VIII** (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.
Effective: Fall 1983
Prerequisite: WWNDS 432J and permission of faculty jury

WWNDS 483J **Bassoon: Performance VIII** (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 433J and permission of faculty jury

WWNDS 484J **Saxophone: Performance VIII** (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.
Effective: Fall 1983
Prerequisite: WWNDS 434J and permission of faculty jury

Last Import from UCM: May 29, 2010 3:00 AM

Music Education (MU ED)

MU ED 440 **Music Learning and Development** (2) Psychological principles related to music learning processes and applications of those to teaching music.
Effective: Spring 2010
Prerequisite: permission of program

Last Import from UCM: May 29, 2010 3:00 AM

Nanofabrication Manufacturing Technology (NMT)

NMT 210W **Introduction to Nanofabrication Manufacturing Technology** (3) This course provides an overview of basic Nanofabrication Manufacturing Technology for Engineering and Technology students. The course will give the student an overview of atomic physics and the use of atoms to build devices and machines.
Effective: Fall 2003
Prerequisite: E E T 101 Concurrent: STAT 200 CHEM 012

NMT 250 **Introduction to Nanotechnology Quality Control and Quality Assurance** (1) Overview of basic quality control and quality assurance methods used by the Nanotechnology industry.
Effective: Spring 2005
Prerequisite: STAT 200, NMT 210W

Last Import from UCM: May 29, 2010 3:00 AM

Navy (NAVSC)

NAVSC 101 **Introduction to Naval Science** (2) Introduction to naval organization, customs, military law, ships, aircraft, and Marine Corps and Navy career paths.
Effective: Fall 1983

NAVSC 102 **Sea Power and Maritime Affairs** (3) Historical evolution of sea power and its effects on world history; current U.S. maritime strategy for employment of naval forces.
Effective: Spring 1994

NAVSC 204 **Leadership and Management I** (2) Managerial thought and behavioral theories, with emphasis on how they apply to the naval organization.
Effective: Spring 1993

NAVSC 205 **Navigation** (3) Theory and principles of all types of piloting and navigation, including a practicum emphasizing correct documentation and plotting.
Effective: Spring 2006

NAVSC 311 **Evolution of Warfare** (2) Survey of development of military strategy, tactics, principles of war, and weaponry through the ages and recent U.S. applications.
Effective: Fall 1992

NAVSC 313 **Marine Corps Leadership Theory and Techniques** (2) Introduction to Marine Corps leadership theory and techniques and their application to military-related practical skills and subject matter.
Effective: Fall 1992

NAVSC 322 **Naval Ships Systems I--Naval Engineering** (3.5) Principles and applications of engineering concepts to ship construction, stability, and propulsion and auxiliary systems.
Effective: Fall 1992

NAVSC 323 **Naval Ships Systems II--Weapons** (3) An analysis of electromagnetic wave theory, principles of underwater sound propagation, electro-optic theory, and weapons control systems.
Effective: Spring 2006
Prerequisite: NAVSC 322

NAVSC 401 **Naval Operations and Seamanship** (3) Introduction to naval operations; the theory and principles of the rules of the road; use of the maneuvering board.
Effective: Fall 2006
Prerequisite: NAVSC 205

NAVSC 402 **Leadership and Management II** (2) The Navy's Resource Management Program (personnel management), counseling techniques, military justice, prevention of substance abuse, and naval correspondence and publications.
Effective: Fall 1983
Prerequisite: NAVSC 401

NAVSC 411 **Amphibious Warfare** (2) A historical survey and evaluation of twentieth-century amphibious warfare operations.
Effective: Fall 1992
Prerequisite: 6 credits of Navy ROTC courses

NOTE: Candidates for reqular commission in the Navy will gain practicum work during two afloat summer cruises.

Candidates for Regular commission in the Marine Corps will gain practicum work during one afloat summer cruise and one Maine Corps cruise at a Marine Corps base.
Additionally, the summer between the sophomore and junior years includes career orientation and training on vocational specialties in the Navy and Marine Corps.
Candidates for Reserve commissions in the navy and the Marine Corps will gain practicum work during one afloat summer cruise or one cruise at a Marine Corps base, respectively.

Last Import from UCM: May 29, 2010 3:00 AM

Nuclear Engineering (NUC E)

NUC E 001S **Atomic Adventures: First-Year Seminar** (1) First-year seminar exploring the interesting and exciting world of nuclear science and its applications.
Effective: Fall 1999

NUC E 002S **PSU Lion Loop: First-Year Seminar** (1) First-year seminar involving hands-on work and learning using the PSU Lion Loop research project.
Effective: Fall 1999

NUC E 003S **Power Plants and Their Simulation: First-Year Seminar** (1) First-year seminar using modern computer tools applied to power plant simulation.
Effective: Fall 1999

NUC E 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1998

NUC E 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

NUC E 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

NUC E 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

NUC E 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

NUC E 301 **Fundamentals of Reactor Physics** (4) Nuclear reactions and interactions relevant to nuclear engineering including fission, cross-sections, reaction rate calculations, energy depositions rates, and radioactive decay.
Effective: Spring 2001
Prerequisite: MATH 230, MATH 251, PHYS 214

NUC E 302 **Introduction to Reactor Design** (4) Static and dynamic reactor theory applied to basic reactor design problems.
Effective: Spring 2001
Prerequisite: NUC E 301, NUC E 309

NUC E 309 **Analytical Techniques for Nuclear Concept** (3) This course is an introduction to many of the analytical techniques used in the nuclear engineering discipline.
Effective: Summer 1993
Prerequisite: MATH 230, MATH 251

NUC E 310W **Issues in Nuclear Engineering** (2) Societal and technical issues facing nuclear engineers, including safety, operations, waste, regulation, public acceptance, economics, ethics, and radiation.
Effective: Fall 2001
Prerequisite: fifth-semester standing

NUC E 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

NUC E 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

NUC E 401 **Introduction to Nuclear Engineering** (3) Fundamental concepts of nuclear engineering, including fission, reactor theory, shielding, and radioisotopes; intended for other than nuclear engineering students.
Effective: Fall 2001
Prerequisite: MATH 250 orMATH 251

NUC E 403 **Advanced Reactor Design** (3) Physical principles and computational methods for reactor analysis and design. Multigroup diffusion theory; determination of fast and thermal group constants; cell calculations for heterogeneous core lattices.

Effective: Fall 1983
Prerequisite: NUC E 302

NUC E 405 (CHEM 406) **Nuclear and Radiochemistry** (3) Theory of radioactive decay processes, nuclear properties and structure, nuclear reactions, interactions of radiation with matter, biological effects of radiation.
Effective: Spring 2007
Prerequisite: CHEM 452 orPHYS 237 orNUC E 301

NUC E 406 (M E 406) **Introduction to Statistical Thermodynamics** (3) Statistical description of systems composed of large numbers of particles in the context of classical and quantum mechanics; basic concepts of probability theory and thermodynamics as they relate to statistical mechanics.
Effective: Fall 2007
Prerequisite: M E 300 orM E 201 orM E 202 orCH E 303;MATH 230 orMATH 231

NUC E 408 **Radiation Shielding** (3) Radiation sources in reactor systems; attenuation of gamma rays and neutrons; point kernel methods; deep penetration theories; Monte Carlo methods.
Effective: Spring 1985
Prerequisite: NUC E 301

NUC E 409 (MATSE 409) **Nuclear Materials** (3) Nuclear reactor materials: relationship between changes in material properties and microstructural evolution of nuclear cladding and fuel under irradiation.
Effective: Spring 2003
Prerequisite: PHYS 214

NUC E 420 **Radiological Safety** (3) Ionizing radiation, biological effects, radiation measurement, dose computational techniques, local and federal regulations, exposure control.
Effective: Spring 1997
Prerequisite: NUC E 301 orNUC E 405

NUC E 428 **Radioactive Waste Control** (3) Nature, sources, and control of radioactive wastes; theory and practice of disposal processes.
Effective: Spring 1997
Prerequisite: NUC E 301 orNUC E 405

NUC E 430 **Design Principles of Reactor Systems** (3) Nuclear power cycles; heat removal problems; kinetic behavior of nuclear systems; material and structural design problems.
Effective: Fall 2007
Prerequisite: M E 410;NUC E 301 orNUC E 401

NUC E 431W **Nuclear Reactor Core Design Synthesis** (4) Technical and economic optimization of nuclear systems.
Effective: Spring 1994
Prerequisite: ENGL 202C;NUC E 403, NUC E 430

NUC E 444 **Nuclear Reactor Operations Laboratory** (1) Correlation of reactor physics and reactor theory with practical reactor situations that will be controlled by the student.
Effective: Fall 1983
Prerequisite: or concurrent:NUC E 302

NUC E 445 **Nuclear Digital Instrumentation** (3) Interfacing nuclear instruments to microprocessors and computers.
Effective: Spring 2008
Prerequisite: E E 212

NUC E 446 (M E 446) **Reliability and Risk Concepts in Design** (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MATH 250 orMATH 251;STAT 401 orI E 424 orNUC E 309

NUC E 446 (M E 446) **Reliability and Risk Concepts in Design** (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 250 orMATH 251;M E 345 orNUC E 309

NUC E 450 **Radiation Detection and Measurement** (3) Theory and laboratory applications of radiation detectors, including proton, neutron, charged particle detectors, NIM devices, and pulse-height analysis.
Effective: Spring 2001
Prerequisite: NUC E 301 orNUC E 405;NUC E 309

NUC E 451 **Experiments in Reactor Physics** (3) Acquisition and processing of nuclear and atomic data; application to nucleonic phenomena of importance in nuclear engineering.
Effective: Spring 2008
Prerequisite: E E 212, NUC E 450

NUC E 470 **Power Plant Simulation** (3) Basic knowledge necessary for intelligent simulation and interpretation of simulations of transients in nuclear power plants.
Effective: Fall 2007
Prerequisite: M E 320, MATH 251, NUC E 302

NUC E 490 (E E 471, AERSP 490) **Introduction to Plasmas** (3) Plasma oscillations; collisional phenomena; transport properties; orbit theory; typical electric discharge phenomena.

Effective: Spring 2008
Prerequisite: E E 361 orPHYS 467

NUC E 494H **Senior Thesis** (1-9) Students must have approval of a thesis adviser before scheduling this course.
Effective: Spring 2007
Prerequisite: Junior or senior status in the University Scholars Program

NUC E 496 **Independent studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

NUC E 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

NUC E 497A **Fundamentals of Nuclear Engineering** (3) An intensive course providing introduction to NucE to undergraduate co-op students, non-NucE graduate, and returning students.
Effective: Summer 2010 Ending: Summer 2010

NUC E 497A **Fundamentals of Nuclear Engineering** (3) An intensive course providing introduction to Nuclear Engineering to undergraduate co-op students, non-NucE graduate, and returning students.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

NUC E 497D **Radiation Detection Measurement Lab** (1) Theory and laboratory applications of radiation detectors, including proton, neutron, charged particle detectors, NIM devices, and pulse-height analysis.
Effective: Summer 2010 Ending: Summer 2010

NUC E 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2008

Last Import from UCM: May 29, 2010 3:00 AM

Nursing (NURS)

NURS 044 **Introduction to Death Education** (1) Educational and consumer aspects of dying and death from a health education perspective.
Effective: Fall 2008

NURS 111 **Nursing Roles** (4) Introduction to associate degree nursing roles and nursing process.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: or concurrent:NURS 112, BIOL 141;BIOL 142 orBIOL 129, HD FS 129 orPSYCH 212, ENGL 015

NURS 111S **Nursing Roles** (4) Introduction to associate degree nursing roles and nursing process.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:NURS 112, BIOL 141;BIOL 142 orBIOL 129, HD FS 129 orPSYCH 212, ENGL 015

NURS 111S (US;IL) **Nursing Roles** (4) Introduction to nursing roles/process with emphasis on societal norms and multicultural influences on health care needs.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission to 2NURS major

NURS 112 **Health Patterns/Nursing Interventions** (4) Emphasis on individual health patterns and selected nursing interventions.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: or concurrent:NURS 111, BIOL 141, BIOL 142 orBIOL 129, HD FS 129 orPSYCH 212, ENGL 015

NURS 112 **Health Patterns/Nursing Interventions** (4) Emphasis on individual health patterns and selected nursing interventions.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 111S

NURS 113 **Childbearing Family** (4) Introduction to antepartum, intrapartum, postpartal, and neonatal nursing care.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 111, NURS 112, ENGL 015, HD FS 129 orPSYCH 212 Prerequisite or concurrent:BIOL 129 orBIOL 141;BIOL 142, PSYCH 100, SOC 001 orSOC 005

NURS 113 **Nursing Care During Childbearing Years** (3) Emphasis on childbearing family through prenatal, intrapartal, postpartal and neonatal periods.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 112

NURS 114 **Childrearing Family** (4) Emphasis on infancy through young adulthood with common and well defined health problems, with integrated nursing content.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 111, NURS 112, ENGL 015, HD FS 129 orPSYCH 212, ENGL 015 Prerequisite or concurrent:BIOL 129 orBIOL 141;BIOL 142, PSYCH 100, SOC 001 orSOC 005

NURS 114 **Nursing Care During Childrearing Years** (3) Emphasis on infancy through young adulthood with common and well- defined health problems, with integrated nursing content.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 112

NURS 115 **Medications and the Elderly Client** (1) Nursing implications of medication therapy with the elderly client.
Effective: Fall 2008

NURS 116 **Clinical Immersion I: Introduction to Concepts of Illness** (2) Clinical immersion course that utilizes clinical experiences and seminars to develop clinical competency.
Effective: Summer 2010
Prerequisite: NURS 112

NURS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

NURS 200W **Introduction to Nursing Research** (3) Introduction to methods and philosophy of empirical inquiry as applied to research in nursing.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: STAT 200, NURS 215, NURS 225, NURS 230, NURS 351 ; orSTAT 200 andNURS 390 for NURN major

NURS 200W **Understanding and Applying Nursing Research** (3) Introduction to methods and philosophy of empirical inquiry as applied to research in nursing and application to practice.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: STAT 200 orSTAT 250, NURS 225 ; orSTAT 200 orSTAT 250 andNURS 390 for NURN major

NURS 203 (GHA) **First Aid and CPR** (3) An introductory first aid course designed to provide the basic knowledge and skills to provide assistance to someone injured/ill.

Effective: Fall 2008

NURS 205 **Introduction to Pharmacological Concepts** (3) Study of basic concepts of pharmacology and relevant nursing implications.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; or approval of nursing program

NURS 211 **Patho/Nursing Interventions I** (5) Emphasis on middle-aged adults. Develop expanding competencies in caring for clients with acute or chronic dysfunctional health patterns.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 113, NURS 114 . Prerequisite or concurrent:MICRB 106, MICRB 107 Quantification elective

NURS 211 **Pathophysiology I - Nursing Interventions** (5) Caring for middle-aged adult with acute/chronic alterations in resp/cardio and musculoskeletal dysfunction.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 116

NURS 212 **Pathophysiology/Nursing Interventions II** (4) Caring for middle-aged adults with acute or chronic dysfunctional health patterns involving nutritional, metabolic, reproductive, oncological and immunological impairment.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 113, NURS 114 . Prerequisite or concurrent:MICRO 106, MICRO 107 Quantification elective

NURS 212 **Pathophysiology II - Nursing Interventions** (4) Caring for middle-aged adults with acute/chronic alterations in metabolism, reproduction, oncology and immunology.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 116

NURS 213 **Pathophysiology/Nursing Interventions III** (5) Care of adults with complex physical dysfunctional health patterns.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 211, NURS 212 . Prerequisite or concurrent: Arts elective and Humanities elective

NURS 213 **Pathophysiology III - Nursing Interventions** (5) Care for adults with complex physical and dysfunctional health patterns.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 212

NURS 214W **Psychiatric Nursing/Leadership Concepts** (5) Care of older adults with complex emotional or physical dysfunctional health patterns while developing the management knowledge base.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 211, NURS 212 . Prerequisie or concurrent: Arts elective and Humanities elective

NURS 214W **Nursing Care of Clients with Psychiatric/Mental Health Disorders** (3) Emphasis on care of adults with emotional or dysfunctional mental health patterns.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 212, PSYCH 100

NURS 215 (US) **Health: Introduction to Wellness** (3) Designed to explore the wellness component of health, with emphasis on concepts of health, life-style patterns and nursing interventions.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: BIOL 129, BIOL 141

NURS 216 **Clinical Immersion II: Introduction to Concepts of Leadership** (2) Clinical immersion course focusing on patient care and clinical seminars to develop leadership and clinical competencies.
Effective: Summer 2010
Prerequisite: NURS 212

NURS 225 **Health: Introduction to Illness** (3) Designed to explore the illness component of health, with emphasis on the pathophysiological and psychosocial aspects.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: BIOL 129, BIOL 141, NURS 215, NURS 351 ; prerequisite or concurrent:MICRB 106, MICRB 107, CHEM 101 orCHEM 110, CHEM 111

NURS 225 **Pathophysiology** (3) Designed to explore the illness component of health with emphasis on the pathophysiological and psychosocial aspects.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 250, NURS 251, BIOL 129, BIOL 141

NURS 230 **Health: Nursing Process** (4) Analysis of the nursing process and introduction to clinical competencies and psychosocial skills.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 351

NURS 230 **Introduction to the Fundamentals of Nursing** (4) Introduction to the nursing process, clinical competencies and psychosocial skills.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 250, NURS 251

NURS 245 (GS) **Violence and the Impact on Society** (3) Interdisciplinary discussion of violence, its perpetrators, victims and its impact on society as well as possible solutions for violence reduction.

Effective: Spring 2010

NURS 250 (US) **Professional Role Dev I: Intro to Professional Issues in Nursing Practice and Nursing Informatics** (2) Introduction to professional nursing practice and health-related issues emphasizing application of nursing informatics.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 129, BIOL 141

NURS 251 **Health Assessment** (3) Designed to broaden the student's knowledge and skills in health assessment and physical examination across the lifespan.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 129, BIOL 141 ; orNURS 111 andNURS 112 for Associate Degree Majors; or eligibility for NURN major for RNs.

NURS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2008

NURS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

NURS 297A **Learning and Testing Strategies for Nursing Students** (1) Assisting nursing students to evaluate personal current study habits, Learning styles, time allocation for class preparation/test taking effectiveness.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 2NURS Major

NURS 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2008

NURS 300H **Honors Seminar in Nursing** (3-12) Seminar activities on selected topics in nursing.
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 admission to the Honors Program

NURS 301 **Nursing Care of Client through the Adult Life Span requiring Medical Intervention** (4) Practice and delivery of therapeutic nursing care to the adult patient in a variety of primarily medical settings.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

NURS 301 **Nursing Care of the Adult Client Requiring Medical-Surgical Intervention** (4) Therapeutic nursing care of the adult client in a variety of primarily medical-surgical settings.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230

NURS 302 **Nursing Care of the Client through the Adult Life Span requiring Surgical Intervention** (4) Practice and delivery of therapeutic nursing care to the adult patient in a variety of primarily surgical settings.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

NURS 303 **Clinical Application of Laboratory Tests** (1) A study of the background, meaning, and nursing implications of laboratory test results.
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351

NURS 304 **Concepts of Pain Management** (1) Nursing management of clients experiencing a variety of types of pain.
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351

NURS 305 **Introduction to Pharmacological Concepts** (3) Study of basic concepts of pharmacology and relevant nursing implications.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230 ; or approval of program Concurrent: NURS 301 NURS 310

NURS 306 **Nursing Care of Children and Adolescents** (3) Common health problems and nursing intervention for children and adolescents.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230, NURS 305

NURS 310 **Nursing Care of the Elderly** (4) Nursing concerns and intervention in promoting the health of the elderly.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

NURS 310 **Therapeutic Nursing Care of the Older Adult Client in a Variety of Settings** (3) Nursing concerns and intervention in promoting the health of the older adult.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230

NURS 320 **Nursing Care of Young Adults** (4) Methods of and practice in the delivery of therapeutic nursing care to young adults in the childbearing phase of life.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

NURS 320 **Nursing Care of the Childbearing Family and Gynecological Client** (3) Therapeutic nursing care of the chilbearing family and gynecological client.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230, NURS 305

NURS 350 **Professional Role Development II: Ethics, Legal and Genetic Issues** (2) The study of the interaction of ethical, legal, and genetic concepts as they apply to current health care practice.
Effective: Summer 2010
Prerequisite: NURS 305

NURS 351 **Health Assessment** (3) Designed to broaden the student's knowledge and skills in health assessment and physical examination across the lifespan.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 111, NURS 112 (for Associate Degree Majors); or eligibility for NURN major Concurrent: NURS 215

NURS 357 **Introduction to Nursing Informatics** (3) An introduction to nursing informatics focusing on technology applications to the nursing profession.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 301, NURS 306, NURS 310, NURS 320 ; or eligibility for NURN major

NURS 390 (US) **Transition and the Professional Nursing Role** (3) Transition to baccalaureate education and professional nursing practice, emphasizing leadership, management, and issues influencing nursing education and practice.
Effective: Fall 2008
Prerequisite: eligibiity for NURN major

NURS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

NURS 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2008

NURS 400 **Professional Role Development** (3) Implications of nursing leadership for the professional nurse. Study of leadership roles and various styles of nursing management.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

NURS 401 (IL) **Concepts of Health** (3) Exploration of current and ancient concepts of health and their respective modes of intervention.
Effective: Fall 2008
Prerequisite: PSYCH 100 orSOC 001

NURS 402 (US;IL) **Holistic Health** (3) Examination of emerging conceptualizations of health and therapy based on a holistic view of human beings.
Effective: Fall 2008
Prerequisite: NURS 401

NURS 403 **School Health and Emergency Care of Children and Adolescents** (3) Techniques for higher-level care for school health and emergency situations and application-based education.
Effective: Spring 2010
Prerequisite: BIOL 129, BIOL 141, HD FS 129

NURS 404 **Cardiac Dysrhythmias: Interpretation, Treatment, and Nursing Management** (1) An introductory course with a focus on dysrhythmia recognition and interpretation of abnormal 12-lead electrocardiograms (EKG, ECG).
Effective: Fall 2008
Prerequisite: BIOL 141, BIOL 129 or equivalent or approval of program

NURS 405 **Nursing Care of the Adult Client with Complex Health Problems** (4) In-depth study of care of patients with acute and complex health problems, utilizing nursing theory and practice.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

NURS 405A **Nursing Care of the Adult Client with Complex Health Problems: Part A** (4) In-depth study of care of patients with acute and complex health problems, utilizing evidence based practice.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

NURS 405B **Nursing Care of the Adult Client with Complex Health Problems: Part B** (4) In-depth study of care of patients with acute and complex health problems, utilizing evidence based practice.
Effective: Summer 2010
Prerequisite: NURS 350

NURS 406 **Nursing Care of Children and Adolescents** (4) Common health problems and nursing intervention for children

and adolescents.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

NURS 407 **Drugs of Abuse and Mental Health Issues** (3) Examines the health care needs across the lifespan of clients who have an alcohol or other drug disorder.
Effective: Fall 2008
Prerequisite: BB H 143 orPSYCH 100 or approval of program

NURS 408 **Clinical Application of Pharmacological Concepts** (1) Study of the application of pharmacological concepts to the clinical setting.
Effective: Fall 2008
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

NURS 409 **Introduction to Forensic Nursing** (3) Provides an introduction to the forensic health sciences, forensic nursing, and the nursing role in the scientific investigation of violence.
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230

NURS 415 (US;IL) **Community and Family Health Nursing--Concepts and Applications** (4) Health promotion concepts to meet the health care needs of multicultural families and groups in community health nursing practice.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

NURS 415 (US;IL) **Community and Family Health Nursing** (4) Therapeutic nursing care and health promotion concepts to families, groups and populations in the community.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

NURS 417 (US;IL) **Family and Community Health Concepts** (4) Study of the concepts of family and community based nursing care emphasizing multicultural influences on health practices.
Effective: Fall 2008
Prerequisite: NURS 390 and current and valid RN license; Prerequisite or concurrent:NURS 457

NURS 418 **Application of Family and Community Health Concepts** (3) Application of family and community health concepts in a specialized practice setting.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 200W, NURS 351, NURS 390, NURS 417, NURS 457 current and valid RN license; Prerequisite or concurrent:NURS 465

NURS 420 **Mental Health Nursing** (4) Emphasizes the clinical application of mental health theory in nursing care of patients with acute and chronic mental health problems.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

NURS 420 **Mental Health Nursing** (4) Emphasizes clinical application of mental health theory in nursing care of patients with acute and chronic mental health problems.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

NURS 425 **School Health Nursing** (3) Study and experience with the roles and responsibilities of the school health nurse.
Effective: Fall 2008
Prerequisite: NURS 415

NURS 430 **Organization and Administration for the Nurse Manager** (3) Introduction to organizational theory and principles of practice in the administration of nursing services and patient care.
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

NURS 431 **Data Management for Nurse Managers** (3) Analysis of information systems to manage nursing service organizations; includes financial management, the budgeting processes, and productivity measurement.
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

NURS 432 **Nursing Management of Human Resources** (3) Human resource management and related factors in nursing service organizations.
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

NURS 433 **Seminar for Nurse Managers** (3) Course focuses on the application of management principles in the role of the nurse manager.
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

NURS 440 **Trauma/Critical Care Nursing** (3) Focuses on the impact of and the nursing care of persons experiencing acute trauma and/or critical illness.
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 or approval of nursing program

NURS 450A **Professional Role Development III: Leadership and Management** (2) Study of leadership roles and various styles of nursing management and their implications for the professional nurse.

Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

NURS 450B **Professional Role Development III: Clinical Capstone** (3) Senior level clinical capstone course that emphasizes the integration and application of theory and evidence based practice.
Effective: Summer 2010
Prerequisite: NURS 450A

NURS 452 (US) (BB H 452, WMNST 452) **Women's Health Issues** (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.
Effective: Fall 2008
Prerequisite: BIOL 141 orPSYCH 100

NURS 457 **Introduction to Computing and Nursing Informatics** (3) An introduction to computers and nursing informatics focusing on applications to the nursing profession.
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 225, NURS 301, NURS 302, NURS 310 andNURS 320 ; or eligibility for NURN major

NURS 458 **Ethical Challenges in Healthcare Informatics** (3) A case based collaboratory designed for the exploration and analysis of the ethical dilemmas facing healthcare informatics practitioners.
Effective: Fall 2008
Prerequisite: NURS 457

NURS 459 **Legal and Professional Issues in School Nursing** (3) Legal and professional issues of school nurses and delivery impact of health care in school environment.
Effective: Spring 2010
Prerequisite: PSYCH 100 orSOC 001 orHD FS 129

NURS 463 **Compassionate Counseling for Children/Adolescents Dealing with Dying, Death, Other Life Crises** (3) Compassionate Counseling for Children and Adolescents Dealing with Dying, Death, and Other Life Crises.
Effective: Spring 2010
Prerequisite: PSYCH 100 orSOC 001 orHD FS 129

NURS 464 (US;IL) **Dying and Death** (3) Explores attitudes toward death and dying; concept of grief; responsibilities to the dying person and the family.
Effective: Fall 2008
Prerequisite: PSYCH 100 orSOC 001

NURS 465 **Health Concepts for Adults with Complex Health Care Needs** (3) In-depth study and application of the theoretical principles and roles of adult clients and families with complex healthcare needs.
Effective: Fall 2008
Prerequisite: NURS 390 and current and valid RN license; Prerequisite or concurrent:NURS 457

NURS 466 **Application of Adult Health Concepts** (4) Application of the theoretical principles and roles of adult health nursing to clients and families in clinical settings.
Effective: Fall 2008
Prerequisite: NURS 465

NURS 475 **Integrated Concepts in Nursing Practice** (3) Project-based capstone course for application of nursing concepts to health promotion/disease prevention in populations.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 417 ; and current and valid RN license

NURS 492 **Emergency Care and Safety** (3) A comprehensive first aid course designed to provide knowledge of prehospital emergency care at the First Responder level.
Effective: Fall 2008
Prerequisite: BIOL 141, BIOL 129 or equivalent or approval of program

NURS 494H **Honors Thesis** (1-6) Independent honors research project related to student's interests directed by faculty supervisor and culminating in production of thesis.
Effective: Summer 2010
Prerequisite: approval of honors thesis adviser

NURS 495 **Nursing study in Specialized Setting** (1-12) Designed to provide student with in-depth study and practice in clinical specialty area of choice.
Effective: Fall 2008
Prerequisite: seventh-semester standing

NURS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2008

NURS 496A **Asthma Awareness in a Rural Setting** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

NURS 496B **Focused Study of Nursing--Common Health Problems and Patient Care** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

NURS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

NURS 497A **Medication Update & Health Teaching Interventions for School Nurses** (1) Pharmacologic concepts relevant to treatment of acute/chronic conditions encountered in school nursing. Each unit includes specific health teaching interventions.
Effective: Summer 2010 Ending: Summer 2010

NURS 497A **Relational Aggression in the Health Care Workforce** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

NURS 497B **The Process of Patient Education in Nursing** (3) Explore relevance of patient education in health care settings.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: NURS 230 and/or approval of instructor

NURS 497B **Relational Aggression in the Healthcare Setting** (3) Explores issues of relational aggression in healthcare workforce with specific focus on nursing profession. Examine research/impact of this problem.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PSYCH 100 ; NURN NURS or 2NURS majors only

NURS 497C **Psychotropic Drugs and Children/Adolescents** (1) Study of psychotropic drugs that are used to treat children and adolescents; classifications, idications, actions, adverse reactions and school implications.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: RN license or permission of program

NURS 497D **Perioperative Nursing** (4) Comprehensive introduction to fundamental principles and practices of the Operating Room Nurse when managing the care of the surgical patient.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: RN License

NURS 497E **Client Education Strategies for Nurses and Other Health Care Providers** (3) Explores current and emerging roles of client education in the knowledge era.
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: NURS 230, PSYCH 100 orSOC 001 orHD FS 129 or permission of faculty for RN students

NURS 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2008

NURS 499 (IL) **Foreign Study--Nursing** (1-9) Study of nursing issues in a foreign country.
Effective: Fall 2008

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Nutrition (NUTR)

NUTR 100 (GHA) **Contemporary Nutrition Concerns** (1.5) Interpretation of nutrition principles in relation to contemporary problems in selecting a diet to promote a healthy lifestyle. Students who have received credit for NUTR 151 or NUTR 251 may not schedule this course.
Effective: Spring 2004

NUTR 115 **Theory of Exercise and Nutrition for Weight Control** (1) Nutrition application for responsible weight control.
Effective: Spring 2005
Concurrent: ESACT 115

NUTR 119 **Elementary Foods** (3) Basic principles and fundamental processes underlying food preparation. For non-nutrition majors only.
Effective: Spring 1992

NUTR 120 **Food Preparation** (3) Scientific principles of basic food preparation, with an emphasis on the physical and chemical aspects.
Effective: Summer 2007
Prerequisite: CHEM 202

NUTR 151 **Nutrition Component of the Food Service System** (3) Introduction to basic nutrition principles and their application in a food service system. Students who have taken NUTR 251 may not schedule this course.
Effective: Spring 1992

NUTR 170 **Careers in Nutrition** (1) Nutrition professionals describe career paths and opportunities for graduates in applied and science options; strategies for making effective career decisions.
Effective: Summer 1996

NUTR 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NUTR 230 (S T S 230, HIST 230) **American Food System: History, Technology and Culture** (3) A cultural analysis of the evolution of U.S. agricultural production and food consumption patterns, the food industry and food marketing.
Effective: Spring 1992

NUTR 251 (GHA) **Introductory Principles of Nutrition** (3) The nutrients: food sources and physiological functions as related to human growth and well-being throughout life; current nutrition issues. Students who have passed NUTR 151 may not schedule this course.
Effective: Spring 2004

NUTR 252 **Diet Therapy and Nutrition Care in Disease** (4) Principles of nutrition care to meet therapeutic needs, inpatient care, and rehabilitation.
Effective: Spring 1992
Prerequisite: NUTR 151 orNUTR 251

NUTR 253 **Nutrition Care of the Elderly** (3) Introduction to the psychosocial, nutritional, and physiological needs of the elderly with emphasis on the delivery of nutrition care.
Effective: Spring 2001
Prerequisite: NUTR 151 orNUTR 251

NUTR 280 (D S M 280) **Current Issues in Community Dietetics** (3) Current issues impacting community dietetics programs with emphasis on the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).
Effective: Spring 1998
Prerequisite: D S M 195

NUTR 281 (D S M 281) **Facilitated Discussion in Community Dietetics** (2) Principles and methods of designing, implementing, and evaluating facilitated discussion to provide effective nutrition education.
Effective: Spring 1998
Prerequisite: D S M 280

NUTR 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1992

NUTR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1992

NUTR 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

NUTR 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NUTR 358 **Assessment of Nutritional Status** (2) Introduction to purpose, methods, and scientific basis for assessment of nutritional status in total health care for individuals and groups.
Effective: Fall 2002
Prerequisite: NUTR 251

NUTR 359 **Nutrition Assessment Theory and Practice** (2) Introduction to purpose, methods, and scientific basis for assessment of nutritional status and use of tools in a practice setting.
Effective: Summer 1993
Prerequisite: NUTR 151 orNUTR 251

NUTR 360 **Disseminating Nutrition Information** (3) Theory and practice of providing nutrition information across the lifespan. Open only to Health and Human Development majors.
Effective: Fall 2002
Prerequisite: NUTR 251

NUTR 370 **Profession of Dietetics** (1) Introduction to the profession of dietetics including laws, regulations and standards affecting practice, and preparation for post-baccalaureate degree training.
Effective: Spring 1992
Prerequisite: senior standing in Nutrition or Hotel Restaurant and Institutional Management

NUTR 375 **Nutrition Peer Education Training** (2) To train students accepted into the HealthWorks Peer Education Program, to provide reliable nutrition information to their peers.
Effective: Spring 2000
Prerequisite: NUTR 251 . Prerequisite or concurrent:NUTR 360

NUTR 380 **Leadership Principles in Nutrition Services** (3) Issues impacting delivery of nutrition services in health care environments, including, health care systems, management theories, decisions making, and leadership.
Effective: Summer 2005
Prerequisite: NUTR 100 orNUTR 251

NUTR 386 **Managing Quality in Food and Nutrition Services** (3) Application and integration of management theory to quality attainment in food and nutrition services.
Effective: Spring 2010
Prerequisite: HRIM 329 Concurrent: HRIM 330

NUTR 395 **Nutrition Field Experience** (1-6) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity is required.
Effective: Spring 1992
Prerequisite: NUTR 251 ; fourth-semester standing

NUTR 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

NUTR 400 **Introduction to Nutrition Counseling** (1) No description.
Effective: Fall 1998
Prerequisite: NUTR 358 . Prerequisite or concurrent:NUTR 446

NUTR 401 **Nutrition Clinic Practicum** (1-3) To provide qualified nutrition students with the opportunity to practically apply nutrition counseling skills in a supervised environment.
Effective: Spring 2002
Prerequisite: NUTR 400

NUTR 421 (US;IL) **Food Culture and Health Trends** (3) Social-political, historic, and geographic roots of food patterns, featuring specific cuisine areas and nutritional disease patterns; includes foods laboratory.
Effective: Summer 2005
Prerequisite: NUTR 119 orNUTR 120;NUTR 151 orNUTR 251

NUTR 430 (IL) (S T S 430) **Global Food Strategies: Problems and Prospects for Reducing World Hunger** (3) Technological, social, and political solutions to providing basic food needs; food resources, population, and the environment; current issues.
Effective: Summer 2005

NUTR 445 **Nutrient Metabolism I** (3) Nutrients, their sources, metabolism, interrelationships and requirements with focus on carbohydrates, lipids, and proteins.
Effective: Spring 2001
Prerequisite: B M B 211, BIOL 141, NUTR 251

NUTR 446 **Nutrient Metabolism II** (3) Continuation of NUTR 445; nutrients, their sources, metabolism, inter- relationships and requirements with focus on vitamins and minerals.
Effective: Summer 1994

Prerequisite: NUTR 445

NUTR 451 **Nutrition throughout the Life Cycle** (3) Application of basic principles of nutrition to nutritional and physiological needs throughout the life cycle from prenatal to aging.
Effective: Spring 2001
Prerequisite: NUTR 358, NUTR 445 . Prerequisite or concurrent:NUTR 446

NUTR 452 **Nutritional Aspects of Disease** (3) Disturbances in metabolism related to human disease processes; principles of nutrition in therapy.
Effective: Spring 1995
Prerequisite: NUTR 446

NUTR 453 **Diet in Disease** (3) Nutrient and energy controlled diet programs. Implications for nutrition counseling and education.
Effective: Spring 1995
Prerequisite: or concurrent:NUTR 452

NUTR 454 **Laboratory Methods in Nutrition** (3) Research and clinical methods for study of nutritional phenomena, interpretation of data in relation to various nutritional and physiological states.
Effective: Spring 1995
Prerequisite: or concurrent:NUTR 446

NUTR 456 **Community Nutrition** (2) Programs and policies of nutrition-related activities of community agencies; factors pertinent to nutrition education.
Effective: Spring 1992
Prerequisite: NUTR 251

NUTR 490W **Nutrition Seminar** (3) Use of selected materials from the scientific literature to prepare a term paper and an oral report.
Effective: Spring 1995
Prerequisite: or concurrent:NUTR 452

NUTR 494H **Senior Honors Thesis** (1-6) Independent study related to a student's interests directed by a faculty supervisor and culminating in the production of a thesis.
Effective: Summer 2006
Prerequisite: approval of honors thesis advisor

NUTR 495 **Advanced Field Experience in Nutrition** (1-6) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity is required.
Effective: Spring 2001
Prerequisite: NUTR 456

NUTR 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1992

NUTR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1992

NUTR 497G (S T S 497G) **Community Food Security** (3) Through active learning, students explore how communities can reshape food systems, increasing access to wholesome food while increasing economic opportunities.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

NUTR 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

NUTR 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Occupational Therapy (O T)

O T 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

O T 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

O T 100 **Structural Foundations of Occupational Therapy** (1) An overview of the structural foundations of the occupational therapy profession.
Effective: Summer 2004 Ending: Fall 2010

O T 100S **Structural Foundations of Occupational Therapy** (1) An overview of the structural foundations of the occupational therapy profession.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

O T 100S **Structural Foundations of Occupational Therapy** (1) An overview of the structural foundations of the occupational therapy profession.
Effective: Spring 2011 Future: Spring 2011

O T 101 **Conceptual Foundations of Occupational Therapy Practice** (3) An overview of the conceptual foundations of occupational therapy practice. Observation of therapists in treatment settings.
Effective: Spring 2005
Prerequisite: O T 100 or current

O T 103 (US) **Occupational Performance Across the Life Span** (3) Analysis of occupations from birth to death including descriptions of occupational performance and factors which influence performance.
Effective: Spring 2005
Prerequisite: O T 100, O T 101

O T 105W **Activity Analysis: Group Interaction Skills** (3) Group interaction observed and analyzed. Activities to facilitate and enhance interactions practiced.
Effective: Spring 2007
Prerequisite: O T 101, PSYCH 100

O T 107 **Activity Analysis: Assistive Technologies and Methods of Adaptation** (3) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.
Effective: Spring 2000
Prerequisite: O T 101

O T 107H **Activity Analysis: Assistive Technologies and Methods of Adaptation** (3) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: O T 101

O T 107L **Activity Analysis: Assistive Technologies and Methods of Adaptation** (3) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.
Effective: Spring 2000
Prerequisite: O T 101

O T 107P **Activity Analysis: Assistive Technologies and Methods of Adaptation** (0) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.
Effective: Spring 2000
Prerequisite: O T 101

O T 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

O T 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

O T 201 **Documentation Skills for OTA Students** (3) Instruction and practice in documentation of occupational therapy intervention utilizing selected formats.
Effective: Spring 2009
Prerequisite: O T 100, O T 101 or consent of program

O T 202 **Occupational Therapy for Developmental Disabilities** (3) Occupational therapy assessments, interventions, documentation for pediatric/developmental disability practice, observation and practice of techniques in treatment settings.
Effective: Spring 2000
Prerequisite: HD FS 129, O T 103, O T 105, O T 107

O T 204 **Occupational Therapy for Psychosocial Dysfunctions** (3) Occupational therapy evaluation, intervention, documentation, methods for psychosocial dysfunctions. Observation of therapists in treatment settings.
Effective: Spring 2000
Prerequisite: HD FS 129, O T 103, O T 105

O T 206 **Occupational Therapy for Physical Disabilities** (3) Occupational therapy evaluation, intervention, documentation methods for physical disabilities, observation of therapists in treatment settings.
Effective: Spring 2000
Prerequisite: BIOL 129, BIOL 141, BIOL 142, O T 103, O T 107

O T 295A **Field Experience in Occupational Therapy I** (6) Part I of supervised experience in select occupational therapy settings in the role of an occupational therapy assistant; seminars included.
Effective: Fall 2008
Prerequisite: satisfactory completion of all didactic course work

O T 295B **Field Experience in Occupational Therapy II** (6) Part II of supervised experience in select occupational therapy settings in the role of an occupational therapy assistant; seminars included.
Effective: Spring 2010
Prerequisite: successful completion of all didactic course work and successful completion of OT 295A

O T 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

O T 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

O T 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

O T 384 **Human Kinesiology for Occupational Performance** (3) Theory and application of anatomical, neuromuscular, and mechanical fundamentals of human stability, motion, and force in relation to occupational performance.
Effective: Spring 2000
Prerequisite: BIOL 129, BIOL 141, BIOL 142

O T 401 **Conceptual Foundations of Occupational Therapy and Occupational Adaptations** (2) Analysis of philosophies and frames of reference for occupational therapy practice, emphasizing occupational functioning, the adaptation process, and occupational environments. Occupational Therapy majors only.
Effective: Spring 2000

O T 402 **Neuroscience Foundations of Occupational Functioning** (4) The course will examine neuroanatomical, neurochemical, and neurophysiological functions affecting sensorimotor, cognitive, and effective domains of human performance. Occupational Therapy majors only.
Effective: Spring 2000
Prerequisite: BIOL 129, BIOL 141, BIOL 142

O T 403 **Motor Components of Occupational Adaptation and Performance** (3) Analysis of adaptive, homeostatic, and dysadaptive motor patterns across the life span; theory and application of related occupational therapy assessment.
Effective: Spring 2000
Prerequisite: O T 402

O T 404 **Sensory and Perceptual Components of Occupational Adaptation and Performance** (3) Adaptive, dysadaptive, and homeostatic sensory and perceptual skills across the life span; theory and application of related occupational therapy evaluation.
Effective: Spring 2000
Prerequisite: O T 402

O T 405 **Cognitive and Psychosocial Components of Occuppational Adaptation and Performance** (4) Adaptive, dysadaptive, and homeostatic cognitive and psychosocial skills across the life span; theory and application of related occupational therapy evaluation.
Effective: Spring 2000
Prerequisite: O T 402

O T 406 **Occupational Challenges of Infants and Young Children** (3) Conditions interfering with occupational functioning of infants and young children; theory, evaluation, program design, and treatment for facilitating occupational adaptation.
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

O T 407 **Occupational Challenges of Older Children and Adolescents** (3) Conditions interfering with occupational functioning of older children and adolescents; theory, evaluation, program design, and treatment for facilitating occupational adaptation.
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

O T 408 **Occupational Challenges of Adults** (4) Conditions interfering with occupational functioning of adults; theory, evaluation, program design, and treatment for facilitating occupational adaptation.
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

O T 409 **Occupational Challenges of Older Adults** (4) Conditions interfering with occupational functioning of older adults; theory, evaluation, program design, and treatment for facilitating occupational adaptation.
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

O T 410 **Environmental and Technological Influences on Occupational Adaptation and Performance** (3) Impact of occupational environments on functioning and technological adaptation for mastery over the environment.
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

O T 411 **Occupational Therapy Management and Professional Ethics** (3) Ethical, managerial, fiscal, and legal responsibilities of program administration, supervision, practice, delivery, and professional development.
Effective: Spring 2000
Prerequisite: O T 401

O T 412W **Introduction to Research** (3) Introduction to quantitative and qualitative research process relative to occupational therapy.
Effective: Spring 2000
Prerequisite: O T 407, O T 408, O T 409;STAT 200 orSTAT 250

O T 495A **Level I Fieldwork Experience** (1 per semester, maximum of 3) Practicum in 3 of 5 areas: occupational therapy evaluation procedures; environmental and technological adaptation; program design; management issues; selected topics.
Effective: Spring 2000
Prerequisite: concurrent with occupational therapy didactic course work

O T 495B **Fieldwork Level II Part 1** (6) Three month practical educational experience facilitating clinical reasoning and application of professional knowledge, behaviors, values, and skills.
Effective: Spring 2000
Prerequisite: completion of O T 495A and all didactic course work

O T 495C **Fieldwork Level II Part 2** (6) Three month practical educational experience facilitating clinical reasoning and application of professional knowledge, behaviors, values, and skills.
Effective: Spring 2000
Prerequisite: successful completing of O T 495B

O T 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

O T 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

Last Import from UCM: May 29, 2010 3:00 AM

Operations and Information Systems Management (OISM)

OISM 401W **Statistics and Quality Control** (3) Statistical methods for measurement and improvement of quality; topics include statistical inference, process control, and design.
Effective: Spring 2007
Prerequisite: MATH 110 orMATH 140;SCM 200

Last Import from UCM: May 29, 2010 3:00 AM

Penn State First-Year Seminar (PSU)

PSU 001 **First-Year Seminar Abington** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 002 **First-Year Seminar Agricultural Science** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 003 **First-Year Seminar Altoona** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 004 **First-Year Seminar Arts and Architecture** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 005 **First-Year Seminar Berks** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 006 **First-Year Seminar Business** (1-3) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Fall 2004

PSU 006T **First-Year Seminar Business** (1-3) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Fall 2007

PSU 007 **First-Year Seminar Behrend** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 008 **First-Year Seminar University College** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 008S **First-Year Seminar University College** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 2000

PSU 008T **First-Year Seminar Univeristy College** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Fall 1999

PSU 009 **First-Year Seminar Communications** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 009T **First-Year Seminar Communications** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 2006

PSU 010 **First-Year Seminar Earth and Mineral Sciences** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 011 **First-Year Seminar Education** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 012 **First-Year Seminar Engineering** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 013 **First-Year Seminar Capital** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 014 **First-Year Seminar Health and Human Development** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 015 **First-Year Seminar Liberal Arts** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 016 **First-Year Seminar Science** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Spring 1999

PSU 017 **First-Year Seminar College of Information Sciences and Technology** (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.
Effective: Fall 2007

Last Import from UCM: May 29, 2010 3:00 AM

Petroleum and Natural Gas Engineering (P N G)

P N G 020 **Introductory Petroleum Engineering** (3) Introduction to fluid transfer operations of the earth; production of petroleum, natural gas, and water; storage of natural gas. Covers conservation implications.
Effective: Spring 1999

P N G 382 **Seminar** (1) Discussions and presentations of current problems and literature as related to technological and economic aspects of the petroleum industry.
Effective: Spring 2001

P N G 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

P N G 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

P N G 405 **Rock and Fluid Properties** (3) Reservoir rock properties, rock and fluid properties (interaction between rock and fluids), flow behavior in reservoir, and fluid properties.
Effective: Spring 2002
Prerequisite: PHYS 211

P N G 406 **Rock and Fluid Laboratory** (1) Systematic study of oil reservoir rocks and fluids; their interrelation applied to petroleum engineering.
Effective: Spring 2001
Prerequisite: PHYS 211 Concurrent: P N G 405

P N G 410 **Applied Reservoir Engineering** (3) Analysis and prediction of reservoir performance by use of material balance and steady and nonsteady state flow equations.
Effective: Spring 2001
Prerequisite: P N G 405, P N G 406, PHYS 211

P N G 411 **Introduction to Petroleum and Natural Gas Extraction** (1) Introduction to the design and implementation of the systems used in the extraction of oil and gas. Not intended for petroleum and natural gas engineering majors.
Effective: Spring 2001
Prerequisite: PHYS 211

P N G 420 **Applied Reservoir Analysis and Secondary Recovery** (4) Application of material balance equations/transient flow solutions to water influx problems; displacement theory as it applies to design/behavior of flooding.
Effective: Spring 2008
Prerequisite: P N G 410;CMPSC 201 orCMPSC 202

P N G 425 **Principles of Well Testing and Evaluation** (3) Mathematical basis for pressure analysis. Theory and practice of pressure testing techniques.
Effective: Spring 1999
Prerequisite: MATH 251, P N G 420

P N G 430 **Reservoir Modeling** (3) The numerical simulation of petroleum reservoir processes by the use of models; scaling criteria and network flow.
Effective: Spring 2008
Prerequisite: MATH 251, P N G 410;CMPSC 201 orCMPSC 202

P N G 440W **Formation Evaluation** (3) Study of those methods used to evaluate the engineering properties of oil and gas bearing reservoir formations.
Effective: Spring 1999
Prerequisite: P N G 405, P N G 406

P N G 450 **Drilling Design and Production Engineering** (3) Design and analysis of oil-field drilling operations and equipment.
Effective: Spring 2001
Prerequisite: C E 360, E MCH 210

P N G 451 **Oil Well Drilling Laboratory** (1) Practice in well-control procedures. Measurement of drilling fluid properties.
Effective: Spring 2001
Prerequisite: C E 360, E MCH 210 Concurrent: P N G 450

P N G 475 **Petroleum Engineering Design** (3) Design and selection of mechanical components used in the production of fluids from subsurface reservoirs.
Effective: Spring 2001
Prerequisite: E MCH 210

P N G 480 **Production Process Engineering** (3) Analysis and evaluation of surface production processes, fluid separation,

storage, measurement, treating, custody transfer, transmission, disposal, corrosion, and other operations.
Effective: Fall 2007
Prerequisite: C E 360;M E 201 orM E 300

P N G 482 **Production Engineering Laboratory** (1) Measurement and analyses of the physical and chemical properties of hydrocarbon fluid systems in a production environment.
Effective: Fall 2007
Prerequisite: C E 360;M E 201 orM E 300 Concurrent: P N G 480

P N G 486 **Tertiary Oil Recovery Methods** (3) Presentation of theory of tertiary methods of oil recovery, current field applications, future engineering potential.
Effective: Spring 1999

P N G 489 **Engineering Evaluation of Oil and Gas Properties** (3) Application of present worth and rate-of-return analysis; reserve calculations; decline curve analysis; uncertainty and risk analysis to engineering project design and evaluation.
Effective: Spring 2002 Ending: Summer 2010
Prerequisite: ECON 002 Concurrent: P N G 405

P N G 489 **Engineering Evaluation of Oil and Gas Properties** (3) Application of present worth and rate-of-return analysis; reserve calculations; decline curve analysis; uncertainty and risk analysis to engineering project design and evaluation.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002

P N G 490 **Introduction to Petroleum Engineering Design** (1) Introduction to the concepts of engineering design as applied to petroleum and natural gas projects.
Effective: Fall 2001
Prerequisite: ECON 002, P N G 405, P N G 489

P N G 491 **Reservoir Engineering Design** (1) Application of the concepts of reservoir and drilling engineering to petroleum engineering design projects.
Effective: Fall 2001
Prerequisite: ECON 002, P N G 410, P N G 450, P N G 490

P N G 492 **Petroleum Engineering Capstone Design** (1) Integration of petroleum and natural gas engineering concepts to project design.
Effective: Fall 2001
Prerequisite: P N G 491

P N G 494 **Thesis** (1-6) A problem in petroleum engineering involving review of the literature and experimental data obtained in the field or laboratory.
Effective: Spring 1999

P N G 494H **Thesis** (1-6) A problem in petroleum engineering involving review of the literature and experimental data obtained in the field or laboratory.
Effective: Fall 2007

P N G 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2007

P N G 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

P N G 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

NOTE: Courses in the use of X-ray diffraction, electron microscopy, and spectroscopy in petroleum and natural gas studies are listed under MATERIALS SCIENCE and GEOLOGICAL SCIENCES.

Last Import from UCM: May 29, 2010 3:00 AM

Philosophy (PHIL)

PHIL 001 (GH) **Basic Problems of Philosophy** (3) Introduction to central philosophical themes, including the mind/body problem, the existence of God, ethical problems, the nature of reality.
Students may take only one course for General Education credit from PHIL 001 GH or 004 GH. Effective: Spring 2000

PHIL 002 (GH) **Philosophy, Politics, and Social Theory** (3) Examines relations between political and social organizations, the justification and limits of the state, and issues concerning individuality and community.
Effective: Fall 2003

PHIL 003 (GH) **Persons, Moral Values and the Good Life** (3) Major ethical positions and assumptions regarding questions of freedom, choice, obligation, and conflicts in contemporary moral conduct, values, and reasoning.
Effective: Fall 2004

PHIL 005 (GH) **Philosophy, Art, and Film** (3) Explores relations between images and reality, representation and culture, and beauty and politics through film, artworks, and aesthetic theories.
Effective: Spring 2002

PHIL 006 (GH;IL) (CMLIT 006) **Philosophy and Literature in Western Culture** (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Spring 2006

PHIL 006S (GH;IL) **Philosophy and Literature in Western Culture** (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PHIL 007 (GH;IL) **Asian Philosophy** (3) Introduction to philosophical, moral, and aesthetic teachings of Asian traditions such as Hinduism, Buddhism (including Zen), Taoism, Confucianism, and Shintoism.
Effective: Summer 2005

PHIL 008 (GH) (WMNST 008) **Philosophy and Feminism** (3) Explores diverse feminist philosophies of culture and knowledge, and examines gender's role in accounts of reality, truth, morality, and justice.
Effective: Spring 2006

PHIL 009 (GH;US) **Philosophy, Race, and Diversity** (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.
Effective: Summer 2005

PHIL 009U (GH;US) **Philosophy, Race, and Diversity** (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

PHIL 010 (GH) **Critical Thinking** (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.
Effective: Fall 2003

PHIL 010S (GH) **Critical Thinking** (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.
Effective: Spring 2005

PHIL 011 (GH) **Philosophy, Science, and Truth** (3) Examines the philosophical foundations of natural scientific inquiry, knowledge, objectivity, and the relation of scientific truth to common sense.
Effective: Fall 2003

PHIL 012 (GQ) **Symbolic Logic** (3) Formal logical structures of propositions and arguments; mechanical tests and proof techniques for logically necessary truth and deductive validity.
Effective: Fall 1998

PHIL 013 (GH) **Philosophy, Nature, and the Environment** (3) Studies competing historical and contemporary conceptions of nature, their philosophical foundations, and their implications for environmental problems and public policy.
Effective: Fall 2003

PHIL 014 (GH;US) **Philosophy of Love and Sex** (3) Explores Western theories and attitudes concerning intimacy and examines various ethical issues involving love and sex.
Effective: Summer 2005

PHIL 083S (GH) **First-Year Seminar in Philosophy** (3) Critical introduction to philosophical issues in ethics, social and political theory, religion, art, metaphysics, and epistemology.
Effective: Summer 1999

PHIL 098 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

PHIL 100 (GH) **The Meaning of Human Existence** (3) Explores differing views of the significance of human life, the meaning of freedom, and the way to a meaningful life.
Effective: Fall 2003

PHIL 101 (GH) **Pragmatism and American Philosophy** (3) An introduction to American thought and its relation to American culture, with a focus on the development of pragmatism.
Effective: Fall 2003

PHIL 102 (GH) **Existentialism and European Philosophy** (3) Introduction to European philosophy and issues of life, death, meaning, and absurdity, with a focus on existentialism and its development.
Effective: Fall 2003

PHIL 103 (GH) **Introduction to Ethics** (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.
Effective: Fall 2003

PHIL 103W (GH) **Introduction to Ethics** (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.
Effective: Fall 1998
Prerequisite: ENGL 015 orENGL 030

PHIL 105 (GH) **Introduction to Philosophy of Law and Legal Ethics** (3) Historical and contemporary philosophies of law; concepts of responsibility, property, rights, and justice; and ethical issues in legal practice.
Effective: Fall 2003

PHIL 106 (GH) **Introduction to Business Ethics** (3) Studies ethical foundations of business and ethical problems in business practices such as advertising, international trade, labor relations, and marketing.
Effective: Fall 2003

PHIL 107 (GH) (S T S 107) **Introduction to Philosophy of Technology** (3) The character of technology; its relation to human values; philosophical assumptions in its development; and how it transforms the world.
Effective: Spring 2004

PHIL 108 (GH) **Introduction to Social and Political Philosophy** (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Fall 2003

PHIL 108H (GH) **Introduction to Social and Political Philosophy** (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

PHIL 108W (GH) **Introduction to Social and Political Philosophy** (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.
Effective: Summer 1998
Prerequisite: ENGL 015 orENGL 030

PHIL 109 (GH) **Introduction to Aesthetics** (3) Examines the nature of art and aesthetic experience, art's relation to beauty and truth, and the nature of creativity.
Effective: Fall 2003

PHIL 109H (GH) **Introduction to Aesthetics** (3) Examines the nature of art and aesthetic experience, art's relation to beauty and truth, and the nature of creativity.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PHIL 110 (GH) **Introduction to Philosophy of Science** (3) Examines science's assumptions about knowledge and reality,

the relation between science and culture, and the nature of scientific progress.
Effective: Fall 2003

PHIL 113 (GH) **Introduction to Philosophy of Literature** (3) Examines philosophical ideas in literature, literary forms in philosophies, style and genre, and relation of philosophy, literature, writing, and culture.
Effective: Fall 2003

PHIL 115 (GH) **Introduction to Philosophy and Education** (3) Examines the nature and goals of education, the philosophical foundations of educational theories, and their economic, political, and cultural implications.
Effective: Fall 2003

PHIL 116 (GH) **Introduction to Philosophy of Social Science** (3) Examines the philosophical foundations of the social sciences, focusing on issues of methodology, quantification, objectivity, and value-neutrality.
Effective: Fall 2003

PHIL 117 (GH) **Introduction to Philosophy of Mathematics** (3) Central philosophical issues regarding mathematics, including the reality of numbers, set theory, truth and content, and realism/anti-realism in mathematics.
Effective: Fall 2003

PHIL 118 (GH) **Introduction to Environmental Philosophy** (3) Considers the moral status of the environment and applies ethical theory to issues such as preservation, hunger, pollution, and sustainability.
Effective: Fall 2003

PHIL 119 (GH) **Ethical Leadership** (3) Introduction to philosophical theories of ethics and leadership. Uses literary and biographical texts in developing skills of application.
Effective: Summer 2007

PHIL 120 (GH) **Introduction to Philosophy of Economics** (3) Studies philosophical issues such as individualism and preference, behavior and choice, and history and politics in economic systems and theories.
Effective: Fall 2003

PHIL 122 (GH) **Introduction to Philosophy of History** (3) Examines methodological foundations and interpretations of history, the objectivity of history, and the issue of history as design or chance.
Effective: Fall 2003

PHIL 123 (GH) **Introduction to Ethics in Media and Journalism** (3) Studies ethical problems, human values, and politics in differing media forms and the ways media shape such problems and values.
Effective: Fall 2003

PHIL 124 (GH) **Introduction to Philosophy of Religion** (3) Explores the meaning of religious belief and experience, the existence of God, ideas of spirituality, and the question of immortality.
Effective: Fall 2003
Prerequisite: third-semester standing

PHIL 125 (GH) **Introduction to Theories of Knowledge** (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth, conception, perception, and interpretation.
Effective: Fall 2003

PHIL 125W (GH) **Introduction to Theories of Knowledge** (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth, conception, perception, and interpretation.
Effective: Summer 1998
Prerequisite: ENGL 015 orENGL 030

PHIL 126 (GH) **Introduction to Metaphysics** (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Fall 2003

PHIL 126H (GH) **Introduction to Metaphysics** (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PHIL 126W (GH) **Introduction to Metaphysics** (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.
Effective: Summer 1998
Prerequisite: ENGL 015 orENGL 030

PHIL 127 (GH) **Introduction to Philosophy of Mind** (3) Problems and concepts of mind and consciousness including mind-brain identification, the nature of subjectivity, identity, and artificial intelligence.

Effective: Fall 2003

PHIL 129 (GH) **Introduction to Philosophy of Language** (3) Studies the nature of meaning in language, how we acquire language, communication, signs, and language as descriptive of reality.
Effective: Fall 2003

PHIL 131 (GH) **Introduction to Agricultural Ethics** (3) Includes the study of animal rights, international development, environmental sustainability, biotechnology, social policy and justice, and agrarian community.
Effective: Fall 2003

PHIL 132 (GH) (RL ST 131) **Introduction to Bioethics** (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Fall 2003

PHIL 132S (GH) **Introduction to Bioethics** (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Fall 2003

PHIL 197 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

PHIL 198 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

PHIL 199 (IL) **Foreign Study--Philosophy** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHIL 200 (GH) (CAMS 200) **Ancient Philosophy** (3) Examines the thought and influence of major Western thinkers from the pre-Socratics to the neo-Platonists, emphasizing Plato and Aristotle.
Effective: Fall 2003

PHIL 201 (GH) **Medieval Philosophy** (3) Examines the thought and influence of major Western thinkers from the fourth to the fifteenth centuries, emphasizing Augustine and Aquinas.
Effective: Fall 2003

PHIL 202 (GH) **Modern Philosophy** (3) Examines the thought and influence of major Western thinkers from Descartes to Kant, emphasizing rationalism and empiricism, and critical philosophy.
Effective: Fall 2003

PHIL 203 (GH) **Nineteenth Century Philosophy** (3) Examines the thought and influence of major Western thinkers from Hegel to Nietzsche, including Marx, Kierkegaard, and Schopenhauer.
Effective: Fall 2003

PHIL 204 (GH) **Twentieth Century Philosophy** (3) Examines the thought and influence of major Western thinkers of the century, including pragmatists, phenomenologists, existentialists, critical theorists, and feminists.
Effective: Fall 2003

PHIL 208 (GH) **Contemporary Philosophy** (3) Recent trends in philosophical thought and culture, hybrid philosophies, and the philosophical landscape of the future.
Effective: Fall 2003

PHIL 212 (GQ) **Symbolic Logic** (3) The logic of propositions, relations, and quantification; the nature and properties of formal systems. Intended primarily for science-oriented students.
Effective: Summer 1988

PHIL 221 (GH) **Philosophy of Science** (3) An inquiry into the form and function of concepts, laws, theories, and into the character of scientific explanation and prediction.
Effective: Fall 2003

PHIL 233 (GH) (S T S 233) **Ethics and the Design of Technology** (3) Ethics and individual and group decision-making in the design of technology including design projects and specific attention to institutional ethics.
Effective: Spring 2004

PHIL 280H (GH) (FD SC 280H) **Food, Values, and Health** (3) The perceived relatinship between food and health, emphasizing the conceptual nature of both; and how values contribute to the relationship.
Effective: Spring 2007

PHIL 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

PHIL 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PHIL 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PHIL 297A **Beatles Music & Philosophy** (3) This course will introduce students to concepts from philosophy through an examination of the music of the Beatles. In some instances this involves a philosophical examination of Beatles songs. In other instances, the course will consider how the Beatles themselves consciously advanced their own philosophical ideas.
Effective: Summer 2010 Ending: Summer 2010

PHIL 298 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

PHIL 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHIL 300H **Honors Course in Philosophy** (3-12) Honors program of intensive individual or group study in one of the areas or issues of philosophy.
Effective: Spring 2001
Prerequisite: fifth-semester standing all-University average of B approval by Departmental Honors Advisor

PHIL 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

PHIL 398 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

PHIL 399 (IL) **Foreign Study--Philosophy** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHIL 401 (AM ST 421) **American Philosophy** (3) Survey of key figures and movements in American thought including the Transcendentalists, the Pragmatists, and contemporary developments.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy or 6 credits of philosophy at the 200-level or 5th semester standing

PHIL 402 **European Philosophy** (3 per semester, maximum of 6) Survey of key figures and movements of Europe, including phenomenology, existentialism, structuralism and post-structuralism, and critical theory.
Effective: Fall 2007
Prerequisite: PHIL 102 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 403 **Environmental Ethics** (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 103 or 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 405 **Philosophy of Law** (3) Examines philosophical views of the nature of law, legal ethics, law and society through questions regarding definition, interpretation, and institutions.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 105 or 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 406 **Business Ethics** (3) Examines the moral justification of business practices and economic systems through critical analyses of case studies and applied ethical theories.
Effective: Summer 1998
Prerequisite: fifth-semester standing

PHIL 407 (S T S 407) **Technology and Human Values** (3) Interrelationships of twentieth-century technological change and human values. Emphasis on the social and ethical aspects of technological progress.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 107 or 6 credits of philosophy at the 200 level

PHIL 408 **Social and Political Philosophy** (3) Historical and philosophical foundations of political organization, authority, justice, and contemporary issues of rights, community, and culture.
Effective: Fall 2007
Prerequisite: 9 credits in philosophy including PHIL 108 and one 200-level philosophy course; two 200-level philosophy courses or 5th semester standing

PHIL 408W **Social and Political Philosophy** (3) Historical and philosophical foundations of political organization, authority, and justice, and contemporary issues of rights, community, and culture.
Effective: Fall 1998
Prerequisite: 9 credits in philosophy including PHIL 108 or 6 credits at the 200 level

PHIL 409 **Aesthetics** (3) Studies concepts of beauty, truth, value, representation, production and reproduction, and reality through philosophical theory and works of art.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 109 or 6 credits of philosophy at the 200 level or 3 credits of art or 5th semester standing

PHIL 410 **Philosophy of Science** (3) Historical and contemporary foundational and methodological issues such as causality, relativity and epistemological relativism, teleology, and the nature of reality.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 110 or 6 credits of philosophy at the 200 level

PHIL 412 **Philosophical Logic** (3) The character of thought in terms of truth properties, modality, reference, relations between propositions, and theories of argument and inference.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 012 or 6 credits of philosophy at the 200 level

PHIL 413 **Philosophy of Literature** (3) Discusses truth, belief, illusion, imagination and creativity through philosophical literature, as well as problems of philosophical writing.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 113 or 6 credits of philosophy at the 200 level

PHIL 415 **Philosophy of Education** (3) Philosophical foundations of education, the nature of learning and the educated individual, and education's political, social, and economic relations.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 115 or 6 credits of philosophy at the 200 level

PHIL 416 **Philosophy of Social Science** (3) Examines the philosophical nature and foundations of methodology, structures and objects, value-neutrality and objectivity in the social sciences.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 116 or 6 credits of philosophy at the 200 level

PHIL 417 **Philosophy of Mathematics** (3) Examines the historical foundations of mathematics, modern developments of logicism, formalism, and intuitionism, and the contemporary realism/ anti-realism debate.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 117 or 6 credits of philosophy at the 200 level

PHIL 418 **Ethics** (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 103 or 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 418W **Ethics** (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 103 or 6 credits of philosophy at the 200 level

PHIL 420 **Philosophy of Economics** (3) Studies the historical philosophical foundations of economic theory, questions of normativity, feasibility, choice, contracts, and politics in economic theory.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 120 or 6 credits of philosophy at the 200 level

PHIL 422 **Philosophy of History** (3) Philosophical investigation of history as content and knowledge, objectivity and relativism in historical analysis, historical laws, interpretation, explanation and narrativity.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 122 or 6 credits of philosophy at the 200 level

PHIL 423 **Philosophy, Media, and Society** (3) Examines philosophical and ethical questions of communication, culture, information, ideology, and political and social organization through the forms of media.
Effective: Summer 1998
Prerequisite: fifth-semester standing

PHIL 424 **Philosophy of Religion** (3) Examines the relation between faith and reason, the nature of religious experience, the problem of evil, the existence of God.

Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 124 or 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 425 **Epistemology** (3) The nature of cognition and perception, the conditions of experience, and the justification and truth of belief.
Effective: Summer 1999
Prerequisite: 9 credits of philosophy includingPHIL 125 or 6 credits of philosophy at the 200 level

PHIL 425W **Epistemology** (3) The nature of cognition and perception, the conditions of experience, and the justification and truth of belief.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 125 or 6 credits of philosophy at the 200 level; in addition toENGL 015 orENGL 030

PHIL 426 **Metaphysics** (3 per semester, maximum of 6) Examines the nature of reality, the existence of freedom, and the nature of matter, mind, and values.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 126 or 6 credits of philosophy at the 200 level

PHIL 426W **Metaphysics** (3) Examines the nature of reality, the existence of freedom, and the nature of matter, mind, and values.
Effective: Summer 1998
Prerequisite: 9 credits in philosophy includingPHIL 126 or 6 credits of philosophy at the 200 level

PHIL 427 **Philosophy of Mind** (3) Investigates problems of mind from the standpoint of traditional metaphysical views, modern scientific psychology, neuroscience, and artificial intelligence.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 127 or 6 credits of philosophy at the 200 level

PHIL 429 **Philosophy of Language** (3) The nature of language through philosophical discussion of meaning, semantics, pragmatics, the relation between language and mind, and ordinary language.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 129 or 6 credits of philosophy at the 200 level

PHIL 431 **Philosophy and Agriculture** (3) Studies philosophical and ethical questions regarding agriculture, politics, and policy, including food safety, environment, international development, community, and sustainability.
Effective: Summer 1998
Prerequisite: fifth-semester standing

PHIL 432 (S T S 432) **Medical and Health Care Ethics** (3) Examines ethical, political, and social issues in the research, implementation, and practice of medicine, medical technologies, and healthcare.
Effective: Fall 1998
Prerequisite: fifth-semester standing

PHIL 433 (S T S 433) **Ethics in Science and Engineering** (3) Ethical issues arising in the practice of science and engineering and their philosophical analysis.
Effective: Fall 1995

PHIL 434H (HIST 424H, J ST 424H, RL ST 424H) **Monotheism and the Birth of the West** (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.
Effective: Spring 2002
Prerequisite: CAMS 004, CAMS 110, CAMS 120 orHIST 102

PHIL 435 (S T S 435) **The Interrelation of Science, Philosophy, and Religion** (3) The historical and transformative interactions between science and Western philosophical and religious views of nature, humanity, and God.
Effective: Spring 1996

PHIL 437 (IL) **World Philosophies and Cultures** (3) Philosophical traditions, problems, and authors in African, Asian, Middle- Eastern, Native American, or other non-Western cultures and intellectual traditions.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 437H (IL) **World Philosophies and Cultures** (3) Philosophical traditions, problems, and authors in African, Asian, Middle- Eastern, Native American, or other non-Western cultures and intellectual traditions.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 438 (WMNST 438) **Feminist Philosophy** (3) Examines the central currents of feminist philosophy, selected problems and concepts regarding difference, gender and sex, identity, and political culture.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200-level or 5th semester standing

PHIL 439 (IL) **Asian Philosophies and Issues** (3) Exploration of the traditions, problems, and authors of one or more of the philosophical systems of Buddhism, Hinduism, Taoism, and Confucianism.
Effective: Fall 2007
Prerequisite: PHIL 007 9 credits in philosophy including PHIL 007 or 5th semester standing

PHIL 453 **Topics in Ancient Philosophy** (3 per semester, maximum of 6) Examines the philosophy of central figures in

ancient philosophy from the pre-Socratics to the post-Aristotelians and Neoplatonists.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 200 or 6 credits of philosophy at the 200 level

PHIL 454 **Topics in Medieval Philosophy** (3 per semester, maximum of 6) Topics include major medieval philosophical theories of God, soul, nature, universes, political society, ethics, and logic.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 201 and one other 200 level philosophy course

PHIL 455 **Topics in Modern Philosophy** (3 per semester, maximum of 6) Descartes to Kant, including mind and reality, space and time, God and nature, morality and autonomy.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

PHIL 456 **Topics in Nineteenth Century Philosophy** (3 per semester, maximum of 6) Hegel to Nietzsche, including nature and spirit, history and human nature, ideology and morality.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 457 **Topics in Twentieth Century Philosophy** (3 per semester, maximum of 6) Topics in the philosophy of figures such as Husseri, James, Russell, Wittgenstein, Heidegger, Merleau-Ponty, and Dewey.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 204 or 6 credits of philosophy at the 200 level or 5th semester standing

PHIL 458 **Topics in Contemporary Philosophy** (3 per semester, maximum of 6) Topics in the philosophy of contemporary figures such as Foucault, Habermas, Rorty, Derrida, Rawls, Davidson, and MacIntyre.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 208 or 6 credits of philosophy at the 200 level

PHIL 460 (US;IL) (AAA S 460) **African American Philosophy** (3) Major works by African American Philosophers, on topics of race, freedom, citizenship, nationhood, law and society.
Effective: Fall 2009
Prerequisite: AAA S 100 orPHIL 009 and 5th semester standing

PHIL 461 **Plato** (3 per semester, maximum of 6) Examines the metaphysics, epistemology, politics, aesthetics, and moral theory of this central figure in the history of philosophy.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 200 or 6 credits of philosophy at the 200 level

PHIL 462 **Aristotle** (3 per semester, maximum of 6) Epistemology, metaphysics, natural science, moral and political theory of this central figure in the history of philosophy.
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 200 or 6 credits of philosophy at the 200 level

PHIL 464 **Augustine** (3 per semester, maximum of 6) Examines Augustine's philosophy and religious thought regarding God, friendship, evil, free will, community, creation, memory and time, meaning and truth.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 201 or 6 credits of philosophy at the 200 level

PHIL 465 **Aquinas** (3 per semester, maximum of 6) Examines Aquinas' philosophy, political and moral theory regarding knowledge and existence of God, faith, truth, nature, logic, and the soul.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 201 or 6 credits of philosophy at the 200 level

PHIL 468 (J ST 468) **Modern Jewish Philosophy** (3) Explores the major figures in modern Jewish philosophy and their influences on contemporary philosophy.
Effective: Summer 2004
Prerequisite: one course in Philosophy and/or Jewish Studies

PHIL 470 **Rationalism** (3 per semester, maximum of 6) Examines the epistemological emphasis on reason over experience in rationalist philosophers such as Descartes, Leibniz, and Spinoza.
Effective: Fall 1998
Prerequisite: 9 credits in philosophy includingPHIL 202 and 3 other credits of philosophy at the 200 level

PHIL 471 **Empiricism** (3 per semester, maximum of 6) Examines the epistemological emphasis on experience over reason in empiricist philosophers such as Locke, Hume, Berkeley, and contemporary philosophers.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

PHIL 472 **Enlightenment** (3 per semester, maximum of 6) Examines Enlightenment views on reason, history, individuals, belief, and science through study of Locke, Voltaire, Diderot, Kant, and their critics.
Effective: Fall 1998
Prerequisite: 9 credits in philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

PHIL 473 **German Idealism** (3 per semester, maximum of 6) Critically examines the philosophy of central German idealists, including Kant, Fichte, Schelling, and Hegel, and its impact on later philosophy.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 202 orPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 474 **Kant** (3 per semester, maximum of 6) Critical examination of the metaphysics, epistemology, aesthetics, legal

and moral philosophy, and influence of Immanuel Kant.
Effective: Fall 1998
Prerequisite: 9 credits in philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

PHIL 475 **Fichte and Schelling** (3 per semester, maximum of 6) The transformation of post-Kantian idealism before Hegel through Fichte's and Schelling's works on nature, history, reason, morality, and spirit.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

PHIL 476 **Hegel** (3 per semester, maximum of 6) Critical examination of the metaphysics, moral theory, epistemology, and philosophy of history of this central figure of 19th-century philosophy.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 477 **Kierkegaard** (3 per semester, maximum of 6) Studies this 19th-century thinker's ideas on ethical and aesthetic values, despair and selfhood, institutions and individuals, reality, and faith.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 478 (J ST 478, RL ST 478) **Ethics After the Holocaust** (3) Explores the philosophical effects of the Holocaust for thinking about the primary question: Is ethics possible?
Effective: Spring 2005
Prerequisite: one course in Jewish Studies or Philosophy

PHIL 479 **Critical Theory** (3 per semester, maximum of 6) Examines the ontology, political and social thought of the Frankfurt School from Horkheimer and Adorno to Marcuse and Habermas.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 480 **Marx** (3 per semester, maximum of 6) Examines the evolution of Marx's economic, social, and political thought, and metaphysics, and their transformations by later Marxist thinkers.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 481 **Nietzsche** (3 per semester, maximum of 6) Friedrich Nietzsche's basic ideas, including master and slave morality, the will to power, eternal recurrence, genealogical inquiry, and naturalism.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

PHIL 482 **Peirce** (3 per semester, maximum of 6) Examination of Peirce's system of the sciences, with an emphasis on his categories, pragmatism and pragmaticism, semiotic, and cosmology.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 401 or 6 credits of philosophy at the 200 level

PHIL 483 **James** (3 per semester, maximum of 6) James' psychology, pluralistic metaphysics, theories of truth and meaning, radical empiricism, and idea of religious experience.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 401 or 6 credits of philosophy at the 200 level

PHIL 484 **Husserl** (3 per semester, maximum of 6) Examines Husserl's phenomenology from the early to later works including his studies of essences, intentionality, intersubjectivity, and the life-world.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 202, PHIL 203 or 6 credits of philosophy at the 200 level

PHIL 485 **Heidegger** (3 per semester, maximum of 6) Studies Heidegger's metaphysical thought from his early to later works regarding being, history, subjectivity, aesthetics, language, and his influence.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 402 or 6 credits of philosophy at the 200 level

PHIL 486 **Wittgenstein** (3 per semester, maximum of 6) Examines Wittgenstein's early and late work, including logical atomism, meaning, language games, forms of life, and the private-language argument.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 204 or 6 credits of philosophy at the 200 level

PHIL 487 **Analytic Philosophy** (3 per semester, maximum of 6) Analytic philosophy's founding by Frege, Russell, Moore, Wittgenstein; and its contemporary development by Quine, Kripke, Dummett, and Davidson.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 orPHIL 204 along with 3 credits of philosophy at the 200 level

PHIL 488 **Post-Structuralism** (3 per semester, maximum of 6) Studies concepts of power, desire, subjectivity, and difference through the work of thinkers including Lacan, Foucault, Derrida, Deleuze, and Lyotard.
Effective: Fall 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 203 orPHIL 204 and 6 credits of philosophy at the 200 level

PHIL 490 **Dewey** (3 per semester, maximum of 6) Critically examines the metaphysics, epistemology, ethics, logic, aesthetics, education theory, and social and political philosophy of this major American pragmatist.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 401 or 6 credits of philosophy at the 200-level

PHIL 491 **Merleau-Ponty** (3 per semester, maximum of 6) Merleau-Ponty's phenomenological anti-dualism through his studies on the body and the flesh, aesthetics, political philosophy, and late ontology.

Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 402 or 6 credits of philosophy at the 200-level

PHIL 492 **Foucault** (3 per semester, maximum of 6) Foucault's critique of history, methodological archaeology and genealogy, studies of madness and sexuality, and theory of knowledge, power, and subjectivity.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 402 or 6 credits of philosophy at the 200-level

PHIL 493 **Phenomenology and Hermeneutics** (3 per semester, maximum of 6) Studies major figures and issues in phenomenology and hermeneutics, focussing on the work of Husserl, Gadamer, Heidegger, Merleau-Ponty, and Levinas.
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 andPHIL 204

PHIL 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

PHIL 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

PHIL 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PHIL 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PHIL 497A **Critical Philosophy of Race** (3) This course is specifically to be offered in conjunction with the conference, "Critical Philosophy of Race: Intersections with Culture, Ethnicity, and Nationality Beyond the Black/White Binary", November 11-13, 2010, University Park, PA, to bring together established and emerging scholars to explore new dimensions in the critical philosopy of race.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PHIL 498 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2001

PHIL 499 (IL) **Foreign Study--Philosophy** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Photography (PHOTO)

PHOTO 100 (GA) **Introduction to Photography** (3) An introduction to the aesthetics, history, and science of photography including practical and critical approaches to the art of photography.
Effective: Spring 2006

PHOTO 200 **Photo Studio I** (3) A beginning level course that explores the fundamentals of photography.
Effective: Spring 2006
Prerequisite: PHOTO 100

PHOTO 201 (ART H 250) **A Chronological Survey of Photography** (3) A survey of photography's place and influence in a social, cultural, and historical context.
Effective: Spring 2006

PHOTO 210 **Introduction to Architectural Photography** (2) Exploration of approaches to photographing architectural interiors, exteriors, and architectural models.
Effective: Summer 2007
Prerequisite: Students in Architecture or by permission of the program.

PHOTO 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2006

PHOTO 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2006

PHOTO 296A **Creative Technique** (3) Student will focus on techniques for shooting, editing, and printing photographically based compositions. Studio lighting, digital manipulation, and digital output will be covered.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PHOTO 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

PHOTO 300 **Photo Studio II** (4) An intermediate course that explores advanced processes and applications in digital photography, digital image processing, and photographic inkjet printing.
Effective: Spring 2006
Prerequisite: PHOTO 200

PHOTO 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

PHOTO 400 **Digital Photography in the Studio** (4) Concepts and technology of the digital photography studio; large format digital cameras, electronic studio lighting and digital printing.
Effective: Fall 2006
Prerequisite: PHOTO 200

PHOTO 401 **New Materials and Methods in Applied Digital Imaging** (4 per semester) Advanced course where student teams use digital photography, video, and scanning to present story ideas using World Wide Web and gallery exhibition.
Effective: Fall 2006
Prerequisite: PHOTO 200

PHOTO 402 **Photographic Narratives** (4 per semester/maximum of 8) The development of a photographic project that leads to the creation of a handmade book.
Effective: Fall 2006
Prerequisite: PHOTO 200

PHOTO 403 **Photo Assemblage** (4) Collage making through collecting and assembling found materials, including photography; origins of photographic manipulation and contemporary uses.
Effective: Fall 2006

PHOTO 405 **Creative Projects in Photography** (4 per semester/maximum of 8) Special individual problems related to photographic vision.
Effective: Fall 2006
Prerequisite: PHOTO 201, PHOTO 300

PHOTO 410 **Photographing Motion and Athletic Events** (2) A practicum course in photographing sports and athletic

events.
Effective: Summer 2007
Prerequisite: PHOTO 200

PHOTO 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 2006

PHOTO 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2006

PHOTO 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2006

Last Import from UCM: May 29, 2010 3:00 AM

Physical Science (PH SC)

PH SC 007 **Physical Science** (3) Development of physics, including modern physical concepts and their relationship to the careers of physical scientists. May not be scheduled by students who have received credit for Phys. 100, 201, 215, or 221.
Effective: Fall 1983

PH SC 280 **Experimental Design** (4) Fundamental statistics, design of experiments and statistical process control with applications to laboratory or manufacturing processes.
Effective: Summer 2003
Prerequisite: MATH 140

PH SC 410 **Quantum Mechanics of Atoms, Molecules, and Solids** (3) The physical concepts underlying the properties of materials are covered. Quantum mechanics is applied to problems in atomic, molecular, and solid- state physics.
Effective: Summer 2003
Prerequisite: PHYS 237

PH SC 440 **Applied Solid State and Optical Processes** (3) This course covers the solid state physics and material science prerequisite to understand today microelectronic and optoelectronic devices.
Effective: Summer 2003
Prerequisite: PHYS 237, PH SC 410 orPHYS 410

PH SC 450 **Micro-and Nanodevices** (3) This course provides a overview of the microelectronic, optoelectronic and micro mechanical devices and operating principles behind today's micro and nanoscale technology.
Effective: Summer 2003
Prerequisite: PH SC 440 permission of the program

Last Import from UCM: May 29, 2010 3:00 AM

Physical Therapy (P T)

P T 100 **Physical Therapist Assistant--Introduction** (3) Orientation to the field of physical therapy, historical background of the profession, professional ethics, medical terminology, and patient care techniques.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 129

P T 101 **Introduction to Computer Skills for the PTA** (1) Introduction to basic computer skills for the physical therapist assistant.
Effective: Summer 2003

P T 101S **Introduction to Computer Skills for the PTA** (1) Introduction to basic computer skills for the physical therapist assistant.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

P T 150 **Physical Therapist Assistant Procedures I** (2) General considerations for basic physical therapy modalities including their indications, contraindications, skill development and practical application.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100, BIOL 141, BIOL 142, P T 384

P T 160 **Therapeutic Exercise I** (3) Introduction to the principles of exercise in the treatment of disease and injury.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 129, BIOL 141, BIOL 142, P T 100, P T 384

P T 201 **Licensure Preparation for the PTA** (1) Preparation for the national PTA licensure examination.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100 andP T 384

P T 202 **Pediatric PT** (1) A study of physical therapy as it applies to pediatric patients.
Effective: Summer 2003
Prerequisite: P T 100, P T 384

P T 203 **The Rehabilitation of the Lower Extremity Amputee** (1) Students will be introduced to the rehabilitation process involved with a patient who has a lower extremity amputation.
Effective: Summer 2003
Prerequisite: P T 100, P T 384

P T 204 **Seminar in Physical Therapy** (1) Specialized physical therapy topics investigated in the framework of clinic visitations and presentations by clinical experts.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100 andP T 384

P T 205 **Human Musculature** (1-2) Comprehensive review of Human Musculature.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100, P T 384 andBIOL 129

P T 250 **Physical Therapist Assistant--Procedures II** (4) General considerations for advanced physical therapy modalities including their indications, contraindications, skill development and practical application.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 150, P T 160, P T 270, P T 384, P T 395E, P T 395W

P T 260 **Therapeutic Exercise--II** (3) Advanced principles of exercise in the treatment of disease and injury.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384, P T 395E, P T 395W

P T 270 **Pathophysiology** (3) Introduction to medical and post-operative conditions and/or disease states most frequently treated by physical therapy modalities.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 100, P T 384

P T 270A (IL) **Pathophysiology** (3) Introduction to medical and post-operative conditions and/or disease states most frequently treated by physical therapy modalities.
Effective: Fall 2005
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 100, P T 384

P T 270W **Pathophysiology** (3) Introduction to the study of disease and those conditions most often treated by physical therapy methods; basic signs, symptoms, and causes of disease and conditions will be covered.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 100, P T 384

P T 280 **Rehabilitation** (4) Examination of techniques and laboratory experiences in rehabilitation techniques for the physically challenged.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384

P T 280W **Rehabilitation** (4) Examination of techniques and laboratory experiences in rehabilitation techniques for the

physically challenged.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384, P T 395E

P T 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2000

P T 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000

P T 384 **Applied Kinesiology** (4) Study of anatomical structure, body movement. Characteristic muscle action and motion will be analyzed in relation to physical therapy context.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 129, BIOL 141, BIOL 142, P T 100

P T 395E **Physical Therapist Assistant--Practicum I** (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 150, P T 160, P T 250, P T 260, P T 270 orP T 270W, P T 384

P T 395F **Physical Therapist Assistant--Practicum II** (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a registered physical therapist.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 250, P T 260, P T 280, P T 280W, P T 395E orP T 395W

P T 395G **Physical Therapist Assistant--Practicum III** (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a registered physical therapist.
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 250, P T 260, P T 280, P T 280W, P T 395E orP T 395W

P T 395W **Physical Therapist Assistant--Practicum I** (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist.
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 384

Last Import from UCM: May 29, 2010 3:00 AM

Physics (PHYS)

PHYS 001 (GN) **The Science of Physics** (3) Historical development and significance of major concepts, with emphasis on the nature of physics and its role in modern life. (For students in non-mathematical fields.)
Effective: Fall 2004

PHYS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

PHYS 150 (GN) **Technical Physics I** (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Spring 2007
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent:MATH 021, MATH 081

PHYS 150L (GN) **Technical Physics I** (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Summer 1994

PHYS 150P (GN) **Technical Physics I** (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Summer 1994

PHYS 150S (GN) **Technical Physics I** (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent:MATH 021, MATH 081

PHYS 151 (GN) **Technical Physics II** (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2001
Prerequisite: PHYS 150

PHYS 151L (GN) **Technical Physics II** (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2001
Prerequisite: PHYS 150

PHYS 151P **Technical Physics II** (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2001
Prerequisite: PHYS 150

PHYS 151S (GN) **Technical Physics II** (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 150

PHYS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

PHYS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHYS 205 **Introduction to Nanoscience Seminar** (1) Introductory nanoscience seminar required of Behrend College students for preparation for capstone courses E SC 211-216.
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 140, PHYS 211 orPHYS 250

PHYS 211 (GN) **General Physics: Mechanics** (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Fall 1999
Concurrent: MATH 140

PHYS 211H (GN) **General Physics: Mechanics** (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Concurrent: MATH 140

PHYS 211L (GN) **General Physics: Mechanics** (0-4) Calculus-based study of the basic concepts of mechanics: motion,

force, Newton's laws, energy, collisions, and rotation. NOTE: UP offers for 0 credits; Altoona offers for 4 credits.
Effective: Fall 2000
Concurrent: MATH 140

PHYS 211P **General Physics: Mechanics** (0) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Spring 1999
Concurrent: MATH 140

PHYS 211R (GN) **General Physics: Mechanics** (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.
Effective: Spring 1999
Concurrent: MATH 140

PHYS 212 (GN) **General Physics: Electricity and Magnetism** (4) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 212H (GN) **General Physics: Electricity and Magnetism** (4) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 212L (GN) **General Physics: Electricity and Magnetism** (0-4) Calculus-based study of the basic concepts of electricity and magnetism. NOTE: UP offers for 0 credits; Altoona offers for 4 credits.
Effective: Fall 2000
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 212P **General Physics: Electricity and Magnetism** (0) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Spring 1999
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 212R (GN) **General Physics: Electricity and Magnetism** (4) Calculus-based study of the basic concepts of electricity and magnetism.
Effective: Spring 2000
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 213 (GN) **General Physics: Fluids and Thermal Physics** (2) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 213L (GN) **General Physics: Fluids and Thermal Physics** (0) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 213R (GN) **General Physics: Fluids and Thermal Physics** (2) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211 Concurrent: MATH 141

PHYS 214 (GN) **General Physics: Wave Motion and Quantum Physics** (2) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.
Effective: Spring 2004
Prerequisite: MATH 141, PHYS 211 andPHYS 212

PHYS 214L (GN) **General Physics: Wave Motion and Quantum Physics** (0) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.
Effective: Spring 2004
Prerequisite: MATH 141, PHYS 211 andPHYS 212

PHYS 214R (GN) **General Physics: Wave Motion and Quantum Physics** (2) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.
Effective: Spring 2004
Prerequisite: MATH 141, PHYS 211 andPHYS 212

PHYS 230 **Introduction to Relativity** (3) Introduction to special and general relativity including space-time diagrams and relativistic kinematics, length contraction, time dilation, equivalence principles, curved space and cosmology.
Effective: Summer 2006
Prerequisite: PHYS 212, MATH 141 . Prerequisite or concurrent:MATH 220, MATH 230 orMATH 231

PHYS 237 **Introduction to Modern Physics** (3) Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.
Effective: Spring 2007
Prerequisite: PHYS 212 Concurrent: PHYS 214

PHYS 237H **Introduction to Modern Physics** (3) Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.

Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: PHYS 212 Concurrent: PHYS 214

PHYS 237L **Introduction to Modern Physics** (3) Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.
Effective: Spring 2007
Prerequisite: PHYS 212 Concurrent: PHYS 214

PHYS 237R **Introduction to Modern Physics** Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.
Effective: Spring 2007
Prerequisite: PHYS 212 Concurrent: PHYS 214

PHYS 250 (GN) **Introductory Physics I** (4) Selected topics in mechanics, heat, and sound.
Effective: Fall 2002
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 250L (GN) **Introductory Physics I** (0-4) Selected topics in mechanics, heat, and sound.
Effective: Spring 2010
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 250P (GN) **Introductory Physics I** (0) Selected topics in mechanics, heat, and sound.
Effective: Fall 2002
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 250R (GN) **Introductory Physics I** (4) Selected topics in mechanics, heat, and sound.
Effective: Fall 2002
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

PHYS 251 (GN) **Introductory Physics II** (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002
Prerequisite: PHYS 250

PHYS 251L (GN) **Introductory Physics II** (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002 Ending: Summer 2010
Prerequisite: PHYS 250

PHYS 251L (GN) **Introductory Physics II** (0-4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250

PHYS 251P (GN) **Introductory Physics II** (0) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002
Prerequisite: PHYS 250

PHYS 251R (GN) **Introductory Physics II** (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2002
Prerequisite: PHYS 250

PHYS 251S (GN) **Introductory Physics II** (4) Selected topics in light, electricity, and magnetism.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250

PHYS 255 (GN) **Physics of Music and Speech** (3) Descriptive study of vibration and sound waves, hearing and speech, musical instruments, physical bases of harmony and scales.
Effective: Summer 1995

PHYS 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PHYS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PHYS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

PHYS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PHYS 400 **Intermediate Electricity and Magnetism I** (3) Electrostatics, steady-state magnetic field; electrical and

magnetic properties of matter; Maxwell's equations, boundary-value problems, and wave propagation.
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251;MATH 230 orMATH 231;PHYS 212, PHYS 213 andPHYS 214 Concurrent: MATH 230 OR MATH 231 ; PHYS 204

PHYS 401 **Intermediate Electricity and Magnetism II** (3) Electromagnetic wave propagation in media, wave guides, dipole radiation, electrodynamics of charged particles, special theory of relativity, special topics.
Effective: Spring 1994
Prerequisite: PHYS 400

PHYS 402 **Electronics for Scientists** (4) Circuit and network theory; active devices; amplifiers; introduction to digital electronics; noise theory.
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251;PHYS 212, PHYS 213 andPHYS 214

PHYS 406 **Subatomic Physics** (3) Introductory treatment of elementary particles, fundamental strong and electroweak interactions, nuclear structure, accelerators, particle detection, nuclear astrophysics.
Effective: Spring 1995
Prerequisite: PHYS 410

PHYS 410 **Introduction to Quantum Mechanics I** (3-4) Basic postulates; Schrodinger wave equation; stationary states; variational method; scattering in one dimension; orbital angular momentum; hydrogen atom; numerical methods.
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251;MATH 230 orMATH 231;PHYS 237

PHYS 411 **Introduction to Quantum Mechanics II** (3) General theory of angular momentum; approximation methods; scattering theory; radiation theory; applications to atomic, molecular, condensed matter, nuclear and particle physics.
Effective: Spring 1994
Prerequisite: PHYS 410

PHYS 412 **Solid State Physics I** (3) Crystal symmetry, x-ray structure analysis, lattice vibrations, thermal properties, free electron transport theory, elementary one-electron quantum theory of solids.
Effective: Fall 1986
Prerequisite: MATH 230 orMATH 231 Concurrent: PHYS 410

PHYS 413 **Solid State Physics II** (3) Quantum theory of electronic and optical properties of solids, semiconductors, dielectrics, magnetic properties, crystal imperfections, low- temperature effects, and superconductivity.
Effective: Fall 1986
Prerequisite: PHYS 412

PHYS 414 **Solid State Physics** (3) Crystal structure; reciprocal lattice; X-ray diffraction; lattice vibrations; thermal properties; free electron gas model; energy bands; semiconductors; magnetism.
Effective: Spring 2007
Prerequisite: MATH 230, PHYS 237

PHYS 419 (MATH 419) **Theoretical Mechanics** (3) Principles of Newtonian, Lagrangian, and Hamiltonian mechanics of particles with applications to vibrations, rotations, orbital motion, and collisions.
Effective: Spring 2007
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251;PHYS 212, PHYS 213 andPHYS 214

PHYS 420 **Thermal Physics** (3) Basic postulates of statistical mechanics and thermodynamics, microscopic quantum states and macroscopic parameters; partition functions; Maxwell- Boltzmann and quantum statistics.
Effective: Spring 2007
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251;PHYS 237

PHYS 421W **Research Methods in Physics** (3) Methodology focusing on the theory of measurement and experiment design.
Effective: Spring 2007
Prerequisite: PHYS 237

PHYS 443 **Intermediate Acoustics** (3) Vibration and simple vibrating systems, sound wave propagation, acoustic instruments, recent developments.
Effective: Fall 1999
Prerequisite: MATH 251, PHYS 212, PHYS 213 andPHYS 214 ; orPHYS 203 orPHYS 204

PHYS 444 **Topics in Contemporary Physics** (2) Modern research topics and career opportunities in physics; employment, graduate education, and tailoring the physics curriculum to meet career goals.
Effective: Spring 2007
Prerequisite: PHYS 237 and 3 credits of physics at the 400 level

PHYS 445 **Nanoscience Seminar** (1) Advanced nanoscience seminar required of Behrend College students for completion of the nanoscience minor.
Effective: Summer 2007
Prerequisite: CHEM 112, E SC 211, E SC 212, E SC 213, E SC 214, E SC 215, E SC 216, MATH 140, PHYS 211 orPHYS 250

PHYS 446 **The Year in Physics: A Seminar on the Latest Research** (1) Discussion recent research in physics.
Effective: Spring 2007
Prerequisite: PHYS 211

PHYS 457 **Experimental Physics** (1-3) Selected experiments in various fields of physics.
Effective: Spring 2007

Prerequisite: PHYS 212 rPHYS 213, PHYS 214 andPHYS 237

PHYS 457W **Experimental Physics** (3) Selected experiments in various fields in physics.
Effective: Spring 2007
Prerequisite: PHYS 212, PHYS 213, PHYS 214 andPHYS 237

PHYS 458 **Intermediate Optics** (4) Geometrical and physical optics: theory of lens systems, aberrations, apertures, interference, diffraction, polarization.
Effective: Spring 2007
Prerequisite: PHYS 212, PHYS 213, PHYS 214;MATH 250 orMATH 251;MATH 230 orMATH 231

PHYS 461 (MATH 461) **Theoretical Mechanics** (3) Continuation of Math.(Phys.) 419. Theoretical treatment of dynamics of a rigid body, theory of elasticity, aggregates of particles, wave motion, mechanics of fluids.
Effective: Fall 1986
Prerequisite: MATH 419

PHYS 462 **Applications of Physics in Medicine** (3) Applications of physics in human physiology and in instrumentation for medical diagnosis and treatment.
Effective: Summer 2002
Prerequisite: PHYS 211, PHYS 212, PHYS 213 andPHYS 214 ; orPHYS 250, PHYS 251

PHYS 479 (MATH 479) **Special and General Relativity** (3) Mathematical description, physical concepts, and experimental tests of special and general relativity.
Effective: Spring 2007
Prerequisite: PHYS 237, PHYS 400, PHYS 419;MATH 250 orMATH 251;MATH 230 orMATH 231

PHYS 494 **Physics Research Project** (1-12) Investigation of an original research problem, including a literature search. Preparation of a formal thesis is optional.
Effective: Spring 2007

PHYS 494H **Physics Research Project** (1-12) Investigation of an original research problem, including a literature search. Preparation of a formal thesis is optional.
Effective: Fall 2007

PHYS 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

PHYS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PHYS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PHYS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Plant Pathology (PPATH)

PPATH 120 (GN) **The Fungal Jungle: A Mycological Safari From Truffles to Slime Molds** (3) Students will learn about the world of fungi and the many ways it impacts their lives.
Effective: Spring 2007

PPATH 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PPATH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PPATH 300 (GN) **Horticultural Crop Diseases** (3) Diseases of horticultural crops are examined stressing their cause, diagnosis, control and national and international importance.
Effective: Spring 2008
Prerequisite: 3 credits in a biological science

PPATH 318 **Diseases of Forest and Shade Trees** (2) Introduction to diagnosis and control of forest and shade tree diseases.
Effective: Fall 1999

PPATH 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2005

PPATH 405 **Microbe-Plant Interactions: Plant Disease and Biological Control** (3) Survey of microbe-plant interactions causing plant disease, mechanisms of pathogenesis, disease control, and microbial and molecular biological control strategies.
Effective: Spring 1999
Prerequisite: BIOL 110

PPATH 412 **Turfgrass Disease Management** (3) Introduction to biology of turfgrass pathogens and management of cool- and warn-season turfgrass disease.
Effective: Spring 2008
Prerequisite: TURF 230, TURF 235, CHEM 101 orCHEM 110, BIOL 127

PPATH 416 **Plant Virology: Molecules to Populations** (3) A exploration of the molecular biology and population dynamics of the virus-plant interaction.
Effective: Fall 2005
Prerequisite: BIOL 110, BIOL 120

PPATH 417 **Phytobacteriology** (3) Lecture and lab coverage of how bacteria cause plant diseases.
Effective: Fall 2009
Prerequisite: BIOL 110;BIOL 222 orBIOL 322;B M B 211 orMICRB 201 orMICRB 251 orB M B 251

PPATH 419 **Plant Nematology** (2) The biology of plant pathogenic nematodes, the diseases they cause, and their control.
Effective: Fall 2009
Prerequisite: BIOL 110, BIOL 120

PPATH 425 (BIOL 425) **Biology of Fungi** (4) A survey of the biological diversity of fungi, stressing evolution, ecology, disease, morphology, life histories, and importance to humans.
Effective: Spring 2002
Prerequisite: fifth-semester or graduate standing in a biological sciences major with six credits completed in the major

PPATH 427 **Mycotoxins: Effects of Fungal Toxins on Human and Animal Health** (3) Description and history of mycotoxicoses. Mycotoxin formation, occurrence, control, economic and social impacts, and regulatory issues.
Effective: Summer 2007
Prerequisite: BIOL 110 orBIOL 011 andBIOL 012;CHEM 112, CHEM 113 ; course can also be taken with approval of the department

PPATH 430 (E R M 430) **Air Pollution Impacts to Terrestrial Ecosystems** (3) An overview of direct and indirect effects of air pollution on terrestrial plants and ecosystems.
Effective: Summer 2004
Prerequisite: BIOL 220W, FOR 308

PPATH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PPATH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

Last Import from UCM: May 29, 2010 3:00 AM

Plastics Engineering Technology (PL ET)

PL ET 050 **Computer Applications for Plastics Engineering Technology** (2) Programming, spreadsheets for the solution of technical problems, internet access for background and support information, formatting professional reports, creating presentations.
Effective: Spring 2006

PL ET 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

PL ET 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

PL ET 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

PL ET 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

PL ET 205 **Introduction to Plastics** (3) Introduction to the plastics industry including fundamental aspects of plastic materials and processing; introduces the chemical influence on mechanical and flow properties of plastic materials.
Effective: Summer 2007
Prerequisite: MATH 040, MATH 082, MATH 140 . Prerequisite or concurrent:CHEM 110

PL ET 206 **Plastic Materials and Properties** (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics.
Effective: Summer 1996
Prerequisite: MCH T 213, PL ET 205

PL ET 206W **Plastic Materials and Properties** (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics; writing intensive.
Effective: Summer 1996 Ending: Fall 2010
Prerequisite: MCH T 213, PL ET 205

PL ET 206W **Plastic Materials and Properties** (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics; writing intensive.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: PL ET 205

PL ET 222 **Introduction to Plastics Processing** (4) Introduction to plastic processing methods, materials, tooling, design, and equipment. Safe operation and practices are emphasized.
Effective: Summer 2005

PL ET 225 **Instrumentation, Control, & Automation for Plastics** (2) Instrumentation, control and automation basics & strategies for plastics processing.
Effective: Summer 2005
Prerequisite: MATH 081 ; Prerequisite or concurrent:PL ET 222

PL ET 227 **Plastics Processing & Statistical Methods** (4) Study of advanced issues in plastics processing, such as design of experiments and SPC/SQC will be covered.
Effective: Summer 2005
Prerequisite: PL ET 205, PL ET 222 ; Prerequisite or concurrent:PL ET 225

PL ET 232 **Introduction to Part and Tool Design** (3) CAD techniques for designing plastic products and related tooling.
Effective: Spring 2007
Prerequisite: EG T 121 Prerequisite or concurrent:PL ET 222

PL ET 235 **Tool Design & Machining** (2) Study of the methods used to create the tooling used in plastics fabrication and the methods of maintaining tooling.
Effective: Summer 2005
Prerequisite: PL ET 222 ; Prerequisite or concurrent:PL ET 232

PL ET 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1992

PL ET 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1992

PL ET 304 **Plastic Material Properties and Applications** (3) Synthesis, polymerization, and characterization of thermoplastic and thermoset polymeric materials.
Effective: Summer 2005
Prerequisite: PL ET 206W

PL ET 310 **Orientation to Plastics Industry** (3) Introduction to the various plastic resin groups and related production processes.
Effective: Summer 2007
Prerequisite: CHEM 110

PL ET 323 **Packaging Processes** (3) In-depth studies and laboratory experiments will be conducted on processes such as blow molding, thermoforming, extrusion and other packaging processes.
Effective: Summer 2005
Prerequisite: PL ET 225, PL ET 227, PL ET 304

PL ET 330 **Advanced Tooling & Rheology** (4) Tooling design strategies are developed considering a material's physical and rheological influences on processing and part formation.
Effective: Summer 2005
Prerequisite: PL ET 206W, PL ET 227, PL ET 232, PL ET 235, PHYS 250

PL ET 340 **Mold Design and Process Strategies** (3) Overview of mold design and the development of strategies and techniques integrating CAD and CAE technologies for optimizing part quality, moldability, and productivity.
Effective: Spring 2007
Prerequisite: EG T 121, PL ET 206

PL ET 345 **Heat Transfer** (2) Fundamentals of heat transfer including conduction, convection, and radiation.
Effective: Spring 2010
Prerequisite: PL ET 366

PL ET 350 **Design of Plastic Parts** (4) Designing plastic parts utilizing CAD, FEA, and CAE technologies for the design and for structural, dimensional, and process evaluation and optimization.
Effective: Spring 2007
Prerequisite: MCH T 213, PL ET 232, PL ET 304, PL ET 330 . Prerequisite or concurrent:MET 418

PL ET 366 **Fluid and Thermal Sciences** (3) Fundamentals of thermodynamic principles, fluid statics, and fluid dynamics.
Effective: Spring 2006
Prerequisite: MATH 083, PHYS 250, PL ET 222, PL ET 227 . Prerequisite or concurrent:PL ET 330

PL ET 370 **Advanced Processing** (3) In-depth studies and laboratory experiments will be conducted on processes such as blow molding, rotational molding, thermoforming, compression molding, calendaring, and various assembly operations.
Effective: Spring 2007

PL ET 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

PL ET 400 **Plastics Management Issues** (3) Study of business management topics as they relate to the plastics industry.
Effective: Summer 1996
Prerequisite: PL ET 350, PL ET 370

PL ET 400W **Plastics Management Issues** (3) Study of business management topics as they relate to the plastics industry. Writing intensive.
Effective: Summer 1996
Prerequisite: PL ET 350, PL ET 370

PL ET 429 **Plastics Packaging** (3) Introduction to plastics packaging including production methods, economic concerns, aesthetics, color and transparency, environmental concerns, and package lifetimes.
Effective: Summer 1996
Prerequisite: PL ET 350

PL ET 430 **Packaging Design & Materials** (2) Study of design and materials for plastic packaging including blow molded, thermoformed and extruded products.
Effective: Summer 2005
Prerequisite: Prerequisite or concurrent:PL ET 304, PL ET 330

PL ET 440 **Advanced Mold Design Technologies** (4) This is the second course in mold design; focuses on mechanical aspects of designing and building a mold; includes CAD, CAM, and CAE technologies.
Effective: Spring 2007
Prerequisite: MCH T 213, MET 306, METBD 366, PL ET 340

PL ET 460 **Advanced Computer Applications in Plastics Design** (3) Advanced applications of computer-aided design, computer-aided manufacturing, computer-aided engineering, and finite element analysis to plastic product development.
Effective: Summer 1996
Prerequisite: PL ET 350 . Prerequisite or concurrent:PL ET 440

PL ET 462 **Advanced Injection Molding** (3) New and advanced injection molding technoliges, implementing statistical methods such as design of experiments.
Effective: Summer 2005
Prerequisite: PL ET 225, PL ET 227, PL ET 330

PL ET 464 **Plastics Failure Analysis** (3) Fundamentals of Plastics Materials Process and Design Failure Analysis.
Effective: Summer 2005
Prerequisite: PL ET 304

PL ET 465 **Advanced CAE for Plastics II** (3) Advanced Computer-Aided Engineering techniques for plastic part design.
Effective: Spring 2007
Prerequisite: PL ET 345, PL ET 350, MET 418

PL ET 467 **Secondary Operations** (3) Fundamentals of decoration and assembly methods used in the plastics industry.
Effective: Summer 2005
Prerequisite: Seventh semester standing

PL ET 468 **Rapid Commercialization** (3) Techniques to help get plastic products to market quicker and to build solids and surface modeling skills.
Effective: Summer 2005
Prerequisite: PL ET 350

PL ET 475 **Survey of New Plastics Processing Technologies** (3) Study of the latest trends and advances in plastics processing.
Effective: Summer 1996
Prerequisite: PL ET 370, PL ET 440

PL ET 494A **Plastics Projects** (1-12) Supervised student activities on research and/or design projects identified on an individual or small group basis. A specific title may be used in each instance and will be entered on the student's transcript.
Effective: Spring 2007
Prerequisite: or concurrent:MET 418, PL ET 350, PL ET 370

PL ET 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica or internships. Written and oral critique of activity required.
Effective: Summer 1992
Prerequisite: prior approval of proposed assignment by instructor

PL ET 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1992

PL ET 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1992

PL ET 497A **Plastics Product Development** (3) Covers product/business development process, including writing specifications, testing requirements, concept creation and selection, working with industrial design, marketing, and finance.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PL ET 350

PL ET 497B (IL) **Plastics International Experience** (1-6) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL ET 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Polish (POL)

POL 001 **Beginning Polish** (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Polish.
Effective: Winter 1978

POL 002 **Beginning Polish** (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Polish.
Effective: Spring 2001
Prerequisite: POL 001

POL 003 **Beginning Polish** (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Polish.
Effective: Spring 2001
Prerequisite: POL 002

POL 051 **Elementary Intensive Polish for Graduate Students I** (3) Intensive introduction to Polish: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

POL 052 **Elementary Intensive Polish for Graduate Students II** (3) Intensive introduction to Polish: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: POL 051 and graduate standing

POL 053 **Intermediate Intensive Polish for Graduate Students** (3) Continued intensive study of Polish at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: POL 052 or equivalent and graduate standing

POL 100 **Polish Culture and Civilization** (3) Survey of Polish culture and civilization from 966 to the present.
Effective: Spring 2005

POL 197 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

POL 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

POL 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

POL 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

POL 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

POL 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Political Science (PL SC)

PL SC 001 (GS) **Introduction to American National Government** (3) Introduction to development and nature of American political culture, constitutional/structural arrangements, electoral/policy processes; sources of conflict and consensus.
Effective: Spring 2002

PL SC 002 **American Public Policy** (3) Examination of selected areas of public policy in America. Analysis of policy content, alternatives, and impact.
Effective: Fall 1983
Prerequisite: PL SC 001

PL SC 003 (GS;IL) **Introduction to Comparative Politics** (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.
Effective: Fall 2007

PL SC 003U (GS;IL) **Introduction to Comparative Politics** (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 007 (GS) **Contemporary Political Ideologies** (3) Critical analysis of contemporary political ideologies such as liberalism, conservatism, socialism, anarchism, fascism, feminism, and environmentalism.
Effective: Fall 2004

PL SC 014 (GS;IL) **International Relations** (3) Characteristics of modern nation-states and forces governing their international relations; nationalism; imperialism; diplomacy; current problems of war and peace. Credit will not be given for both this course and INT U 200.
Effective: Fall 2007

PL SC 017 (GS) **Introduction to Political Theory** (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.
Effective: Spring 2003

PL SC 017W (GS) **Introduction to Political Theory** (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.
Effective: Spring 2001

PL SC 020 (GS;IL) **Comparative Politics--Western Europe** (3) Comparative analysis of political cultures, interest groups, parties, and decision-making processes in principal Western European political systems.
Effective: Fall 2007

PL SC 022 (GS;IL) **Politics of the Developing Areas** (3) The impact of colonialism, nationalism, and development policy on the political culture, structure, and transformation of post-colonial regimes.
Effective: Spring 2010

PL SC 060 (GS;IL) (ANTH 060, J ST 060, SOC 060) **Society and Cultures in Modern Israel** (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

PL SC 083S (GS) **First-Year Seminar in Political Science** (3) Exploration of current topics of interest in political science, international relations, and/or political theory.
Effective: Summer 1999

PL SC 083T (GS) **First-Year Seminar in Political Science** (3) Exploration of current topics of interest in political science, international relations, and/or political theory.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 110 (GS;US) **Rights in America** (3) This course explores the historical and contemporary struggles of particular groups within American society to expand their rights.
Effective: Summer 2006

PL SC 123 (GS;US;IL) **Ethnic and Racial Politics** (3) Political movements among United States ethnic and racial groups; government policies on race and ethnicity; comparison to other culturally diverse countries.
Effective: Fall 2007

Prerequisite: PL SC 001 orPL SC 003

PL SC 125 **Pennsylvania Government and Politics** (3) Pennsylvania political processes; executive, legislative, judicial decision- making, and electoral behavior; selected public policies.
Effective: Fall 1984

PL SC 130 (GS;US) **American Political Campaigns and Elections** (3) Methods and strategies of American political campaigns: polls, political consultants, parties, and the media.
Effective: Fall 2007

PL SC 132 (GS;IL) **The Politics of International Intolerance** (3) Introductory course emphasizing psychological, historical, and political aspects of global intolerance towards minorities.
Effective: Fall 2007

PL SC 135 (GS) (S T S 135) **The Politics of the Ecological Crisis** (3) The political implications of the increasing scarcity of many of the world's resources.
Effective: Spring 2001

PL SC 137 **United States Intelligence and Policy Making** (3) The policy making process in the United States foreign intelligence and security policy; emphasis on the period following World War II.
Effective: Spring 2001

PL SC 140 (GS) **Contemporary Controversies in International Relations** (3) Contemporary issues of international security presented rigorously using analytical tools of international relations and political science.
Effective: Summer 2009

PL SC 150 **The North-South Challenge** (3) Analysis of issues which separate the Northern and Southern hemispheres, and their importance for U.S. relations with the Third World.
Effective: Spring 2005

PL SC 155 **Understanding Tyranny** (3) Exploration of the rationales, methods, and consequences of highly repressive political regimes through novels, films, and memoirs.
Effective: Summer 1996

PL SC 177 (GS) **Politics and Government in Washington DC** (1-3) The course centers on a Spring Break trip to Washington DC, with students meeting on campus before and after the trip.
Effective: Fall 2007

PL SC 197 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

PL SC 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PL SC 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

PL SC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PL SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PL SC 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PL SC 300H **Introduction to Independent Thesis Research** (3) Introduction to research design, principles of social science research, and development on honors theses research proposal.
Effective: Fall 2008

PL SC 301 **Introduction to Political Analysis** (3) An introduction to the discipline, subject matter, and methods of political

science.
Effective: Spring 2001
Prerequisite: PL SC 001, PL SC 003 orPL SC 014

PL SC 306H **Senior Thesis Writing Workshop** (1 per semester, maximum of 3) This seminar supports the writing and editing of senior honors theses.
Effective: Fall 2005

PL SC 308 **Introduction to Political Research** (3) Introduction to conceptualization, research design, and measurement in political research.
Effective: Fall 2009
Prerequisite: any 3 credits in Political Science

PL SC 309 **Quantitative Political Analysis** (3) Data analysis and statistical applications in political research, including data processing; inferential statistics; contingency analysis; correlation and regression; multivariate analysis.
Effective: Fall 2009
Prerequisite: any 3 credits in political science

PL SC 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

PL SC 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

PL SC 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PL SC 403 **The Legislative Process** (3) Analysis of the policy process within the legislative system; the effects of environmental factors on policy alternatives and legislative decision making.
Effective: Spring 2001
Prerequisite: PL SC 001 orPL SC 003

PL SC 404 **Topics in International Politics** (3) An examination of the geographical factors underlying and affecting the relationships between states.
Effective: Fall 2007

PL SC 405 **The American Presidency** (3) An examination of the selection methods for, and powers of, the American presidency, as well as other chief executives.
Effective: Fall 1983
Prerequisite: PL SC 001

PL SC 410 **Game Theory in International Relations** (3) Game theoretic approaches to the study of international relations.
Effective: Spring 2005
Prerequisite: PL SC 014

PL SC 411W **Principles of International Cooperation** (3) An exploration of the forces that make conflict, or cooperation, more likely in international relations.
Effective: Summer 2006
Prerequisite: PL SC 014

PL SC 412 **International Political Economy** (3) The transnational politics of trade, investment, aid, raw materials, and the environment; nation-states, multinational corporations, and the U.N.
Effective: Fall 2007
Prerequisite: ECON 002, ECON 004, ECON 014, I B 303 orBUS 364

PL SC 413 **The Rise and Fall of the Soviet Union** (3) Background, organization, and operation of the Communist Party and the government of the Soviet Union.
Effective: Spring 2001
Prerequisite: 3 credits from:PL SC 003, PL SC 014, PL SC 155 orRUS 100

PL SC 415 **International Organization: Political and Security Functions** (3) Theory and evolution of international organization; political and security functions of the United Nations and regional organizations.
Effective: Spring 2003
Prerequisite: PL SC 014

PL SC 416 **International Negotiations** (3) The study of international negotiations from a strategic perspective.
Effective: Summer 2005
Prerequisite: PL SC 014

PL SC 417 **American Local Government and Administration** (3) Organization, powers, functions, and problems of American cities and metropolitan areas; modern trends and developments.
Effective: Winter 1978
Prerequisite: PL SC 001

PL SC 418 **International Relations Theory** (3) A survey of traditional and contemporary conceptual frameworks and theoretical approaches for the analysis of international relations.
Effective: Winter 1978
Prerequisite: PL SC 014

PL SC 418W **International Relations Theory** (3) A survey of traditional and contemporary conceptual frameworks and theoretical approaches for the analysis of international relations.
Effective: Spring 1999
Prerequisite: PL SC 014

PL SC 419 **The Bureaucratic State** (3) Overview of structural, technological, decision-making, behavioral, and political subsystems of bureaucracy; emphasis on bureaucratic dynamics within larger environmental, interorganizational contexts.
Effective: Fall 2007
Prerequisite: PL SC 001, PL SC 002 orPUBPL 304W

PL SC 422 **Comparative Urban Politics** (3) Relationships between structure and evolution of city systems and patterns of political behavior.
Effective: Spring 2001
Prerequisite: PL SC 003, PL SC 020, PL SC 022 orPL SC 417

PL SC 423 **Post-Soviet Politics** (3) Aspects of political transition and institutions of the fifteen Soviet successor republics; emphasis on Russia and republican confederation.
Effective: Fall 2007
Prerequisite: PL SC 003, PL SC 155 orRUS 100

PL SC 424 **Topics in Comparative Government and Institutions** (3) Topics in the comparative analysis of representative contemporary Western and non-Western governmental institutions.
Effective: Fall 2007
Prerequisite: 3 credits fromPL SC 003, PL SC 020, PL SC 022

PL SC 425 **Government and Politics of the American States** (3) Comparative analysis of political processes; executive, legislative, and judicial decision making and behavior; examination of systems functioning; selected public policies.
Effective: Winter 1978
Prerequisite: PL SC 001

PL SC 426 **Political Parties and Interest Groups** (3) Interest group basis of American politics, analysis of party and group behavior in electoral politics and the policy process.
Effective: Fall 1983
Prerequisite: PL SC 001

PL SC 427 **Political Opinion** (3) Nature and development of mass attitudes and opinions; political socialization; voting behavior; relation between opinions and public policy.
Effective: Spring 2001
Prerequisite: PL SC 001

PL SC 428 (US;IL) (WMNST 428) **Gender and Politics** (3) Gender in politics in the United States and around the world; major areas of women and politics research.
Effective: Fall 2007
Prerequisite: 3 credits in political science or women's studies

PL SC 429 **Analysis of Electoral Politics** (3) The new politics, its technology, and the strategic perspectives that underlie it.
Effective: Spring 2007
Prerequisite: PL SC 001

PL SC 430 **Selected Works in the History of Political Theory** (3) Detailed examination and analysis of a selected major work, thinker, or tradition in the history of political theory.
Effective: Spring 1998
Prerequisite: PL SC 017 orPL SC 007

PL SC 430W **Selected Works in the History of Political Theory** (3) Detailed examination and analysis of a selected major work, thinker, or tradition in the history of political theory.
Effective: Spring 2008
Prerequisite: PL SC 017 orPL SC 007

PL SC 431 **Ancient, Medieval, and Renaissance Political Theories** (3) Political theories of Plato and Aristotle; selected Greek, Roman, medieval, and Renaissance theorists through Machiavelli.
Effective: Spring 2003
Prerequisite: PL SC 017 orPL SC 007

PL SC 432 **Modern and Contemporary Political Theories** (3) Political theories of the seventeenth through the twentieth centuries, including Hobbes, Locke, Rousseau, Marx, Mill, Mosca, Weber, and selected theorists.
Effective: Spring 2003
Prerequisite: PL SC 017 orPL SC 007

PL SC 433 **Political Foundations of the Early American Republic** (3) The course introduces students to the major political and philosophical movements that influenced the founders of the early American republic.
Effective: Summer 2008
Prerequisite: PL SC 001 orHIST 020 orPL SC 017

PL SC 434 (IL) (AAA S 434) **War and Development in Africa** (3) This course will examine the relationship between war and

development in sub-Saharan Africa in the post colonial era.
Effective: Spring 2008
Prerequisite: PL SC 114, PL SC 003, AAA S 110

PL SC 435 **Foundations of American Political Theory** (3) Political theories of colonial, revolutionary, and constitutional periods presented through works of selected thinkers and analysis of particular political problems.
Effective: Spring 2001
Prerequisite: PL SC 001, PL SC 017 orPL SC 007

PL SC 435W **Foundations of American Political Theory** (3) Political theories of the revolutionary and constitutional periods presented through works of selected political thinkers and political issues.
Effective: Spring 2001
Prerequisite: PL SC 001, PL SC 017 orPL SC 007

PL SC 437 **War in World Politics** (3) Causes, resolution, and consequences of crises and wars; testing theories of conflict using both case and statistical studies.
Effective: Summer 1997
Prerequisite: PL SC 014

PL SC 438 **National Security Policies** (3) Impact of national security on U.S. government and foreign policy; roles and interaction of President, Congress, government agencies, interest groups.
Effective: Spring 2001
Prerequisite: PL SC 001 orPL SC 014

PL SC 439 (CRIMJ 439) **The Politics of Terrorism** (3) Analysis of political terrorism as a violent alternative for peaceful change and traditional warfare in the nuclear age.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orPL SC 014 or permission of program

PL SC 440 (US;IL) (AAA S 440, I B 440) **Globalization and Its Implications** (3) This course explores the socioeconomic implications of globalization.
Effective: Spring 2008
Prerequisite: AAA S 100 orAAA S 110 orPL SC 003 orPL SC 014 orPL SC 020 orPL SC 022

PL SC 441 **Transnational Corporations and Other Organizations in International Relations** (3) Analysis of the effects of transnational actor behavior on international relations.
Effective: Fall 2007
Prerequisite: ECON 333, I B 303, PL SC 014 orBUS 364

PL SC 442 **American Foreign Policy** (3) Principles of American foreign policy; processes of policy formulation; roles of the President, Congress, the State Department, and other government agencies.
Effective: Spring 2001
Prerequisite: PL SC 014

PL SC 443 (IL) (AAA S 443) **Ethnic Conflict in Africa** (3) This course explores the various causes and impacts of ethnic conflicts in the African context.
Effective: Spring 2008
Prerequisite: AAA S 100, AAA S 110, PL SC 001, PL SC 003, PL SC 007, PL SC 014, PL SC 017, PL SC 020 orAFRAS 301

PL SC 444 **Government and the Economy** (3) Interactions of governmental and economic activity in American life. Survey of governmental (national, state, local) promotional, regulatory, and ownership policies.
Effective: Winter 1978
Prerequisite: 3 credits in political science or economics

PL SC 445Y (US) (AAA S 445Y, LER 445Y) **Politics of Affirmative Action** (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.
Effective: Spring 2008
Prerequisite: AAA S 100 level course andPL SC 001 orPL SC 007

PL SC 452 **Government and Politics of Central Europe** (3) Politics and society in the Communist Era, the revolutions of 1989, and problems of adjustment to democracy and market.
Effective: Fall 2007
Prerequisite: PL SC 003, PL SC 020, PL SC 022 orPL SC 155

PL SC 453 (IL) **Political Processes in Underdeveloped Systems** (3) Comparative analysis of the political, social, and economic problems characteristic of underdeveloped systems.
Effective: Fall 2007
Prerequisite: PL SC 003, PL SC 020 orPL SC 022

PL SC 454 (IL) (AAA S 454) **Government and Politics of Africa** (3) Contemporary African politics, institutions, and ideologies; patterns of change, social forces, and nation building in selected African states.
Effective: Summer 2005
Prerequisite: 3 credits from:AAA S 110, PL SC 003, PL SC 020 orPL SC 022

PL SC 455 **Governments and Politics of Western Europe** (3) Comparative analysis of political and governmental structures of major West European nations; main functions and processes of such structures.
Effective: Spring 2001
Prerequisite: PL SC 003 orPL SC 020

PL SC 456 **Politics and Institutions of Latin-American Nations** (3) Social forces and processes, governmental institutions, foreign policies of major states of Latin America.

Effective: Spring 2001
Prerequisite: HIST 179, PL SC 003, PL SC 020 orPL SC 022

PL SC 457 **International Politics of Latin America** (3-6) Relationships among the nations of Latin America and the social forces which determine and shape their direction.
Effective: Spring 2001
Prerequisite: HIST 179, PL SC 003, PL SC 014, PL SC 020 orPL SC 022

PL SC 458 **Government and Politics of East Asia** (3-6) Examination of political institutions, democratic and communist revolution, political leadership, political processes of major states of East Asia.
Effective: Summer 1996
Prerequisite: 3 credits fromPL SC 003, PL SC 020, PL SC 022

PL SC 459 (IL) (AAA S 459) **Culture and World Politics** (3) Role of culture in world politics.
Effective: Summer 2006

PL SC 460 (S T S 460) **Science, Technology, and Public Policy** (3) The all-pervasive importance of science and technology policy in modern societies and mechanisms and processes by which it is made.
Effective: Spring 1995
Prerequisite: 3 credits in natural sciences or engineering 3 credits in social and behavioral sciences

PL SC 462 **Marxist and Socialist Political Theory** (3) Analysis of major problems and key works in the Marxist and Socialist tradition; dialectical materialism, alienation, class warfare, etc.
Effective: Spring 2001
Prerequisite: PL SC 017, PL SC 007, PL SC 413 orPL SC 452

PL SC 464 (IL) (AAA S 464) **Globalization, Extractive Industries, and Conflict in Africa** (3) Socioeconomic and environmental impacts of extractive industries in Africa.
Effective: Summer 2008
Prerequisite: AAA S 110 or at least one of the following:PL SC 003 orPL SC 014 orPL SC 022

PL SC 467 **International Relations of the Middle East** (3) The international relations of the Middle East, stressing national security policies of regional and outside actors, and major contemporary conflicts.
Effective: Spring 1985
Prerequisite: PL SC 014 orHIST 181

PL SC 470W **Legal Brief Writing** (3) Writing of legal briefs as practiced in American courts.
Effective: Spring 1998
Prerequisite: PL SC 001

PL SC 471 **American Constitutional Law** (3) The origins of judicial review, landmark decisions of the Supreme Court, and their impact on the American form of government.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 472 **The American Legal Process** (3) Analysis of the roles, procedures, and policies characterizing the American legal system.
Effective: Spring 2001
Prerequisite: PL SC 001

PL SC 473 **American Judicial Behavior** (3) Analyzes behavior of judges and other participants in the legal process; examines how and why courts function as policymaking bodies.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 474 **Civil Liberties and Due Process** (3) Fundamental problems relating to civil liberities and due process.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 480W **Congress and the Presidency** (3) Basic characteristics and processes of the national legislature and executive; roles and interaction of these institutions in the policy process.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 481 **Global Political Economy** (3) This course examines states, markets, power, production, and the relations between the various transnational agents who act in these areas. Students may not receive credit for PL SC 481 and PL SC 412.
Effective: Spring 2007
Prerequisite: PL SC 014 orINTST 100

PL SC 482 **American State and Urban Politics** (3) Explores basic characteristics and processes of American state and urban politics; nature of intergovernmental relations involving these governmental levels.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 484W **The Foreign Policy of Soviet Successor States** (3) Relations between Russia and The Newly Independent States (NIS); Russia's relations with selected foreign states and political Institutions; regional impact of the NIS in Baltic, Asian, and Central Asian areas.
Effective: Fall 2007
Prerequisite: PL SC 003

PL SC 487 **International Law and Organizations** (3) Major topics and issues of international law with special attention to institutional arrangements (international organizations) through which that law operates.
Effective: Fall 2007
Prerequisite: PL SC 003 orPL SC 014

PL SC 488 **Comparative Public Policy** (3) Comparative methodology and public policy implementation in postindustrial societies; selected case studies of policy output.
Effective: Fall 2007
Prerequisite: PL SC 003

PL SC 489 **Public Administration** (3) A survey of the major approaches to the management of most governmental agencies.
Effective: Fall 2007
Prerequisite: PL SC 001

PL SC 490 **Policy Making and Evaluation** (3) Advanced analysis of public policy, emphasizing policy evaluation and the factors that determine policy success and failure.
Effective: Fall 2007
Prerequisite: PL SC 001, PL SC 002 orPUBPL 304W

PL SC 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

PL SC 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

PL SC 495 **Political Science Internship** (1-6) Combining experience in government offices, related agencies, or law firms, with appropriate readings and a research paper/report.
Effective: Fall 2007
Prerequisite: prior consent of supervisor adviser or department head; applicable departmental internship requirements such as satisfactory completion of required 300- or 400-level courses appropriate for the internship program selected

PL SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PL SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PL SC 497A **International Relations of Africa** (3) This course will discuss the role of Africa in the intellectual development of world politics beginning in the 20th century.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497B **Politics of the European Union** (3) The aim of this course is to introduce students to the history, institutions, and politics of the European Union.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497C **Nationalism, Ethnicity & Immigration** (3) The course examines the concepts of ethnicity and nationalism and explores their connections to immigration and immigration policy.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497D **Territoriality & Group Conflict in International Relations** (3) This course will explore the central theoretical role territory plays in international relations and focus on perspectives that suggest causes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497E **Democratization in Asia** (3) This course address the literature on democracy and democratization and then applies it to Asia.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497F **Political Economy of Civil Wars** (3) This course examines the recent research about the factors that lead to the onset, duration, and termination of civil wars.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497G **Dictators and Their Demise** (3) This course examines the political economy of authoritarian rule.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497I (PUBPL 497A) **Public Affairs Capstone Course** (3) This course examines how to objectively examine contentious public policy controversies by relying on essential principles of scientific research.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 497K (IL) **South Asian Politics** (3) This course will present an overview of the politics of modern South Asia focusing on Afghanistan, India and Pakistan.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PL SC 499 (IL) **Foreign Study--Government** (1-12) Study, in selected foreign countries, of political institutions.
Effective: Summer 2005
Prerequisite: PL SC 003 3 credits in economics history political science or sociology

Last Import from UCM: May 29, 2010 3:00 AM

Portuguese (PORT)

PORT 001 **Elementary Portuguese I** (4) For beginners. Grammar, with reading and writing of simple Portuguese; oral and aural work stressed.
Effective: Spring 1987

PORT 002 **Elementary Portuguese II** (4) Grammar, reading, and conversation continued; special emphasis on the language, literature, and life of Brazil.
Effective: Spring 1988
Prerequisite: PORT 001

PORT 003 **Intermediate Portuguese** (4) Grammar, reading, composition, and conversation.
Effective: Winter 1978
Prerequisite: PORT 002

PORT 051 **Elementary Intensive Portuguese for Graduate Students I** (3) Intensive introduction to Portuguese: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

PORT 052 **Elementary Intensive Portuguese for Graduate Students II** (3) Intensive introduction to Portuguese: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: PORT 051 and graduate standing

PORT 053 **Intermediate Intensive Portuguese for Graduate Students** (3) Continued intensive study of Portuguese at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: PORT 052 or equivalent and graduate standing

PORT 187 **Portuguese Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

PORT 197 **Special topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

PORT 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

PORT 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

PORT 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

PORT 405 **Advanced Composition and Conversation** (3) Intended to strengthen the advanced student's ability to speak, read, and write in modern Brazilian Portuguese.
Effective: Summer 1981
Prerequisite: PORT 003

PORT 456 **Brazilian Literature in English Translation** (3) Selected topics in the history of Brazilian literature, supplemented by readings, discussion, and lectures on cultural or literary questions.
Effective: Winter 1978

PORT 466 **Brazilian Literature, The Colonial Era Through Romanticism** (3) A survey of the major texts of Brazilian literature from its origins (1500) through its romantic period.
Effective: Summer 1991
Prerequisite: PORT 003

PORT 476 **Brazilian Literature, The Modern Era (1880 to the Present)** (3) A survey of the major texts of Brazilian literature from romanticism to the present.
Effective: Summer 1991
Prerequisite: PORT 003

PORT 480 **The Brazilian Novel** (3) A survey of the Brazilian novel from its origins to the present.
Effective: Spring 1993
Prerequisite: PORT 003, PORT 405

PORT 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

PORT 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

PORT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

PORT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

PORT 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Psychology (PSYCH)

PSYCH 083S (GS) **First-Year Seminar in Psychology** (3) Scientific, societal, and individual implications of contemporary psychological theory.
Effective: Spring 2007

PSYCH 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

PSYCH 100 (GS) **Introductory Psychology** (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2007

PSYCH 100H (GS) **Introductory Psychology** (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PSYCH 100H (GS) **Introductory Psychology** (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

PSYCH 100S (GS) **Introductory Psychology** (3) Introduction to general psychology; principles of human behavior and their applications.
Effective: Spring 2007

PSYCH 105 **Psychology as a Science and Profession** (3) Overview of history and methods of psychology as a science and profession; applications and ethical issues in psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 140 **Management of Interpersonal Relationships** (3) Conceptual framework for enhancing human relationships and applying problem- solving techniques within family, institution, and work situations.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

PSYCH 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

PSYCH 200 **Elementary Statistics in Psychology** (4) Frequency distributions and graphs; measures of central tendency and variability; normal probability curve; elementary sampling and reliability; correlations; simple regression equations.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: PSYCH 100;MATH 021

PSYCH 200 (GQ) **Elementary Statistics in Psychology** (4) Frequency distributions and graphs; measures of central tendency and variability; normal probability curve; elementary sampling and reliability; correlations; simple regression equations.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: PSYCH 100;MATH 021

PSYCH 212 (GS) **Introduction to Developmental Psychology** (3) Developmental principles; physical growth; linguistic, intellectual, emotional, and social development from infancy to maturity.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 212H (GS) **Introduction to Developmental Psychology** (3) Developmental principles; physical growth; linguistic, intellectual, emotional, and social development from infancy to maturity.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PSYCH 100

PSYCH 221 (GS) **Introduction to Social Psychology** (3) Research and theory on topics including interpersonal attraction, aggression, helping, attitudes, attribution, cooperation, competition, and groups, from a psychological perspective.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 230 (GS) (RL ST 236) **Introduction to Psychologies of Religion** (3) Introduction to major Western psychologies of religion (James, Freud, Jung) and to subsequent extensions of and departures from them.
Effective: Spring 2007

PSYCH 231 (GS;US) **Introduction to the Psychology of Gender** (3) Psychological study of gender in historical and contemporary perspective. Role of gender in development, self-concept, social relations, and mental health.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 232 (GS;US;IL) **Cross-Cultural Psychology** (3) This course examines how ethnic and cultural background influences patterns of human thought and behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 238 (GS) **Introduction to Personality Psychology** (3) Past and recent conceptualizations of key issues and root ideas of personality psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 243 (GS) **Introduction to Well-being and Positive Psychology** (3) Applying psychological knowledge to develop and maintain effective personal adjustment and well-being and positive social relations.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 244 (GS) **Introduction to the Psychology of Human Factors Engineering** (3) Introductory course in engineering/human factors psychology, emphasizing the application of core psychological principles and research to designing products and systems.
Effective: Spring 2009
Prerequisite: PSYCH 100 or 3 credits of GS

PSYCH 253 (GS) **Introduction to Psychology of Perception** (3) Survey of human perception and processing of perceptual information, with some reference to animal literature. Emphasizes vision and audition.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 256 (GS) **Introduction to Cognitive Psychology** (3) Introduction to study of such higher mental processes as thinking and reasoning, imagery, concept formation, problem solving, and skilled performance.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 260 (BB H 203) **Neurological Bases of Human Behavior** (3) An introduction to biopsychology, emphasizing the structure and function of the human brain.
Effective: Spring 2007

PSYCH 260A (GS) **Neurological Bases of Human Behavior** (3) An introduction to biopsychology, emphasizing the structure and function of the human brain. Students may take only one course for credit from PSY 203 and PSY 203A.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 261 (GS) **Introduction to Psychology of Learning** (3) A general survey of the learning area, including animal and human experiments, with the applicability of learning principles being discussed.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 268 **Animal Minds** (3) This course considers the cognitive and communicative abilities of animals, especially primates, as compared with humans.
Effective: Spring 2007

PSYCH 269 **Evolutionary Psychology** (3) Survey of evolutionary perspectives in current psychological research.
Effective: Spring 2008
Prerequisite: PSYCH 100;ANTH 021, BI SC 002, BIOL 133 orBIOL 222

PSYCH 270 **Introduction to Abnormal Psychology** (3) Overview of assessment, causes, and treatments of psychological disorders.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 281 (GS) **Introduction to Industrial-Organizational Psychology** (3) Personnel selection, training, accident prevention, morale, and organizational behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2007

PSYCH 295 **Internship** (1-18) Supervised off-campus nongroup instruction including field experiences, practica, or

internships. Written and oral critique of activity required.
Effective: Spring 2007

PSYCH 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1985

PSYCH 296A **Cognitive Neuroscience Research** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

PSYCH 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

PSYCH 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

PSYCH 300H **Honors Course in Psychology** (1-6) Individual study and seminar in selected phases of psychology.
Effective: Spring 2007
Prerequisite: invitation of Program Honors Committee

PSYCH 301W **Basic Research Methods in Psychology** (4) Introduction to methods of psychological research, with special attention to hypothesis formation and testing, threats to validity, and data presentation.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200

PSYCH 302W **Critical Thinking and Writing in Psychology** (4) This course aims to teach psychology majors to think critically and to write clearly using APA writing style.
Effective: Spring 2007
Prerequisite: Psychology major a grade of C or better inENGL 202A

PSYCH 370 (US) **Psychology of the Differently-Abled** (3) This course familiarizes students with the needs and abilities of people with varying physical challenges through academic and experimental exercises.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

PSYCH 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

PSYCH 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

PSYCH 400 **Intermediate Experimental Design** (3) Design and analysis of experiments on human and animal behavior, including application of the t, F, chi-square, and binomial distributions.
Effective: Spring 2007
Prerequisite: PSYCH 200 orSTAT 200

PSYCH 403 **Measurement and Decision Making** (3) Introduction to axiomatic measurement theory, scale construction, and behavioral decision theory. Algebraic and stochastic models; iterative scaling methods.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 404 (EDPSY 450) **Principles of Measurement** (3) Scale transformation, norms, standardization, validation procedures, estimation of reliability.
Effective: Spring 2007
Prerequisite: EDPSY 400, PSYCH 100 orPSYCH 200;STAT 200

PSYCH 405 **Mathematical Psychology** (3) Formalized psychological theories including models of social, biological, cognitive, and learning phenomena.
Effective: Spring 2007
Prerequisite: MATH 040 or equivalentPSYCH 200 orSTAT 200

PSYCH 406W **Advanced Research Projects in Psychology** (4) Advanced methodology focusing on the logic and practice of research culminating in the completion of a student designed research project.
Effective: Spring 2007
Prerequisite: PSYCH 301W

PSYCH 407 **Advanced Research Methods in Psychology** (3) Advanced methodology focusing on the logic and practice of research in a selected content area of psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200;PSYCH 301W

PSYCH 408 **Program Evaluation** (3) Examination of the theories and practice of program evaluation; emphasis on applied work utilizing a wide range of evaluation approaches.
Effective: Spring 2007
Prerequisite: PSYCH 100 orSOC 001;PSYCH 200 orSTAT 200;PSYCH 301W

PSYCH 410 **Child Development** (3) Study of the psychology of the growing person from conception through adolescence, focusing more on periods up to middle childhood.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 412 **Adolescence** (3) Physical, cognitive, and personality development during adolescence.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 413 **Cognitive Development** (3) Development of reasoning and related cognitive skills, such as perception and language.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 212

PSYCH 414 **Social and Personality Development** (3) Development of social and personality attributes.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 212

PSYCH 415 **Topics in Developmental Psychology** (3) Special topics in developmental psychology.
Effective: Spring 2007
Prerequisite: PSYCH 413 orPSYCH 414

PSYCH 416 (HD FS 445) **Development Throughout Adulthood** (3) Processes of development and change of behavior from early adulthood through old age, emphasizing theory, method, and empirical research.
Effective: Spring 2007
Prerequisite: HD FS 249 orPSYCH 100;HD FS 312W orPSYCH 301W;PSYCH 200, STAT 200 or 3 credits of statistics ; 6 credtis in HD FS PSYCH or SOC.

PSYCH 420 **Advanced Social Psychology** (3) In depth study of selected research areas in human social behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 421 **Self and Social Judgment** (3) Individual's perceptions, evaluations, and decision-making strategies about themselves, others, and social situations or issues.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

PSYCH 422 **Human Sexuality** (3) Psychological influences on human sexual behavior such as love, sexual orientation, gender, intercourse, contraception, sexually transmitted diseases, dysfunctions, and paraphilias.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 423 **Social Psychology of Interpersonal/Intergroup Relationships** (3) In-depth study of relationships among individuals (e.g., intimate relationships) or groups (e.g., prejudice, cooperation, competition, aggression, and negotiation).
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

PSYCH 424 **Applied Social Psychology** (3) Application of social psychological theories and research methods to field settings and to the study of social issues.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

PSYCH 425 **Psychology of Human Emotion** (3) Reviews, critiques, and applies major historical and contemporary psychological theories of emotion experience, understanding, and expression.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 426 (LING 429) **Language and Thought** (3) Relations between language and cognition; cognitive implications of normal and impaired language development; cognition and bilingualism.
Effective: Spring 2007
Prerequisite: PSYCH 100 orLING 001 orLING 100

PSYCH 427 (LING 446) **L1 Acquisition** (3) How children learn their first language; psycholinguistic aspects of lexical, syntactic, semantic, and phonological development.
Effective: Spring 2010
Prerequisite: LING 100 orPSYCH 002 or permission of program

PSYCH 432 (US) **Multicultural Psychology in America** (3) This course focuses on the central role of culture, race, and ethnicity in the human condition.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 436 (RL ST 414) **Humanistic, Existential, and Religious Approaches to Psychology** (3) Existential, humanistic, and religious approaches to the psychology of experience, consciousness and will.
Effective: Spring 2007
Prerequisite: PSYCH 100 orRL ST 001

PSYCH 438 **Personality Theory** (3) Personality theories and their application to social and personality development and personality dynamics.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits PSYCH

PSYCH 439 **History and Systems of Psychology** (3) Historical antecedents to scientific psychology; development of contemporary psychological theories and research areas from the formal establishment of psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 441 **Health Psychology** (3) Overview of the field with an emphasis on how psychological research contributes to an understanding of health and behavior.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 443 **Treatment and Education in Developmental Disabilities** (3) Covers etiology, classification, intervention (treatment and education), ethical and legal issues related to individuals with developmental disabilities.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 444 **Engineering Psychology** (3) Methods and results of experimental psychology pertinent to problems which involve man-machine relationships.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of GQ or PSYCH

PSYCH 445 **Forensic Psychology** (3) Relations between psychological theory and research and the law, legal processes, and social policy.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 238, PSYCH 243 orPSYCH 270

PSYCH 447 **Psychology of Discipline** (3) Provides theory and practice for effective discipline of children in a variety of situations.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits PSYCH

PSYCH 450 **Psychology of Consciousness** (3) Introduction to psychological and physiological aspects of consciousness as related to brain function and clinical psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 451 **Psychology of Action** (3) Basic and applied science of action, from psychological, computational, and physiological perspectives.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 256

PSYCH 452 **Learning and Memory** (3) General survey of learning and memory processes as revealed in experimental work with animals and humans.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 256

PSYCH 453 **Sensation and Perception** (3) Fundamental processes and variables involved in the sensory and perceptual experiences of animals and humans.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 253

PSYCH 456 **Advanced Cognitive Psychology** (3) In depth study of complex mental processes: thinking, problem-solving, imagery, symbolic behavior, information-processing, attention, artificial intelligence, and language.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 457 **Psychology of Language** (3) Overview of psychological research and theory on language processes, including speech perception, word recognition, meaning representation, comprehension, and language acquisition.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 458 **Visual Cognition** (3) Overview of concepts and methods in cognitive visual-spatial processing.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 459 **Attention and Information Processing** (3) An examination of attentional processes. Contemporary informational processing approaches will be emphasized.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200 ; 3 credits 400-level PSYCH

PSYCH 460 **Comparative Psychology** (3) Behavior from standpoint of phylogenetic growth and development; biological

implications; comparison of different types of animals, including man.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 260

PSYCH 461 **Advanced Conditioning and Learning** (3) An examination of basic learning processes that have been determined within the context of classical, instrumental, and operant learning situations.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 462 **Physiological Psychology** (3) Study of the biological bases of behavior and experience, including the anatomy and physiology of the brain and nervous system.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 260 or 3 credits of BIOL

PSYCH 463 **Developmental Biopsychology** (3) Developmental neuroanatomy and neurophysiology of vertebrates as they relate to behavior; emphasis on early postnatal development of birds and mammals.
Effective: Spring 2007
Prerequisite: PSYCH 260

PSYCH 464 **Behavior Genetics** (3) Survey of gene mechanisms and gene-environment interactions in the determination of behavior; emphasis on deviant human behavior.
Effective: Spring 2008
Prerequisite: PSYCH 100;ANTH 021, BI SC 002, BIOL 133 orBIOL 222

PSYCH 470 **Abnormal Psychology** (3) Causes, dynamics, symptoms, and treatment of neuroses, psychoses, personality disorders, and other psychological disorders of adulthood.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 238, PSYCH 243 orPSYCH 270

PSYCH 471 **Psychology of Adjustment and Social Relationships** (3) Theory and application of psychological principles to problems in personal and social adjustment.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 473 **Behavior Modification** (3) Principles of advanced behavior modification techniques.
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

PSYCH 474 **Psychological Intervention in Childhood** (3) Psychology of personal relationships in school situations.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 212, PSYCH 238, PSYCH 243 orPSYCH 270

PSYCH 475 **Psychology of Fear and Stress** (3) Description and evaluation of major trends in research on stress and fear in humans and other animals.
Effective: Spring 2007
Prerequisite: PSYCH 100 3 credits of BIOL statisticsPSYCH 200 orSTAT 200

PSYCH 476 **Child Psychopathology** (3) Etiology, diagnosis, and facilitation of adjustment of the mentally retarded, gifted, physically handicapped, and emotionally disturbed child.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 212, PSYCH 238, PSYCH 243 orPSYCH 270

PSYCH 477 **Mental Health Practicum with Children** (3) Overview of interventions for children at risk for mental health disorders; emphasis on intervention strategies, program evaluation, and applied skills.
Effective: Spring 2007
Prerequisite: PSYCH 100 permission of program

PSYCH 478 **Clinical Neuropsychology** (3) Overview of functional human neuroanatomy and clinical neuropsychology, with emphasis on origin, assessment, and treatment of human brain damage.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 260

PSYCH 479 (US) (WMNST 471) **The Psychology of Gender** (3) Theories and research on gender differences and gender roles. Emphasis on women's and men's current positions in society.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

PSYCH 481 **Introduction to Clinical Psychology** (3) Diagnostic precedures, treatment approaches, occupational settings, and ethical considerations relevant to the profession of the clinical psychologist.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 238, PSYCH 243 orPSYCH 270

PSYCH 482 **Selection and Assessment in Organizations** (3) Background in personnel testing, performance measurement, selection strategies, with emphasis on validity and measurement reliability.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 200 orSTAT 200, PSYCH 281

PSYCH 484 **Work Attitudes and Motivation** (3) Survey of theory and research with respect to attitudes, morale, and motivation of employees and management.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200 or 6 credits of GQ

PSYCH 485 **Leadership in Work Settings** (3) Review of research and application of behavior principles in the areas of management and supervision.
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 281 or 3 credits MGMT

PSYCH 490 **Senior Seminar in Psychology** (3) Capstone experience for senior psychology majors; review of current research literature; topics vary.
Effective: Spring 2007
Prerequisite: PSYCH 301W 6 credits 400-level PSY senior Psychology major

PSYCH 491H **Honors Thesis** (3) An opportunity to pursue an advanced research thesis or project to integrate studies within psychology.
Effective: Spring 2007
Prerequisite: HONOR 301H senior standing and permission of the program

PSYCH 492 **Current Topics in Psychology** (3) Current topics addressing significant contemporary developments in psychology.
Effective: Spring 2007
Prerequisite: PSYCH 100

PSYCH 493 **Senior Thesis** (3-6) Supervised senior thesis research in psychology.
Effective: Spring 2007
Prerequisite: approval of a thesis adviser in the department seventh-semester standing

PSYCH 494 **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2007

PSYCH 494H **Research Projects** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

PSYCH 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

PSYCH 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1985

PSYCH 496A **Applications of Survey Research** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 2010 Ending: Summer 2010

PSYCH 496A **Undergraduate Teaching Assistant** (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

PSYCH 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1991

PSYCH 497A **Biopsychology** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

PSYCH 497B **Advanced Experimental Psychology** (3) This is an advanced survey course, providing a broad overview of the methods used in a variety of research areas in psychology.
Effective: Summer 2010 Ending: Summer 2010

PSYCH 497D (CRIMJ 497D, WMNST 497D, SOC 497D) **Family and Justice** (3) Examination of the relationship between the family and the criminal justice system in which the family operates.
Effective: Summer 2010 Ending: Summer 2010

PSYCH 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

Last Import from UCM: May 29, 2010 3:00 AM

Public Administration (P ADM)

P ADM 401 **Introduction to Homeland Security** (3) This course provides foundational knowledge about homeland security, including policy, organization, and legal issues in the American context.
Effective: Summer 2008

P ADM 404 **Homeland Security and Defense in Practice** (3) This course analyzes, evaluates, and critiques homeland security plans in practice.
Effective: Summer 2008
Prerequisite: P ADM 401

P ADM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1993

Last Import from UCM: May 29, 2010 3:00 AM

Public Hlth Prepared (PHP)

PHP 410 (HLS 410) **Public Health Preparedness for Disaster and Terrorist Emergencies I** (3) Analyzes the history of terrorism and explores the preparation and response to specific terrorist threats, natural disasters, and conventional catastrophes.
Effective: Fall 2010 Future: Fall 2010
Prerequisite: Undergraduate StudentsBIOL 011 andBIOL 012 orCHEM 110 andCHEM 111 orMICRB 106 andMICRB 107 ; Graduate Students - Enrollment in the MHS program the Post- Baccalaureate Credit Certificate in Homeland Security or permission from the instructor.

Last Import from UCM: May 29, 2010 3:00 AM

Public Policy (PUBPL)

PUBPL 241 (CRIMJ 241) **Computer Applications in Public Affairs/Criminal Justice** (3) Introduction to computer applications for criminal justice and public affairs agencies.
Effective: Spring 2004

PUBPL 304W **Public Policy Analysis** (3) The use of analytic models for describing and explaining the forces shaping policy and the consequence of policy decisions.
Effective: Spring 2004

PUBPL 305 **Leadership Studies** (3) Exposure to a wide range of leadership issues that will bring students to a new understanding of leadership as responsibility.
Effective: Spring 1999
Prerequisite: fourth-semester standing

PUBPL 325 (AMSTD 325) **American Political Culture** (3) Study of political culture in the United States.
Effective: Spring 2003
Prerequisite: 3 credits American Studies Political Science Public Policy or Sociology

PUBPL 415 (CRIMJ 415) **Drug Control Policy in Comparative Perspective** (3) Examines the history of drug control policy in the United States; comparisons and contrasts with other countries' experiences.
Effective: Summer 2004
Prerequisite: CRIMJ 200 orPL SC 001 orPL SC 014 orSOC 001

PUBPL 419 **Western Constitutional Traditions** (3) This course reviews the major political, economic and social movements that shaped the development of the US Constitution.
Effective: Spring 2005
Prerequisite: HIST 001, HIST 002, I HUM 311, I HUM 312, PL SC 001, PUBPL 420 orPUBPL 421

PUBPL 480 **Seminar in Urban Policy** (3) Work in this course will focus upon governmental institutions and public policy problems in metropolitan areas.
Effective: Fall 1998
Prerequisite: seventh-semester standing

PUBPL 481 **Seminar in Environmental Policy** (3) Fundamentals of evolution; impacts on natural resources; interaction of environmental issues, current decision-making process policy, enforcement mechanisms; future actions.
Effective: Fall 1983
Prerequisite: seventh-semester standing

PUBPL 482 **Seminar in Health Policy** (3) Introduction to policy analysis of issues of current interest and importance to public administrators in the health industry.
Effective: Fall 1983
Prerequisite: seventh-semester standing

PUBPL 483 **Seminar in National Security Policy** (3) Course will examine the inter-relationship of foreign, military and economic policy.
Effective: Fall 1983
Prerequisite: seventh-semester standing

PUBPL 484 **Seminar in Transportation Policy** (3) Transportation policy; a consideration of its formulation and application in the Federal system.
Effective: Fall 1983
Prerequisite: seventh-semester standing

PUBPL 485 **Seminar in Welfare Policy** (3) Course examines the origins, development, and impact of welfare programs.
Effective: Fall 1998
Prerequisite: seventh-semester standing

PUBPL 490 **Seminar in Public Policy** (3) A survey of the major policy issues, actors and institutions involved in the policy-making system of contemporary society. (May be repeated for credit.)
Effective: Fall 1983
Prerequisite: seventh-semester standing

PUBPL 495 **Internship** (3-12) Experience in a public service agency related to knowledge gained through academic course work, reading, and discussion.
Effective: Fall 1983
Prerequisite: seventh-semester standing

PUBPL 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 1983

PUBPL 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

PUBPL 497A (PL SC 497I) **Public Affairs Capstone Course** (3) This course examines how to objectively examine contentious public policy controversies by relying on essential principles of scientific research.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Quality Control (Q C)

Q C 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Q C 098 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Q C 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Q C 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Q C 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Q C 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Q C 450 **Quality Control and Quality Improvement** (3) Review of quality control and improvement methods including SPC applications, acceptance sampling, regression analysis, and design of experiments.
Effective: Spring 2007
Prerequisite: MATH 141 orMATH 210

Q C 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Quality and Manufacturing Management (QMM)

QMM 491 **Introduction to Business Concepts for Manufacturing** (3) Introduction to business, topics in marketing, accounting, and finance for nonbusiness students in manufacturing management.
Effective: Fall 2001
Prerequisite: students taking this course CAN NOT be a Business major and must be in their senior year

QMM 492 **Introduction to Engineering Design Principles** (3) Engineering principles including different engineering fields, graphics, design, solid modeling and failure analysis.
Effective: Fall 2001
Prerequisite: students taking this course CAN NOT be an Engineering major and must be in their senior year

QMM 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2008

Last Import from UCM: May 29, 2010 3:00 AM

Quantification (QUANT)

QUANT 310 **Mathematical Methods in the Social and Managerial Sciences** (3) Functions (linear and nonlinear), systems of linear equations, matrix algebra, introductory differential calculus, applications in business and economics.
Effective: Fall 1983
Prerequisite: college algebra

Last Import from UCM: May 29, 2010 3:00 AM

Radiological Sciences (RADSC)

RADSC 101 **Radiographic Introduction and Procedures/Lab I** (4) Radiology history, basic radiation protection principles, medical terminology, introduction to radiography and radiographic procedures/lab.
Effective: Fall 2002

RADSC 102 **Radiographic Procedures/Lab II** (4) Continuation of Radiographic Procedures/Lab I to include appendicular skeleton and introduction to head work.
Effective: Fall 2002
Prerequisite: RADSC 101, RADSC 110

RADSC 103 **Radiographic Procedures/Lab III** (3) Continuation of Radiographic Procedures/Lab II to include digestive, urinary, and biliary systems and facial bone work.
Effective: Fall 2002
Prerequisite: RADSC 102

RADSC 110 **Patient Care in Radiologic Sciences** (3) Basic concepts of routine and emergency patient care procedures addressed from the radiographer's perspective.
Effective: Spring 2002

RADSC 204 **Radiographic Exposure I** (3) Fundamental knowledge base of factors that govern and influence the production and recording of radiologic images.
Effective: Fall 2002
Prerequisite: RADSC 103

RADSC 205 **Radiographic Exposure II** (3) Continuation of exposure factors concerning radiographic imaging; film, electronic imaging, processing, quality assurance and related areas will be emphasized.
Effective: Fall 2002
Prerequisite: RADSC 204

RADSC 206 **Advanced Radiographic Procedures** (3) Emphasis on specialized positioning and advanced radiographic procedures; includes introduction to cross-sectional anatomy.
Effective: Fall 2002
Prerequisite: BIOL 141, RADSC 205

RADSC 207 **Registry Review** (4) Registry Review includes material from all radiological science courses, with emphasis on National Certification Examination, and career planning.
Effective: Fall 2002
Prerequisite: RADSC 206

RADSC 210W **Radiographic Pathology** (3) Writing intensive study of theories of disease causation and the pathophysiologic disorders compromising health systems with emphasis on radiographic presentation.
Effective: Fall 2002
Prerequisite: BIOL 129, BIOL 141

RADSC 220 **Radiation Biology and Protection** (3) Study the principles of interaction of radiation with living systems, effects on cells and tissues, biological response, and radiation protection.
Effective: Spring 2002

RADSC 230 **Radiographic Physics** (3) Basic knowledge of atomic structure, characteristics of radiation, x-ray production, photon interactions, circuitry, imaging equipment and quality control.
Effective: Spring 2002

RADSC 240 **Pharmacology and Drug Administration** (2) Basic concepts of pharmacology, the basic techniques of venipuncture, and the administration of diagnostic contrast agents and/or intravenous medications.
Effective: Spring 2002
Prerequisite: BIOL 141, RADSC 110

RADSC 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

Last Import from UCM: May 29, 2010 3:00 AM

Real Estate (R EST)

R EST 100 **Real Estate Practice** (3) Study of real estate to enable individuals to make successful transactions and decisions. May not be used to satisfy Smeal College baccalaureate degree requirements.
Effective: Spring 2001
Prerequisite: not available to students who have takenR EST 301

R EST 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

R EST 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

R EST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

R EST 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

R EST 301 **Real Estate Fundamentals** (3) Introduction to urban real estate; economic forces affecting property rights; real estate markets and finance; land-use analysis; government policies.
Effective: Fall 1986

R EST 306 **The Valuation of Real Property** (3) Principles governing legal and economic determinations of land values; theory of appraising; studies of economic effects on property values.
Effective: Spring 1996
Prerequisite: B A 301 orR EST 301

R EST 395 **Internship in Real Estate** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1989

R EST 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

R EST 409 (FIN 409) **Real Estate Finance and Investment** (3) The sources and uses of credit; instruments and methods of financing; the theory and practice of real estate investment analysis.
Effective: Spring 2004
Prerequisite: B A 301

R EST 420 **Analysis of Real Estate Markets** (3) Historical performance, land use issues, market valuation, real estate development, public policy issues.
Effective: Summer 2005
Prerequisite: R EST 301 orR EST 460 orR EST 470

R EST 424 (B LAW 424) **Real Estate Law** (3) Analysis of contemporary law applicable to various types of ownership interests and rights, methods of transferring ownership, and use of real property.
Effective: Spring 2005
Prerequisite: B LAW 346

R EST 425 (B LAW 425) **Environmental Law, Property, and Commerce** (3) Examines the impacts of major federal environmental laws on business relations and property interests.
Effective: Summer 1995
Prerequisite: B A 243, B LAW 243 orE R M 151

R EST 440 **Advanced Techniques in Real Estate Analysis** (3) Theories and methods of modern financial analysis including specialized computer applications, valuation of mortgage securities, portfolio applications, and option pricing.
Effective: Spring 2004
Prerequisite: B A 301

R EST 450 **Urban Property Rights and Land Use Issues** (3) International perspectives on real estate as property, evaluation of land use regulations, and differences in real estate markets across countries.
Effective: Spring 2005 Ending: Fall 2010
Prerequisite: B A 301

R EST 450 **Urban Property Rights and Land Use Issues** (3) International perspectives on real estate as property, evaluation of land use regulations, and differences in real estate markets across countries.
Effective: Spring 2011 Future: Spring 2011

Prerequisite: B A 301 orFIN 301

R EST 460 (FIN 460) **Real Estate Financial Analysis** (3) Debt and equity financing capital structure, "creative financing," risk analysis, corporate asset management.
Effective: Summer 2005
Prerequisite: FIN 305W

R EST 470 (FIN 470) **Real Estate and Capital Markets** (3) Analysis of publicly-traded real estate of both the equity, (REITs) and debt (MBSs) sides. The course also provides international perspectives.
Effective: Summer 2005
Prerequisite: FIN 305W

R EST 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 2003

R EST 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

R EST 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

R EST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

R EST 497A **Real Estate Case Competitions** (2) This course provides skills and expertise in analyzing actual real estate cases in preparation for national case competitions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

R EST 497A **Real Estate Case Competitions** (2) This course provides skills and expertise in analyzing actual real estate cases in preparation for national case competitions.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

R EST 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Recreation, Park and Tourism Management (RPTM)

RPTM 101 **Introduction to Recreation Services** (2) Introduction to discipline and exploration of professional career models/ paths, historical development of profession, expectations and opportunities in recreation services.
Effective: Spring 2005

RPTM 120 (GS;US;IL) **Leisure and Human Behavior** (3) Leisure from historical and contemporary perspectives, including forces shaping leisure behavior, and relationships among leisure, the environment, and social institutions.
Effective: Spring 2010

RPTM 210 **Introduction to Commercial Recreation and Tourism** (2) Historical and contemporary perspectives of the field of commercial recreation and tourism.
Effective: Spring 2005

RPTM 230 **Teambuilding Facilitation** (3) Learn leadership and teambuilding skills to facilitate group dynamics and adventure, team activities.
Effective: Summer 2004

RPTM 236 **Leadership and Group Dynamics in Recreation Services** (3) Supervision in recreation services, including theories, strategies, group dynamics, applied leadership and decision-making skills.
Effective: Spring 2005

RPTM 277 (US) **Recreation for Persons with Disabilities** (3) Encouragement of appreciation for cultural experiences, disability-related characteristics, and recreation pursuits among persons with disabilities.
Effective: Summer 2005

RPTM 295A **Introduction to Golf Management** (1-4) Introduction to various phases of golf operations in public, private, municipal, or military settings.
Effective: Spring 2005
Prerequisite: 2.00 cumulative grade point average

RPTM 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2005

RPTM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2005

RPTM 297A **Outdoor School Counselor** (2) Outdoor School is a field experience class and you must be accepted as a counselor before being registered.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: Contact Ellen Will for application information

RPTM 297A **Outdoor School Counselor** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 297B **Interpreting Halloween to Children** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 297B **Wilderness First Aid** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 297C **Ubran Service Experience** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 297D **Outdoor School Instructor** (1-3) Outdoor School is a field experience class and you must be accepted as a instructor before being registered.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: Contact Ellen Eill for application information.

RPTM 297D **Outdoor School Instructor** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 297F **Mental Training FO** (1) This course is designed to systematically teach golfers mental strategies and mental focusing techniques associated with performance excellence in golf. Drawing from sport psychology literature, specific areas that will be dressed include the psychology of personal excellence and peak performance states, motivation and philosophical reasons for playing golf, mental preparation, strategies for playing great golf, self-regulation skills, concentration techniques, and performing with confidence.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 297G **Interpreting Maple Sugaring to Families** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 297S **First Year Seminar** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 300Y (IL) **Tourism and Leisure Behavior** (3) Examination of the impact of recreational sociocultural, governmental, economic, and physical environment on the leisure traveler within the tourism industry.
Effective: Summer 2005

RPTM 320 **Recreation Resource Planning and Management** (3) Relationship between leisure behavior and natural environment. Exploration of natural resources which enhance leisure.
Effective: Spring 2005

RPTM 325 **Principles of Environmental Interpretation** (3) Introduction, history, practice, and principles of contemporary interpretive activities common to natural and cultural history program sites.
Effective: Spring 2005

RPTM 326 **Natural History Interpretation** (3) Methods, techniques, resources to acquire knowledge of natural history. Field identification, projects of an applied nature, and seasonal application.
Effective: Spring 2005
Prerequisite: RPTM 325

RPTM 327 **Cultural History Interpretation** (3) Methods, skills, and techniques necessary for the programming of historical sites and areas.
Effective: Spring 2005
Prerequisite: RPTM 325

RPTM 330 **Adventure-Based Program Leadership** (3) Both theoretical and experiential components are included as the role of the leader in outdoor adventure programs is examined.
Effective: Spring 2005

RPTM 334 **Non-profit Recreation Agency Operations** (3) Recreation agencies in voluntary and semiprivate sectors will be investigated through membership strategies, fund raising, volunteer management, etc. case studies.
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 356

RPTM 356 **Programming in Recreation Services** (3) Translating agency philosophy and policy into understanding of organization, management, implementation, and evaluation of programming in recreation services.
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 101, RPTM 236 ; fifth-semester standing

RPTM 360 **Golf Operations Management** (3) The course will focus on business planning, budgeting, inventory management, and financial controls within golf operations.
Effective: Spring 2005
Prerequisite: MGMT 100

RPTM 376 **Therapeutic Recreation Implications of Disability** (3) Overview of severe, chronic disabling conditions and populations served in therapeutic recreation settings in clinical or community contexts.
Effective: Summer 2004
Prerequisite: RPTM 277

RPTM 386 **Therapeutic Recreation Service Delivery** (3) Skills and knowledge to deliver therapeutic recreation services based upon a sound philosophy.
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 277

RPTM 394 **Orientation to Internship** (1) Plan and prepare for internship in Recreation Services. Analyze career opportunities, internship process, and associated requirements. For RPTM majors only.
Effective: Spring 2005

Prerequisite: fifth-semester standing

RPTM 395B **Participation in Golf Management** (1-4) Practical individual involvement in selected golf operations in public, private, municipal, or military settings.
Effective: Spring 2005
Prerequisite: RPTM 295A ; 2.00 cumulative grade point average

RPTM 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2005

RPTM 397K **Administration Golf Operation II** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 410 **Marketing of Recreation Services** (3) Theoretical/practical application of marketing/advertising strategies in the development/delivery of recreation services.
Effective: Spring 2005
Prerequisite: fifth-semester standing or above

RPTM 415 **Commercial Recreation Management** (3) Planning, developing, and managing profit-oriented recreation opportunities.
Effective: Spring 2005
Prerequisite: RPTM 210 andRPTM 410

RPTM 420 **Outdoor Recreation Behavior** (3) Overview of participation patterns in outdoor recreatino activities; factors affecting outdoor recreation participation; identification of implications for planning and management.
Effective: Spring 2005
Prerequisite: RPTM 120

RPTM 425 **Principles of Interpretive Materials** (3) Principles, practices, application of non-personal interpretive activities common to natural/cultural history, including exhibits, audio-visual and illustrative materials.
Effective: Spring 2005
Prerequisite: RPTM 325

RPTM 430 (AEE 430) **Environmental Education Methods and Materials** (3) Methods and materials for developing, implementing, and evaluating environmental education programs within formal and non-formal educational settings.
Effective: Spring 2005
Prerequisite: AEE 100 orRPTM 325

RPTM 433W **Program Evaluation and Research in Recreation Services** (3) Systematic, structured problem-solving process for decision making in recreation and parks. Research techniques/evaluation procedures; quantitative, qualitative methodologies; deductive, inductive reasoning.
Effective: Spring 2005
Prerequisite: RPTM 356 3 credits in statistics

RPTM 434 **Recreational Facility Development** (3) Park planning as a role of recreation professionals, emphasizing physical support provisions and elimination of architectural barriers.
Effective: Spring 2005
Prerequisite: RPTM 320

RPTM 435 **Recreation Facilities Planning and Management** (3) Planning and management of selected facilities with empahsis upon maintenance, activity, and support provisions.
Effective: Spring 2005
Prerequisite: fifth-semester standing or above

RPTM 440 **Adventure-based Programming and Administration** (3) Utilization of wilderness/backcountry environments and participant challenge; history, models, theories; survey of organizations; program design, administration; and issues.
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 330 orRPTM 356

RPTM 460 **Political and Legal Aspects of Recreation Services** (3) Role of local, state, federal government in provision of recreation services. Legislative and judicial systems.
Effective: Spring 2005
Prerequisite: RPTM 101

RPTM 470 **Recreation and Park Management** (3 Management of recreation and park services in public/non-profit settings; planning, budgeting fiscal development, resources allocation, decision- , making, computer applications.
Effective: Spring 2005
Prerequisite: RPTM 320

RPTM 476 **Leisure Education in Therapeutic Recreation** (3) Theoretical and practical application of leisure education in the therapeutic recreation process.
Effective: Spring 2005
Prerequisite: RPTM 277 andRPTM 386

RPTM 480 **Senior Management Seminar** (1) Current management issues will be examined relative to professional management strategies, ethics, and leadership in leisure services.
Effective: Spring 2005

Prerequisite: sixth-semester standing in RPTM

RPTM 486 **Facilitation Techniques in Therapeutic Recreation** (3) Intervention strategies, therapeutic approaches, and group facilitation techniques in therapeutic recreation.
Effective: Spring 2005
Prerequisite: RPTM 376 andRPTM 386

RPTM 490 **Management and Issues in Therapeutic Recreation Services** (3) Topics related to management and professional issues in therapeutic recreation services in both clinical and community settings.
Effective: Summer 2004
Prerequisite: RPTM 376 andRPTM 386

RPTM 495A **Internship in Recreation Services** (12) Meet educational objectives through participation in organized practical experience; direct observation and professional supervision in full-time work experience.
Effective: Spring 2005
Prerequisite: RPTM 394 ; seventh-semester standing; 300 hours practical experience; and a 2.0 grade-point average; current and valid certification in advanced first aid and cardiopulmonary resuscitation

RPTM 495B **Internship in Golf Management** (1-4) Observation and participation under supervision in golf operations in public, private, municipal, or military settings.
Effective: Spring 2005
Prerequisite: RPTM 395B ; 2.00 cumulative grade point average; current and valid certification in advanced first aid and cardiopulmonary resuscitation

RPTM 495C **Internship in Golf Management** (1-4) Observation and participation under supervision in golf operations in public, private, municipal, or military settings.
Effective: Spring 2005
Prerequisite: RPTM 495B ; 2.00 cumulative grade point average

RPTM 495D **Internship in Golf Management** (1-4) Observation and participation under supervision in golf operations in public, private, municipal, or military settings.
Effective: Spring 2005
Prerequisite: RPTM 495C ; 2.00 cumulative grade point average

RPTM 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2005

RPTM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2005

RPTM 497B **Introduction to Arena Management** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

RPTM 497B **Introduction to Arena Management** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497D **Ecological Investigations** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497E **Outdoor & Experiential Education** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497E **Outdoor and Experiential Education** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 497F **National Curricular Workshop** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497F **National Curricula** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 497I **Canoeing Leadership** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497I **Canoe Leadership** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 497J **Peer Mentoring** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497K **Administrative Golf Operation III** (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 497K **Discovery Trip** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2006

RPTM 498B **Wilderness First Responder Certification** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 498C **National Association of Interpretation Certification Class** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 498D **Backpacking Leadership** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 498D **Backpacking Leadership** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 498F **Rock Climbing Leadership** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RPTM 498F **Rock Climbing Leadership** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RPTM 498G **Player Development/Tournament Golf** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Rehab & Human Servic (RHS)

RHS 096 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2008

RHS 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2008

RHS 100 (GS) **Introduction to Disability Culture** (3) Social and cultural contexts of disability on both a micro and macro levels will be examined.
Effective: Summer 2008

RHS 196 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2008

RHS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2008

RHS 197A **The Impact of Drugs and the Body, Brain, and Society** (1-9) An overview of drugs and alcohol use in society from biological, sociological, and psychological perspectives.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RHS 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2008

RHS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2008

RHS 300 **Introduction to Rehabilitation and Human Services** (3) Disability, public and private rehabilitation agencies, case management; resources for training; observations in rehabilitation settings.
Effective: Spring 2009
Prerequisite: 6 credits in psychology sociology human development and family studies and/or crime law and justice

RHS 301 **Introduction to Counseling as a Profession** (3) Overview of the counseling theories that are often used in human service and rehabilitation practices.
Effective: Spring 2009

RHS 302 **Client Assessment in Rehabilitation and Human Services** (3) Provides a practical understanding and skills to utilize assessment in the helping process.
Effective: Spring 2009
Prerequisite: 3 credits in statistics Concurrent: 3 credits in statistics

RHS 303 **Group Work in Rehabilitation Practice and Human Services** (3) An overview of essential elements and dynamics for conducting groups and various team-related activites will be the major focus.
Effective: Summer 2008
Prerequisite: 6 credits in psychology sociology or human development

RHS 396 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2008

RHS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2008

RHS 400W **Case Management and Communication Skills** (3) Principles and practices of obtaining, recording, evaluating, and utilizing case data in rehabilitation planning; implementation of rehabilitation plans.
Effective: Spring 2009
Prerequisite: RHS 300

RHS 401 **Community Mental Health Practice and Services** (3) Community mental health roles, historical points, current trends, and ethical standards; funding and impact on service provision.
Effective: Spring 2009
Prerequisite: 6 credits in psychology and/or sociology

RHS 402 **Children and Families in Rehabilitation Settings and Human Services** (3) Contemporary family issues, child development, legal considerations, cultural and familial factors within rehabilitation and human services practice will be addressed.
Effective: Summer 2008
Prerequisite: RHS 301

RHS 403 **Medical Aspects of Disability** (3) Common disabling illnesses, injuries, and congenital defects; their symptomatology, prognosis, and treatment; implications for personal, social, and vocational adjustment.
Effective: Spring 2009
Prerequisite: 6 credits in psychology and/or sociology

RHS 495A **Rehabilitation and Human Services Internship** (15) Full-time practicum in rehabilitation and related human services agencies and institutions providing psychosocial, vocational, educational, and/or residential services to people with disabilities.
Effective: Spring 2009
Prerequisite: students must have successfully completed all other required coursework for the major (grade of "C" or higher) as well as fulfilled general education requirements.

RHS 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2008

RHS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical of of special interest.
Effective: Summer 2008

RHS 497A **Foundations of Addictions Counseling** (3) Study of the fundamental principles of counseling individuals with a wide variety of addictions.
Effective: Summer 2010 Ending: Summer 2010

RHS 497A **Rehabilitation in Corrections** (3) An overview of rehabilitation in different correctional settings focusing on the history, classification, risk assessment, intervention strategies and community reentry.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Rehabilitation (REHAB)

REHAB 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2003

Last Import from UCM: May 29, 2010 3:00 AM

Religious Studies (RL ST)

RL ST 001 (GH;US;IL) **Introduction to World Religions** (3) An historical and comparative survey of the principal beliefs and practices of the world's major religions.
Effective: Summer 2005

RL ST 003 (GH;US;IL) **Introduction to the Religions of the East** (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.
Effective: Summer 2005

RL ST 003U (GH;US;IL) **Introduction to the Religions of the East** (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RL ST 004 (GH;US;IL) (J ST 004, CAMS 004) **Jewish and Christian Foundations** (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.
Effective: Summer 2005

RL ST 007 **Inner Lives in Religious Biography** (3) Reading and discussion of selected autobiographical and biographical statements to discover and compare different forms of spirituality.
Effective: Fall 1983

RL ST 012 (GH;IL) (J ST 012, CAMS 012) **Lands of the Bible** (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Summer 2005

RL ST 012U (GH;IL) (CAMS 012U, J ST 012U) **Lands of the Bible** (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RL ST 044 (GH;IL) (CAMS 044) **Ancient Near Eastern and Egyptian Mythology** (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.
Effective: Summer 2005

RL ST 070 (GH;IL) (CAMS 070, J ST 070) **Prophecy: The Near East Then and Now** (3) Prophecy in the ancient Near East, the ancient Jewish and Christrian traditions, and today.
Effective: Summer 2007

RL ST 083S (GH) **First-Year Seminar in Religious Studies** (3) Critical approaches to the dimensions and directions in Religious Studies.
Effective: Summer 1999

RL ST 090 (GH;IL) (J ST 090, CAMS 090) **Archaeology of Jerusalem: Past and Present** (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.
Effective: Summer 2005

RL ST 101 (GH;IL) **Comparative Religion** (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.
Effective: Summer 2005

RL ST 101U (GH;IL) **Comparative Religion** (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RL ST 102 (GH;IL) (CAMS 102, HIST 102, J ST 102) **Canaan and Israel in Antiquity** (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.
Effective: Summer 2005

RL ST 103 (GH;US;IL) **Introduction to Hinduism** (3) Historical development of Hinduism to the present.
Effective: Summer 2005

RL ST 104 (GH;US;IL) **Introduction to Buddhism** (3) A general survey of the basic doctrine, practice, and historical development of Hinayana and Mahayana Buddhism.
Effective: Summer 2005

RL ST 105 (GH;US;IL) **Buddhism in the Western World** (3) A general survey of the development of Buddhism as a religious tradition in the West, focusing especially on America.
Effective: Summer 2005

RL ST 106 (GH;IL) **Mysticism** (3) A survey of the history, philosophy, and cultural impact of various mystical traditions in relation to world religions.
Effective: Spring 2006

RL ST 107 (GH;US;IL) **Introduction to Islam** (3) Community and message of the early movement; development of authoritative structures and traditions; proliferation of sects; theology and creeds; mysticism.
Effective: Spring 2006

RL ST 108 **Muhammad and the Qur'an** (3) History of the Qur'an and its interpretation by the early Muslim community; life of Muhammad and his role within Islam.
Effective: Spring 2006 Ending: Summer 2010

RL ST 108 (GH;IL) **Muhammad and the Qur'an** (3) History of the Qur'an and its interpretation by the early Muslim community; life of Muhammad and his role within Islam.
Effective: Fall 2010 Future: Fall 2010

RL ST 110 (GH;US;IL) (CAMS 110, J ST 110) **Hebrew Bible: Old Testament** (3) Introduction to the history, literature, and religion of ancient Israel.
Effective: Summer 2005

RL ST 111 (GH;IL) (CAMS 111, J ST 111) **Early Judaism** (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.
Effective: Summer 2005

RL ST 114 (GH;US;IL) (J ST 114) **Modern Judaism** (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.
Effective: Summer 2005

RL ST 115 (GH;US) (HIST 115, J ST 115) **American Jewish History and Culture** (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.
Effective: Summer 2006

RL ST 116 (GH;IL) **Muslims in America** (3) This course is a study of Muslims from multiple racial, cultural, and national perspectives; it explores what it means to be a Muslim in America.
Effective: Summer 2010

RL ST 120 (GH) (CAMS 120, J ST 120) **New Testament** (3) Introduction to the history, literature, and religion of early Christianity in its Jewish-Hellenistic setting.
Effective: Spring 2004

RL ST 121 **Jesus of Nazareth** (3) An historical critical examination of the life and message of Jesus of Nazareth.
Effective: Spring 1995

RL ST 122 **Paul the Apostle** (3) An introduction to, and analysis of, the writings and thought of the apostle Paul in the context of early christianity.
Effective: Spring 1988

RL ST 124 (GH;US;IL) (CAMS 124, J ST 124) **Early and Medieval Christianity** (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.
Effective: Summer 2005

RL ST 125W (GH) **Modern Christianity** (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the sixteenth century to the present.
Effective: Summer 1995

RL ST 130 (GH) **The Ethics of Western Religion** (3) History of theological-social ethics of the Judaeo-Christian tradition.
Effective: Summer 1995

RL ST 131 (GH) (PHIL 132) **Introduction to Bioethics** (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.
Effective: Spring 2003

RL ST 132W **Sects and Cults** (3) The origins, beliefs, and practices of new or dissenting religious groups and their relationship to the dominant religious culture.
Effective: Spring 1994

RL ST 133 (GH) (J ST 133, CAMS 133) **Archaeology of the Levant and Ancient Israel** (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.
Effective: Spring 2004

RL ST 134 (GH;IL) (CAMS 134, J ST 134) **Archaeology of Biblical Israel** (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.
Effective: Summer 2005

RL ST 137 (GH;US;IL) (WMNST 137) **Women and Religion** (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.
Effective: Spring 2006
Prerequisite: third-semester standing

RL ST 140Y (GH;US) (AM ST 140Y) **Religion in American Life and Thought** (3) The function, contributions, tensions, and perspectives of religion in American culture.
Effective: Summer 2005

RL ST 145 (GH;US;IL) (AAA S 145) **African American Religion** (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.
Effective: Summer 2005

RL ST 146 (GH;US) (AAA S 146) **The Life and Thought of Martin Luther King, Jr.** (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.
Effective: Summer 2005

RL ST 147 (GH;US) (AAA S 147) **The Life and Thought of Malcolm X** (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.
Effective: Summer 2005

RL ST 165 (IL) (ARAB 165, HIST 165) **Introduction to Islamic Civilization** (3) Islamic history, culture, religious life c.600-1500 C.E.
Effective: Spring 2006

RL ST 170 (J ST 170) **Death and Afterlife in the Biblical Era** (3) Changing concepts of death and the afterlife in the Jewish and Christian traditions c. 1500 B.C.E.-300 C.E.
Effective: Spring 1997

RL ST 181 (IL) **Introduction to the Religions of China and Japan** (3) A survey of the history, philosophy, and cultural impact of the major Far Eastern religions: Confucianism, Taoism, Buddhism, and Shinto.
Effective: Spring 2006

RL ST 187 **Religious Studies Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

RL ST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

RL ST 205 (GH;US) (HIST 205, J ST 205) **American Antisemitism** (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.
Effective: Summer 2010

RL ST 235 (US;IL) (HIST 235, J ST 235) **The Church and the Jews** (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.
Effective: Spring 2006

RL ST 236 (GS) (PSYCH 230) **Introduction to Psychologies of Religion** (3) Introduction to major Western psychologies of religion (James, Freud, Jung) and to subsequent extensions of and departures from them.
Effective: Spring 2007

RL ST 237 (GS) **Introduction to Religions, Cultures, and Therapies** (3) Comparison of methods and goals of selected religious and secular therapies within their cultural contexts.
Effective: Spring 2007
Prerequisite: PSYCH 100

RL ST 280 (GH;IL) (WMNST 280, J ST 280) **WOMEN AND JUDAISM** (3) Explores the Jewish views of women that have influenced the roles of women wit hin both the religion and Western culture.
Effective: Spring 2006

RL ST 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

RL ST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

RL ST 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

RL ST 400 **Theories of Religion** (3) Comparative and interdisciplinary study of two or more systematic theories of religion: anthropological, psychological, sociological, philosophical/theological.
Effective: Fall 1983
Prerequisite: 6 credits in religious studies or seventh-semester standing

RL ST 401 (IL) **Studies in Comparative Religion** (3) An intensive study of comparable phenomena from two or more religious traditions.
Effective: Spring 2006
Prerequisite: 6 credits in religious studies

RL ST 402 **Contemporary Religious Thought** (3) Writings of outstanding contemporary religious thinkers in the Jewish, Protestant, and Roman Catholic traditions and their impact on our culture.
Effective: Fall 1983
Prerequisite: 6 credits in humanities

RL ST 407Y (IL) (HIST 409Y, J ST 409Y) **European Anti-Semitism from Antiquity to the Present** (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.
Effective: Summer 2005

RL ST 408 (US;IL) **Hindu Studies** (3) Special topics in Hindu studies.
Effective: Summer 2005
Prerequisite: 3 credits in religious studies

RL ST 409 (US;IL) **Buddhist Studies** (3) Special topics in Buddhist studies.
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

RL ST 410 (US;IL) (HIST 410, J ST 410) **Jews in the Medieval World** (3) Trends in medieval Jewish society under Islam and Western Christendom.
Effective: Spring 2006

RL ST 411 (US;IL) (J ST 411) **Jewish Studies** (3) Study of the life and thought of a particular period or movement in the history of Judaism.
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

RL ST 412 (J ST 412) **American Judaism** (3) The development of Jewish religion and culture in America from the colonial era to the present.
Effective: Summer 1999
Prerequisite: HEBR 010 orJ ST 010

RL ST 414 (PSYCH 436) **Humanistic, Existential, and Religious Approaches to Psychology** (3) Existential, humanistic, and religious approaches to the psychology of experience, consciousness, and will.
Effective: Spring 2007
Prerequisite: PSYCH 100 orRL ST 001

RL ST 420 **Major Christian Thinkers** (3) Systematic inquiry into the religious thought of one or more Christian thinkers, such as Paul, Augustine, Luther, Calvin, Kierkegaard, or Tillich.

Effective: Fall 1983
Prerequisite: 3 credits in religious studies

RL ST 422 (AM ST 422) **Religion and American Culture** (3 per semester/maximum of 6) Selected topics, problems, or historical movements in American religion. Relation between religion and American culture.
Effective: Summer 1996

RL ST 424H (HIST 424H, J ST 424H, PHIL 434H) **Monotheism and the Birth of the West** (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.
Effective: Spring 2002
Prerequisite: RL ST 004, RL ST 102, RL ST 110 orRL ST 120

RL ST 440Y (US;IL) (RUS 440Y) **The Orthodox Christian Tradition** (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.
Effective: Spring 2006
Prerequisite: RL ST 004, RL ST 124, RL ST 125, RUS 100 orRUS 110

RL ST 461 (US;IL) (SOC 461) **Sociology of Religion** (3) Contemporary religion in the United States: beliefs, structure, and function of major denominations and religious cults.
Effective: Spring 2006
Prerequisite: 3 credits of sociology or religious studies

RL ST 471Y (IL) (HIST 471Y) **Classical Islamic Civilization, 600-1258** (3) Pre-Islamic Arabia; Muhammad; Arab conquest; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.
Effective: Spring 2006

RL ST 478 (J ST 478, PHIL 478) **Ethics After the Holocaust** (3) Explores the philosophical effects of the Holocaust for thinking about the primary question: Is ethics possible?
Effective: Spring 2005
Prerequisite: one course in Jewish Studies or Philosophy

RL ST 479 **Religion and Culture in Freudian Thought** (3) Readings, lectures, and discussion on major psychoanalytic claims about individual and cultural mental life, focusing on the theory of religion.
Effective: Spring 2007
Prerequisite: PSYCH 100

RL ST 481 (IL) **Religion and Japanese Culture** (3) A study of the impact of the traditional religions, Shinto and Buddhism, on the intellectual and cultural history of Japan.
Effective: Spring 2006
Prerequisite: 3 credits fromHIST 172, HIST 173, HIST 174, HIST 175, PHIL 111, RL ST 003, RL ST 104 orRL ST 181

RL ST 483 (IL) **Zen Buddhism** (3) The development and current state of Zen Buddhist thought and practice.
Effective: Spring 2006
Prerequisite: HIST 172, HIST 173, HIST 174, HIST 175, PHIL 111, RL ST 003, RL ST 104 orRL ST 181

RL ST 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

RL ST 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

RL ST 495 **Internship** (1-18) Supervised off-campus, non-group instruction, including field experience, practica, or internships.
Effective: Summer 2004
Prerequisite: prior approval of proposed assignment by instructor

RL ST 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

RL ST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

RL ST 497B (J ST 497B) **Cultural History of Food From Biblical Times to the Modern Era** (3) Historical exploration of the Jewish food traditions in the Bible as they now find expression in modern "food movements."
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RL ST 499 (IL) **Foreign Study--Religious Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RL ST 499E (IL) (HIST 499E, CAMS 499E) **Petra, the Spice Route, and the Decapolis Cities in Roman Palestine** (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Romanian (ROM)

ROM 296 **Independent Studies** (1-18) Creative projects, includes research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1998

ROM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1998

Last Import from UCM: May 29, 2010 3:00 AM

Rural Sociology (R SOC)

R SOC 011 (GS;US) **Introductory Rural Sociology** (3) Basic sociological concepts applied to rural societal institutions and rural communities; causes and consequences of rural social change.
Effective: Spring 2006

R SOC 134 (GN) (AGECO 134) **Sustainable Agriculture Science and Policy** (3) The science, socio-economics, and politics of managing food and fiber production systems. Sustainability implications of current practices and future options.
Effective: Spring 2007

R SOC 296 **Independent Studies** (1-18) Creative projects, including research and design which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

R SOC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

R SOC 305W **Leadership for Social Change** (3) Exploration, analysis, understanding, and application of leadership skills and concepts in groups, organizations, and communities.
Effective: Spring 1988
Prerequisite: 6 credits in social or behavioral sciences

R SOC 327 (S T S 327) **Society and Natural Resources** (3) Analysis of the relationships between societal development and enhancement and natural resources.
Effective: Summer 1998

R SOC 356 **Rural Community Services** (3) Analysis of provider and consumer factors influencing the provision of community services in rural areas; sociological analysis and interpretation emphasized.
Effective: Fall 1980
Prerequisite: R SOC 011 or 3 credits in related social science

R SOC 402 **Consumer Behavior and Agricultural Business** (3) The principles of consumer behavior applied to the marketing of agricultural products and farm supplies.
Effective: Winter 1980
Prerequisite: 3 credits in agricultural economics or economics and 3 credits in rural sociology sociology or psychology

R SOC 417 (CED 417) **Power, Conflict, and Community Decision Making** (3) Impact of institutions on human interdependence and behavior, the structure of power, and community decision making and public policy.
Effective: Spring 2010
Prerequisite: R SOC 011 orSOC 001

R SOC 420 (US;IL) (WMNST 420, CED 420) **Women in Developing Countries** (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.
Effective: Fall 2009

R SOC 422 (US) **Family in Rural Society** (3) The relationship between the family and rural society, including critical review of theories, research and problems, issues, and trends.
Effective: Spring 2006
Prerequisite: 6 credits in the social sciences

R SOC 425 **Poverty Analysis: People and Programs** (3) Social and economic situations contributing to deprivation in rural society; intervention programs and policy development.
Effective: Winter 1978
Prerequisite: 6 credits in sociology economics or related areas

R SOC 444 **Social Change in Rural America** (3) Analysis of causes of social change and its consequences for individuals, families, and organizations in rural communities.
Effective: Fall 1984
Prerequisite: R SOC 011 or 3 credits in related social science

R SOC 452 (CEDEV 452) **Rural Organization** (3) Social organization and change in rural communities; use of sociological principles in analysis of rural problems and rural development.
Effective: Fall 2000
Prerequisite: 6 credits in rural sociology sociology or psychology

R SOC 470 (CEDEV 470) **Comparative Community Development** (3) Crosscultural community development projects and the problems encountered in each of the different cultural contexts.
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: 6 credits in social or behavioral science

R SOC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

R SOC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

R SOC 499 (IL) **Foreign Study--Rural Sociology** (1-12) Study in selected countries of rural social institutions and current rural sociological problems.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Russian (RUS)

RUS 001 **Elementary Russian I** (4) Audio-lingual approach to basic Russian; writing. Students who have received high school credit for two or more years of Russian may not schedule this course for credit, without the permission of the department.
Effective: Fall 1985

RUS 001G **Technical Russian for Graduate Students** (3) Prepares student to translate technical and scientific texts. No previous knowledge of Russian is required.* *No graduate credit is given for this course.
Effective: Winter 1978

RUS 001L **Elementary Russian I** (4) Audio-lingual approach to basic Russian; writing. Students who have received high school credit for two or more years of Russian may not schedule this course for credit, without the permission of the department.
Effective: Spring 1993

RUS 001P **Elementary Russian I** (4) Audio-lingual approach to basic Russian; writing. Students who have received high school credit for two or more years of Russian may not schedule this course for credit, without the permission of the department.
Effective: Spring 1993

RUS 002 **Elementary Russian II** (4) Audio-lingual approach to basic Russian continued; writing. Students who have received high school credit for four years of Russian may not schedule this course for credit, without the permission of the department.
Effective: Fall 1985
Prerequisite: RUS 001

RUS 002G **Russian Texts** (3) Development of skill in translating Russian texts in the sciences and social sciences.* *No graduate credit is given for this course.
Effective: Winter 1978
Prerequisite: RUS 005 orRUS 001G

RUS 002L **Elementary Russian II** (4) Audio-lingual approach to basic Russian continued; writing. Students who have received high school credit for four years of Russian may not schedule this course for credit, without the permission of the department.
Effective: Spring 1993
Prerequisite: RUS 001

RUS 002P **Elementary Russian II** (4) Audio-lingual approach to basic Russian continued; writing. Students who have received high school credit for four years of Russian may not schedule this course for credit, without the permission of the department.
Effective: Spring 1993
Prerequisite: RUS 001

RUS 003 **Intermediate Russian** (4) Emphasis on reading unsimplified texts; composition; grammatical analysis.
Effective: Fall 1985
Prerequisite: RUS 002

RUS 011 **Intensive Basic Russian** (6) Listening, speaking, reading, writing, and basic structures of Russian. This course is equivalent to RUS 001 and the first half of RUS 002. Students may receive credit for only one course from RUS 001, 002, and 011.
Effective: Spring 1990

RUS 012 **Intensive Basic Russian** (6) Listening, speaking, reading, writing, and basic structures of Russian. This course is equivalent to the second half of RUS 002 and RUS 003. Students may receive credit for only one course from RUS 002, 003, and 012.
Effective: Spring 1990
Prerequisite: RUS 011

RUS 051 **Elementary Intensive Russian for Graduate Students I** (3) Intensive introduction to Russian: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

RUS 052 **Elementary Intensive Russian for Graduate Students II** (3) Intensive introduction to Russian: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: RUS 051 and graduate standing

RUS 053 **Intermediate Intensive Russian for Graduate Students** (3) Continued intensive study of Russian at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008

Prerequisite: RUS 052 or equivalent and graduate standing

RUS 083S (GH;US;IL) **First-Year Seminar in Russian** (3) Russia's cultural past and present.
Effective: Summer 2005

RUS 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 100 (GH;IL) **Russian Culture and Civilization** (3) The Russian people from the tenth century to present times; their literature, arts, music, science, and philosophy. In English.
Effective: Summer 2005

RUS 110 (GH;IL) **Russian Folklore** (3) Study of byliny, lyrical and historical songs, folktales, drama, ceremonial poetry, chants, charms, proverbs, and mythology of Russia. In English.
Effective: Summer 2005

RUS 120 (GH;IL) **Theatrical Arts of Russia** (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.
Effective: Summer 2005

RUS 120U (GH;IL) **Theatrical Arts of Russia** (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RUS 130 (IL) (WMNST 130) **Women in Russian Literature** (3) Survey of Russian and Soviet women characters and writers from the Medieval Period to the present (in English).
Effective: Spring 2006

RUS 141Y (IL) **Russian Literature in English Translation: 1800-1870** (3) Pushkin, Lermontov, Gogol, the critics, Turgenev, Dostoevsky, Tolstoy. Writing assignments will serve as a major way of exploring subject matter.
Effective: Spring 2006

RUS 142Y (IL) **Russian Literature in English Translation: 1870 to Present** (3) Dostoevsky, Tolstoy, Chekhov, Gorky, symbolists, selected Soviet authors. Writing assignments will serve as a major way of exploring subject matter.
Effective: Spring 2006

RUS 143 (GH;IL) (GER 143) **The Culture of Stalinism and Nazism** (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Summer 2005

RUS 143U (GH;IL) (GER 143U) **The Culture of Stalinism and Nazism** (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

RUS 187 **Russian Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

RUS 196 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2004

RUS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

RUS 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 204 (IL) **Intermediate Russian II** (4) Intensive practice of Russian reading, writing, listening and speaking; review of Russian grammar.
Effective: Spring 2006
Prerequisite: RUS 003 orRUS 012

RUS 214 (IL) **Intermediate Russian III** (4) Intensive practice of Russian reading, writing, listening and speaking; review of Russian grammar.

Effective: Spring 2006
Prerequisite: RUS 003 orRUS 012

RUS 221 (IL) **Russian Conversation** (3) Practice aimed at developing fluency in the use of the grammatical constructions and vocabulary essential for everyday conversation.
Effective: Spring 2006
Prerequisite: RUS 003 orRUS 006

RUS 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

RUS 296 **Independent Studies** (1-18) Creative projects, including research design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1986

RUS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1986

RUS 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 304 (IL) **Readings in Russian III** (3) Extensive reading of contemporary Russian texts, including articles from Soviet press and short fiction.
Effective: Spring 2006
Prerequisite: 6 credits of Russian at the 200 level

RUS 305 (IL) **Advanced Russian Conversation** (3) Discussion and role-playing based on real-life situations and current events; supervised by a native speaker.
Effective: Spring 2006
Prerequisite: RUS 204, RUS 214

RUS 321 **Advanced Russian Stylistics** (3) Russian composition and discussion based on issues of contemporary Russian society.
Effective: Summer 1993
Prerequisite: 6 credits of Russian at the 200 level

RUS 360 (IL) **Advanced Russian Grammar** (3) Russian morphology and syntax on an advanced level.
Effective: Spring 2006
Prerequisite: 6 credits of Russian at the 200 level

RUS 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

RUS 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

RUS 400 (IL) **Senior Seminar in Russian Culture** (3) Senior seminar devoted to topics in Russian culture; conducted in Russian.
Effective: Spring 2006
Prerequisite: RUS 204, RUS 214, RUS 304

RUS 412 (IL) **Russian Translation** (3 per semester/maximum of 6) Translation from Russian into English of complex texts from the humanities, social sciences, and technical fields.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 426 (IL) **Dostoevsky** (3) Study of representative works by Dostoevsky in the original Russian.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 427 (IL) **Tolstoy** (3) Study of representative works by Tolstoy in the original Russian.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 430 **Methods and Materials for Teaching Russian** (3) Research, analysis, and demonstration of pedagogical problems in the teaching of Russian.
Effective: Fall 1987
Prerequisite: LING 100, 9 credits of Russian at the 200 level or higher

RUS 440Y (US;IL) (RL ST 440Y) **The Orthodox Christian Tradition** (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.
Effective: Spring 2006

Prerequisite: RL ST 004, RL ST 124, RL ST 125, RUS 100 orRUS 110

RUS 450 (IL) **History of the Russian Language** (3) Relationship of Russian to other Indo-European languages and changes within Russian from the time of the earliest records to the present.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 460 (IL) **Linguistic Analysis of Contemporary Russian** (3) Detailed study of the phonology, morphology, and syntax of Modern Standard Russian and the major dialects.
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

RUS 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

RUS 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

RUS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

RUS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

RUS 497A (IL) **Great Works of Short Russian Fiction** (3) A survey of great short works of Russian fiction from the 18th century to the present day, read in Russian.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

RUS 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

School Psychology (S PSY)

S PSY 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

S PSY 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

S PSY 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

School of Science, Engineering, and Technology (SSET)

SSET 295 **Internship** (1-18) Supervised off-campus, individual training including practical field experiences or internships where written and oral critique of the activity is required.
Effective: Summer 2003
Prerequisite: prior approval of the proposed assignment by the program

SSET 395 **Internship** (1-18) Supervised off-campus, individual training including practical field experiences or internships where written and oral critique of the activity is required.
Effective: Summer 2003
Prerequisite: prior approval of the proposed assignment by the program

SSET 495 **Internship** (1-18) Supervised off-campus, individual training including practical field experiences of internships where written and oral critique of the activity is required.
Effective: Summer 2003
Prerequisite: prior approval of the proposed assignement by the program

Last Import from UCM: May 29, 2010 3:00 AM

Science (SC)

SC 100 **Introduction to Research** (1) Introduces essential elements of laboratory safety, laboratory techniques, research ethics, and scientific communication skills. Especially for undergraduate research students.
Effective: Summer 2004

SC 101 (AG 100) **Job Placement Skills and Strategies** (1) Strategies and skills designed to identify career/life goals and implement career decisions.
Effective: Fall 2010 Future: Fall 2010

SC 200 (GN) **Science in Our World: Certainty and Controversy** (3) A science appreciation course, aimed at making non-scientists more informed consumers of science.
Effective: Summer 2010

SC 201 **Medical Professions** (1) Learn about the different medical professions and related subjects.
Effective: Summer 2008

SC 210 **Sophomore Science Seminar** (2) Covers topics related to success in upper level courses including critical thinking, library resources, reading primary literature, and communication skills.
Effective: Summer 2004

SC 285 **Science Co-Op Preparation** (1) Course helps students maximize value from Science Co-Op work experience; includes discussions of corporate culture and issues of business/technology. Offered for SA/UN grade.
Effective: Summer 1999
Prerequisite: third-semester standing

SC 294 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

SC 295 **Science Co-op Work Experience I** (1-3) A supervised work experience where the student is employed in a scientific position. To be offered for SA/UN grading.
Effective: Spring 2007
Prerequisite: acceptance into the Eberly College of Science co-op program

SC 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2005

SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1991

SC 297A **Introduction to Forensic Science** (3) The course will review the application of the physical and social sciences as they apply to the analysis of evidence.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SC 297B (GN) **Science in Our World: Certainty and Controversy** (3) A science appreciation course, aimed at making non-scientists more informed consumers of science.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SC 297D (ENGR 297D) **Science/Technology/Engineering/Mathematics Topics** (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SC 395 **Science Co-op Work Experience II** (1-3) A supervised work experience where the student is employed in a scientific position. To be offered for SA/UN grading.
Effective: Spring 2007
Prerequisite: SC 295

SC 400 **Consequences of Science** (1) A series of lecture/discussions in which science faculty members show the social implications of their research specialty.
Effective: Winter 1978

SC 401 **Basic Science and Disease** (1) Clinical aspects of various disease and how basic scientific information contributes

towards understanding and treating disease.
Effective: Summer 2008
Prerequisite: 4th semester standing or higher standing plus 3 credits in biology and 3 credits in chemistry

SC 494 **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 1994

SC 494H **Research Project Courses** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

SC 495 **Science Co-op Work Experience III** (1-3) A supervised work experience where the student is employed in a scientific position. To be offered for SA/UN grading.
Effective: Spring 2007
Prerequisite: SC 395

SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1996

Last Import from UCM: May 29, 2010 3:00 AM

Science Education (SCIED)

SCIED 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1996

SCIED 297A **Outdoor School Counselor** (2) Outdoor School is a field experience class and you must be accepted as a counselor before being registered.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: Contact Ellen Will for application information eeb11@psu.edu

SCIED 297A **Outdoor School Counselor** (2) Outdoor School is a field experience class and you must be accepted as a counselor before being registered.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: Contact Ellen Will for application information.

SCIED 297C **Investigating Sound and Light** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

SCIED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

SCIED 410 **Using Technology to Enhance Science Teaching** (3) This course explores contemporary practice and research associated with applications of technology to enhance science learning and teaching.
Effective: Summer 2000
Prerequisite: admission to one of the science teaching options in SECED

SCIED 411 **Teaching Secondary Science I** (3) Introduction to teaching secondary school science, including curriculum, learning theory, media, evaluation as they relate to student progress.
Effective: Spring 1994
Prerequisite: C I 295 ; appropriate courses for certification option and approval of department

SCIED 412 **Teaching Secondary Science II** (3) Implementation of science instruction using a variety of modern approaches.
Effective: Spring 2001
Prerequisite: SCIED 410, SCIED 411   Concurrent: C I 412W

SCIED 454 **Science in Early Childhood Education** (3) Philosophy, techniques, materials, and evaluation in teaching science to young children (N-3); a briefing of science concepts for young children.
Effective: Winter 1978

SCIED 455 **Field Natural History for Teachers** (3) Ecologically oriented field study course to provide teachers with basic knowledge of natural science resources in school environments.
Effective: Winter 1978
Prerequisite: 3 credits in biological science

SCIED 457 **Environmental Science Education** (3) Philosophy, techniqus, and skills for teaching environmental science, including curriculum development, fieldwork, and the use of appropriate technologies.
Effective: Fall 2003
Prerequisite: 3 credits of calculus 9 credits of sciences 400-level teaching methods course

SCIED 458 **Teaching Science in the Elementary School** (3) Interpreting children's science experiences and guiding development of their scientific concepts; a briefing of science content material and its use.
Effective: Spring 2007
Prerequisite: LL ED 400, LL ED 401, LL ED 402, PSYCH 212 three credits each in biological earth and physical sciences
Concurrent: C I 495A OR C I 495B ; MTHED 420 SS ED 430W

SCIED 470 **Selected Studies in Science Education** (1-6) Intensive work on particular issues, trends, or developments in science education for elementary and secondary school teachers.
Effective: Winter 1978
Prerequisite: Instructional I certification and teaching experience

SCIED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

SCIED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SCIED 497A **Global Climate Change for Educators** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SCIED 497C **Robotics for Elementary Teachers** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SCIED 497D **Insect Connections for Educators** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SCIED 497F (ENGR 497F) **Fundamentals of Science, Technology & Engineering** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SCIED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

SCIED 498A **School of Fish - Fish Biology Concepts and Aquatic Wildlife Ecosystems (K-12)** (1) Participants will learn about the affect of human interaction on the environment.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Science, Engineering, and Technology (SE&T)

SE&T 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1992

Last Import from UCM: May 29, 2010 3:00 AM

Science, Technology, and Society (S T S)

S T S 005 (US) (WMNST 005) **Introduction to Women in Science, Technology, and Engineering** (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2005

S T S 047 (SOC 047) **Wilderness, Technology, and Society** (3) Impact of developments in science, literature, and art on changing attitudes toward nature; consequences for conservation, preservation, environmental ethics.
Effective: Spring 1991

S T S 055 (GN) (AERSP 055) **Space Science and Technology** (3) The science and technology of space exploration and exploitation; physical principles; research and development; history, space policy, and social implications.
Effective: Spring 1994

S T S 090 **Introduction to Peace and Conflict Studies** (3) Introduction to theory and practice concerning major contemporary issues of peace and conflict; includes anthropological, technological, psychological, and economic perspectives.
Effective: Fall 1994

S T S 100 (GH) **The Ascent of Humanity** (3) A survey of some of the intellectual achievements that highlight humanity's attempts to understand nature and shape the environment.
Effective: Spring 2005 Ending: Fall 2010

S T S 100 (GH) **Science, Technology, and Culture** (3) A survey of the development and culture of science, technology, and medicine in world history.
Effective: Spring 2011 Future: Spring 2011

S T S 101 (GH) **Modern Science, Technology, and Human values** (3) Relationships of science and technology to human aspirations, values, and arts.
Effective: Spring 1996

S T S 101H (GH) **Modern Science, Technology, and Human values** (3) Relationships of science and technology to human aspirations, values, and arts.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

S T S 102 (GS) **Science, Technology and Public Policy** (3) This course will survey the main issues that relate science and technology to public policy.
Effective: Summer 2010

S T S 105 (GHA) (FD SC 105) **Food Facts and Fads** (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Spring 2004

S T S 105S (GHA) **First-Year Seminar - Food Facts and Fads** (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.
Effective: Fall 2003

S T S 107 (GH) (PHIL 107) **Introduction to Philosophy of Technology** (3) The character of technology; its relation to human values; philosophical assumptions in its development; and how it transforms the world.
Effective: Spring 2004

S T S 122 (GH) (HIST 122) **History of Science I** (3) A history of science and culture from Stonehenge to the scientific revolution.
Effective: Spring 2005

S T S 123 (GH) (HIST 123) **History of Science II** (3) A history of science and culture from the scientific revolution to the present.
Effective: Spring 2004

S T S 124 (GH;US;IL) (HIST 124) **History of Western Medicine** (3) This course explores the history of health, illness, and medicine in western society.
Effective: Summer 2008

S T S 130 **World Food Problems** (1-3) Critical examination of data sources, issues, and perspectives concerning contributions of science, technology, and society in resolving world food problems.
Effective: Spring 1991

S T S 130H **World Food Problems** (1-3) Critical examination of data sources, issues, and perspectives concerning contributions of science, technology, and society in resolving world food problems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

S T S 135 (GS) (PL SC 135) **The Politics of the Ecological Crisis** (3) The political implications of the increasing scarcity of many of the world's resources.
Effective: Spring 2001

S T S 150 (GN;IL) (EM SC 150) **Out of the Fiery Furnace** (3) A history of materials, energy, and humans, with emphasis on their interrelationships. For nontechnical students.
Effective: Spring 2006

S T S 151 (GS;US) (HIST 151) **Technology and Society in American History** (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 151S (GS;US) (HIST 151S) **Technology and Society in American History** (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.
Effective: Spring 2006

S T S 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

S T S 200 (GS) **Critical Issues in Science, Technology, and Society** (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Spring 1995

S T S 200H (GS) **Critical Issues in Science, Technology, and Society** (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

S T S 200S (GS) **Critical Issues in Science, Technology, and Society** (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.
Effective: Summer 1999

S T S 201 (GN) **Climate Change, Energy, and Biodiversity** (3) Studies of global warming, energy options, and biodiversity; their interrelations as sciences and as societal issues.
Effective: Summer 1994

S T S 201H (GN) **Climate Change, Energy, and Biodiversity** (3) Studies of global warming, energy options, and biodiversity; their interrelations as sciences and as societal issues.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

S T S 202 (GH;IL) **Introduction to Disability Studies in the Humanities** (3) Provides a humanities-based interdisciplinary introduction to Disability Studies.
Effective: Summer 2008

S T S 230 (HIST 230, NUTR 230) **American Food System: History, Technology, and Culture** (3) A cultural analysis of the evolution of U.S. agricultural production and food consumption patterns, the food industry and food marketing.
Effective: Spring 1991

S T S 233 (GH) (PHIL 233) **Ethics and the Design of Technology** (3) Ethics and individual and group decision-making in the design of technology including design projects and specific attention to institutional ethics.
Effective: Spring 2004

S T S 235 (GH) **Science and Religion** (3) This course investigates the relationship between science and religion in multiple cultures.
Effective: Spring 2009
Prerequisite: completion of a basic composition course or the equivalentS T S 100 orS T S 101 or completion of 30 credits of coursework

S T S 245 (GS;IL) **Globalization, Technology, and Ethics** (3) An investigation of technology and ethics in the globalized world from contemporary, socio-cultural, and historical perspectives.
Effective: Summer 2008

S T S 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1992

S T S 296H **Biodiesel Production at Greater Allegheny** (2) This course will study the processes for converting food services fry-oil into biodiesel. Tests will be performed on the fry-oil to confirm the quality of the oil for conversion to biodiesel. Once a plan for implementation has been establish, students will commence biodiesel production. The biodiesel will be given to facilities management for use on campus diesel vehicles. It is the intent of this study to implement continuous production of biodiesel on the Greater Allegheny campus.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

S T S 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1991

S T S 297A **Technology in Society** (3) This course introduces incoming international students in the College of Engineering to the historical, institutional, political, ethical, and cultural dimensions of technology in the United States.
Effective: Summer 2010 Ending: Summer 2010

S T S 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S T S 327 (R SOC 327) **Society and Natural Resources** (3) Analysis of the relationships between societal development and enhancement and natural resources.
Effective: Summer 1998

S T S 390 **Personal Peace and Peace Building** (3) The study of inner peace, conflict resolution and consensus, peace in the community of life, and peace building.
Effective: Fall 1994
Prerequisite: S T S 090

S T S 407 (PHIL 407) **Technology and Human Values** (3) Interrelationships of twentieth-century technological change and human values. Emphasis on the social and ethical aspects of technological progress.
Effective: Spring 1999
Prerequisite: 9 credits in philosophy includingPHIL 107 or 6 credits of philosophy at the 200 level

S T S 408 (COMM 408) **Cultural Foundations of Communications** (3) Examination of oral, scribal, print, industrial and electronic cultures; analysis of impact of technology on communications and social structure.
Effective: Spring 2009
Prerequisite: select 3 credits fromCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320, COMM 370 ; or 3 credits of S T S

S T S 416 (US;IL) (WMNST 416, AAA S 416) **Race, Gender and Science** (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

S T S 420 (EM SC 420, SOC 420) **Energy and Modern Society** (3) Technology and economics of energy resources, production, and consumption; environmental factors, exhaustion, new technology.
Effective: Spring 1991

S T S 427W (CED 427W, SOC 427W) **Society and Natural Resources** (3) Analysis of the relationship between societal development and enhancement and natural resources.
Effective: Summer 2008
Prerequisite: R SOC 011 orSOC 001

S T S 428 (IL) (HIST 428) **The Darwinian Revolution** (3) The origins and implications of evolutionary theory.
Effective: Spring 2006
Prerequisite: An introductory Science course and a history course.

S T S 430 (IL) (NUTR 430) **Global Food Strategies: Problems and Prospects for Reducing World Hunger** (3) Technological, social, and political solutions to providing basic food needs; food resources, population, and the environment; current issues.
Effective: Summer 2005

S T S 432 (PHIL 432) **Medical and Health Care Ethics** (3) Examines ethical, political, and social issues in the research, implementation, and practice of medicine, medical technologies, and healthcare.

Effective: Fall 1998
Prerequisite: fifth-semester standing

S T S 433 (PHIL 433) **Ethics in Science and Engineering** (3) Ethical issues arising in the practice of science and engineering and their philosophical analysis.
Effective: Fall 1995

S T S 435 (PHIL 435) **The Interrelation of Science, Philosophy, and Religion** (3) The historical and transformative interactions between science and Western philosophical and religious views of nature, humanity, and God.
Effective: Spring 1996

S T S 457 (US;IL) (HIST 457, WMNST 457) **The History of Women in Science** (3) Critical analysis of the role women, gender, and minorities have played in the natural sciences.
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001, WMNST 003 orWMNST 005

S T S 460 (PL SC 460) **Science, Technology, and Public Policy** (3) The all-pervasive importance of science and technology policy in modern societies and mechanisms and processes by which it is made.
Effective: Spring 1995
Prerequisite: three credits in Natural Sciences or Engineering three credits in Social and Behavioral Sciences

S T S 470 **Technology Assessment and Transfer** (3) Nature of technology assessment and technology transfer in product design and development process from federal and university labs, and internationally.
Effective: Summer 1996

S T S 471 **Radiation, Reactors, and Society** (3) Societal problems and benefits associated with nuclear power, including energy needs, radiation effects, safety, and thermal effects.
Effective: Spring 1991

S T S 476 **Technology and War** (3) A survey and analysis of the interaction of technology, ethics, and warfare in the past and present society.
Effective: Summer 2007

S T S 490 **Peace and Conflict Studies Seminar** (3) Advanced study of major contemporary issues of peace and conflict; includes anthropological, technological, psychological, and economic perspectives.
Effective: Fall 1994
Prerequisite: PL SC 014, S T S 090

S T S 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1992

S T S 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

S T S 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1991

S T S 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1991

S T S 497G (NUTR 497G) **Community Food Security** (3) Through active learning, students explore how communities can reshape food systems, increasing access to wholesome food while increasing economic opportunities.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

S T S 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

S T S 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Security & Rsk Analy (SRA)

SRA 001S **First-Year Seminar in Security and Risk Analysis** (1) Provides introduction to the field of Security and Risk Analysis and assessments of key skills.
Effective: Summer 2006

SRA 111 (GS) **Introduction to Security and Risk Analysis** (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Spring 2008

SRA 111H (GS) **Introduction to Security and Risk Analysis** (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

SRA 111S (GS) **Introduction to Security and Risk Analysis** (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SRA 211 **Threat of Terrorism and Crime** (3) Provides overview of nature, scope, and seriousness of threats to security as a result of terrorism and crime.
Effective: Summer 2006
Prerequisite: SRA 111

SRA 221 **Overview of Information Security** (3) Provides an understanding of the overview of information security including security architecture, access control, and internet secure applications.
Effective: Summer 2006
Prerequisite: SRA 111, IST 110, CMPSC 101

SRA 231 **Decision Theory and Analysis** (3) Provides an overview of decision theoretical and analytical concepts and tools in the security risk analysis field.
Effective: Summer 2006
Prerequisite: SRA 211, STAT 200

SRA 311 **Risk Management: Assessment and Mitigation** (3) Assessment and mitigation of security vulnerabilities for people, organizations, industry sectors, and the nation.
Effective: Summer 2006
Prerequisite: SRA 231

SRA 468 **Visual Analytics for Security Intelligence** (3) Introduce visual analytic techniques for security informatics and intelligence. It covers analytical techniques on visualizing threats, risk, and vulnerability.
Effective: Spring 2008
Prerequisite: IST 110, SRA 111

SRA 471 **Informatics, Risk, and the Post-Modern World** (3) Provides in-depth study of how security informatics is influenced by the risk and post-modern culture.
Effective: Spring 2008
Prerequisite: IST 110, SRA 231

SRA 472 **Integration of Privacy and Security** (3) Exploration of technological, operational, organizational and regulatory issues related to maintenance of individual privacy, confidentiality of organizations, and information protection.
Effective: Spring 2008
Prerequisite: SRA 211 orSRA 221 or equivalent

SRA 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

SRA 497A **Statistical Analysis for Information Sciences** (3) Intermediate-level statistics course emphasizing understanding hypothesis testing and experimental design, a broad array of statistical techniques applied to data analysis, and computer tools to support testing and analysis; specifically applied to information sciences and technology applications.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

Serbo-Croatian (S CR)

S CR 001 **Beginning Serbo-Croatian** (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Serbo-Croatian.
Effective: Winter 1978

S CR 002 **Beginning Serbo-Croatian** (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Serbo-Croatian.
Effective: Spring 2001
Prerequisite: S CR 001

S CR 003 **Beginning Serbo-Croatian** (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Serbo-Croatian.
Effective: Spring 2001
Prerequisite: S CR 002

S CR 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

S CR 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

S CR 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

S CR 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

S CR 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

S CR 499 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Slavic (SLAV)

SLAV 051 **Elementary Intensive Slavic for Graduate Students I** (3) Intensive introduction to a Slavic language: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural context.
Effective: Summer 2008
Prerequisite: graduate standing

SLAV 052 **Elementary Intensive Slavic for Graduate Students II** (3) Intensive introduction to a Slavic language: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: SLAV 051 or equivalent and graduate standing

SLAV 053 **Intermediate Intensive Slavic Language for Graduate Students** (3) Continued intensive study of a Slavic language at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: SLAV 052 or equivalent and graduate standing

SLAV 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 187 **Slavic Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

SLAV 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

SLAV 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SLAV 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1983

SLAV 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

SLAV 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

SLAV 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SLAV 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SLAV 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

SLAV 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1998

SLAV 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Social Science (SO SC)

SO SC 001 (GS) **Urbanization** (3) An overview of the social sciences, including an interdisciplinary analysis of the urban process.
Effective: Summer 1995

SO SC 002 **Contemporary Society** (3) Selected contemporary issues in the perspective of history, sociology, psychology, economics, and political science.
Effective: Fall 1988

SO SC 187 **Social Science Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Spring 2001

SO SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SO SC 480W **Quantitative Methods in the Social Sciences** (4) Students will learn to conduct, analyze and write up quantitative social scientific research according to appropriate professional standards.
Effective: Spring 2008
Prerequisite: permission of program

SO SC 481 **Qualitative Research Methods in the Social Sciences** (4) Students will learn how to conduct, analyze and write up qualitative social research according to appropriate professional standards.
Effective: Spring 2008
Prerequisite: permission of program

SO SC 492 **Current Topics in the Social Sciences** (3) This course allows for various current topics to be offered as suitable to the needs of the program.
Effective: Spring 2008
Prerequisite: permission of program

SO SC 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2008

SO SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2008

Last Import from UCM: May 29, 2010 3:00 AM

Social Studies Education (SS ED)

SS ED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

SS ED 411 **Teaching Secondary Social Studies I** (3) Teaching social studies, including individual differences, curricular overview, application of learning theories, identification and measurement of learning outcomes.
Effective: Spring 1996
Prerequisite: ANTH 045, C I 295, HIST 020, HIST 021, PL SC 001 ; 12 credits from history and/or geography and/or sociology and/or economics

SS ED 412W **Teaching Secondary Social Studies II** (3) Writing-intensive course focusing on study of the social studies teacher's role in planning instruction; strategies for teaching.
Effective: Summer 2010
Prerequisite: SS ED 411 Concurrent: C I 412W

SS ED 430W **Teaching Social Studies in the Elementary Grades** (3) Principles underlying use of social studies in the elementary school; practical demonstration of desirable methods.
Effective: Spring 2007
Prerequisite: LL ED 400, LL ED 401, LL ED 402, PSYCH 212 nine credits in history and the social sciences Concurrent: C I 495A OR C I 495B ; MTHED 420 SCIED 458

SS ED 470 **Issues in Social Studies Education** (1-6) Concentration on particular issues, trends, and developments in the social studies.
Effective: Winter 1978
Prerequisite: Instructional I certificate and teaching experience

SS ED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

SS ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SS ED 497A **Heritage Interpretation Education** (3) Principles of interpretation for natural and cultural sites; earn Certified Interpretative Guide certification offered by National Association for Interpretation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SS ED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

SS ED 498A **AP World History** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SS ED 498B **Ap US History** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SS ED 498C **AP US Government & Politics** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Sociology (SOC)

SOC 001 (GS) **Introductory Sociology** (3) The nature and characteristics of human societies and social life.
Students may take only one course for General Education credit from SOC 001 GS or R SOC 011 GS. Effective: Spring 2003

SOC 001H (GS) **Introductory Sociology** (3) The nature and characteristics of human societies and social life.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

SOC 001S (GS) **Introductory Sociology** (3) The nature and characteristics of human societies and social life.
Effective: Spring 2006

SOC 001W (GS) **Introductory Sociology** (3) The nature and characteristics of human societies and social life.
Effective: Fall 1998

SOC 003 (GS) **Introductory Social Psychology** (3) The impact of the social environment on perception, attitudes, and behavior.
Effective: Spring 2003

SOC 003H (GS) **Introductory Social Psychology** (3) The impact of the social environment on perception, attitudes, and behavior.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

SOC 005 (GS) **Social Problems** (3) Current social problems such as economic, racial, and gender inequalities; social deviance and crime; population, environmental, energy, and health problems.
Effective: Spring 2003

SOC 005H (GS) **Social Problems** (3) Current social problems such as economic, racial, and gender inequalities; social deviance and crime; population, environmental, energy, and health problems.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SOC 007 **Introduction to Social Research** (3) Fundamental concepts and problems in social science research; design, measurement, sampling, causation, validity, interpretation.
Effective: Spring 2001

SOC 012 (GS) (CRIMJ 012, CRIM 012) **Criminology** (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Spring 2008

SOC 012H (GS) (CRIM 012H) **Criminology** (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SOC 012H (GS) **Criminology** (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

SOC 013 (GS) (CRIMJ 013) **Juvenile Delinquency** (3) Juvenile conduct, causes of delinquency, current methods of treatment; organization and function of agencies concerned with delinquency.
Effective: Spring 2008

SOC 015 (GS) **Urban Sociology** (3) City growth and decline; impact of city life on individuals, families, neighborhoods, and government; urban life-styles.
Effective: Summer 1995

SOC 023 (GS) **Population and Policy Issues** (3) Local, national, and international population trends; basic techniques of demographic analysis; population problems; implications for public planning and policy.
Effective: Fall 2004

SOC 023H (GS) **Population and Policy Issues** (3) Local, national, and international population trends; basic techniques of demographic analysis; population problems; implications for public planning and policy.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SOC 030 (GS) **Sociology of the Family** (3) Family structure and interaction; functions of the family as an institution; cross-cultural comparisons.
Students may take only one course for General Education credit from SOC 030 or HD FS 129 GS. Effective: Spring 2003

SOC 035 **Sociology of Aging** (3) Introduction to the sociological study of aging.
Effective: Spring 2000

SOC 047 (S T S 047) **Wilderness, Technology, and Society** (3) Impact of developments in science, literature, and art on changing attitudes toward nature; consequences for conservation, preservation, environmental ethics.
Effective: Fall 1983

SOC 055 (GS) **Work in Modern Society** (3) The nature of work in varied occupational and organizational settings; current trends and work life in the future.
Effective: Summer 1995

SOC 060 (GS;IL) (ANTH 060, J ST 060, PL SC 060) **Society and Cultures in Modern Israel** (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.
Effective: Summer 2006

SOC 083S (GS) **First-Year Seminar in Sociology** (3) Critical approaches to issues in the structure of society.
Effective: Summer 1999

SOC 103 (US) (AAA S 103, WMNST 103) **Racism and Sexism** (3) Critical analysis of the structure of race and gender inequality in the contemporary United States.
Effective: Summer 2005

SOC 109 **Sociological Perspectives** (3) Intensive and critical analysis of the bases of the social order, change, values, knowledge, and conflict.
Effective: Spring 2001

SOC 110 (GS;US) (WMNST 110) **Sociology of Gender** (3) Changing sex role expectations and behavior for men and women in contemporary society.
Effective: Summer 2005

SOC 111 **Sociology of Humor** (3) Humor: its nature, types, and functions in society; sociological and social psychological approaches in contemporary and classic humor.
Effective: Fall 1983

SOC 119 (GS;US) **Race and Ethnic Relations** (4) Historical patterns and current status of racial and ethnic groups; inequality, competition, and conflict; social movements; government policy.
Effective: Summer 2005

SOC 174 **Psychological and Sociological Aspects of Death** (3) An introductory, interdisciplinary approach to the psychology and sociology of death, stressing the significance of, and attitudes toward, mortality.
Effective: Spring 2001

SOC 187 **Sociology Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

SOC 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

SOC 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

SOC 207 **Research Methods in Sociology** (3) Experiential-based course covering the four main social research methods: available data, survey research, experiments, and field research.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 287W **Intercultural Community Building** (3) An intercultural analysis of diversity issues.
Effective: Spring 2005

SOC 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SOC 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which will fall outside the scope of formal courses.
Effective: Fall 1983

SOC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SOC 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.
Effective: Spring 1995

SOC 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Spring 2007

SOC 300 **Preceptorship in Sociology** (1-8, maximum of 4 per semester) Supervised experience as a teaching assistant under the supervision of an approved faculty member.
Effective: Spring 2003
Prerequisite: 3 credits in course work related to the subject of the course

SOC 309 **Sociology of Health** (3) Sociological concepts and principles operative in public and private areas of health and illness, including cultural, ethnic, and ecological factors.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 381H **Junior Honors Seminar in Sociology** (1) Supervised experience in planning the honors thesis and a sociological career.
Effective: Spring 1999
Prerequisite: sociology major junior standing and admission to the Schreyer Honors College

SOC 395 **Internship** (1-6) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.
Effective: Fall 1981
Prerequisite: prior approval of proposed assignment by instructor

SOC 400W **Senior Research Seminar** (3) Major concepts and principles of sociology through reading, data analysis, and writing. Capstone course for senior Sociology majors.
Effective: Fall 2001
Prerequisite: SOC 470

SOC 401 **Social Institutions** (3) Development, nature, and function of major social institutions and their impact on individual life in modern society.
Effective: Spring 2001
Prerequisite: 6 credits in Sociology

SOC 403 **Advanced Social Psychology** (3) Analysis of the major theoretical approaches and research findings of contemporary social psychology.
Effective: Fall 1983
Prerequisite: SOC 003

SOC 404 **Social Influence and Small Groups** (3) The study of social influence, leadership and status, and social cohesion and commitment processes in small groups.
Effective: Spring 2007
Prerequisite: SOC 003 orPSYCH 420

SOC 405 **Sociological Theory** (3) Overview of the development of sociological theory; current issues and controversies.
Effective: Spring 2001
Prerequisite: 3 credits in the Sociology

SOC 406 (CRIMJ 406, CRIM 406) **Sociology of Deviance** (3) Theory and research concerning deviant behaviors and lifestyles viewed as significant departures from a group's normative expectations.
Effective: Spring 2008
Prerequisite: SOC 012, SOC 013 orSOC 005 or permission of program

SOC 408 **Urban Ecology** (3) Spatial and temporal aspects of urban structure; urban growth, neighborhoods, racial and ethnic groups, mental illness; cross-cultural perspectives.
Effective: Fall 1983
Prerequisite: 3 credits in sociology

SOC 409 (US) (AAA S 409) **Racial and Ethnic Inequality in America** (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Summer 2005

Prerequisite: 3 credits in Sociology

SOC 409U (US) (AAA S 409U) **Racial and Ethnic Inequality in America** (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 3 credits in Sociology

SOC 411 (US) (HD FS 416) **Racial and Ethnic Diversity and the American Family** (3) This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States.
Effective: Spring 2005
Prerequisite: 3 credits in sociology

SOC 412 (CRIMJ 412, CRIM 412) **Crime, Social Control, and the Legal System** (3) Legal and extralegal control; public opinion on crime; criminal justice and correctional processes; legal sanctions; control strategies. Field trip.
Effective: Spring 2008
Prerequisite: SOC 012, SOC 013 orSOC 005

SOC 413 (CRIM 413, CRIMJ 413) **Advanced Criminological Theory** (3) This course provides an in-depth look at theories of crime and examines influential empirical studies designed to these theories.
Effective: Spring 2008
Prerequisite: SOC 012, CRIMJ 250W

SOC 414 (CRIMJ 414, CRIM 414) **Criminal Careers and the Organization of Crime** (3) Research on and theory of criminal careers and crime organizations, emphasizing recruitment and disengagement; offender characteristics and life- styles; policy implications.
Effective: Spring 2008
Prerequisite: SOC 012, SOC 013 orSOC 005

SOC 416 (US) (EDTHP 416) **Sociology of Education** (3) The theoretical, conceptual, and descriptive contributions of sociology to education.
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

SOC 419 (US) **Race and Public Policy** (3) Seminar format course in which sociological theory and research are applied to current race policy issues.
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

SOC 420 (EM SC 420, S T S 420) **Energy and Modern Society** (3) Technology and economics of energy resources, production, and consumption; environmental factors, exhaustion, new technology.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 422 **World Population Diversity** (3) Survey of world diversity in national population growth/composition; the impacts of demographic change on the economic/social life of nations/people.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 423 **Social Demography** (3) Social demographic perspectives on fertility, mortality, morbidity, migration, population density, demographic transitions, social mobility, family, the aged, and minorities.
Effective: Spring 2001
Prerequisite: SOC 023 orSOC 422

SOC 424 **Social Change** (3) Critical review of classical and recent theories of social change, emphasizing the transformations occurring in the modern world.
Effective: Fall 1983
Prerequisite: 3 credits in sociology

SOC 425 **Social Conflict** (3) An analysis of the variables affecting intergroup and international conflict and cooperation.
Effective: Fall 2007
Prerequisite: general behavioral science general psychology or general sociology

SOC 427W (CED 427W, S T S 427W) **Society and Natural Resources** (3) Analysis of the relationships between societal development and enhancement and natural resources.
Effective: Summer 2008
Prerequisite: R SOC 011 orSOC 001

SOC 428 **Homelessness in America** (3) Survey of social science research on homelessness in the contemporary United States.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 429 **Social Stratification** (3) Structure and dynamics of class, caste, and status systems; class differentials and social mobility; current theoretical and methodological issues.
Effective: Winter 1978
Prerequisite: 3 credits in sociology

SOC 430 **Family in Cross-Cultural Perspective** (3) Sociological analysis of family systems in various cultures and subcultures.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 431 (HD FS 431) **Family Disorganization: Stress Points in the Contemporary Family** (3) Focuses on divorce, remarriage, incest, family violence as well as problems associated with family formation and parent-child relations.
Effective: Spring 1994
Prerequisite: 6 credits of human development and family studies psychology or sociology

SOC 432 **Social Movements** (3) Why and how people mobilize to promote or retard social change. Factors predicting success or failure of social movements.
Effective: Fall 1983
Prerequisite: 3 credits in sociology

SOC 435 (HD FS 434) **Perspectives on Aging** (3) An analysis of the demographic, social, and cultural factors affecting the aged population in American society.
Effective: Fall 2007
Prerequisite: 3 credits in Sociology

SOC 436 **Polling and Public Opinion** (4) Methods of public opinion polling; attitude theory and research.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 437 **Biosocial Perspectives on the Family** (3) The implications of knowledge from behavioral endocrinology, behavior genetics, and evolutionary psychology for understanding family relationships and child development.
Effective: Fall 2001
Prerequisite: six credits of SOC or HD FS

SOC 440 (HD FS 440) **Family Policy** (3) An in-depth examination of family policy.
Effective: Spring 2007
Prerequisite: 3 credits of SOC or HD FS

SOC 444 **Complex Organizations** (3) Analysis of the nature and types of complex organizations and their impact on the social life of modern nations.
Effective: Fall 1983
Prerequisite: 3 credits in sociology

SOC 446 **Political Sociology** (3) Sociological analysis of types of political organization and their relations with other elements of social life.
Effective: Winter 1978
Prerequisite: 3 credits in sociology

SOC 447 **Environment, Energy, and Society** (3) Sociological perspectives on causes and consequences of natural resource scarcity and pollution, with emphasis on environmental policies in industrial societies.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 448 **Environmental Sociology** (3) Examination of the relationship between the physical environment and society.
Effective: Fall 2007
Prerequisite: 60 credits at least 9 of which are in the social sciences graduate status or permission of the program

SOC 449 **Environmental Movements** (3) Comparative exploration of environmental movements within the context of classical and new social movement theory.
Effective: Fall 2007
Prerequisite: 90 credits at least 9 of which are in the social sciences or which include SOCIO/CMPSY 470 graduate status or permission of the program

SOC 450 **Justice and the Environment** (3) Considers notions of justice in relation to environmental philosophy, environmental movements, and general environmental concerns.
Effective: Fall 2007
Prerequisite: 90 credits graduate status or permission of the program

SOC 454 (US) **The City in Postindustrial Society** (3) Postindustrial social organization in the United States and Europe; consequences for metropolitan social stratification, community power, and environmental quality.
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

SOC 455 **Work and Occupations** (3) Work and occupational life in modern society; work in the past, present, and future.
Effective: Fall 1983
Prerequisite: 3 credits in sociology

SOC 456 (WMNST 456) **Gender, Occupations, and Professions** (3) The role of gender in shaping contemporary North American patterns of employment, occupational roles, and statuses.
Effective: Spring 2001
Prerequisite: WMNST 001 or 3 credits in Sociology

SOC 457 (US;IL) (ANTH 457, J ST 457) **Jewish Communities: Identity, Survival, and Transformation in Unexpected Places** (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.
Effective: Summer 2006
Prerequisite: ANTH 001 orANTH 045, HEBR 010, J ST 010, SOC 001, SOC 005, SOC 007, SOC 015

SOC 461 (US;IL) (RL ST 461) **Sociology of Religion** (3) Contemporary religion in the United States: beliefs, structure, and function of major denominations and religious cults.

Effective: Spring 2006
Prerequisite: 3 credits in sociology or religious studies

SOC 467 (CRIM 467, CRIMJ 467) **Law and Society** (3) Law and society studies the social origins of law and legal systems; occupational careers, and decision-making of legal officials.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIMJ 113 or permission of program

SOC 468 **Mood-Altering Substances in Society** (3) Perspectives of cultures throughout the world toward mood-altering substances are reviewed in light of public policy, benefits, and problems.
Effective: Fall 2007

SOC 470 **Intermediate Social Statistics** (4) Descriptive and inferential statistics in social research: central tendency and variation, normal distribution, measures of association, confidence intervals, hypothesis testing.
Effective: Fall 2001
Prerequisite: SOC 207

SOC 471 **Qualitative Research Methods in Sociology** (3) Theory, methods, and practice of qualitative data collection, including observation, participant observation, interviewing; supervised projects in natural settings.
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

SOC 481H **Senior Honors Seminar in Sociology** (1) Supervised experience in planning and writing the honors thesis.
Effective: Spring 1999
Prerequisite: sociology major senior standing and admission to the Schreyer Honors College

SOC 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SOC 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

SOC 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2000
Prerequisite: prior approval of proposed assignment by instructor

SOC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

SOC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SOC 497A **Immigration** (3) This class examines theories of immigration and immigrant adaptation, effects, and policy.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SOC 497B **Facilitation Training** (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SOC 497D **Family and Justice** (3) Examination of the relationship between the family and the criminal justice system in which the family operates.
Effective: Summer 2010 Ending: Summer 2010

SOC 499 (IL) **Foreign Study--Sociology** (2-6) Study, in selected foreign countries, of groups, institutions, and social problems.
Effective: Summer 2005
Prerequisite: 3 credits in Sociology

Last Import from UCM: May 29, 2010 3:00 AM

Sociology-Cl (SOCIO)

SOCIO 476 **Sociology of Science and Technology** (3) Examines the constitutive relationship between society, science and technology and ethical concerns arising from these relationships.
Effective: Spring 2003
Prerequisite: 60 credits at least 6 of which are in the social sciences or graduate status or permission of the program

Last Import from UCM: May 29, 2010 3:00 AM

Software Engineering (SWENG)

SWENG 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

SWENG 311 **Object-Oriented Software Design and Construction** (3) Design, documentation, testing, and construction of software using software engineering strategies embodied in object-oriented programming languages.
Effective: Spring 2008
Prerequisite: CMPSC 122

SWENG 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

SWENG 396 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010

SWENG 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010

SWENG 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

SWENG 400 **Introduction to Software Engineering Studio** (3) Provides an introduction to the principles of software engineering and includes complementary instruction in one programming language.
Effective: Summer 1999
Prerequisite: senior standing or above

SWENG 411 **Software Engineering** (3) Software engineering principles including life cycle, dependability, process modeling, project management, requires specification, design analysis, implementation, testing, and maintenance.
Effective: Spring 2008
Prerequisite: CMPSC 122 Concurrent: SWENG 311

SWENG 421 **Software Architecture** (3) The analysis and design of software systems using canonical design patterns.
Effective: Summer 2008
Prerequisite: SWENG 411

SWENG 431 **Software Verification, Validation, and Testing** (3) Introduction to methods of software verification, validation, and testing; mathematical foundations of testing, reliability models; statistical testing.
Effective: Spring 2008
Prerequisite: SWENG 411;STAT 301

SWENG 452W **Embedded Real Time Systems** (3) The design and implementation of real time systems.
Effective: Summer 2008
Prerequisite: CMPSC 472 orCMPSC 473 orCMPEN 441

SWENG 480 **Software Engineering Design** (3) Concepts of engineering ethics, economy, and project management, senior capstone project selection, and technical communication skills.
Effective: Spring 2009
Prerequisite: SWENG 431

SWENG 481 **Software Engineering Project** (3) Capstone group design projects in software engineering.
Effective: Spring 2008
Prerequisite: SWENG 480

SWENG 494 **Research Project** (1-12) Supervised student activites on research projects identified on an individual or small-group basis.
Effective: Summer 2010

SWENG 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

SWENG 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2010

SWENG 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1999

SWENG 497A **Software Integration** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SWENG 497A **Human Computer Interface** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SWENG 497B **Software Documentation** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SWENG 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Soil Science (SOILS)

SOILS 071 (GN;IL) **Environmental Sustainability** (3) An introduction to environmental science, exploring sustainable human- environment interactions with examples from environmental soil science.
Effective: Spring 2007

SOILS 100 **Soil Judging** (1 per semester/maximum of 3) Techniques of describing soil properties, classifying soils taxonomically, land use interpretations based on soil characteristics. Extensive field examination of soils.
Effective: Summer 1990

SOILS 101 (GN) **Introduction to Soils** (3) A study of soil characteristics and their relationship to land use, plant growth, environmental quality, and society/culture.
Effective: Spring 2005 Ending: Fall 2010

SOILS 101 (GN) **Introductory Soil Science** (3) A study of soil properties and processes and relationships to land use, plant growth, environmental quality, and society.
Effective: Spring 2011 Future: Spring 2011

SOILS 102 **Introductory Soil Science Laboratory** (1) Laboratory exercise and field trips designed to develop student competency in soil description, analysis, and assessment.
Effective: Summer 2010
Prerequisite: SOILS 101 Concurrent: SOILS 101

SOILS 190 **Professional Development in Environmental Soil Science** (1) Development of learning goals and an introduction to faculty and alumni contacts, student portfolios, the senior thesis, and internship opportunities.
Effective: Summer 1999

SOILS 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2006

SOILS 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2006

SOILS 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2007

SOILS 401 **Soil Composition and Physical Properties** (3) Advanced study of mineralogical and physical properties of soils which affect soil-plant-water relationships.
Effective: Spring 2001
Prerequisite: SOILS 101

SOILS 402 **Soil Nutrient Behavior and Management** (3) Chemical and biological behavior of soil nutrients; management for plant availability and fate in the environment. Laboratory emphasizes soil testing and soil-plant relationships.
Effective: Spring 2009
Prerequisite: CHEM 112, SOILS 101

SOILS 404 **Urban Soils** (3) This course introduces the student to natural and human-influenced soils.
Effective: Summer 2010
Prerequisite: SOILS 101

SOILS 405 (GEOSC 405) **Hydropedology** (3) Soil and water interactions across scales, integrated studies of landscape-soil-water relationships, fundamental processes of water flow and chemical transport.
Effective: Spring 2008
Prerequisite: SOILS 101

SOILS 412W **Soil Ecology** (3) Introduction to soil organisms; includes interactions between organisms, their processes, and metabolism with a major focus on microorganisms.
Effective: Spring 2008
Prerequisite: BIOL 011, BIOL 127 orBIOL 110

SOILS 415 **Soil Morphology, Mapping, and Land Use** (3) Soil profile, soil mapping, application of principles of soil morphology and mapping to land use; remote sensing.
Effective: Spring 2001
Prerequisite: GEOSC 001, GEOSC 020, GEOSC 071 orSOILS 101

SOILS 416 **Soil Genesis and Classification** (3) Pedological evolution, classification, and world distribution of soils.

Effective: Spring 2001
Prerequisite: SOILS 101

SOILS 418 (AGECO 418, AN SC 418) **Nutrient Management in Agricultural Systems** (3) Comprehensive review of nutrient flow in animal agricultural systems, environmental regulations, and environmental stewardship practices.
Effective: Summer 2003

SOILS 419 (GEOSC 418) **Soil Environmental Chemistry** (3) Introduction to chemical constituents and processes occurring in soils. Topics include mineral weathering, soil solution chemistry and adsorption of solutes.
Effective: Summer 2007
Prerequisite: CHEM 112

SOILS 420 **Remediation of Contaminated Soils** (3) Basic principles and technical aspects of remediation of contaminated soils.
Effective: Summer 2007
Prerequisite: CHEM 112

SOILS 422 **Natural Resources Conservation and Community Sustainability** (3) Conservation, land-use, and community (soil, water, air, plants, animals, and humans) impacting quality of life and sense of place.
Effective: Spring 2006
Prerequisite: SOILS 101

SOILS 450 **Environmental Geographic Information Systems** (3) Use of geographic information systems (GIS) and digital spatial databases to characterize landscapes for environmental assessment and management.
Effective: Summer 1999
Prerequisite: SOILS 101

SOILS 489 **Supervised Experience in College Teaching** (1-3) Participate with instructors in teaching an undergraduate soil science course; assist with teaching and evaluation and with development of instrucitonal materials.
Effective: Summer 1993
Prerequisite: SOILS 101 approval of instructor

SOILS 490 (AGRO 490) **Colloquium** (1) Continuing written and oral presentations developed by students in consultation with the course instructor.
Effective: Fall 1993
Prerequisite: seventh-semester standing

SOILS 494 **Senior Thesis** (1-6) Supervised data collection and analysis on a topic of interest to the student culminating in a formal thesis.
Effective: Spring 2000
Prerequisite: permission of the course coordinator

SOILS 494H **Senior Thesis** (1-6) Supervised data collection and analysis on a topic of interest to the student culminating in a formal thesis.
Effective: Fall 2007
Prerequisite: permission of the course coordinator

SOILS 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1990
Prerequisite: prior approval of proposed assignment by instructor

SOILS 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

SOILS 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

SOILS 497A **Soil Genesis, Classification, and Mapping** (4) Lecture and laboratory course on the genesis of soils, their classification, mapping, and interpretation for land use.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SOILS 101 or permission of program

Last Import from UCM: May 29, 2010 3:00 AM

Spanish (SPAN)

SPAN 001 **Elementary Spanish I** (4) Audio-lingual approach to basic Spanish; writing. Students who have received high school credit for two or more years of Spanish may not schedule this course for credit, without the permission of the department.
Effective: Fall 1985

SPAN 001G **Elementary Spanish for Graduate Students** (3) Instruction in fundamental skills required for reading expository Spanish prose; primarily for advanced degree language requirements.
Effective: Spring 1997
Prerequisite: graduate standing

SPAN 001H **Elementary Spanish I** (4) Audio-lingual approach to basic Spanish; writing. Students who have received high school credit for two or more years of Spanish may not schedule this course for credit, without the permission of the department.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SPAN 002 **Elementary Spanish II** (4) Audio-lingual approach to basic Spanish continued; writing. Students who have received high school credit for four years of Spanish may not schedule this course for credit, without the permission of the department.
Effective: Fall 1985
Prerequisite: SPAN 001

SPAN 002G **Elementary Spanish for Graduate Students** (3) Continuation of SPAN 001G, with opportunity for reading in special fields.
Effective: Spring 1997
Prerequisite: SPAN 001G graduate standing

SPAN 002H **Elementary Spanish II** (4) Audio-lingual approach to basic Spanish continued; writing. Students who have received high school credit for four years of Spanish may not schedule this course for credit, without the permission of the department.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 001

SPAN 003 **Intermediate Spanish** (4) Audio-lingual review of structure; writing; reading.
Effective: Fall 1985
Prerequisite: SPAN 002

SPAN 003H **Intermediate Spanish** (4) Audio-lingual review of structure; writing; reading.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 002

SPAN 003H **Intermediate Spanish** (4) Audio-lingual review of structure; writing; reading.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: SPAN 002

SPAN 010 **Intensive Spanish** (6) Basic Spanish grammar, oral, aural, and writing skills (essentially equivalent to SPAN 001 and first half of SPAN 002).
Effective: Fall 1988

SPAN 020 **Intensive Spanish** (6) Basic and intermediate Spanish grammar, oral, aural, and writing skills (essentially equivalent to second half of SPAN 002 and all of SPAN 003).
Effective: Fall 1988
Prerequisite: SPAN 010

SPAN 051 **Elementary Intensive Spanish for Graduate Students I** (3) Intensive introduction to Spanish: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

SPAN 052 **Elementary Intensive Spanish for Graduate Students II** (3) Intensive introduction to Spanish: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: SPAN 051 or equivalent and graduate standing

SPAN 053 **Intermediate Intensive Spanish for Graduate Students** (3) Continued intensive study of Spanish at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: SPAN 052 or equivalent and graduate standing

SPAN 083S (GH;IL) **First-Year Seminar in Hispanic Literatures and Cultures** (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Summer 2005

SPAN 083T (GH;IL) **First-Year Seminar in Hispanic Literatures and Cultures** (3) Introduction to the study of Hispanic literatures and cultures.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SPAN 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SPAN 100 **Intermediate Grammar and Composition** (3) An intermediate level grammar review that also incorporates directed and original composition exercises.
Effective: Summer 1996
Prerequisite: SPAN 003 or placement

SPAN 100A **Intermediate Grammar and Composition for Spanish Bilinguals** (3) A review of grammar and practice with composition focusing on needs and problems specific to Spanish-speaking bilinguals.
Effective: Spring 1996
Prerequisite: placement

SPAN 100H **Intermediate Grammar and Composition** (3) An intermediate level grammar review that also incorporates directed and original composition exercises.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 003 or placement

SPAN 105 **Spanish for Students in the field of Agricultural Sciences** (4) Develop communication skills and cultural awareness to assist and work with Hispanics whose first and sometimes only language is Spanish.
Effective: Spring 2004

SPAN 106 **Spanish for the Agricultural Industries** (4) Further development of the communication skills and the cultural awareness needed to assist and work with Spanish speaking employees in the agricultural industries.
Effective: Summer 2008
Prerequisite: SPAN 105

SPAN 110 **Intermediate Conversation** (3) Practice in oral expression in Spanish, with emphasis on aural comprehension, idiomatic usage, and fluency. Use of journalistic materials.
Effective: Winter 1978
Prerequisite: SPAN 003 or placement

SPAN 115 **Spanish for Business** (4) Conversational approach, emphasizing basic business vocabulary and situations. Practice in speaking, reading and writing.
Effective: Spring 2008

SPAN 120 **Intermediate Reading** (3) Emphasis on rapid reading comprehension. Selected readings from contemporary Hispanic literature, social sciences, current events, etc.
Effective: Winter 1978
Prerequisite: SPAN 003 or placement

SPAN 130 (GH;IL) **Iberian Civilization** (3) Spanish and Portuguese life from the medieval period to the present; literature, the arts, and contemporary problems in historical perspective.
Effective: Spring 2006

SPAN 131 (GH;US;IL) **Ibero-American Civilization** (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 131Y (GH;US;IL) **Ibero-American Civilization** (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.
Effective: Summer 2005

SPAN 132 (IL) (AAA S 132) **Afro-Hispanic Civilization** (3) A general introduction to human and cultural elements of African origin in Spanish- and Portuguese-speaking countries of Latin America.
Effective: Summer 2005

SPAN 187 **Spanish Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

SPAN 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

SPAN 197A **Medical Spanish: Health Issues and Cultural Awareness** (3) This course covers a variety of health-related

terms and topics discussed in the health care field.
Effective: Summer 2010 Ending: Summer 2010

SPAN 199 (IL) **Foreign Study--Beginning Conversational Spanish** (3) Grammar review and practice in oral expression and aural comprehension.
Effective: Summer 2005

SPAN 200 **Intensive Grammar and Composition** (3) Intensive grammar review; composition. Designed primarily for majors and prospective majors.
Effective: Spring 2001
Prerequisite: SPAN 100 or by placement

SPAN 210 **Readings in Iberian Civilization** (3) Intermediate level Spanish readings dealing with Iberian life from pre-historic times to the present.
Effective: Spring 1993
Prerequisite: SPAN 200

SPAN 215 **Introduction to Spanish Linguistics** (3) Introduction to the fundamental components of linguistics using data from the Spanish language.
Effective: Summer 2006
Prerequisite: SPAN 100

SPAN 220 **Readings in Ibero-American Civilization** (3) Intermediate level Spanish readings dealing with Ibero-American life from the pre-conquest to the present.
Effective: Spring 1992
Prerequisite: SPAN 200

SPAN 230 (GH) **Masterpieces of Spanish Literature in English Translation** (3) Study of works and authors of international importance; lectures, readings, and written works in English.
Effective: Spring 2003

SPAN 231 (GH;IL) **Masterpieces of Spanish American Literature in English Translation** (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.
Effective: Summer 2005

SPAN 253W **Introduction to Hispanic Literature** (3) Introduction to generic distinctions, critical methods, and approaches to Hispanic literature.
Effective: Spring 2008
Prerequisite: SPAN 100 andSPAN 110

SPAN 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SPAN 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

SPAN 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SPAN 299 (IL) **Foreign Study--Intermediate Conversational Spanish** (3) Grammar review and practice in oral expression and aural comprehension.
Effective: Summer 2005

SPAN 300 **Advanced Grammar and Composition Through Reading** (3) Development of advanced grammar and composition skills through reading texts by native speakers and adapting their techniques for original compositions.
Effective: Spring 2008
Prerequisite: SPAN 100 andSPAN 110

SPAN 301 **Advanced Writing and Stylistics in Spanish for Spanish Speakers** (3) This course will enhance writing proficiency in Spanish of Spanish speaking students by targeting common problems characteristic of Spanish speakers.
Effective: Spring 2008
Prerequisite: SPAN 100A

SPAN 305 **Spanish for Social Services** (3) Practical Spanish for social workers, medical personnel, law enforcement officers, etc.; emphasis on Puerto Rican vocabulary, idiom, and pronunciation.
Effective: Spring 2001
Prerequisite: SPAN 200

SPAN 315 (GH;US) (LTNST 315) **Spanish and Spanish-speakers in the U.S.** (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.

Effective: Summer 2006

SPAN 326 (GH;US) (LTNST 326) **Reading the Border/Lands** (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.
Effective: Summer 2006

SPAN 353 **Survey of Spanish Literature before 1700** (3) Selected major works of prose, poetry, and drama from the Middle Ages to the end of the seventeenth century.
Effective: Spring 2008
Prerequisite: SPAN 253W

SPAN 354 **Survey of Spanish Literature Since 1700** (3) Selected major works of prose, poetry, and drama from the eighteenth century to the present.
Effective: Spring 2008
Prerequisite: SPAN 253W

SPAN 355 **Survey of Spanish American Literature through "Modernismo"** (3) Selected major works of prose, poetry, and drama from the discovery through "modernismo".
Effective: Spring 2008
Prerequisite: SPAN 253W

SPAN 356 **Survey of Spanish American Literature after "Modernismo"** (3) Historical survey of the major figures and periods in Spanish American literature after "modernismo".
Effective: Spring 2008
Prerequisite: SPAN 253W

SPAN 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

SPAN 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1999

SPAN 397C **Spanish Intensive Grammar** (3) Emphasize the grammatical terminology of Spanish and usage. Present advanced concepts of grammar through reading, speaking and grammar practice.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 300 orSPAN 301

SPAN 399 (IL) **Foreign Study--Spanish** (1-12) Advanced training in Spanish language skills.
Effective: Summer 2005
Prerequisite: SPAN 003

SPAN 410 **Advanced Oral Expression and Communication** (3) Emphasis on achieving practical command of spoken Spanish and the comprehension of native speech. Use of journalistic materials.
Effective: Fall 1995
Prerequisite: SPAN 200

SPAN 412 **Translation** (3) Techniques of oral and written translation from Spanish to English and vice versa, particularly for business, literature, and social work.
Effective: Spring 2008
Prerequisite: SPAN 300

SPAN 414 **Spanish Phonology** (3) Spanish phonetics and phonemics; systematic means of correcting pronunciation defects; other audio-lingual applications.
Effective: Spring 2001
Prerequisite: SPAN 200

SPAN 415 **Spanish Morphology and Syntax** (3) The Spanish grammatical system; analysis of morphemic units and their organization into syntactic structures.
Effective: Spring 2001
Prerequisite: SPAN 200

SPAN 418 **The Evolution of Spanish** (3) The emergence and development of the sounds and forms of Spanish.
Effective: Spring 1995
Prerequisite: SPAN 414

SPAN 420 **Spanish for Business and International Trade** (3) Introduction to the Spanish of international business and to the social and cultural norms of negotiation in Spanish-speaking countries.
Effective: Spring 2008
Prerequisite: SPAN 300

SPAN 439 **Don Quijote** (3) Thorough study of the masterpiece, including its sources, genesis, language, style, success, and influence.
Effective: Spring 2008
Prerequisite: SPAN 300

SPAN 440 **Teaching of Romance Languages** (3) Theories of second language acquisition. Current classroom practices in the teaching of Romance languages.
Effective: Spring 2001
Prerequisite: SPAN 200

SPAN 472 **The Contemporary Spanish American Novel** (3) The regionalist and social novel since 1910, together with the social background.
Effective: Spring 2008
Prerequisite: SPAN 300, SPAN 354

SPAN 476 **Masterpieces of Spanish American Literature** (3) Reading, analysis, and discussion of selected major works representative of Spanish American prose and poetry.
Effective: Spring 2008
Prerequisite: SPAN 253W, SPAN 300

SPAN 490 **Masterpieces of Spanish Prose** (3) Reading, analysis, and discussion of selected masterpieces of Spanish novels, short stories, etc.
Effective: Spring 2008
Prerequisite: SPAN 253W, SPAN 300

SPAN 491 **Masterpieces of Spanish Drama and Poetry** (3) Reading, analysis, and discussion of selected masterpieces of Spanish drama and poetry.
Effective: Spring 2008
Prerequisite: SPAN 253W, SPAN 300

SPAN 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SPAN 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

SPAN 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

SPAN 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

SPAN 497A **Mexico: History, Culture, and Contemporary Social Trends** (3) An intensive, on-site study of the history, culture, and contemporary issues in Mexico, particularly Guanajuato and central Mexico.
Effective: Summer 2010 Ending: Summer 2010

SPAN 497A **1492: Spanish Language at the Crossroads** (3) External factors (social history, contact w/other languages and ethnic groups, territorial expansion) and effect on development of Spanish language.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 215 orSPAN 414 orSPAN 418

SPAN 497C **Destination Barcelona: Literary, Artistic and Cultural Represenations of the City** (3) Acquaint students with textual, visual and musical representations of one of the world's most fashionable cities.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SPAN 497D **Voices From the Margin: The Poetry and Drama of Federico Garcia Lorca** (3) Focus on poetry and drama of Frederico Garcia Lorca, placed within historical, political, and social contexts.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SPAN 499 (IL) **Foreign Study--Spanish** (1-12) Contemporary Spanish life and civilization. Emphasis on post-Civil War period: literature, arts, and sociopolitical problems.
Effective: Summer 2005
Prerequisite: SPAN 100, SPAN 110 orSPAN 120

Last Import from UCM: May 29, 2010 3:00 AM

Special Education (SPLED)

SPLED 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

SPLED 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

SPLED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

SPLED 395W **Observing in Exceptional Settings** (3) Observations of exceptional persons and techniques used by their teachers in a variety of settings, e.g., school, day care, vocational.
Effective: Summer 1997
Prerequisite: EDPSY 101 . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers) Concurrent: SPLED 425

SPLED 400 **Inclusive Special Ed Foundations: Legal, Characteristics, Collaboration, Assessment, and Management** (4) Legal issues, learner characteristics, collaboration skills, assessment, and behavior management related to educating students with disability in inclusive settings.
Effective: Spring 2010
Prerequisite: EDPSY 014 andEDPSY 010 or relevant child development course (e.g. HD FS 229 HD FS 239). Fifth semester standing or higher

SPLED 401 **Motivating Exceptional Learners** (4) Group and individual techniques to promote student task engagement and prosocial behavior.
Effective: Spring 2001
Prerequisite: or concurrent: a grade of C or better required inSPLED 395W

SPLED 402 **Human Rights: Historical and Current Issues in Special Education** (3) Litigation, legislation, regulation, and advocacy issues impacting on educational and related services for individuals with academic and/or physical disabilities.
Effective: Fall 2001
Prerequisite: or concurrent:SPLED 400 orSPLED 425

SPLED 403A **Evidence-Based Instruction for Elementary Students with Disabilities in Reading, Math, and Writing** (3) Evidence-based methods for design, delivery, and adaption of instruction for elementary students with disabilities in reading, mathematics, and writing.
Effective: Summer 2009
Prerequisite: SPLED 400

SPLED 403B **Evidence-Based Methods for Teaching Secondary Students with Disabilities in Inclusive Settings** (3) Evidence-based methods for designing, delivering, and adapting instruction for students with disabilites in inclusive secondary education settings.
Effective: Summer 2009
Prerequisite: SPLED 400

SPLED 404 **Working with Families and Professionals in Special Education** (3) Strategies for productive interactions between special educators and others such as colleagues, employers, parents, service providers, professionals, and students.
Effective: Spring 1997
Prerequisite: or concurrent: a grade of C or better required inSPLED 425

SPLED 409A **Fundamental Literacy Skills for Students with Special Needs** (3) Effective reading curriculum and teaching methods to teach students with special needs.
Effective: Summer 2006
Prerequisite: A grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 412, SPLED 454, SPLED 495E
Concurrent: SPLED 495G

SPLED 409B **Writing and Content Literacy for Students with Special Needs** (3) Effective curriculum and materials for teaching writing and content literacy to students with special needs.
Effective: Summer 2006
Prerequisite: a grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 409A, SPLED 412, SPLED 454, SPLED 495E Concurrent: SPLED 495G

SPLED 409C **Mathematics Instruction for Students with Special Needs** (3) Research-based practices for teaching mathematics skills to students with special needs.
Effective: Summer 2006
Prerequisite: a grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 409A, SPLED 412, SPLED 454, SPLED 495E Concurrent: SPLED 495G

SPLED 411 **Intervention for Students with Severe Disabilities** (3) Assessment, teaching strategies, curricula, materials,

and assistive techniques for use with individuals having severe disabilities (mental and physical).
Effective: Spring 1997
Prerequisite: a grade of C or better required inSPLED 395W, SPLED 401, SPLED 425 Concurrent: a grade of C or better in SPLED 495E

SPLED 412 **Instruction for Students with Mild Disabilities** (4) Appropriate teaching strategies, curriculum sequences, and materials selection and evaluation for children with mild special needs.
Effective: Spring 2007
Prerequisite: a grade of C or better required inSPLED 395W, SPLED 401, SPLED 425, SPLED 454 Concurrent: a grade of C or better required in SPLED 454

SPLED 415 **Early Special Education** (3-4) Includes early identification methods, assessment, curricula, parent involvement, and program evaluation for exceptional preschoolers in mainstreamed or segregated settings.
Effective: Summer 1994
Prerequisite: a grade of C or better required in the following coursesC & S 401 orSPLED 454 ; a course in child development

SPLED 418 **Technologies for Persons with Disabilities** (2) Sensory aids, communication systems, computer systems, expert systems, simulations, and other technologies for students who are academically or physically challenged.
Effective: Spring 2001
Prerequisite: SPLED 400 orSPLED 425

SPLED 425 **Orientation to Human Variation and Special Education Services** (3) An intensive overview of exceptional individuals being served in special education programs across their life-spans, from infancy through adulthood.
Effective: Spring 2007
Prerequisite: declaration of major or minor in Special Education

SPLED 430 **Foundational Skills for Working with Students with Special Education Needs in General Education Classrooms** (1) Introduction to working with students with special education needs in the general education classroom, including history and legal foundation.
Effective: Spring 2009
Prerequisite: teacher certification or permission of instructor

SPLED 431 **Evidenced-Based Methods for Monitoring Student Progress and Making Instructional Decisions** (2) Evidence-based methods for assessing student progress and making data-based instructional decisions.
Effective: Spring 2009
Prerequisite: SPLED 430

SPLED 432 **Evidence-Based Practices for Inclusive Behavior Management** (2) Managing and motivating learners with special needs in general education settings based upon principles of Applied Behavior Analysis.
Effective: Spring 2009
Prerequisite: SPLED 430, SPLED 431

SPLED 433 **Effective and Explicit Instruction for Students with Learning Difficulties** (2) Evidence-based methods for designing, delivering, and adapting academic instruction for students with mild, moderate, and severe learning difficulties.
Effective: Spring 2009
Prerequisite: SPLED 430

SPLED 434A **Evidence-Based Practices for Inclusive Elementary Classrooms** (2) Evidence-based methods to effectively serve special needs students in elementary general education settings, including reading, writing, and mathematics instruction.
Effective: Spring 2009
Prerequisite: SPLED 430, SPLED 431, SPLED 432, SPLED 433

SPLED 434B **Evidenced-Based Practices for Inclusive Secondary Classrooms** (2) Evidence-based methods to effectively serve special needs students in secondary general education settings.
Effective: Spring 2009
Prerequisite: SPLED 430, SPLED 431, SPLED 432, SPLED 433

SPLED 444 **Inclusive Education and Assessment** (6) Knowledge and skills needed to educate students with special needs in urban schools.
Effective: Summer 1994
Prerequisite: ELEDM 400 Concurrent: URBED 395W

SPLED 454 **Assessment for Instruction** (4) Orientation to evaluation of special students with emphasis on the creation, use, and interpretation of teacher-made assessment procedures.
Effective: Spring 2007
Prerequisite: a grade of C or better required inEDPSY 101 Concurrent: a grade of C or better in SPLED 412

SPLED 460A **Fundamentals of Reading Instruction in Special Education** (3) Topics include the interactive nature of reading, recent findings of the National Reading Panel, explicit instruction principles and reading assessments.
Effective: Summer 2006

SPLED 460B **Teaching and Assessing Reading Skills of Students with Special Needs** (3) Topics include methods for assessing and teaching reading skills including fluency, word level decoding and comprehension.
Effective: Summer 2006
Prerequisite: SPLED 460A

SPLED 460C **Specialized Reading Applications in Special Education** (3) Topics include methods for assessing and

teaching reading skills in vocational competence, functional reading, reading for students with sensory impairment.
Effective: Summer 2006
Prerequisite: SPLED 460A andSPLED 460B

SPLED 461 **Autism: Issues and Concerns** (1) Overview of issues, characteristics, and evidenced-based assessment strategies, and approaches for individuals with autism/PDD.
Effective: Summer 2006

SPLED 462 **Autism and Applied Behavior Analysis** (4) Basic principles of applied behavior analysis (ABA) and empiricism. Emphasis will be given to ABA principles in educational settings.
Effective: Summer 2006
Prerequisite: SPLED 461

SPLED 463 **Communication and Social Competence** (3) Overview of deficits and strategies in speech, language, and communication across the Autism Spectrum Disorder.
Effective: Summer 2006
Prerequisite: SPLED 461

SPLED 464 **Assessment and Curriculum** (3) Overview of screening, diagnosis, and identification of skills in developmental domains and curricula for individuals with autism.
Effective: Summer 2006
Prerequisite: SPLED 461

SPLED 465 **Asperger Syndrome** (1) Characteristics, assessment, intervention, and curricula for individuals with Asperger syndrome. Emphasis will be given to social skill development.
Effective: Summer 2006

SPLED 495E **Experience with Exceptional Children** (3) Supervised activities with exceptional children in a variety of possible settings, e.g., schools, institutions, day care centers, vocational settings.
Effective: Spring 2001
Prerequisite: a grade of C or better required inSPLED 395W, SPLED 401, SPLED 425, SPLED 454 . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers) Concurrent: a grade of C or better in SPLED 411 SPLED 412

SPLED 495F **Practicum in Special Education** (15) Teaching experience with mildly/moderately disabled children in age appropriate settings, e.g., infant/preschools, schools, vocational/job sites.
Effective: Summer 1997
Prerequisite: a grade of C or better required inSPLED 495G . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)

SPLED 495G **Experience with an Integrated Inclusion Classroom** (4) Supervised teaching in integrated general classrooms with activities in assessment, diagnosis, and direct intervention with students in need or with disabilities.
Effective: Spring 2004
Prerequisite: a grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 412, SPLED 454, SPLED 495E . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check (Forms: 228 Chambers). Concurrent: a grade of C or better required in SPLED 409

SPLED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1990

SPLED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1990

SPLED 497A **Teaching Exceptional Students in General Education Settings** (3) Instruction and foundational skills (assessment and management) and knowledge (laws, etiologies, collaboration) for those working with students with special education needs in general education classrooms.
Effective: Summer 2010 Ending: Summer 2010

SPLED 497B **Special Topics in Autism** (1) This course, associated with the Autism Conference is designed to provide practitioners with information about effective instructional and behavior management techniques.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1992

SPLED 498A **Teaching Students with Autism in Inclusive Settings** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498A **Autism and Applied Behavior Analysis** (3) Formal courses given infrequently to explore, in depth, a

comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SPLED 498B **Inclusion in the Classroom** (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498B **Teaching Students with Autism and Inclusive Settings** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

SPLED 498C **Autism and Applied Behavior Analysis** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498D **Introduction to Autism Spectrum Disorders** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498E **A Focus on Improving Student Achievement Through Effective Practices** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498F **Understanding Deafblindness: Student-Centered Assessment for Severe and Sensory Impairment** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

SPLED 498G **Practicum in Applied Behavior Analysis** (4) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Statistics (STAT)

STAT 100 (GQ) **Statistical Concepts and Reasoning** (3) Introduction to the art and science of decision making in the presence of uncertainty.
Effective: Summer 1988

STAT 100S (GQ) **Statistical Concepts and Reasoning** (3) Introduction to the art and science of decision making in the presence of uncertainty.
Effective: Summer 1999

STAT 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

STAT 200 (GQ) **Elementary Statistics** (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.
Effective: Summer 1988
Prerequisite: 2 units in algebra

STAT 200H (GQ) **Elementary Statistics** (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 2 units in algebra

STAT 200P **Elementary Statistics** (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.
Effective: Winter 1978

STAT 220 **Basic Statistics for Quantitative Students** (3) Descriptive statistics, probability, binomial and normal distributions, one and two sample models, introduction to regression, ANOVA and contingency tables. Students may only take one course from STAT 200, 220, and 250 for credit.
Effective: Summer 1994
Prerequisite: MATH 140

STAT 240 (GQ) **Introduction to Biometry** (3) Statistical analysis, sampling, and experimentation in the agricultural sciences; data collection, descriptive statistics, statistical inference, regression, one factor AOV, probability. Students may take only one course from STAT 200, 220, 240, 250 for credit.
Effective: Spring 2005
Prerequisite: 3 credits in mathematics

STAT 250 (GQ) **Introduction to Biostatistics** (3) Statistical analysis and interpretation of data in the biological sciences; probability; distributions; statistical inference for one- and two-sample problems.
Effective: Spring 2001
Prerequisite: 3 credits in mathematics

STAT 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Fall 2007

STAT 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1994

STAT 301 (GQ) **Statistical Analysis I** (3) Probability concepts; nature of statistical methods; elementary distribution and sampling theory; fundamental ideas relative to estimation and testing hypotheses.
Effective: Summer 1988
Prerequisite: 3 credits of calculus

STAT 318 (MATH 318) **Elementary Probability** (3) Combinatorial analysis, axioms of probability, conditional probability and independence, discrete and continuous random variables, expectation, limit theorems, additional topics. Students who have passed either STAT(MATH) 414 or 418 may not schedule this course for credit.
Effective: Spring 1989
Prerequisite: MATH 141

STAT 319 (MATH 319) **Applied Statistics in Science** (3) Statistical inference: principles and methods, estimation and testing hypotheses, regression and correlation analysis, analysis of variance, computer analysis. Students who have passed STAT (MATH) 415 may not schedule this course for credit.
Effective: Spring 1989
Prerequisite: STAT 318 or knowledge of basic probability

STAT 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

STAT 401 **Experimental Methods** (3) Random variables; probability density functions; estimation; statistical tests, t-tests; correlation; simple linear regression; one-way analysis of variance; randomized blocks.
Effective: Spring 1988
Prerequisite: MATH 111 orMATH 141

STAT 402 **Statistical Analysis II** (3) Two-sample problems, single and multifactor ANOVA, simple and multiple regression, categorical data.
Effective: Fall 2007
Prerequisite: STAT 301 . 400 level needed for honors program

STAT 414 (MATH 414) **Introduction to Probability Theory** (3) Probability spaces, discrete and continuous random variables, transformations, expectations, generating functions, conditional distributions, law of large numbers, central limit theorems. Students may take only one course from STAT(MATH) 414 and 418.
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

STAT 415 (MATH 415) **Introduction to Mathematical Statistics** (3) A theoretical treatment of statistical inference, including sufficiency, estimation, testing, regression, analysis of variance, and chi-square tests.
Effective: Fall 1989
Prerequisite: MATH 414

STAT 416 (MATH 416) **Stochastic Modeling** (3) Review of distribution models, probability generating functions, transforms, convolutions, Markov chains, equilibrium distributions, Poisson process, birth and death processes, estimation.
Effective: Spring 1984
Prerequisite: STAT 318 orSTAT 414;MATH 230

STAT 418 (MATH 418) **Probability** (3) Fundamentals and axioms, combinatorial probability, conditional probability and independence, probability laws, random variables, expectation; Chebyshev's inequality. Students may take only one course from STAT(MATH) 414 and 418 for credit.
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

STAT 440 **Computational Statistics** (3) Topics related to computing in statistics, including numerical linear algebra, optimization, simulation, numerical integration, and bootstrapping.
Effective: Spring 2006
Prerequisite: STAT 200 or equivalentSTAT 415, MATH 220

STAT 460 **Intermediate Applied Statistics** (3) Review of hypothesis testing, goodness-of-fit tests, regression, correlation analysis, completely randomized designs, randomized complete block designs, latin squares.
Effective: Fall 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

STAT 461 **Analysis of Variance** (3) Analysis of variance for single and multifactor designs; response surface methodology.
Effective: Fall 2007
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

STAT 462 **Applied Regression Analysis** (3) Introduction to linear and multiple regression; correlation; choice of models, stepwise regression, nonlinear regression.
Effective: Fall 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

STAT 463 **Applied Time Series Analysis** (3) Identification of models for empirical data collected over time; use of models in forecasting.
Effective: Spring 2006
Prerequisite: STAT 462

STAT 464 **Applied Nonparametric Statistics** (3) Tests based on nominal and ordinal data for both related and independent samples. Chi-square tests, correlation.
Effective: Fall 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

STAT 466 **Survey Sampling** (3) Introduction to design and analysis of sample surveys, including questionnaire design, data collection, sampling methods, and ratio and regression estimation.
Effective: Spring 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

STAT 470W **Problem Solving and Communication in Applied Statistics** (3) Provide problem solving and communication skills through development of writing ability, interaction with peers and the SCC, and oral presentations.
Effective: Spring 2000
Prerequisite: STAT 460, STAT 462, STAT 480

STAT 480 **Introduction to SAS** (1) Introduction to SAS with emphasis on reading, manipulating and summarizing data.
Effective: Spring 2008
Prerequisite: 3 credits in statistics

STAT 481 **Intermediate SAS for Data Management** (1) Intermediate SAS for data management.
Effective: Summer 2007
Prerequisite: STAT 480

STAT 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2007
Prerequisite: 6 credits in statistics

STAT 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2007
Prerequisite: 6 CREDITS IN STATISTICS

STAT 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships.
Effective: Fall 2007
Prerequisite: 6 credits in statistics

STAT 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

STAT 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

STAT 497A **Advanced Topics in SAS** (1) Advanced statistical procedures in SAS, including ANOVA, GIM, CORR, REG, MANOVA, FACTOR, DISCRIM, LOGISTIC, MIXED, GRAPH, EXPORT, and SQL.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: STAT 480, STAT 481

STAT 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Supply Chain Mgmt (SCM)

SCM 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SCM 200 (GQ) **Introduction to Statistics for Business** (4) Introduction to business statistics including topics in probability theory, sampling, inference, quality assurance, regression, forecasting, and simulation.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MATH 018, MATH 110 orMATH 140

SCM 200 (GQ) **Introduction to Statistics for Business** (4) Topics include descriptive statistics, probability distributions, statistical inference, regression and correlation, and forecasting.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 021 or higher or satisfactory score on the matematics FTCAP examination

SCM 200H (GQ) **Honors Introduction to Statistics for Business** (4) Introduction to business statistics including topics in probability theory, sampling, inference, quality assurance, regression, forecasting, and simulation.
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: MATH 018, MATH 110 orMATH 140

SCM 200H (GQ) **Honors Introduction to Statistics for Business** (4) Topics include descriptive statistics, probability distributions, statistical inference, regression and correlation, and forecasting.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

SCM 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SCM 301 **Supply Chain Management** (3) Supply chain management concepts, principles, and methodologies.
Effective: Spring 2010
Prerequisite: ACCTG 211, ECON 002, SCM 200 orSTAT 200 ; limited to students in baccalaureate status

SCM 301H **Supply Chain Management** (3) Supply chain management concepts, principles, and methodologies.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ACCTG 211, ECON 002, SCM 200 orSTAT 200 ; limited to students in baccalaureate status

SCM 310 **Introduction to Operations Management** (3) An introduction to the strategic importance and the analytic tools of operations management. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 200 orSTAT 200 or permission of the program; fifth semester standing

SCM 320 **Transport Systems** (3) Strategic role of freight transportation systems and services in supply chain networks. Not available to baccalaureate business students in Smeal.
Effective: Spring 2008
Prerequisite: SCM 301 orMKTG 301

SCM 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

SCM 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

SCM 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

SCM 400 **Transport Planning** (3) Advanced study of transport systems in supply chain networks.
Effective: Spring 2007
Prerequisite: B A 302 andSCM 404

SCM 404 **Demand Fulfillment** (3) Analysis of demand fulfillment and the role of distribution operations management in the supply chain.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

SCM 404 **Demand Fulfillment** (3) Analysis of demand fulfillment and the role of distribution operations management in the supply chain.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 302 orSCM 301

SCM 405 **Manufacturing and Services Strategies** (3) Investigates operations strategy and its relationship to other functions in the supply chain and presents quantitative tools for decision-making.

Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

SCM 405 **Manufacturing and Services Strategies** (3) Investigates manufacturing and services strategies in supply chain networks.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: SCM 301 orB A 302

SCM 406 **Strategic Procurement** (3) Analysis of strategic procurement in the supply chain.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 302 orSCM 301

SCM 406W **Strategic Procurement** (3) Analysis of strategic procurement in the supply chain.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

SCM 416 **Warehousing and Terminal Management** (3) Administration of warehouse and terminal functions in logistics systems, with analysis of customer service, forecasting, inventory, investment, design, and operation. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 301

SCM 418 **Logistics Analysis** (3) Design, develop, and use computer decision models for analysis of logistics problems; computer intensive coursework emphasizing spreadsheet applications. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 301, SCM 320 andCMPSC 203

SCM 421 **Supply Chain Modeling and Analysis** (3) Problem solving and modeling methods for analyzing supply chains management.
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: SCM 404 orSCM 405 orSCM 406W

SCM 421 **Supply Chain Analytics** (3) Models and Methodologies for supply chain analysis.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: SCM 404 orSCM 405 orSCM 406

SCM 423 **Information Technology in Supply Chains** (3) Appropriate and effective use of information technology in supply chain.
Effective: Spring 2007
Prerequisite: SCM 404 orSCM 405 orSCM 406W

SCM 430 **Transport Problems** (3) Selected problems in transport systems and transport management. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 320

SCM 432 **Service Supply Chains** (3) Supply chain management in the services sector.
Effective: Spring 2007
Prerequisite: B A 302

SCM 435 **International Logistics** (3) Design and operation of global supply chain networks. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 301 andSCM 320

SCM 445 **Operations Planning and Control** (3) Aggregate production planning procedures, disaggregation methods in hierarchical production planning, master production scheduling, material requirements planning, lot-sizing, and capacity planning. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 310

SCM 450 **Strategic Design and Management of Supply Chains** (3) Strategic design and management of supply chains.
Effective: Spring 2007
Prerequisite: SCM 421

SCM 455 **Logistics Systems Analysis and Design** (3) Customer service, inventory management, transportation, warehousing, purchasing, international logistics, site location planning and analysis, and total cost analysis.
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 310

SCM 456 **Supply Chain Risk Analysis** (3) Business processes are modeled as a network of queues using discrete-event simulation and analyzed model outcomes using statistical methods.
Effective: Spring 2007
Prerequisite: SCM 200 andB A 302

SCM 460 **Purchasing and Materials Management** (3) Purchasing policies, procedures, order specifications and agreements, supplier selection, and the role of purchasing in production planning and inventory management. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 310

SCM 465 **Electronic Business Management** (3) A problem-based exploration of the various electronic business tools and technologies required to efficiently manage a supply chain. Not available to baccalaureate business students in Smeal.
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 310

SCM 466 **Managerial Forecasting** (3) The use of time series models for business and economic forecasting. Topics include exponential smoothing and Box-Jenkins (ARIMA) models.
Effective: Spring 2007
Prerequisite: B A 302 orSCM 310

SCM 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2007

SCM 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Spring 2008

SCM 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2007

SCM 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

SCM 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2007

SCM 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Surveying (SUR)

SUR 100S **Surveying First Year Seminar** (1) Introduction to college study; critical thinking, reading, and writing; calculations, team skills, academic survival, and the surveying profession.
Effective: Fall 2007

SUR 111 **Plane Surveying** (3) Plane surveying principles; basic measurement statistics; use and care of equipment; traversing, area, and coordinate computations; differential leveling.
Effective: Spring 1998
Prerequisite: MATH 026 Concurrent: MATH 081

SUR 112 **Curve Geometry** (3) Geometric properties and design elements of horizontal and vertical alignment; earthwork and volume computations; field procedures.
Effective: Spring 1998
Prerequisite: MATH 081, SUR 111

SUR 162 **Methods in Large Scale Mapping** (3) CAD applications related to mapping sciences; data collection using traditional and satellite techniques; development of DTMs, contours, and map compilation.
Effective: Spring 2001
Prerequisite: SUR 111;ED&G 100 orEG T 102

SUR 211 **Construction Surveying Applications** (2) Application of surveying principles in the field of construction: building layout, pipe/culvert, street, quantity, and as-built surveys.
Effective: Fall 1993
Prerequisite: SUR 112, SUR 162

SUR 222 **Photogrammetry** (3) Basic principles of metric photogrammetry with single and stereopair photos; coordinate transformations; map production with stereo imagery; flight planning. Lab.
Effective: Spring 2001
Prerequisite: SUR 162

SUR 241 **Surveying Measurement Analysis** (3) Statistical error analysis of surveying measurements; propagation of random errors; confidence intervals and statistical testing. Lab.
Effective: Spring 2001
Prerequisite: SUR 111 Concurrent: MATH 083 or MATH 140

SUR 262 **Coordinate Systems in Map Projections** (2) Introduction to coordinate systems used in the Lambert, Mercator, Transverse Mercator, and UTM map projections; reduction of surveying observations.
Effective: Summer 2000
Prerequisite: SUR 162

SUR 272 **Cadastral Surveying** (3) Evolution of land records systems; PLS: property ownership and conveyancing; common and statute law; rules of construction; boundary location procedures.
Effective: Fall 1993
Prerequisite: SUR 111

SUR 285 **Drainage Design** (2) Fluid properties, continuity, energy, pressure and gravity flow; watersheds, timing, rainfall, and runoff; basic channel, culvert, and sewer design.
Effective: Summer 2007
Prerequisite: MATH 026 or higher and 3rd semester standing

SUR 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

SUR 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2007

SUR 313 **Practical Field Problems** (3) Geodetic, topographic, astronomic, construction surveying; equipment adjustment; precise leveling; land subdivision; map construction; uses of GIS.
Effective: Spring 2001
Prerequisite: SUR 162, SUR 251

SUR 325 **Advanced Photogrammetry** (3) Advanced topics in metric photogrammetry; analytical techniques in photogrammetry; applications in close-range photogrammetry; introduction to digital photogrammetry.
Effective: Summer 1994
Prerequisite: MATH 220 orMATH 230;SUR 222, SUR 341

SUR 335 **Remote Sensing** (3) Electromagnetic radiation; electro-optical sensors, radar systems; space platforms; processing, classification, interpretation of imagery; environmental applications of remotely sensed data.
Effective: Spring 2005
Prerequisite: SUR 262, SUR 222

SUR 341 **Adjustment Computations** (3) Matrix methods in least squares; random error propagation; observation equation model; conditions between parameters; basic post-adjustment statistical analysis.
Effective: Spring 2001
Prerequisite: CMPSC 201C, STAT 401, SUR 241

SUR 351 **Geodetic Models** (3) Three dimensional geodesy; computations on the ellipsoid; map projections; reduction of observations and elements of physical geodesy.
Effective: Summer 1993
Prerequisite: SUR 241

SUR 362 **Multipurpose Land Information Systems** (3) Basic concepts in geographic information systems; spatial reference frame- works; map and text data; digital environments; software and hardware plat- forms.
Effective: Summer 1993
Prerequisite: SUR 222, SUR 241, SUR 272

SUR 372W **Legal Aspects of Land Surveying** (3) Legal research; rules of evidence including classification and evaluation; unwritten rights; land description composition; easements.
Effective: Spring 1994
Prerequisite: SUR 272

SUR 375 **Land Use Controls** (2) Historical overview of private restrictions and public regulation of land use; the planning process; local zoning ordinances and subdivision regulations.
Effective: Summer 1993
Prerequisite: SUR 272

SUR 385 **Engineering Land Surveys** (3) Storm water management, methodologies, design, and regulatory requirements; soil erosion and sedimentation control, technical requirements, control plan, permits and compliance.
Effective: Spring 2008
Prerequisite: C E 360, SUR 112, SUR 162

SUR 441 **Data Analysis and Project Design** (3) Post least squares adjustment analysis of control networks, statistical testing, blunder detection, network design considerations, and computer optimization techniques.
Effective: Summer 1994
Prerequisite: STAT 401 orSTAT 451, SUR 341

SUR 445 **Numerical Methods in Adjustment Computations** (3) Computer optimization techniques used in adjustment of large, sparse, positive-definite matrices with emphasis on efficient storage and solution routines. Lab.
Effective: Spring 2001
Prerequisite: SUR 341

SUR 455 **Precise Positioning Systems** (3) Stellar coordinate systems; geodetic reference coordinate systems; satellite orbital theory; global positioning systems; pseudo-ranging; GPS vector adjustments.
Effective: Summer 1994
Prerequisite: SUR 351 . Prerequisite or concurrent:SUR 441

SUR 465 **Multipurpose Land Information Systems Applications** (3) Using a GIS as a decision tool; spatial modeling; data structure and management issues; legal issues; case studies; application projects.
Effective: Spring 2001
Prerequisite: SUR 362

SUR 471 **Professional Aspects of Land Surveying** (3) Ethical issues and legal limits of practice; surveyor as an expert witness; surveyor-client relationship; responsibilities to the profession.
Effective: Summer 1994
Prerequisite: SUR 372W

SUR 482 **Land Development Design** (3) The land development process; geometric, environmental, aesthetic aspects of development; local regulatory requirements; preparation of final plat and report.
Effective: Summer 1994
Prerequisite: SUR 313, SUR 471

SUR 485 **Stormwater Management Design** (2) Regulations, design storms, runoff volumes, hydrographs, routing methods, detention, BMPs, innovative design, groudwater recharge.
Effective: Spring 2008
Prerequisite: SUR 285 fifth-semester standing

SUR 490 **Seminar in Surveying** (1) Individual or group work in surveying.
Effective: Summer 1994
Prerequisite: senior standing

SUR 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an indiviudal basis and that fall outside the scope of formal courses.
Effective: Summer 1993

SUR 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1993

Last Import from UCM: May 29, 2010 3:00 AM

Swahili (SWA)

SWA 001 **Elementary Swahili I** (4) Listening, speaking, reading, writing Swahili: an introduction for beginners; basic structures and vocabulary; cultural elements.
Effective: Spring 1995

SWA 002 **Elementary Swahili II** (4) Listening, speaking, reading, and writing Swahili; structures and vocabulary; cultural elements.
Effective: Spring 1995
Prerequisite: SWA 001

SWA 003 **Intermediate Swahili** (4) Further development of listening, speaking, reading, and writing skills in Swahili: structures and vocabulary; cultural elements.
Effective: Spring 1995
Prerequisite: SWA 002

SWA 051 **Elementary Intensive Swahili for Graduate Students I** (3) Intensive introduction to Swahili: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

SWA 052 **Elementary Intensive Swahili for Graduate Students II** (3) Intensive introduction to Swahili: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: SWA 051 and graduate standing

SWA 053 **Intermediate Intensive Swahili for Graduate Students** (3) Continued intensive study of Swahili at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: SWA 052 or equivalent and graduate standing

SWA 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

SWA 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

SWA 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SWA 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 1995
Prerequisite: prior approval of proposed assignment by instructor

SWA 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1995

SWA 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

SWA 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996

Prerequisite: prior approval of proposed assignment by instructor

SWA 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

SWA 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

SWA 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

SWA 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

SWA 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 1995

SWA 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

SWA 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Systems Engineering (SYSEN)

SYSEN 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1999

SYSEN 497A **Wireless Positioning** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

Telecommunications (TELCM)

TELCM 140 **Introduction to Telecommunications Systems** (2) Elements of telecommunications systems, including telephones, transmission lines, switching, digital data, and transmission by microwave, satellite, and fiber optics.
Effective: Fall 1992

TELCM 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

TELCM 241 **Voice and Data Communications** (3) Noise in communications systems, types of modulation, transmission codes, interfaces, the telephone set, and the subscriber loop.
Effective: Fall 2005
Prerequisite: TELCM 140

TELCM 241W **Telecommunications Switching and Data** (3) An advanced discussion of switching principles present in today's telephone and data systems environment; traffic theory for telephone and data systems is included.
Effective: Summer 1997
Prerequisite: ENGL 015, TELCM 140 Concurrent: TELCM 244

TELCM 242 **Introduction to Telecommunications Laboratory** (1) Techniques used for measurements of basic telecommunications circuits and equipment.
Effective: Fall 1992
Prerequisite: or concurrent:TELCM 241

TELCM 243 **Protocols and Networks** (3) Transmission codes, network protocols, local area networks, the Internet and emerging technologies, fiber optics, wireless communications, satellite communications.
Effective: Fall 2005
Prerequisite: TELCM 140

TELCM 244 **Advanced Telecommunications Laboratory** (1) Testing and measurement of advanced telecommunication transmission and switching equipment, including practical alignment and testing of operational systems.
Effective: Fall 1992
Prerequisite: or concurrent:TELCM 243

TELCM 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1997

TELCM 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

TELCM 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 1992

Last Import from UCM: May 29, 2010 3:00 AM

Theatre (THEA)

THEA 001S **First-Year Seminar: Theatre Production Practices** (1) An orientation to the School of Theatre production practices, resources, faculty, and practicum.
Effective: Spring 2006
Prerequisite: admission into Theatre Program

THEA 080 (GA) **Pit Orchestra** (1-3 per semester/maximum of 3) Rehearsal and performance of contemporary and historical musical theatre styles, including operetta and light opera.
Effective: Summer 2008
Prerequisite: audition

THEA 100 (GA;US;IL) **The Art of the Theatre** (3) An experiential survey of all aspects of the living theatre, as presented by a resident company of theatre artists.
Effective: Spring 2006

THEA 102 (GA) **Fundamentals of Acting** (3) Introduction to the art and craft of acting for non-theatre majors.
Effective: Fall 2003

THEA 102S (GA) **Fundamentals of Acting** (3) Introduction to the art and craft of acting for non-theatre majors.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 103 **Fundamentals of Directing** (3) Training and experience in basic skills of directing. Designed for non- theatre majors.
Effective: Fall 1983

THEA 104 **Fundamentals of Theatre Production** (3) Training and experience in basic skills of technical theatre. Designed for non-theatre majors.
Effective: Fall 1983

THEA 105 (GA) **Introduction to Theatre** (3) An introduction and overview of the history, craft, and art of the theatre to foster an informed appreciation of theatrical events. This course is an alternate to THEA 100.
Effective: Spring 2003

THEA 110 **Playscript Analysis** (3) Theory and method of playscript analysis for the general theatre student.
Effective: Fall 1983

THEA 112 **Introduction to Music Theatre** (3) A survey of music theatre as an art form.
Effective: Summer 1993

THEA 113 **Musical Theatre Theory I** (3) Studies in the fundamentals of music notation and sight-singing.
Effective: Summer 2000
Prerequisite: admission into Musical Theatre Option

THEA 114 **Music Theatre: Form and Analysis** (3) A survey of music theatre as an art form.
Effective: Summer 1993
Prerequisite: admission into Musical Theatre Option

THEA 115 **B.F.A. Acting Foundations** (2) Fundamental aspects of training the actor's body, voice, mental focus, and imagination.
Effective: Summer 2005
Prerequisite: admission to B.F.A. in Musical Theatre

THEA 120 **Acting I** (3) Fundamental skills and training in acting. Emphasis on physical/vocal awareness and the nature of dramatic communication. Theatre majors only.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 130 **Introduction to Theatre Scenic and Costume Technology** (3) Introduction to the methods, materials, equipment, concepts and processes involved in the construction of scenery and costumes for the theatre.
Effective: Summer 2005

THEA 131 **Introduction to Theatre Sound and Lighting Technology** (3) Introduction to the methods, materials, equipment, facilities, concepts and processes used to create theatre lighting and sound.
Effective: Summer 2005

THEA 146 **Basic Theatrical Makeup** (2) Both straight and corrective makeup, with character and styling techniques for stage, film, and television.

Effective: Summer 1989

THEA 150 **Fundamentals of Design for the Theatre** (3) Exploration of the philosophy and technique of scenic, costume, and lighting design.
Effective: Spring 2008

THEA 160 **Introduction to Costume Crafts** (3) Process of costuming combined with laboratory projects. Crew experience on major productions.
Effective: Fall 1998
Prerequisite: THEA 150

THEA 170 **Introduction to Stage Lighting Production Techniques** (3) Introduction to theatre lighting facilities, equipment, and practice. Practical experience with major productions.
Effective: Fall 1998
Prerequisite: THEA 150

THEA 180 **Introduction to Stagecraft** (3) Introduction to methods, materials, equipment, facilities, and concepts used in scenery construction for the Theatre. Practical experience with departmental productions.
Effective: Fall 1998
Prerequisite: THEA 150

THEA 189 (GA) **Theatre Production Practicum** (1 per semester/maximum of 6)* Supervised experience in theatre by crew participation in University theatre productions. For non-theatre students only.
Effective: Spring 2004

THEA 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

THEA 199 (IL) **Foreign Studies--Theatre Arts** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005
Prerequisite: approval by department

THEA 200 **Script Analysis** (2) An introduction to script analysis for theatre majors, which focus on full text analysis as a foundation for area specific analysis. Two styles of analysis (contextual and structural) are studied.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 207 (GA;US) **Gender and Theatre** (3) A study of theatre and drama literature as formed by issues of gender, race, and ethnic background.
Effective: Summer 2005

THEA 208 (GA;US;IL) (AAA S 208) **Workshop: Theatre in Diverse Cultures** (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

THEA 208S (GA;US;IL) **Workshop: Theatre in Diverse Cultures** (3) A performance-oriented class, which explores the historic and contemporary theatrical works of various culturally diverse peoples.
Effective: Summer 2005

THEA 210 **Introduction to Creative Dramatics** (3) Introduction and direct experience in creative dramatics and survey of children's theatre.
Effective: Winter 1981

THEA 212 **Musical Theatre Theory II** (3) Intermediate studies in diatonic harmony, analysis, sight-singing and dictation.
Effective: Summer 2000
Prerequisite: THEA 113, THEA 114 and admission into Musical Theatre Option

THEA 214 **Musical Theatre Theory III** (3) Advanced studies in the technique and practice of chromatic harmonic analysis and sight-singing.
Effective: Summer 2000
Prerequisite: THEA 113, THEA 114, THEA 212

THEA 220 **Acting II** (3) Principles of acting through improvisation, exercises, and character analysis, with emphasis on basic skills of voice and movement. For theatre majors only.
Effective: Spring 2001
Prerequisite: THEA 120

THEA 221 **Acting III** (3) A continuation of Thea. 220. For Theatre majors only.
Effective: Spring 2008
Prerequisite: THEA 130 orTHEA 131 and School of Theatre approval

THEA 222 (THEA 530) **Acting Laboratory** (2) Laboratory experience in student-directed scenes and/or one-act plays.
Effective: Summer 1994
Prerequisite: THEA 120

THEA 223 **Musicical Theatre Performance I** (2) Studio training in the unique performance skills, repertoire and business of professional music theatre.
Effective: Spring 2006
Prerequisite: THEA 114, THEA 115, THEA 116, THEA 212 admission into Musical Theatre option

THEA 224 **Musical Theatre Performance II** (2) Studio training in the unique performance skills, repertoire and business of professional music theatre.
Effective: Spring 2006
Prerequisite: THEA 223 admission into Musical Theatre Option

THEA 225A **B.F.A. Acting Studio I** (2) Exercises to develop truthful listening and responding as a foundation for acting studio scene study.
Effective: Summer 2005
Prerequisite: THEA 115 and admission to B.F.A. in Musical Theatre Concurrent: THEA 225B and THEA 225C

THEA 225B **B.F.A. Movement Studio I** (2) Introduction to techniques to condition the actor and improve physical awareness and self-use.
Effective: Summer 2005
Prerequisite: THEA 115 Concurrent: THEA 225A and THEA 225C

THEA 225C **B.F.A. Voice/Speech Studio I** (2) Introduction to actor voice and speech training.
Effective: Summer 2005
Prerequisite: THEA 115 Concurrent: THEA 225A and THEA 225B

THEA 250 **Introduction to Scene Design** (3) Introduction to the history, processes, materials, and concepts involved in designing scenery for the theatre.
Effective: Summer 2005
Prerequisite: THEA 130, THEA 131 prerequisite or concurrent:THEA 251

THEA 251 **Theatre Drafting Techniques** (2) Introduction to drafting of floor plans, section drawings, construction graphics, and mechanical perspective for the theatre.
Effective: Spring 2001

THEA 252 **Design Presentation Techniques** (1) Media and materials exploration; sketching, rendering, and modeling methods.
Effective: Fall 1983

THEA 253 **Scene Painting** (1) Introduction to painting scenery for the theatre; methods and materials.
Effective: Fall 1983

THEA 260 **Introduction to Costume Design** (3) Introduction to costume design process through character analysis and the use of color, line, and texture.
Effective: Spring 2006

THEA 261 **Introduction to Costume Construction Techniques** (3) Intermediate study of the methods, materials, equipment, concepts and processes involved in the construction of costumes for the theatre.
Effective: Summer 2005
Prerequisite: THEA 130

THEA 270 **Introduction to Lighting Design** (3 per semester/maximum of 99) This course will focus on helping each student to develop a design process that takes them from script to stage.
Effective: Spring 2006

THEA 280 **Introduction to Technical Direction for the Theatre** (3) Introduction to the methods, materials, equipment, facilities, concepts and processes associated with Technical Direction for the Theatre.
Effective: Summer 2005
Prerequisite: THEA 130, THEA 131

THEA 282 (GA) **Production Practicum** (3--may repeat once for a total of 6) Introduction to all aspects of theatre production--analysis, design, construction, production, performance--for non-theatre majors.
Effective: Spring 2000

THEA 285 **Introduction to Sound Design** (3) An introduction to sound design for the theatre.
Effective: Summer 2005
Prerequisite: INART 258 orTHEA 150

THEA 289 **Theatre Production Practicum** (1 per semester/maximum of 3) Supervised experience in production techniques.
Effective: Summer 2000

THEA 296 **Independent Studies** (1-18) Creative projects, including research and design, supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

THEA 296E **Theatre Production: Acting** (1-6) Creative projects, including research and design, supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a subject which may be topical or of special interest.
Effective: Fall 1983

THEA 297A **Summer Acting Intensive** (3) Students will work intensively together combining modern and postmodern acting forms of Method, Suzuki and Viewpoints.
Effective: Summer 2010 Ending: Summer 2010

THEA 297A **Acting the Scene** (3) Students will practice scenes based on techniques of Uta Hagen, Lee Strasberg, Stella Adler and Sanford Meisner, in Stanislavsky's tradition.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 297A **Acting Foundations for BA Theatre** (3) Acting course for BA students. Begins the BA Acting sequence of courses.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: admission into the THRBA program.

THEA 297C **Theatrical Observation, Analysis, and Implementation** (3) Observe, analyze and implement the structure of a "Well Made Play". Using seven components of the well made play, students will learn how to communicate their observations about a play's structure.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

THEA 320 **Scene Study I** (3 per semester/maximum of 9) Advanced monologue and scene study techniques. Principal focus on realism.
Effective: Spring 2008
Prerequisite: THEA 221 AND APPROVAL BY THE DEPARTMENT

THEA 321 **Scene Study II** (3) A continuation of THEA 320.
Effective: Fall 1995
Prerequisite: THEA 320 and approval by department

THEA 322 **Voice and Speech I** (2) Vocal techniques for the actor: articulation, voice control, support, and projection.
Effective: Spring 1990
Prerequisite: THEA 120

THEA 323 **Voice and Speech II** (2) A continuation of THEA 322.
Effective: Spring 1990
Prerequisite: THEA 322

THEA 324 **Movement for Actors I** (2) Techniques and skills in physical expression, awareness, control, and stage movement.
Effective: Spring 1990
Prerequisite: THEA 120

THEA 325 **Movement for Actors II** (2) Continuation of THEA 324.
Effective: Spring 1990
Prerequisite: THEA 324

THEA 326 **Music Theatre Performance Workshop** (1 per semester/maximum of 3) Performance studies in cabaret, revue, and club environments.
Effective: Spring 2008
Prerequisite: DANCE 234, THEA 224 audition enrollment in Musical Theatre Option

THEA 327 **Musical Theatre Auditions** (2) Research and preparation of auditions for work in professional musical theatre venues.
Effective: Summer 2004
Prerequisite: THEA 224

THEA 350 **Scene Design I** (3) Demonstrations, lectures, and practical work in the design of scenery for the theatre.
Effective: Fall 1983
Prerequisite: THEA 150, THEA 251, THEA 252

THEA 361 **Costume Construction I** (3) Costume production techniques through flat patterning and draping methods; adaptation of methods to period costume.
Effective: Fall 1983
Prerequisite: THEA 160

THEA 370 **Creative Lighting Techniques for Media Production** (3) An exploration of lighting design techniques for electronic and film media.
Effective: Summer 2004
Prerequisite: COMM 150, THEA 270

THEA 380 **Technical Production I** (3) Comprehensive survey of scenic construction and theatrical rigging. Special attention given to contemporary professional stagecraft techniques.
Effective: Spring 2001
Prerequisite: THEA 180

THEA 381 **Technical Production II** (3) Comprehensive survey of scenic construction and theatrical rigging. Continuation of THEA 380.
Effective: Summer 1992
Prerequisite: THEA 380

THEA 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

THEA 400 **Advanced Theatre Projects** (1-6 per semester) Individual and group-directed study of in-depth projects involving reading, discussion, performance, and critical analysis by faculty.
Effective: Spring 1991
Prerequisite: seventh-semester standing or 12 credits in theatre or related areas

THEA 401Y (IL) **Theatre History I: Ancient to 1700** (3) Survey of drama and theatre from primitive rites through the Renaissance.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 402W **Theatre History II: From 1700 to Present** (3) Survey of European drama and theatre from the eighteenth century through the modern period.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 405 (US) **Theatre History: American Theatre** (3) Survey of American drama and theatre from the colonial period to the present.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 406 (IL) **Theatre in Asia** (3) A survey of major theatre forms and traditions in Asia.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 407 (US) (WMNST 407) **Women and Theatre** (3) A study of theatre practice and dramatic literature as informed by issues of gender, race, and ethnic background.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 408 (US) **History of American Musical Theatre** (3) A survey of the history of American musical theatre presented in a social, cultural, and aesthetic prospective.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 410 **Play Analysis** (3) Advanced skills in textual analysis of plays and screenplays.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 412 (US;IL) (AAA S 412) **African American Theatre** (3) Exploration of the development of African American theatre from its roots in Africa through the diaspora, to the present time.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 423 **Musical Theatre Performance III** (2) Studio training in the unique performance skills, repertoire and business of professional musical theatre.
Effective: Spring 2006
Prerequisite: THEA 224 seventh-semester standing in the Musical Theatre Option

THEA 424 **Musical Theatre Performance IV** (2) Studio training in the unique performance skills, repertoire and business of professional musical theatre.
Effective: Spring 2006
Prerequisite: THEA 423

THEA 425A **B.F.A. Acting Studio II** (2) Scene Study
Effective: Summer 2005
Prerequisite: THEA 115, THEA 225A Concurrent: THEA 425C

THEA 425C **B.F.A. Voice/Speech Studio II** (2) Advanced voice and speech training for BFA Musical Theatre students.
Effective: Summer 2005
Prerequisite: THEA 225C Concurrent: THEA 425A

THEA 426 **Children's Theatre** (3) Theories and practice of theatre for children.
Effective: Spring 2001
Prerequisite: THEA 150, THEA 220

THEA 427A **B.F.A. Acting Studio III** (2) Continuation of THEA 425A
Effective: Summer 2005
Prerequisite: THEA 425A Concurrent: THEA 427C

THEA 427C **B.F.A. Voice/Speech Studio III** (2) Stage Dialect Studies
Effective: Summer 2005
Prerequisite: THEA 425C Concurrent: THEA 427A

THEA 428 **Creative Drama** (3) Exercises and techniques for creative growth of children and adults, creative interaction for classroom, recreational, social, or therapeutic environments.
Effective: Spring 1991
Prerequisite: fifth-semester standing

THEA 429 **Theatre Performance Practicum** (1-3 per semester) Supervised experience in rehearsal and performance of significant roles.
Effective: Fall 1983
Prerequisite: admission by audition only

THEA 434 **Introduction to Directing** (3) Introduction to principles and procedures of play direction.
Effective: Spring 2001
Prerequisite: THEA 114 orTHEA 410;THEA 160, THEA 170 orTHEA 180

THEA 436 **Directorial Processes** (3) Preparing a play for production including the scoring of thescript, developing ground plan, casting, and staging projects in American realism.
Effective: Spring 1991
Prerequisite: THEA 434 and approval of instructor prior to registration

THEA 437 **Artistic Staff for Production** (1-6) To provide students with experience in choreography, dramaturgy, combat, staging, voice/speech, musical direction, assisting in direction, for major productions.
Effective: Summer 1989
Prerequisite: approval of the proposed assignment by the instructor prior to registration

THEA 439 **Projects in Directing** (1) Projects in directing for analysis and critique.
Effective: Spring 1991
Prerequisite: THEA 436 and approval of proposed project by instructor prior to registration

THEA 440 **Principles of Playwriting** (3) Structure, dramatic effect, characterization, and dialogue; the writing, reading, and criticism of original one-act plays.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 447 **Make-Up Design for Production** (1-6) Materials, research, preparation, design, execution of make-up for major University Theatre productions.
Effective: Summer 1989
Prerequisite: approval of proposed assignment by the instructor prior to registration

THEA 450 **Advanced Topics in Scene Design** (3 per semester/maximum of 6) Design emphasis on a variety of production techniques, genre, and styles.
Effective: Spring 2006
Prerequisite: THEA 250 or portfolio review

THEA 451 **Drafting, Drawing, and Painting for the Theatre** (1) Drafting, freehand drawing including perspective methods and property development, rendering techniques, and painters' elevations.
Effective: Summer 1993
Prerequisite: THEA 251, THEA 252 and prior approval of instructor; first-year MFA theatre candidacy

THEA 452 **Advanced Presentation Techniques** (1) Advanced drafting, freehand drawing, rendering techniques, model building, and reproduction techniques.
Effective: Summer 1993
Prerequisite: THEA 451

THEA 453 **Advanced Scene Painting** (1 per semester, maximum of 12) Practicum study in painting techniques currently in professional use. Exploration of tools, available paints, and texturing materials.
Effective: Spring 1991
Prerequisite: THEA 253

THEA 454 **Period Research for the Theatre** (3) History of decor, styles, and movements in art and architecture.
Effective: Summer 1993
Prerequisite: BFA theatre arts candidacy or permission of instructor

THEA 455 **Twentieth Century Design** (3) Seminar study of movements, practices, methods, and designers in the modern theatre.
Effective: Summer 1993

Prerequisite: BFA theatre arts candidacy and prior approval of faculty

THEA 456 **Scenic Projects for Production** (1 per semester, maximum of 6) Special projects for production; painting, properties, design assistance.
Effective: Summer 1993
Prerequisite: approval of proposed projects by instructor prior to registration

THEA 457 **Scene Design for Production** (1 per semester/maximum of 6) Design and execution of production projects.
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

THEA 458 **Digital Imaging for the Theatre** (1) Introduction to imaging software and its application in theatrical design and production.
Effective: Summer 2005
Prerequisite: Design or Visual Arts major or permission of program

THEA 459 **Theatre Portfolio & Business Practices** (2) Life as a professional theatre designer. Contracts, taxes, record-keeping, resumes, portfolios, interviewing, job hunting, and legal considerations.
Effective: Spring 2006
Prerequisite: B.F.A. Theatre candidacy

THEA 460 **Advanced Topics in Costume Design** (3 per semester/maximum of 6) Developing and executing a design concept in a variety of the performing arts.
Effective: Spring 2006
Prerequisite: THEA 260, THEA 464

THEA 461 **Advanced Topics in Costume Construction and Technology** (3 per semester/maximum of 6) A specialized course in advanced costume construction techniques and theatrical costume technologies.
Effective: Spring 2006
Prerequisite: THEA 261

THEA 464 **History of Fashion** (3) Survey of dress from Egyptian period to contemporary fashion.
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

THEA 465 **History of Fashion II** (3) Survey of dress from 1800 to contemporary fashion.
Effective: Summer 2004
Prerequisite: THEA 100 orTHEA 105

THEA 466 **Costume Construction for Production** (1 per semester/maximum of 6) Execution of production projects in construction and shop management.
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

THEA 467 **Costume Design for Production** (1 per semester/maximum of 6) Design and execution of production design projects.
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

THEA 470 **Advanced Topics in Lighting Design** (3 per semester/maximum of 6) Advanced Topics in Lighting Design will rotate through opera, dance, non-traditional spaces, architecture, advanced technology, and color theory.
Effective: Spring 2006
Prerequisite: THEA 270

THEA 471 **Stagelighting Design II** (3) Advanced training through lectures and laboratory experience with color, shape, and form as it relates to the specifics of illumination.
Effective: Summer 1993
Prerequisite: THEA 470

THEA 472 **Lighting Technology** (3) An introduction to the basics of electricity, dimmer protocols, lightboard programming, lighting paperwork, and master electrician & assistant lighting design practices.
Effective: Summer 2005
Prerequisite: THEA 270 or equivalent

THEA 473 **The History of Stage Lighting Technology** (3) An exploration of the history of stage lighting from the development of electric light to the present.
Effective: Summer 1993
Prerequisite: THEA 270

THEA 475 **Creative Lighting in the Entertainment Arts** (3) Survey/analysis of the growth of creative lighting in venues other than theatre; advances in design for the entertainment world.
Effective: Summer 1993
Prerequisite: THEA 270 and consent of instructor

THEA 477 **Lighting Design for Production** (1 per semester/maximum of 6) Design and execution of design projects.
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

THEA 480 **Advanced Topics in Technical Direction for the Theatre** (3 per semester/maximum of 6) Advanced study of the methods, materials, equipment, facilities, concepts and processes associated with Technical Direction for the Theatre.
Effective: Summer 2005

Prerequisite: THEA 280

THEA 480A **Technical Production III** (3) Technical draftings; focus on the creation of packages of drawings based on designer elevations from actual productions; drafting intensive.
Effective: Spring 2001
Prerequisite: THEA 150, THEA 251, THEA 381

THEA 480B **Technical Production IV** (3) Discussion of problems of the technical director: personnel management, time management, scheduling, budgeting, purchasing, and the technical drawing of production.
Effective: Spring 1995
Prerequisite: THEA 381

THEA 481 **Stage and Production Management** (3) Production planning, scheduling, assignment of personnel, rehearsal procedures, and budgeting.
Effective: Fall 1983
Prerequisite: THEA 170, THEA 180

THEA 483A **Technical Production V** (3) Calculation for, and specification of advanced wood structures and rigging for theatrical production.
Effective: Summer 1993
Prerequisite: THEA 480A

THEA 483B **Technical Production VI** (3) Tool maintenance necessary in the scene shop and the procedures, tracking, and repair information necessary for the technical director.
Effective: Summer 1993
Prerequisite: THEA 480B

THEA 484 **Sound Recording Techniques** (3) Multi-track audio recording and post production techniques.
Effective: Summer 2005
Prerequisite: INART 258 orTHEA 285

THEA 485 **Sound for Theatre Production** (3) Aesthetics of live and recorded sound; recording and editing techniques for the stage.
Effective: Spring 2001
Prerequisite: THEA 100, THEA 150

THEA 486 **Stage Management for Production** (1-9) Stage manager for University Theatre production.
Effective: Summer 1996
Prerequisite: approval of proposed assignment by instructor prior to registration

THEA 487 **Technical Projects for Production** (1 per semester/maximum of 6) Execution of practical production projects.
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

THEA 489 **Theatre Production Practicum** (1 per semester) Supervised experience in production techniques. For theatre majors only.
Effective: Spring 2001
Prerequisite: THEA 160, THEA 170 orTHEA 180

THEA 495 **Internship Practicum** (1-6 per semester/maximum of 12) Professional field experience in theatre performance, production, and management assignments.
Effective: Fall 1983
Prerequisite: approval of internship by instructor prior to registration

THEA 496 **Independent Studies** (1-18) Creative projects, including research and design, supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

THEA 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

THEA 497A **Theatre Professional Preparation** (3) Profession Preparation for undergraduate theatre students.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497B **Musical Theatre Studio V** (2) Senior Musical Theatre Studio for Musical Theatre Majors.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497C **Camera Acting** (3) Acting for the camera techniques.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497D **Writer's Room** (3) Writing workshop for theatre productions.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497E **Properties Design and Construction** (3) Design and Construction of props for production.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497F **Comedy Writing** (3) Comedy writing for performance.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497G **The Social History of the Theater** (3) We will explore plays and cultures that reflect and comment upon the ills and triumphs of society over 2,500 years.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

THEA 497H **Honors London Theatre Study** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

THEA 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1994

THEA 499 (IL) **Foreign Studies--Theatre Arts** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005
Prerequisite: approval by department

Last Import from UCM: May 29, 2010 3:00 AM

Tmp Educ Abroad Reg (ED AB)

ED AB 199 **Temporary Education Abroad Registration** (1-18) This course is used to temporarily register students that are studying overseas. Permanent courses will be entered after the student returns.
Effective: Summer 2007

Last Import from UCM: May 29, 2010 3:00 AM

Training and Development (TRDEV)

TRDEV 418 **Instructional Methods in Training and Development** (3) Emphasis on teaching techniques and learning principles used by trainers and supervisors in business, health care, and government.
Effective: Spring 1986

TRDEV 421 **Presentation Skills for New Trainers** (3) The effective use of platform skills for training, including the use of voice, audio-visual aids, group facilitation, and personal presence.
Effective: Summer 1993
Prerequisite: admission to M.ED. program in Training and Development

TRDEV 431 **Basic Technology Skills in Training** (3) Introduces basic training technology skills: electronic communications, word processing, spreadsheets, databases; provides skills to create and maintain electronic presentations and programs.
Effective: Spring 1999
Prerequisite: admission to the Training and Development Program Training and Development Certificate Program or permission of the Program

TRDEV 432 **Video Production in Training** (3) Introduces learners to the equipment, design, and production of video instruction for the workplace.
Effective: Spring 2002
Prerequisite: TRDEV 418, TRDEV 431 or permission of program

TRDEV 460 **Foundations in Training and Development** (3) Roles in training and development, relationships between training and development and other organizational structures, and the principles of training design.
Effective: Spring 1986

TRDEV 465 **Performance Analysis** (3) This course involves the systematic analysis of employee performance in organizations to identify performance problems, diagnose causes, and specify solutions.
Effective: Spring 2005
Prerequisite: TRDEV 460, TRDEV 418 or permission of the program

TRDEV 470 **Human Resource Development Tools and Techniques** (3) Examination of contemporary strategies, tools, and techniques for designing human resource functions to promote employee learning and performance within organizations.
Effective: Spring 2005
Prerequisite: TRDEV 460, TRDEV 418 or permission of the program

TRDEV 475 **Career and Succession Management** (3) This course involves the study of a systematic approach for integrating career planning and succession planning programs in organizations.
Effective: Spring 2005
Prerequisite: TRDEV 460, TRDEV 418 or permission of the program

TRDEV 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1986

Last Import from UCM: May 29, 2010 3:00 AM

Turfgrass (TURF)

TURF 100 **Introduction to Turfgrass Management** (3) Introduction to turfgrass species, establishment, maintenance, and pest control of turfgrass species used for sports, lawn/utility turf, and golf courses.
Effective: Fall 2001

TURF 230 **Turfgrass Pesticides** (1) Course covers chemical toxicity, formulations, environmental fate, labels, MSDS, calibration, IPM, safety, handling, storage, and Pennsylvania certification and regulations.
Effective: Spring 1999

TURF 235 **The Turfgrass** (3) Characterization of the primary plant species used for sports, lawn and utility turf; includes turfgrass morphology, environmental adaptation, and cultural requirements.
Effective: Summer 1992

TURF 236 **Turfgrass Pest Management** (3) A study of the cultural and chemical management of turfgrass pests with emphasis on integrated management systems.
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112, TURF 235

TURF 238 (HORT 238) **Turf and Ornamental Weed Control** (3) Students will be introduced to the development of integrated weed management strategies utilizing a variety of cultural and chemical methods.
Effective: Summer 2007
Prerequisite: CHEM 110

TURF 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Summer 1996

TURF 425 **Turfgrass Cultural Systems** (3) A study of turfgrass maintenance practices and how their interrelationships can be utilized to develop meanagement systems.
Effective: Fall 2001
Prerequisite: SOILS 101, TURF 235

TURF 434 **Turfgrass Edaphology** (3) Characterization of soil physical properties for the establishment and maintenance of sports turf; includes root-zone construction.
Effective: Fall 2007
Prerequisite: SOILS 101, TURF 235

TURF 435 **Turfgrass Nutrition** (4) Study of turfgrass nutrition and growth; emphasizing constructed and mineral soil fertility, nutrient uptake and function, and fertilizer use efficiency.
Effective: Spring 2004
Prerequisite: SOILS 101, TURF 235

TURF 436W **Turfgrass Management Systems** (3) Case study and discussion considering integrated management of selected turfgrass sites; emphasis on problem analysis, principle application, and decision making.
Effective: Fall 1995
Prerequisite: TURF 235, TURF 236, TURF 425

TURF 489 **Supervised Experience in College Teaching** (1-3) Participate with instructors in teaching and undergraduate turfgrass course. Assist with teaching an evaluation and with development of instructional materials.
Effective: Spring 1998
Prerequisite: TURF 235

TURF 490 **Colloquium** (1) Oral presentations developed by students in consultation with the course instructor.
Effective: Summer 1997
Prerequisite: seventh semester standing

TURF 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1992
Prerequisite: prior approval of proposed assignment by instructor

TURF 496 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 2000

Last Import from UCM: May 29, 2010 3:00 AM

Ukrainian (UKR)

UKR 001 **Elementary Ukrainian I** (4) Reading, writing, and speaking Ukrainian.
Effective: Summer 1991

UKR 002 **Elementary Ukrainian II** (4) Reading, writing, and speaking Ukrainian.
Effective: Summer 1991
Prerequisite: UKR 001

UKR 003 **Intermediate Ukrainian** (4) Reading, writing, and speaking Ukrainian.
Effective: Summer 1991
Prerequisite: UKR 002

UKR 051 **Elementary Intensive Ukrainian I for Graduate Students** (3) Intensive introduction to Ukrainian: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: graduate standing

UKR 052 **Elementary Intensive Ukrainian II for Graduate Students** (3) Intensive introduction to Ukrainian: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: UKR 051 and graduate standing

UKR 053 **Intermediate Intensive Ukrainian for Graduate Students** (3) Continued intensive study of Ukrainian at the intermediate level: reading, writing, speaking, listening, cultural contexts.
Effective: Summer 2008
Prerequisite: UKR 052 or equivalent and graduate standing

UKR 083S (GH;IL) **1st Year Seminar in Ukrainian** (3) Aspects of Ukrainian Culture in Comparative Contexts
Effective: Spring 2006

UKR 099 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 100 (GH;IL) **Ukrainian Culture and Civilization** (3) Survey of Ukrainian culture and civilization from the Middle Ages to the present.
Effective: Summer 2005

UKR 196 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Spring 2004

UKR 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 1995

UKR 199 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 204 **Readings in Ukrainian** (3) Readings in Ukrainian literature and journalism.
Effective: Summer 1991
Prerequisite: UKR 003

UKR 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

UKR 299 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

UKR 399 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

UKR 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Summer 1994

UKR 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small group basis.
Effective: Fall 2007

UKR 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Vet & Biomed Sci (VB SC)

VB SC 050S **Mechanisms of Disease** (3) Introduction to the study of disease pathogenesis and careers in Animal Health Research and Service.
Effective: Fall 2007

VB SC 097 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

VB SC 211 (GN) **The Immune System and Disease** (3) Introduction to the immune system that emphasizes the immune response to infection and consequences of a defective immune response.
Effective: Fall 2007

VB SC 280 **Current Issues in Veterinary Medicine** (1) Discussion of the social, ethical and economic aspects of current and emerging issues related to animal ownership and veterinary medicine.
Effective: Fall 2007 Ending: Summer 2010

VB SC 280 **Current Issues in Veterinary Medicine** (2) Discussion of the social, ethical and economic aspects of current and emerging issues related to animal ownership and veterinary medicine.
Effective: Fall 2010 Future: Fall 2010

VB SC 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

VB SC 303 **Principles of Animal Disease** (3) Principles involved in the causes of animal diseases; control measures, including sanitation and hygiene.
Effective: Fall 2007
Prerequisite: MICRB 106 orMICRB 201 . Prerequisite or concurrent:AN SC 301

VB SC 303H **Principles of Animal Disease** (3) Principles involved in the causes of animal diseases; control measures, including sanitation and hygiene.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MICRB 106 orMICRB 201 . Prerequisite or concurrent:AN SC 301

VB SC 330 **Introduction to Molecular Pharmacology** (3) An introduction to the basic principles of pharmacology, drug development and use.
Effective: Summer 2007
Prerequisite: CHEM 201, CHEM 202, BIOL 110, B M B 211;BIOL 230 orB M B 251

VB SC 395 **Internship** (1-10) Independent study and supervised field experience related to the student's professional interest. Limited to students in animal agriculture majors.
Effective: Fall 2007
Prerequisite: fifth-semester standing in an animal agriculture major; approval by department of proposed plan before registration

VB SC 402W (ENT 402) **Biology of Animal Parasites** (3) An intorduction to animal parasitology. Emphasis placed on host/parasite interactions, parasites of zoonotic importance, control programs and taxonomy.
Effective: Spring 2010
Prerequisite: BIOL 110

VB SC 405 **Laboratory Animal Science** (3) Principles involved in maintaining laboratory animals. Emphasis is on management, preventive medicine, and surgical considerations used in laboratory animal colonies.
Effective: Spring 2009
Prerequisite: AN SC 201, AN SC 301, BIOL 110

VB SC 407 **Dairy Herd Health Programs** (2) A discussion of health programs for dairy herds to assist in the control of infectious and metabolic diseases of dairy animals.
Effective: Fall 2007
Prerequisite: AN SC 301, AN SC 310, AN SC 427, AN SC 431W

VB SC 418 **Bacterial Pathogenesis** (2) Study of molecular interactions between bacterial pathogens and their hosts.
Effective: Fall 2007
Prerequisite: MICRB 201, MICRB 410

VB SC 420 **General Animal Pathology** (3) Nature and mechanisms of the disease process including degenerations, growth disturbances, inflammation, host-parasite relationships and neoplasia.
Effective: Fall 2007
Prerequisite: AN SC 423 orBIOL 472, MICRB 201, AN SC 301

VB SC 421 (BIOL 421) **Comparative Anatomy of Vertebrates** (4) The comparative anatomy of representative vertebrate animals, discussed from a descriptive and an evolutionary viewpoint.
Effective: Spring 2008
Prerequisite: BIOL 240W

VB SC 423W **Pathology of Nutritional and Metabolic Diseases** (3) Overview of nutritional and metabolic diseases of animals integrating concepts from biochemical and physiologic abberrations to clinical applications.
Effective: Spring 2008
Prerequisite: B M B 211 orB M B 401, AN SC 301 or equivalent nutrition course

VB SC 425 (AN SC 425) **Principles of Avian Diseases** (3) Principles of pathogenesis and control of diseases in poultry and other avian populations. Case material used where appropriate.
Effective: Spring 2009
Prerequisite: AN SC 201, BIOL 110, MICRB 201

VB SC 430 **Principles of Toxicology** (3) Introduction to the biomedical aspects of toxicology with emphasis on the mechanisms and fate of chemical interaction with biological systems.
Effective: Fall 2007
Prerequisite: BIOL 110, BIOL 240W;B M B 211 orB M B 401

VB SC 431 (E R M 431) **Environmental Toxicology** (3) Effects of pollutants on animal health at the chemical, physical, and cellular level.
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 110, CHEM 110, CHEM 112

VB SC 432 (B M B 432, MICRB 432) **Advanced Immunology: Signaling in the Immune System** (3) The study of signaling pathways that regulate the immune response.
Effective: Fall 2007
Prerequisite: B M B 400, MICRB 410

VB SC 433 (B M B 433) **Molecular and Cellular Toxicology** (3) In-depth coverage of processes by which drugs/chemicals interact with biological systems and the experimental approaches used to study these interactions.
Effective: Fall 2007
Prerequisite: B M B 401

VB SC 435 (B M B 435, MICRB 435) **Viral Pathogensis** (2) A study of the molecular, immunological, and pathological aspects of viral diseases as well as laboratory methods of diagnosis.
Effective: Fall 2007
Prerequisite: MICRB 201;B M B 251 andB M B 252 orBIOL 110 andBIOL 230W

VB SC 444 **Epidemiology of Infectious Diseases** (3) An introduction to epidemiology of infectious diseases with emphasis on unders tanding epidemiologic concepts for identifying, preventing and controlling infectious diseases.
Effective: Fall 2007
Prerequisite: BIOL 220, STAT 200 orSTAT 250

VB SC 445 **Molecular Epidemiology of Infectious Diseases** (3) A discussion and practicum of the molecular laboratory techniques used to study molecular epidemiology of infectious diseases.
Effective: Fall 2007
Prerequisite: BIOL 220, STAT 200 orSTAT 250 andVB SC 444

VB SC 448W **Current Topics in Immunology** (3) Study of current approaches and questions driving research in immunology and infectious diseases.
Effective: Fall 2007
Prerequisite: MICRB 410, B M B 400

VB SC 451 **Immunotoxicology of Drugs and Chemicals** (3) An in depth discussion of the effect of xenobiotics and drugs on host immune mechanisms.
Effective: Spring 2008
Prerequisite: VB SC 433 andMICRB 410

VB SC 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 2007

VB SC 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Fall 2007

Last Import from UCM: May 29, 2010 3:00 AM

Veterinary Science (V SC)

V SC 489 (BIOTC 489) **Animal Cell Culture Methods** (3) AN OVERVIEW OF ANIMAL CELL CULTURE METHODOLOGY, AND ITS PRACTICAL APPLICATION IN BIOPROCESS TECHNOLOGY.
Effective: Spring 1996
Prerequisite: MICRB 201, MICRB 202;BIOL 230W ORB M B 251

Last Import from UCM: May 29, 2010 3:00 AM

Wildlife (WILDL)

(These courses are offered only at the DuBois Campus as part of the two-year Wildlife Technology major.)

WILDL 101 **Introduction to Wildlife Management** (3) Basic principles of wildlife management. Introduction to general ecology and wildlife population dynamics.
Effective: Fall 1985

WILDL 103 **Animal Identification** (3) Identification of mammals, birds, reptiles, and amphibians; introduction to their life histories.
Effective: Fall 1985

WILDL 106 **Wildlife Management Techniques** (4) Overview of laboratory and field techniques for natural resource research and management; scientific writing and computer applications emphasized.
Effective: Spring 1990
Prerequisite: WILDL 101

WILDL 204 **Wildlife Mensuration** (4) Estimation and analysis of animal populations and their habitats, including sampling considerations and basic biometry.
Effective: Spring 1988
Prerequisite: 3 credits in mathematics

WILDL 207 **Outdoor Recreation** (3) Sociology, history, and economics of recreational demand; recreational areas and management procedures.
Effective: Fall 1985

WILDL 207H **Outdoor Recreation** (3) Sociology, history, and economics of recreational demand; recreational areas and management procedures.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WILDL 208M **Terrestrial Wildlife Management** (3) Ecological characteristics and manipulation of terrestrial habitats; control of wildlife populations.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: FORT 150, FORT 160, WILDL 101, WILDL 103, WILDL 106, WILDL 204

WILDL 208W **Terrestrial Wildlife Management** (3) Ecological characteristics and manipulation of terrestrial habitats; control of wildlife populations.
Effective: Spring 2000
Prerequisite: FORT 150, FORT 160, WILDL 101, WILDL 103, WILDL 106, WILDL 204

WILDL 209 **Animal Handling and Care** (4) Techniques in capturing, marking, and maintaining wild animals in captivity. Wildlife physiology, parasitology, and necropsy procedures are covered.
Effective: Spring 1988
Prerequisite: WILDL 101

WILDL 211 **Aerial Photo Interpretation** (4) Techniques of photo interpretation; type mapping of wildlife environments; photo censusing of wild animals.
Effective: Fall 1985

WILDL 213 **Wetlands and Fisheries Management** (3) Introduction to basic limnology. Ecology and management of swamp, marsh, pond, and stream habitats and their animal populations.
Effective: Summer 1990
Prerequisite: WILDL 101, WILDL 103, WILDL 106, WILDL 204

WILDL 213H **Wetlands and Fisheries Management** (3) Introduction to basic limnology. Ecology and management of swamp, marsh, pond, and stream habitats and their animal populations.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: WILDL 101, WILDL 103, WILDL 106, WILDL 204

WILDL 295 **Internship in Wildlife Technology** (1-6) Supervised off-campus field experience related to student's major.
Effective: Fall 1983
Prerequisite: prior approval of proposed assignment by instructor.

WILDL 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1983

WILDL 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1983

Wildlife and Fisheries Science (W F S)

W F S 209 (GN) **Wildlife and Fisheries Conservation** (3) Survey of current and historical issues in wildlife and fisheries conservation; emphasis on vertebrate biodiversity, habitat management and protection, and populations.
Effective: Summer 2002
Prerequisite: BIOL 110 orBIOL 240W

W F S 296 **Independent Studies** (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.
Effective: Summer 1994

W F S 300 **The Vertebrates** (2) Overview of the evolution, systematics, ecology, and behavior of the subphylum vertebrata.
Effective: Fall 2001
Prerequisite: BIOL 110

W F S 301 **Vertebrate Laboratory** (2) Overview of the anatomy, identification, collection, and preservation of the vertebrates.
Effective: Fall 2001
Prerequisite: or concurrent:W F S 209;W F S 300

W F S 310 **Wildlife and Fisheries Measurements** (3) Introduction to field and laboratory approaches for collecting, analyzing, and communicating data regarding wildlife and fish populations and their habitats.
Effective: Fall 2001
Prerequisite: or concurrent:W F S 209, STAT 240

W F S 406 **Ornithology Laboratory** (1) Laboratory and field identification of Pennsylvania birds, avian ecology and behavior, field survey techniques.
Effective: Fall 2006
Prerequisite: or concurrent:W F S 209, W F S 407

W F S 407 **Ornithology** (3) Introduction to the biology, ecology, adaptations, and conservation of birds.
Effective: Fall 1996
Prerequisite: BIOL 110, W F S 209

W F S 408 **Mammalogy** (3) Identification, systematics, characteristics, adaptations, ecology, behavior, natural history and conservation, and socio-economic aspects of mammals.
Effective: Spring 1995
Prerequisite: BIOL 110

W F S 409 **Mammalogy Laboratory** (1) Laboratory and field identification of mammals, ecology and behavior of mammals, field survey techniques.
Effective: Fall 2006
Prerequisite: or concurrent:W F S 209, W F S 408

W F S 410 **General Fishery Science** (3) Introduction to the study, management, and uses of fish populations; methods of investigation, culture, and harvest of fishes.
Effective: Fall 2001
Prerequisite: BIOL 210 orW F S 209

W F S 422 **Ecology of Fishes** (3) Role of fishes in aquatic communities and general ecosystems. Environmental factors influencing fish as individuals, populations, and communities.
Effective: Spring 1995
Prerequisite: BIOL 220W orW F S 209

W F S 424 **Aquaculture** (2) Scientific basis of aquaculture. Fundamental management skills for hatchery managers.
Effective: Summer 1988
Prerequisite: one course in biology

W F S 430 (FOR 430) **Conservation Biology** (3) The application of biological principles to issues in the conservation of biodiversity.
Effective: Spring 1995
Prerequisite: BIOL 220W orFOR 308

W F S 435 (E R M 435) **Limnology** (3) Biogeochemistry and natural history of freshwater ecosystems.
Effective: Summer 2007
Prerequisite: BIOL 110, BIOL 220W, CHEM 110

W F S 436 (E R M 436) **Limnological Methods** (3) Application of current methodologies to evaluate the biological, chemical, and physical characteristics of aquatic ecosystems.
Effective: Spring 2010
Prerequisite: BIOL 110 andCHEM 110

W F S 440 **Natural Resources Public Relations** (3) The course prepares students to integrate public relations concepts with principles of natural resources management at the community level.
Effective: Fall 2001
Prerequisite: SPCOM 100 seventh-semester standing and 6 credits of W F S FOR or R P M

W F S 446 **Wildlife and Fisheries Population Dynamics** (3) Concepts and estimation of mammalian, avian, and fish populations; processes of mortality, natality, growth, and regulation.
Effective: Summer 1994
Prerequisite: W F S 209

W F S 447W **Wildlife Management** (3) Management of renewable wildlife resources by applying ecological concepts, habitat evaluation, and decision-making; writing and editing reports are emphasized.
Effective: Fall 2001
Prerequisite: W F S 209 orW F S 309

W F S 450 (E R M 450) **Wetland Conservation** (3) Wetland types, classification, functions and values; hydrology, soils, and plants; introduction to wetland identification and delineation; wetland regulations.
Effective: Fall 2001
Prerequisite: E R M 300 orW F S 209

W F S 452 **Ichthyology** (2) Study of the structure, taxonomy, systematics, and natural history of freshwater and marine fishes.
Effective: Spring 1995
Prerequisite: BIOL 110, BIOL 240W

W F S 453 **Ichthyology Laboratory** (2) Identification of fishes, major fish families, use of keys.
Effective: Spring 2001
Prerequisite: BIOL 110, BIOL 240W . Prerequisite or concurrent:W F S 452

W F S 460 **Wildlife Behavior** (3) Scholarly discussion and critique of history, concepts, and application of wildlife behavioral concepts to conservation issues.
Effective: Spring 2007
Prerequisite: at least 6 credits in general wildlife or biology

W F S 462 **Amphibians and Reptiles** (3) Critique of global evolution and conservation of amphibians and reptiles, focusing on Northeastern U.S. natural history and ecology.
Effective: Spring 2009
Prerequisite: 5th semester standing or higher and 6 credits of general biology

W F S 463W **Fishery Management** (3) Management of sport and commercial fisheries, including biological, political, social, and economic factors; regulations and other management techniques.
Effective: Spring 2001
Prerequisite: W F S 209, W F S 300, W F S 301, W F S 310

W F S 495 **Wildlife/Fisheries Internship** (1-6) Supervised field experience related to the student's major.
Effective: Spring 1994
Prerequisite: approval of proposed assignment by instructor prior to registration

W F S 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Fall 1989

W F S 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 1989

W F S 497A **Field Ichthyology** (3) One-week field course at Tom Ridge Environmental Center in Eric, Pennsylvania. Field collection techniques, identification and behavior of Pennsylvania fishes.
Effective: Summer 2010 Ending: Summer 2010

W F S 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Women's Studies (WMNST)

WMNST 001 (GS;US;IL) **Introduction to Women's Studies** (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Summer 2005

WMNST 001S (GS;US;IL) **Introduction to Women's Studies** (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2009

WMNST 001U (GS;US;IL) **Introduction to Women's Studies** (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WMNST 003 (GH;US;IL) **Introduction to Women, the Humanities, and the Arts** (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.
Effective: Summer 2005

WMNST 003U (GH;US;IL) **Introduction to Women, the Humanities, and the Arts** (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WMNST 005 (US) (S T S 005) **Introduction to Women in Science, Technology, and Engineering** (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2005

WMNST 005S (US) **Introduction to Women in Science, Technology, and Engineering** (3) The role of women and gender in science, technology, and engineering.
Effective: Summer 2006

WMNST 008 (GH) (PHIL 008) **Philosophy and Feminism** (3) Explores diverse feminist philosophies of culture and knowledge, and examines gender's role in accounts of reality, truth, morality, and justice.
Effective: Spring 2006

WMNST 083S (GH;US;IL) **First-Year Seminar in Women's Studies** (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Summer 2005

WMNST 083T (GH;US;IL) **First-Year Seminar in Women's Studies** (3) Critical approaches to the dimensions and directions in Women's Studies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WMNST 101 (GH;US) (AAA S 101) **The African American Woman** (3) The sociological, historical and political experiences of African American women, their roles and contributions to society.
Effective: Summer 2005

WMNST 102 (GH;IL) (AAA S 102) **Women of Color: Cross-Cultural Perspective** (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.
Effective: Summer 2005

WMNST 103 (US) (AAA S 103, SOC 103) **Racism and Sexism** (3) Critical analysis of the structure of race and gender inequality in the contemporary United States.
Effective: Summer 2005

WMNST 104 (GH;US) (AM ST 104) **Women and the American Experience** (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.
Effective: Summer 2005

WMNST 110 (GS;US) (SOC 110) **Sociology of Gender** (3) Changing sex role expectations and behavior for men and women in contemporary society.
Effective: Summer 2005

WMNST 116 (GS;US;IL) (HIST 116) **Family and Sex Roles in Modern History** (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.
Effective: Spring 2006

WMNST 117 (GH;US;IL) (HIST 117) **Women in Modern History** (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Summer 2005

WMNST 117M (GH;US;IL) (HIST 117M) **Women in Modern History** (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WMNST 130 (IL) (RUS 130) **Women in Russian Literature** (3) Survey of Russian women characters and writers from the Medieval Period to the present.
Effective: Spring 2006

WMNST 136 (US) (LER 136) **Race, Gender, and Employment** (3) Employment relations and legislative and policy responses to labor force issues of racial and gender inequality.
Effective: Spring 2008

WMNST 137 (GH;US;IL) (RL ST 137) **Women and Religion** (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.
Effective: Spring 2006
Prerequisite: third-semester standing

WMNST 187 **Women's Studies Freshman Seminar** (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

WMNST 194 (GH;US;IL) (ENGL 194) **Women Writers** (3) Short stories, novels, poetry, drama, and essays by British, American, and other English-speaking women writers.
Effective: Summer 2005

WMNST 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1995

WMNST 199 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WMNST 201 **Career Implementation Strategies for Women** (2) Determining career goals, developing strategies to achieve these goals, and developing skills to assist in the job search.
Effective: Spring 1983

WMNST 202 (GS;IL) (AAA S 202) **Gender Dynamics in Africa** (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.
Effective: Summer 2005

WMNST 205 (US) (COMM 205) **Women, Minorities, and the Media** (3) Analysis of historical, economic, legal, political, and social implications of the relationship between women, minorities, and the mass media.
Effective: Summer 2005

WMNST 225 (GA;GH) (ENGL 225, ART H 225) **Sexuality and Modern Visual Culture** (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.
Effective: Summer 2009

WMNST 250 (US) (HD FS 250) **Sexual Identity Over the Lifespan** (3) Concepts of affectional and sexual orientation over lifespan, with emphasis on lesbian and gay male personal, family, and community adaptation.
Effective: Summer 2005
Prerequisite: 3 credits in Hd FS or 3 credits in behavioral sciences

WMNST 270 (FR 270) **Race and Gender in Literature Translated from French** (3) A critical presentation, taught in English, of changing ideas and values on race and gender in French and Francophone literatures.
Effective: Spring 2005
Prerequisite: FR 351

WMNST 280 (GH;IL) (J ST 280, RL ST 280) **Women and Judaism** (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.

Effective: Fall 2006

WMNST 294 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

WMNST 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1986

WMNST 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1984

WMNST 299 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WMNST 300 (US) (LTNST 300) **Latina Feminisms** (3) This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States.
Effective: Summer 2006
Prerequisite: LTNST 100

WMNST 301 **Introduction to Feminist Thought** (3) An interdisciplinary survey of historical and contemporary feminist theories in both the United States and international contexts.
Effective: Summer 1996
Prerequisite: WMNST 001 orWMNST 003

WMNST 364 (GS;US) (AAA S 364) **Black & White Sexuality** (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.
Effective: Spring 2007

WMNST 395 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Summer 1996

WMNST 399 (IL) **Foreign Studies** (12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

WMNST 400 (US;IL) **Feminist Theory** (3) Consideration of feminist theories of women's experience in transforming understanding, reconceptualizing old problems, raising new ones, and expanding traditional disciplines.
Effective: Summer 2005
Prerequisite: WMNST 301

WMNST 401 **Feminist Perspectives on Research and Teaching** (3) Feminist approaches to methodological issues in research and teaching in the social sciences and the humanities.
Effective: Fall 2009
Prerequisite: WMNST 001 orWMNST 003 orWMNST 301

WMNST 407 (US) (THEA 407) **Women and Theatre** (3) A study of theatre practice and dramatic literature as informed by issues of gender, race, and ethnic background.
Effective: Summer 2005
Prerequisite: THEA 100

WMNST 410 (AAA S 410) **Spirit, Space, Survival: Contemporary Black Women** (3) How recent Black women have used spirit and space to survive.
Effective: Spring 1995
Prerequisite: WMNST 101

WMNST 412 (EDTHP 412) **Education and the Status of Women** (3) An examination of the relationship of education to the status of women in American society.
Effective: Spring 2005

WMNST 416 (US;IL) (AAA S 416, S T S 416) **Race, Gender and Science** (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

WMNST 419 (US;IL) (HIST 419) **The History of Feminist Thought** (3) A critical analysis of European and United States feminist thought from the Renaissance to the present.
Effective: Spring 2006
Prerequisite: WMNST 001, WMNST 003, WMNST 116 orWMNST 117

WMNST 420 (US;IL) (CED 420, R SOC 420) **Women in Developing Countries** (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.
Effective: Fall 2009

WMNST 421 (IL) (HIST 421) **The History of European Women** (3) European women's lives from the Middle Ages to the present.
Effective: Spring 2006
Prerequisite: WMNST 001, WMNST 003, WMNST 116 orWMNST 117

WMNST 423 (US) (CRIMJ 423, CRIM 423) **Sexual and Domestic Violence** (3) Legal, sociological, and psychological perspectives of sexual and domestic violence.
Effective: Spring 2008
Prerequisite: CRIM 100

WMNST 424 (US) (KINES 424) **Women and Sport** (3) An interdisciplinary approach to contemporary issues related to women and sport from historical, physiological, psychological, and sociological perspectives.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 231, PSYCH 479, SOC 001 orWMNST 001

WMNST 426Y (US;IL) (GEOG 426Y) **Gender and Geography** (3) Description and explanation of the links between gender relations and spatial structures; gender and work, social services, and neighborhood activism.
Effective: Spring 2007
Prerequisite: GEOG 020, GEOG 126, GEOG 120, WMNST 001 orWMNST 187

WMNST 428 (US;IL) (PL SC 428) **Gender and Politics** (3) Gender in politics in the United States and around the world; major areas of women and politics research.
Effective: Fall 2007
Prerequisite: 3 credits in political science or women's studies

WMNST 430 (US) (AM ST 430) **Women in American Society** (3) A historical study of women's roles and experiences in the United States.
Effective: Spring 2008
Prerequisite: 6 credits of American Studies Sociology or Women's Studies

WMNST 432 (US) **Women in Politics in the U.S.** (3) Course examines the U.S. women's movements, the participation of women in politics, and selected areas of public policy.
Effective: Spring 2008
Prerequisite: 3 credits in political science or women's studies

WMNST 438 (PHIL 438) **Feminist Philosophy** (3) Examines the central currents of feminist philosophy, selected problems and concepts regarding difference, gender and sex, identity, and political culture.
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy of the 200-level or 5th semester standing

WMNST 452 (BB H 452, NURS 452) **Women's Health Issues** (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.
Effective: Spring 2007
Prerequisite: BIOL 141 orPSYCH 100

WMNST 453 (US) (CRIMJ 453, CRIM 453) **Women and the Criminal Justice System** (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.
Effective: Spring 2008
Prerequisite: CRIMJ 100 orWMNST 001

WMNST 455 (US) (CAS 455) **Gender Roles in Communication** (3) Explores the literature on gender research in the discipline of human communication.
Effective: Summer 2005
Prerequisite: CAS 202

WMNST 456 (SOC 456) **Gender, Occupations, and Professions** (3) The role of gender in shaping contemporary North American patterns of employment, occupational roles, and statuses.
Effective: Spring 1991
Prerequisite: WMNST 001 or 3 credits in Sociology

WMNST 457 (US;IL) (HIST 457, S T S 457) **The History of Women in Science** (3) Critical analysis of the roles women, gender, and minorities have played in the natural sciences.
Effective: Spring 2006
Prerequisite: WMNST 001, WMNST 003, WMNST 005, WMNST 116 orWMNST 117

WMNST 458 (BB H 458) **Critical Issues in Reproduction** (3) Examination and analysis of the new reproductive technologies from the standpoint of medical ethics, feminism, and sociocultural influences.
Effective: Spring 2007
Prerequisite: BIOL 141 orPSYCH 100

WMNST 462 (US) (ENGL 462) **Reading Black, Reading Feminist** (3) Female identity and its construction in textual representations of gender, class, color, and cultural difference in English-language literatures.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

WMNST 464 (US) (BE SC 464) **Feminine/Masculine** (3) Study of sex role learning; investigating feminine/masculine

labeling; implications for contemporary society.
Effective: Spring 2008
Prerequisite: general psychology or general sociology

WMNST 466 (US;IL) (HIST 466) **Lesbian and Gay History** (3) Critical exploration of the history of sexuality, focusing especially on the emergence of modern lesbian and gay identities.
Effective: Summer 2005
Prerequisite: WMNST 001, WMNST 117

WMNST 471 (US) (PSYCH 479) **The Psychology of Gender** (3) Theories and research on gender differences and gender roles. Emphasis on women's and men's current positions in society.
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

WMNST 472 (LER 472) **Work-Life Practices and Policies** (3) Explore the causes and consequences of conflicts between work, family, and other life commitments, and how these may be resolved.
Effective: Spring 2008
Prerequisite: 3 credits of LER

WMNST 476W (ANTH 476W) **Anthropology of Gender** (3) Cross-cultural construction of gender and sex roles; theories of gender construction; case studies and practical effects.
Effective: Spring 2001
Prerequisite: 3 credits in women's studies or anthropology

WMNST 489 (ENGL 489) **British Women Writers** (3) A study of selected British women writers.
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

WMNST 490 (US;IL) (ENGL 490) **Women Writers and Their Worlds** (3) American and British literature written from the perspective of women.
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

WMNST 491 (AM ST 476, ENGL 492) **American Women Writers** (3) A study of selected American women writers.
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

WMNST 492W **Current Feminist Issues** (3) Critical analysis of major contemporary feminist research and writing in the arts, humanities, social and natural sciences.
Effective: Spring 2002
Prerequisite: WMNST 301, WMNST 302

WMNST 494 **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Summer 1994

WMNST 494H **Research Project** (1-12) Supervised student activities on research projects identified on an individual or small-group basis.
Effective: Fall 2007

WMNST 495 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 1998
Prerequisite: prior approval of proposed assignment by instructor

WMNST 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside scope of formal courses.
Effective: Fall 1983

WMNST 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1984

WMNST 497D (CRIMJ 497D, PSYCH 497D, SOC 497D) **Family and Justice** (3) Examination of the relationship between the family and the criminal justice system in which the family operates.
Effective: Summer 2010 Ending: Summer 2010

WMNST 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Wood Products (W P)

W P 200W (FOR 200W) **Professional Careers in Forest Resources** (3) Introduction to managing forests for products and services to meet human needs; developing career goals and an academic plan.
Effective: Spring 1996
Concurrent: W P 203

W P 203 **Anatomical Properties of Wood** (1) Provide information on tree form/growth, cell wall formation/composition, structure of wood/bark cells; macroscopic/microscopic identification of hardwood/softwood cells.
Effective: Spring 2001

W P 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1993

W P 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1993

W P 337 **Wood Technology** (2) An introduction to forest tree structure, function, and growth and the identification of important commercial hardwoods and softwoods.
Effective: Summer 1997
Prerequisite: W P 203

W P 400 **Properties of Wood** (2) Chemical Structure and Mechanical Properties of Wood Composites.
Effective: Summer 2003
Prerequisite: W P 200W

W P 411 **Wood-Environmental Relationships** (4) Material composition and structure; basic and derived physical properties; moisture movement in wood; methods and techniques of drying wood.
Effective: Spring 2001
Prerequisite: or concurrent:W P 200W, W P 203

W P 412 **Wood in Structures** (3) Behavior and design of solid, laminated, and plywood wood beams, trusses, columns, and foundations. Wood construction details.
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

W P 413 **The Chemistry of Wood** (3) Chemical composition, reactions, and properties in relation to products and the uses of wood.
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

W P 416 **Wood Industries Management Development** (3) Managerial concepts and issues important to forest products organizations will help prepare students to assume management-level positions.
Effective: Spring 2004
Prerequisite: W P 200W

W P 417 **Wood Products Manufacturing Systems and Processes** (4) Description of systems and processes used in the manufacture of wood products.
Effective: Summer 1997
Prerequisite: W P 200W, W P 203 and sixth-semester standing

W P 418 **Chemical Processing of Wood** (4) Principles and practices of basic operations in converting wood and wood waste into useful chemicals and modified cellulose products.
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

W P 423 **Deterioration and Protection of Wood Products** (2) Timber and wood deterioration from fungi, insects, fire; treatment of wood products for protection.
Effective: Fall 1996
Prerequisite: W P 203

W P 435 **Wood Products Production and Sales Management** (3) Wood products production management with emphasis on investment decision- making, personal selling, and sales management.
Effective: Fall 1996
Prerequisite: W P 200W

W P 437W **Wood Industries Marketing Management** (4) Examination of major international wood products market segments in terms of products, distribution, industry structure, and strategic management issues.
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

W P 438 **Business Concepts for Wood Manufacturing** (4) The course will cover manufacturing strategies and related

financial measures in a wood production environment.
Effective: Summer 2003
Prerequisite: W P 200W

W P 460 **Wood Products Industrial Environmental Control** (3) Wood products industrial environmental control technologies and strategies for pollution abatement.
Effective: Summer 1995
Prerequisite: fifth semester standing

W P 490 **Wood Products Colloquium** (1) Presentations and discussions of solutions to problems within the forest products industry.
Effective: Spring 1993
Prerequisite: seventh-semester standing

W P 495 **Wood Products Internship** (1-6) Supervised field experience related to the student's major.
Effective: Spring 1993
Prerequisite: approval of proposed assignment by instructor prior to registration.

W P 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 1993

W P 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 1993

W P 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005

Last Import from UCM: May 29, 2010 3:00 AM

Workforce Education and Development (WF ED)

WF ED 001 **Education for Work: Trends and Issues** (3) Overview of the history and philosophies of education for employment, current issues, and school to work transition system.
Effective: Summer 1996

WF ED 100 **Orientation to Teaching Vocational Industrial Education/Health Occupations Education Subjects** (2) Basic elements of preparing to teach vocational trade and industrial/health occupations education subjects in the schools of Pennsylvania.
Effective: Summer 1996

WF ED 101 **Early Field Experience in Teaching Vocational Industrial Education/Health Occupations Education Subjects** (1) Discussion and observation of in-school practices to aid the student in making vocational industrial education/health occupations education career decisions.
Effective: Summer 1996

WF ED 105 **Integrated Curriculum Implementation** (3) Occupational analysis for instructional planning; emphasis on instructional methods to deliver a competency based program in an integrated learning environment.
Effective: Summer 1996
Prerequisite: EDPSY 014

WF ED 106 **Program and Facilities Management** (3) Organization and management of learning laboratory to facilitate the delivery of a competency based program in a safe environment.
Effective: Fall 2001

WF ED 197 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 198 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 207W **Assessment Techniques** (3) Assessment, recording, and reporting of learning in an integrated competency based vocational education system.
Effective: Summer 1996
Prerequisite: WF ED 105

WF ED 270 **Introduction to Industrial Training** (3) Overview of training profession. Introduction to economic and psychological foundations. Examination of relationship of industrial training to education.
Effective: Spring 2003

WF ED 296 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1996

WF ED 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 323 **Vocational Student Organizations** (3) Methods in originating, managing, and advising vocational student organizations.
Effective: Summer 1996

WF ED 395A **Trade and Industrial Occupational Experience** (1-8 per semester/maximum of 24) Individual work experience in manufacturing environment or skilled craft area to develop professional competence in specific occupation.
Effective: Summer 1996
Prerequisite: completion of an occupational learning period in the field of certification or field of specialization

WF ED 395B **Occupational Home Economics Work Experience** (1-8 per semester, maximum of 24) Individual work experience in service occupations such as food service, textile production, or child care.
Effective: Summer 1996

Prerequisite: completion of a two-year formal learning period in the field of specialization

WF ED 395C **Health Occupations Work Experience** (1-8 per semester, maximum of 24) Individual work experience in an allied or professional healthcare setting.
Effective: Summer 1996
Prerequisite: completion of a two-year formal learning period in the field of specialization

WF ED 395D **Occupational Work Experience** (1-8 per semester, maximum of 24) Individual work experience in the manufacturing, health, service, or financial arena.
Effective: Summer 1996

WF ED 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 402 **Supervision of Vocational Education** (3) For administrators, supervisors, and teachers responsible for improvement of instruction through supervision or for students preparing for supervisory work.
Effective: Fall 2001

WF ED 413 **Vocational Education for Special-Needs Learners** (3) Introduction to program modifications, supplementary services, and resources required for special-needs learners in vocational and practical arts education programs.
Effective: Fall 2001

WF ED 422 **Integrating Communication Skills into the Vocational Classroom** (3) Students completing this course will demonstrate their ability to integrate oral, written, visual communication skills into their occupational classroom.
Effective: Summer 1996

WF ED 441 **Conceptual and Legal Bases for Cooperative Vocational Education** (2) History, conceptual and legal bases for a cooperative vocational education program.
Effective: Summer 1996
Prerequisite: WF ED 445

WF ED 442 **Operating Cooperative Vocational Education Programs** (2) Student and training station selection, training plan and related subject development, records and reporting systems, school-industry coordination.
Effective: Summer 1996
Prerequisite: WF ED 441

WF ED 445 **Vocational Guidance** (3) Problems and possibilities of vocational guidance; the field of guidance and guidance literature; methods of field work; school guidance techniques.
Effective: Summer 1996
Prerequisite: WF ED 105 ; fourth-semester standing

WF ED 450 (US;IL) **Cultural Diversity in the Workplace** (3) Provides opportunities for students to explore different cultures and mores that are changing the dynamics of the workplace.
Effective: Fall 2006

WF ED 471 **Training in Industry and Business** (3) Appraisal of training functions and development of competencies in work analysis, design, development, delivery, and evaluation of training.
Effective: Spring 2001
Prerequisite: seventh-semester standing or higher

WF ED 495 **Internship** (1-6) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships. Written and oral critique of activity required.
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

WF ED 495A **Cooperative Education Practicum** (2) Validation of competencies learned in prerequisite courses during interaction with professional staff while functioning under the supervision of a certified cooperative coordinator.
Effective: Summer 1996
Prerequisite: WF ED 445

WF ED 495C **Student Teaching** (10) Supervised observation and practice teaching in approved vocational industrial schools/health occupations education settings.
Effective: Spring 1997
Prerequisite: successfull completion of occupational competency evaluation. PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)

WF ED 495D **Instructional Internship in Industrial Training** (5) Supervised internship in industrial training. Interns will be expected to perform instructional duties in industrial environments.
Effective: Summer 1996

Prerequisite: WF ED 105, WF ED 106, WF ED 207W, WF ED 270, WF ED 471 ; successful completion of occupational competency examination

WF ED 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Summer 1996

WF ED 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 497A **The Science and Art of Healing: Sustaining Healthy Living** (3) Critically and scientifically evaluate complementary and alternative healing therapies, current research, and prospects for revised health care policies.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WF ED 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 1996

WF ED 498A **Project Management for Professionals** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

WF ED 498A **Project Management for Professionals** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WF ED 498A (CN ED 498A) **Facilitating Career Development** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

WF ED 498B **Child Development** (3) Teaching the Family & Consumer Sciences Academic Standards: Child Development and Balancing Family, Work and Community Responsibility.
Effective: Summer 2010 Ending: Summer 2010

WF ED 498B (CN ED 498A) **Facilitating Career Development** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

WF ED 498C **Mastering Supervision** (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Summer 2010 Ending: Summer 2010

WF ED 498D (CN ED 498A) **Facilitating Career Development** (3) Students acquire relevant competencies to assist others in planning and managing careers. Upon successful completion, students may apply for the GCDF certification.
Effective: Summer 2010 Ending: Summer 2010

Last Import from UCM: May 29, 2010 3:00 AM

World Languages Education (WL ED)

WL ED 295A **Early Field Experience for World Languages Teacher Preparation** (3) Selected observation of schooling situations in Pre-K-1st grade settings focusing on language acquisition/language teaching.
Effective: Summer 2004
Prerequisite: Third-semester standing; PA Act 34 and Act 151 Clearances required; FBI background information check; and Professional Liability Insurance.   Concurrent: WL ED 300

WL ED 300 **Foundations of Second Language Teaching** (3) Critical understanding of basic concepts and principles in second language acquisition and teaching.
Effective: Summer 2004
Concurrent: WL ED 295A

WL ED 400 **Foundations of Language in Second Language Teaching** (3) Critical understanding of basic concepts and principles in second language acquisition and teaching.
Effective: Summer 2004
Prerequisite: PA Instructional I or II teaching certificate

WL ED 411 **Methods of Teaching World Languages in Grades 1-5** (3) Exploration of the complexity of teaching World Languages and development of curricular designs for teaching in grades 1-5 schools.
Effective: Summer 2004
Prerequisite: EDPSY 014, EDTHP 115, WL ED 295A, WL ED 300   Concurrent: WL ED 495B

WL ED 412W **Methods of Teaching World Languages in Grades 6-12** (3) Exploring the complexity of teaching World Languages and development of curricular designs for teaching World Languages in grades 6-12.
Effective: Spring 2010
Prerequisite: WL ED 411, WL ED 495B   Concurrent: WL ED 495C

WL ED 414 **Methods of Teaching in Bilingual Education** (3) Methods, techniques, materials, and language laboratory in dual-language instruction.
Effective: Spring 2005
Prerequisite: EDPSY 014, EDTHP 115, WL ED 295A, WL ED 300   Concurrent: WL ED 495B or WL ED 495C

WL ED 422 **Issues in Bilingual Education** (3) Contemporary issues in foreign language and bilingual education for prospective and practicing teachers of foreign languages and bilingual education.
Effective: Fall 2004
Prerequisite: 12 credits or 12-credit level proficiency in the target languageEDPSY 014, EDTHP 115, WL ED 295A, WL ED 300

WL ED 444 (CI ED 444) **Language, Culture and the Classroom: Issues for Practitioners** (3) Critical understanding of cultural linguistic diversity to facilitate the inclusion of English Language Learners in a globalized classroom.
Effective: Fall 2007
Prerequisite: WL ED 300 orWL ED 400

WL ED 483 **Evaluating Schools Performances and Programs with English Language Learners (ELLs)** (3) Using/adapting multiple techniques to asses English Language Learners (ELLs) language and other school subjects.
Effective: Summer 2004
Prerequisite: WL ED 300 orWL ED 400

WL ED 495B **Field Experience for World Languages Teacher Preparation in Grades 1-5** (3) Practicum. Prospective World Language teachers demonstrate knowledge on second language learning/teaching and educational theories (Grades 1-5).
Effective: Spring 2009
Prerequisite: EDPSY 014, EDTHP 115, WL ED 295A, WL ED 300 ; PA Act 34 and Act 151 Clearances required; FBI background information check; and Professional Liability insurance.   Concurrent: WL ED 411

WL ED 495C **Field Experience for World Languages Teacher Preparation in Grades 6-12** (3) Practicum. Prospective World Language teachers demonstrate knowledge on second language learning/teaching and educational theories (Grades 6-12).
Effective: Spring 2009
Prerequisite: WL ED 411;WL ED 495B ; PA Act 34 and Act 151 Clearances required; FBI background information check; and Professional Liability insurance.   Concurrent: WL ED 412

Last Import from UCM: May 29, 2010 3:00 AM

Youth and Family Education (YFE)

YFE 211 (GS;US;IL) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Summer 2010

YFE 211 (GS;US;IL) (CAS 222, CIVCM 211) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

YFE 211S (GS;US;IL) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Summer 2008 Ending: Fall 2010

YFE 211U (GS;US;IL) **Foundations: Civic and Community Engagement** (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

YFE 295 **Internship** (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.
Effective: Spring 2000 Ending: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

YFE 295A **Observation of Cooperative Extension Service Programs** (1-2) Supervised observation of extension education in agriculture, community resource development; family living, 4-H programs; appraisal of responsibilities of extension professionals.
Effective: Spring 2000 Ending: Fall 2010

YFE 297 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000 Ending: Fall 2010

YFE 298 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000 Ending: Fall 2010

YFE 397 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000 Ending: Fall 2010

YFE 398 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000 Ending: Fall 2010

YFE 438 (US) **Living in an Increasingly Diverse Society** (1-3) Students in this course will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning.
Effective: Summer 2005 Ending: Fall 2010

YFE 439 **Contemporary Youth Issues** (3) This course focuses on empirically-supported interventions that promote resiliency and reduce risk for problem behaviors among youth in community settings.
Effective: Summer 2000 Ending: Fall 2010
Prerequisite: a minimum of six credits in courses that focus on youth and/or families

YFE 455 **Extension Youth Development Programs and Volunteer Management** (3) A study of 4-H/Extension youth programs and the variety of roles played by volunteer leaders.
Effective: Summer 1999 Ending: Fall 2010
Prerequisite: 6 credits of social or behavioral sciences

YFE 470 **Consumer and Financial Skills** (3) Consumer and financial issues formal and non formal educators need to be informed about to function in today's society.
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: Six credits of social and behavioral sciences and six credits of quantification (math)

YFE 495 **Internship in Youth and Family Education Programs** (6-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.
Effective: Summer 1999 Ending: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

YFE 496 **Independent Studies** (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.
Effective: Spring 2000 Ending: Fall 2010

YFE 497 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.
Effective: Spring 2000 Ending: Fall 2010

YFE 498 **Special Topics** (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.
Effective: Spring 2000 Ending: Fall 2010

YFE 499 (IL) **Foreign Studies** (1-12) Courses offered in foreign countries by individual or group instruction.
Effective: Summer 2005 Ending: Fall 2010

Last Import from UCM: May 29, 2010 3:00 AM

University Course Descriptions

COURSE-NUMBERING SYSTEM

These course descriptions are arranged alphabetically. If any course cannot be located readily, refer to the index. Multiple offerings may be accommodated by the use of suffixes A, B, etc. Courses are numbered as follows:

UNDERGRADUATE COURSES (1 to 399): General courses accepted in fulfillment of requirements for the bachelor's degrees.

ADVANCED UNDERGRADUATE COURSES (400 to 499): Courses open to graduate students and to juniors and seniors and, with the special written permission of the head of the department or the chair of the program sponsoring the course, to qualified students in earlier semesters.

GRADUATE COURSES (500 to 699; 800 to 899): Courses restricted to students registered in the Graduate School, seniors with an average of at least 3.50, and other students who have been granted permission to enroll by the dean of the Graduate School. These courses are described in the Penn State Graduate Degree Programs Bulletin.

MEDICAL COURSES (700-799): Courses restricted to students registered in the College of Medicine.

LAW COURSES (900-999): Courses restricted to students registered in The Dickinson School of Law.

COMMON COURSE NUMBERS

The following course numbers for which students may register have been set up for common use by major programs, with University Senate approval, to encourage innovation and provide flexibility in designing programs, but in no case may a course be scheduled for 0 credits. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

097, 197, 297, 397, 497; 098, 198, 298, 398, 498. SPECIAL TOPICS (1-9) (Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.) Several different topics may be taught in one year or semester. A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

099, 199, 299, 399, 499. (GI) FOREIGN STUDIES (1-12) (Courses offered in foreign countries by individual or group instruction.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

187 FIRST-YEAR SEMINAR Listed under some liberal art-related academic headings, this course has prerequisites of first-semester standing and enrollment in the College of the Liberal Arts. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

294, 494. RESEARCH PROJECT COURSES (1-12) (Supervised student activities on research projects identified on an individual or small-group basis.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc.

295, 395, 495. INTERNSHIP (1-18) (Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc. Prerequisite: prior approval of proposed assignment by instructor.

296, 496. INDEPENDENT STUDIES (1-18) (Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.) A specific title may be used in each instance and will be entered on the student's transcript. Multiple offerings may be accommodated by the use of suffixes A, B, etc. Students may not register for these courses without prior written approval of a faculty member in the department in which the courses are listed.

GENERAL EDUCATION COURSE DESIGNATIONS

Courses that appear in this bulletin with the following designations have been approved for General Education. See http://bulletins.psu.edu/bulletins/bluebook/general_education.cfm for further information.

- **Skills Courses**
- Writing/Speaking — GWS
- Quantification — GQ
- **Knowledge Domains Courses**
- Health and Physical Activity — GHA (formerly Health Sciences--GHS and Physical Education--GPE)
- Natural Sciences — GN
- Arts — GA
- Humanities--GH
- Social and Behavioral Sciences — GS

DESIGNATIONS FOR ADDITIONAL REQUIREMENTS

In addition to the General Education degree requirements, every baccalaureate degree student will also complete the United State Cultures (US) and International Cultures (IL), Writing Across the Curriculum (M, W, Y, and X), and First-Year Seminar (S, T, X, or PSU designation) requirements.

Courses that appear in this bulletin with an H, M, or T suffix following the course number are identified as honors courses. University Scholars Program students may participate in honors courses. In addition, any University Senate approved course may be offered with the honors suffix identification with the approval of the University Scholars Program. The honors identification will be entered on the student's transcript.

CREDITS AND HOURS

Credits are awarded on the semester-hour basis. According to Senate Policy 42-23, a total of at least forty hours of work planned and arranged by the University faculty is required for the average student to gain 1 credit. While the distribution of time varies from course to course, generally one-third of the time is devoted to formal instruction, such as lecture, recitation, laboratory, field trips, etc., and two-thirds of the time to outside preparation.

Credits, classroom work, and practicum work

The number of credits for each course is indicated in parentheses and can be earned with classroom, practicum, or laboratory work as designated in the Schedule of Courses, accessible through the Registrar's home page at www.psu.edu/registrar.

A typical period is fifty minutes.

A department may schedule an entire section in an undergraduate course for fewer credits than the maximum authorized. In 400-level courses, a department may schedule an individual student for fewer credits than the maximum authorized. In no case, however, may the course be scheduled for 0 credit, or may the total credits scheduled for any student exceed the maximum number authorized for the course.

Courses that may be repeated and variable credit courses

If a course may be repeated, the words "per semester" follow the number of credits--for example (3 credits per semester). These courses may be repeated indefinitely unless the credits are followed by the maximum number of credits allowed, such as (3 per semester, maximum of 12).

Courses may have variable credits, such as (1-3), (2-6), or (3-10). Here, the larger number signifies the total credits that can be accumulated for the course over an indefinite number of semesters, unless otherwise specified. For example, a course listed with (1-6) could be taken six semesters for 1 credit each semester, or two semesters for 3 credits each semester, or once for 6 credits, etc.

In some courses with variable credits, students may be permitted to accumulate more than the larger number shown. Such courses will be listed as, for example, (1-3 per semester, maximum of 12).

Any special departmental limitations are indicated by footnotes.

PREREQUISITE AND CONCURRENT COURSES

Prerequisites are approximations of the necessary prior specific or general academic knowledge, background, or semester standing required in order to succeed academically in a specific course. Concurrent courses are to be taken in the same semester. The course instructor has the right to limit the students in the course to those who have the stated prerequisites. If this limitation is exercised, it must occur before the end of the course add period.

East Asian Studies (EA ST)

EA ST 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrowsubject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 187 East Asian Studies Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

East Asian Studies Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 401 East Asian Studies (3-6) An interdisciplinary, variable content, lecture-discussion course on the history, culture, politics, and international relations of China, Japan, and Korea.

East Asian Studies (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: 6 credits from courses in the East Asian Studies program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

East Asian Studies (EA ST)

EA ST 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (ED)

ED 197A From High to Higher: Strategies for Creating Success in College Programs (3) Formal courses given infrequently to explore, in depth, a comparatively narrowsubject that may be topical or of special interest.

From High to Higher: Strategies for Creating Success in College Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2008 Future: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor-Mgmt Relations (L M R)

L M R 433 No long title. (3) No description.

No long title. (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1969

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 151 Introductory Financial Accounting I (3) Basic concepts, principles, and practices for the recording, summarizing, and interpreting of accounting data.

Introductory Financial Accounting I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 152 Introductory Financial Accounting II (3) Accounting for partnerships, corporations, cash flows, certain liabilities and assets, and the analysis of financial statements.

Introductory Financial Accounting II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: ACCTG 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 153 Intermediate Accounting (3) Financial accounting statements, concepts, and procedures; assets, liabilities, owners' equity, statement analysis. Students may not receive credit for both ACCTG 150 and 471.

Intermediate Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: ACCTG 151, ACCTG 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 160 Cost Accounting (3) Use of standard cost accounting procedures to present cost and budget statements as a means of providing managerial control. Students may not receive credit for both ACCTG 160 and ACCTG 404.

Cost Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 151, ACCTG 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 186 Federal Tax Accounting (3) Tax planning and compliance with federal income tax rules and regulations, especially those affecting individuals.

Federal Tax Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 151, ACCTG 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 197 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 201 Introductory Financial Accounting (3) Fundamentals of the collection, recording summarization, and interpretation of accounting data.

ACCTG 201 Introductory Financial Accounting (3)

This course is designed as an introductory course providing the first steps to an understanding of the basic principles of accounting from a financial perspective. Because business administration students need to understand the basic principles of financial accounting as fundamental to their field, they need to be grounded in the knowledge of basic concepts, principles, and practices for the recording, summarizing, and interpreting of accounting data. Specifically, acknowledge of accounting for partnerships, corporations, cash flows, certain liabilities and assets, and the analysis of financial statements are presented. Some financial accounting methods, theory and concepts as well as problem analysis in applying concepts to financial statements is also introduced.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 202 Introductory Managerial Accounting (3) Actual and standard cost system, managerial use of cost, data, budgeting and performance evaluation.

ACCTG 202 Introductory Managerial Accounting (3)

This course is designed as an introductory course providing the first steps to an understanding of the basic principles of accounting from a managerial perspective. Because business administration students need to understand the basic principles of managerial accounting as fundamental to their field, they need to be grounded in the knowledge of actual and standard cost systems, the use of cost data, and budgeting and performance evaluation. More specifically, students will be introduced to:
1) principles of manufacturing cost
2) cost determination
3) cost behavior
4) cost-benefit analysis
5) standard cost budgeting and variance analysis in performance evaluation
6) capital investment decisions
7) product pricing decisions

In the course students will also be introduced to the elements of investor decision making.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: ACCTG 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 211 Financial and Managerial Accounting for Decision Making (4) Introduction to the role of accounting numbers in the process of managing a business and in investor decision making.

ACCTG 211 Financial and Managerial Accounting for Decision Making (4)

The objective of this course is to introduce students to the discipline of accounting through an introduction to two of accounting's sub-disciplines, financial and managerial accounting. The more specific purpose is to provide students a basic understanding of the role of financial and managerial accounting information in the decisions of capital market participants external to a business enterprise (e.g., stockholders, banks, financial analysts, prospective stockholders), and in the decisions of those who manage business enterprises. Accounting information has an important role in the resource allocation process in our socio-economic system as a whole, as well as in each individual business enterprise. This course provides students an understanding of (1) the nature of the accounting function, and (2) how the information in accounting reports are used by various decision makers in their resource allocation decisions.

In this course students will develop an understanding of (a) the five activity dimensions of accounting (the collection, recording, analysis, interpretation and reporting of information to decision makers for (mainly) their investment decisions), (b) the issues surrounding the five activity dimensions, (c) the environment in which accounting is practiced, and (d) what information is used in a number of specific decision situations, and how such information is used in such decision situations. The analysis, interpretation and decision-making orientation of this course includes a study of the procedural (mechanical and processing) aspects of the recording activity dimension which is an important means to the end --where the end is the analysis and interpretation of the information, and the reports produced by the recording/processing part of accounting. Through this focus on the recording activity dimension, students will obtain an understanding of (a) the nature and quality (strengths and weaknesses) of accounting information, (b) how to proceed in analyzing and interpreting accounting information, and (c) numerous other aspects of financial and managerial accounting.

This course is an important background course for all business majors, as well as for numerous non-business majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 021 or 1.5 units of high school algebra

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 211H Financial and Managerial Accounting for Decision Making (4) Introduction to the role of accounting numbers in the process of managing a business and in investor decision making.

ACCTG 211H Financial and Managerial Accounting for Decision Making (4)

The objective of this course is to introduce students to the discipline of accounting through an introduction to two of accounting's sub-disciplines, financial and managerial accounting. The more specific purpose is to provide students a basic understanding of the role of financial and managerial accounting information in the decisions of capital market participants external to a business enterprise (e.g., stockholders, banks, financial analysts, prospective stockholders), and in the decisions of those who manage business enterprises. Accounting information has an important role in the resource allocation process in our socio-economic system as a whole, as well as in each individual business enterprise. This course provides students an understanding of (1) the nature of the accounting function, and (2) how the information in accounting reports are used by various decision makers in their resource allocation decisions.

In this course students will develop an understanding of (a) the five activity dimensions of accounting (the collection, recording, analysis, interpretation and reporting of information to decision makers for (mainly) their investment decisions), (b) the issues surrounding the five activity dimensions, (c) the environment in which accounting is practiced, and (d) what information is used in a number of specific decision situations, and how such information is used in such decision situations. The analysis, interpretation and decision-making orientation of this course includes a study of the procedural (mechanical and processing) aspects of the recording activity dimension which is an important means to the end --where the end is the analysis and interpretation of the information, and the reports produced by the recording/processing part of accounting. Through this focus on the recording activity dimension, students will obtain an understanding of (a) the nature and quality (strengths and weaknesses) of accounting information, (b) how to proceed in analyzing and interpreting accounting information, and (c) numerous other aspects of financial and managerial accounting.

This course is an important background course for all business majors, as well as for numerous non-business majors. For accounting majors it is a prerequisite for ACCTG 306, 404, and 471.

The course format consists of lectures, outside reading, class discussion, projects and homework assignments.

The semester grade for this course will be determined by a weighted average of performance on mainly exams, quizzes, projects and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 021 or 1.5 units of high school algebra

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 300H Honors Course in Accounting (1-12) Honors program of intensive individual or group study in various areas of accounting.

Honors Course in Accounting (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: approval by Departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 305 Financial Statements and Management Decisions (4) Impact of management's financing, investing, and operating decisions on GAAP- based financial statements. Students who have passed ACNTG 310 or 311 may not take this course for credit.

ACCTG 305 Financial Statements and Managerial Decisions (4)

This course is a one-semester alternative to the traditional two-semester intermediate accounting sequence (ACCTG 371 and 472) intended for the non-accounting major. Students who have passed ACCTG 371 or 472 may not take this course for credit. It is a required course for the Finance major. It will also substitute for ACCTG 371 in meeting the requirements for an Accounting minor, and serve as a business supporting course for students in other School of Business majors. Students will gain a fundamental understanding of the information conveyed in the financial statements and, as a result, develop an appreciation for its usefulness and limitations in decision making. They will also develop the prerequisite knowledge base necessary to conduct financial statement analysis as required in Level I of the Chartered Financial Analyst (CFA) exam. A financial statement user decision-making perspective, rather than the accountant/preparer approach found in the traditional intermediate accounting course, is emphasized. Student success in meeting the learning objectives will be assessed through a combination of exams, homework problems, and assignments. The comprehensive final exam will test the student's comprehension of the relevant material.

Faculty Members Proposing Course: Timothy R. Smaby and David T. Doran

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211, FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 310 Federal Taxation I (3) Study of income determination concepts for individuals and corporations, impact of taxation on decisions, elementary research techniques, and ethical standards.

ACCTG 310 Principles of Taxation (3)

This course is directed to the study of concepts relative to: (a) the determination of taxable income and tax liability, (b) the influence of tax considerations on the decisions of taxpayers, and (c) elementary tax research techniques. Primary emphasis is given to concepts that are fundamental to the federal taxation of income with respect to business entities. Also, basic aspects of the taxation of individuals are introduced.

The objectives of this course are to enable students to do the following:
1) apply basic tax rules and regulations to compute the taxable income and federal income tax liability for corporate and individual taxpayers,
2) incorporate tax costs and tax benefits into calculations of the net present value of cash inflows and outflows from taxable activities,
3) recognize tax planning opportunities or problems inherent in common transactions, and
4) appreciate the impact of the basis of accounting on both tax and financial reporting.

Typical topics include sources of authority, structure of an income tax, property transactions, choice of entity, distribution of income, selection of jurisdiction, means of financing, and taxation of individuals. Students should be familiar with basic accounting concepts, should understand the nature of financial instruments, and should be able to apply the concept of present value and future value in estimating cash inflows and outflows.

This is a required course for accounting majors and, for many of them, the only tax course that they take. Other students who meet the prerequisite requirements may take this course as an elective. Also, this principles course in taxation is a prerequisite requirement for an advanced course in taxation.

Evaluation is based primarily on periodic examinations. No special facilities are required. However, students have on-line access to tax laws and regulations, tax cases, and administrative guidance. This course is generally offered every semester with enrollments of twenty to thirty students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 311 Accounting Systems and Control (3) Introduction to accounting procedures to gather, to aggregate, and to report accounting data to managers and to external readers.

ACCTG 311 Accounting Information Systems (3)

This course pertains to the study of accounting information systems as an important part of a firm's total information systems. The accounting cycle, as the key process providing financial information to management, is thoroughly reviewed and documented. Emphasis is given to the importance of computer-based accounting information systems in supporting internal controls and improving financial reporting, asset security and efficiency and effectiveness of performance. Course objectives: 1.) to understand the accounting model and specifically, the accounting cycle within a business entity; 2.) to process business and accounting transactions and complete the accounting cycle within a computer-based accounting information system; 3.) to analyze accounting information and related internal controls within a computer-based accounting information system; 4.) to examine relevant ethical issues; 5.) to gain an appreciation for evolving technology advancements, such as ERP's and e-commerce, and their impact on the accounting cycle and internal controls. This is a prescribed course for majors in Accounting and it serves as a foundation and prerequisite for most 300-level and 400-level accounting courses. Students will be evaluated based on performance on exams, computer-based accounting system project, and periodic homework assignments. Typically, 50% or more of student's grade is based on performance on exams. Course will be taught in either a technology classroom with computers for all students or periodic sessions in the computer lab. [Students will require consistent access to a computer to complete computer-based accounting system project].

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: ACCTG 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 312 Accounting Technology Lab (3) Hands-on course to teach accounting software, applications of spreadsheets and databases in accounting, and surveying of underlying database theory.

ACCTG 312 Accounting Technology Lab (3)

This is a hands-on course to teach accounting software, applications of spreadsheets and databases in accounting, and surveying of underlying database theory.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 305 orACCTG 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 371 Intermediate Accounting I (4) Financial accounting methods, theory and concepts; analysis of problems in applying concepts to financial statements and asset accounts.

Intermediate Accounting I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 340 Cost Accounting (3) Accounting for manufacturing concerns; actual and standard cost systems, and managerial uses of cost data.

Cost Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211 orACCTG 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 403 Auditing (3) Financial compliance, internal, and operational audits; standards and procedures; sampling; EDP auditing; professional issues; application of concepts through written responses.

ACCTG 403 Auditing (3)

Financial statement, regulatory and contract compliance, internal and operational audits, professional standards and ethical conduct; statistical and judgmental sampling; the audit-impact of information technology; audit risk and internal control structure evaluation; application of procedures in transaction cycles; audit reporting; professional issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 403W Auditing (3) Financial, compliance, internal, and operational audits; standards and procedures; sampling; EDP auditing; professional issues; application of concepts through written responses.

ACCTG 403W Auditing (3)

Financial statement, regulatory and contract compliance, internal and operational audits, professional standards and ethical conduct; statistical and judgmental sampling; the audit-impact of information technology; audit risk and internal control structure evaluation; application of procedures in transaction cycles; audit reporting; professional issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 405 Principles of Taxation I (3) Elements of tax policy and tax-planning concepts for personal and business decision making; with emphasis on taxation of individuals.

ACCTG 405 Principles of Taxation (3)

Introduction to Taxation, is the first course that undergraduate accounting majors take that is devoted entirely to taxation. Although the course is intended for accounting majors, the content is relevant to finance majors seeking elective courses. The objective of the course is to provide students with a basic understanding of the concepts, terminology, and decision-making skills specific to the discipline of taxation that are germane to the professional development of those preparing for a career in accounting. Although the course surveys the many forms of taxation that are found in industrialized societies, and the comparisons thereof, the main focus is on the federal income taxation of individuals. However, coverage is provided regarding the manner in which the taxation of individuals relates to corporate and partnership entities. ACCTG 405 is related to other accounting courses through its coverage of income concepts, and micro-economic principles. The former compares differences in the measurement of financial accounting income with the manner in which income is determined according to the tax laws. The latter emphasizes business decision-making principles that are important in the managerial portion of the accounting program. The course covers topics that illustrate fundamental tax strategies and how such enable taxpayers to achieve business and personal economic objectives. The assessment process in ACCTG 405 incorporates examinations, homework assignments, and individual and group projects. The exams are combinations of objective questions and open-ended problems. Exams are often given in the evening. Course learning aids include a text book, on-line tax research services, spreadsheet software, and a packet of handouts prepared by instructors to keep the classes updated on the many changes in the tax laws that occur each year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211;B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 404 Managerial Accounting: Economic Perspective (3) Accounting techniques as planning, control, and motivating devices in business and other organizations; accounting data for decision making and performance evaluation.

ACCTG 404 Managerial Accounting (3)

This course emphasizes the use of accounting information for internal purposes as opposed to the external disclosure focus of the financial accounting course. The cost covers the vocabulary and mechanics of cost accounting and the design of management accounting systems for planning and controlling operations, and for motivating personnel. The course integrates accounting with ideas from data analysis, decision analysis, finance, microeconomics, and operations management. The themes stressed throughout the course will be the notion that information is costly; the circumstances that necessitate cost allocation, the idea that different costs and different allocation schemes apply for different purposes; and fundamentals of incentive and compensation plans. Among the topics covered are cost behavior, cost-volume analysis, relevant costs, and the use of cost information for decision making. The course will rely on lectures and discussion of case studies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211, SCM 200 orSTAT 200, ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 406 Principles of Taxation II (3) Impact of federal tax structure on business decisions, research methodology, tax planning; ethical considerations of tax practice.

Principles of Taxation II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 410 Federal Taxation II (3) An examination of the rules and forms used to compute the federal tax liability of corporations and partners.

Federal Taxation II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 411 Accounting Practicum: VITA (3) Introduces students to practical aspects of tax preparation through the IRS' VITA program and completion of a tax research project.

Accounting Practicum: VITA (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 413 Auditing Internship (3) Full-time auditing experience for at least 10 weeks with approved firms. Students who have passed ACCTG 414 may not schedule this course.

Auditing Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 403 orACCTG 403W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 426 Financial Statement Analysis (3) The exploration of conventional and advanced methods of analyzing financial statements, including the assessment of earnings quality.

ACCTG 426 Financial Statement Analysis (3)

The objective of this course is to explore conventional and advanced analytical methods of analyzing financial statements. Expanding on the material covered in the principles of accounting and principles of finance courses and using actual financial statements, students:

- review and apply the traditional methods for analyzing financial statements, such as ratio analysis, trend analysis, and common-size analysis,
- apply advanced tools for analyzing financial statements, such as financial distress prediction models and earning manipulation prediction models, and
- evaluate accounting policies and disclosures and their impact on the financial statements through the assessment of earnings quality.

Accounting (ACCTG)

ACCTG 422 Accounting Systems (3) Understanding flow and documentation of accounting information and internal controls in the context of accounting cycles.

ACCTG 422 Accounting Systems (3)

This course primarily investigates accounting transactions cycles-processes and procedures by which an organization's financial information is recorded, processed, reported, and disposed of. The processes covered in this course range from manual to fully automated and Web-enabled systems. The documentation and analysis of the accounting cycles for the revenue, expenditure, conversion, and managerial reporting areas are explored via flowcharts and narrative descriptions. The concepts of files, transaction updates, editing, and reporting in the automated accounting systems are explored. The course also covers internal controls in the manual and automated systems. Additional topics may include fraud examination, applicable laws and regulations, and computerized auditing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 431 Advanced Auditing (3) Examination of legal liability, EDP, statistical sampling, SEC reporting, internal control, and financial reporting in specialized industries.

Advanced Auditing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 403 orACCTG 403W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 432 Accounting Information Systems (3) Systems analysis tools and techniques; internal control concepts; development of computer control procedures.

ACCTG 432 Accounting Information Systems (3)

Accounting data are utilized as information in making decisions and as a control mechanism. The focus of this course, however, will be upon the actual production of accounting data.

The purpose of the course is to learn how accountants collect relevant data and transform them into reports appropriate for managers and external readers. Procedural details will focus first on the traditional accounting cycle and the journal entries for business transactions and events. Then we shall examine in detail the principle accounting cycles: sales cycle, cash receipts cycle, purchases cycle, cash disbursements cycle, payroll cycle, facilities cycle, general ledger cycle, production cycle.

For each cycle, you should be able to explain the relation of the accounting process to the business enterprise, the basic journal entries, the basic internal control features, and the document flow.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471, MIS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 433 Computer Audit and Control (4) Management application controls for EDP systems; EDP audit techniques; evaluation of system reliability.

Computer Audit and Control (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:ACCTG 403 orACCTG 403W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 440 Advanced Management Accounting (3) Management accounting topics such as decision models, quantitative techniques, variance analysis, and their use in accounting.

Advanced Management Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 450 Advanced Accounting (3) Accounting theory and practice for business combinations, branches, international operations, partnerships, consolidated financial statements, corporate liquidations, nonprofit organizations, estates, and trusts.

Advanced Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 462 Governmental and Not-for-Profit Accounting (3) Provides an understanding of governmental and not-for-profit accounting theory, procedures, and financial statements.

Governmental and Not-for-Profit Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ACCTG 311 orACCTG 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 461 (IL) International Accounting (3) Study of international accounting issues with emphasis on need, use, and interpretation of financial accounting required in global business environment.

International Accounting (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 463 Accounting Theory (3) An analysis of the development of accounting theory and its current and future impact on accounting.

Accounting Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 471 Intermediate Financial Accounting I (3) Theory and practice issues in income concepts and value measurement; GAAP; revenues, costs, assets, liabilities, and equities.

ACCTG 471 Intermediate Accounting I (3)

This course provides students with an understanding of generally accepted accounting principles and procedures so that they properly account for and present information in financial statements prepared for external users. The student should acquire a complete understanding of the accounting issues relating to cash, receivables, inventory, plant assets, natural resources, and intangibles. The student should be able to evaluate alternative accounting methods and choose the methods which will best convey the financial information related to the above areas. The student should be able to apply appropriate generally accepted accounting principles and procedures to account for transactions related to the above asset areas. The student should be able to demonstrate an understanding of the transaction analysis, recording, classification, summarization, and reporting procedures in the accounting cycle, and an understanding of the information contained in the financial statements. Finally, student should be able to demonstrate written communication skills required of accountants.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211 orACCTG 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 473 Advanced Financial Accounting (3) Reporting for multi-corporate enterprises, business combinations, quasi-reorganizations, and selected contemporary reporting problems.

ACCTG 473 Advanced Financial Accounting (3)

This course explores four major topics: accounting for business combinations, introduction to derivatives and special purpose entities, accounting for foreign currency transactions and consolidating foreign subsidiaries, and ethics and policy issues for the profession.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ACCTG 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 472 Intermediate Financial Accounting II (3) Off-balance-sheet financing; special issues in cost capitalization, liabilities, and equities; matching; funds flow statements; statement analysis; inflation accounting.

Intermediate Financial Accounting II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 371 orACCTG 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 481 Financial Statement Analysis: Accounting Based Evaluation and Decision Making (3) An accounting based evaluation and decision making approach to analyzing financial statements by studying business and firm valuation.

ACCTG 481 Financial Statement Analysis (3)

The proposed course in financial statement analysis is structured to improve the student's ability to extract and interpret information from actual financial statements and to expose the student to how financial statement information is integrated into equity valuation and credit analysis. The course would not only rely upon textbook-based and lecture-based learning, but also emphasize case-based learning.

The course will consist of two main sections. The first will deal with accounting and business analysis. This part will explore the types of financial information data typically available for publicly traded companies and introduce a model of the economic drivers of company performance. It would incorporate some technical accounting as well as some standards business economics/strategy concepts. Students will be forced to recast financial statements that they believe do not reflect the underlying economic state of the company. Financial reporting issues relating to revenue and expense recognition, leases and consolidations will be discussed.

The other section of the course will deal with firm valuation. Students would be exposed to some standard approaches to equity valuation and the analysis activities underlying these approaches. Aspects of valuation that would be covered in this section of the course are financial ratio analysis, forecasting, pro-forma statements, cost of capital and valuation methods.

The course will rely on lectures and extensive use of case studies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:ACCTG 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 489 Seminar in Accounting (3) New trends and concepts in accounting; applications and impact on problem solving and decision making.

Seminar in Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 494H Research Project (1-3 per semester/maximum of 6) Supervised student activities on research projects identified on an individual or small-group basis.

ACCTG 494H Research Project (1-6)

ACCTG 494H, Senior Honors Thesis in Accounting - Investigation of an original problem area associated with accounting, including literature review. A thesis topic must be approved and a thesis supervisor must be identified before the course may be scheduled. Students sign up for three credits in each of their last two semesters for a total of six credits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 497A Forensic Accounting (3) Forensic Accounting.

Forensic Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest. .

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 497A Forensic Accounting (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Forensic Accounting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Accounting (ACCTG)

ACCTG 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 401 General Acoustics (3) Basic principles of acoustics; perception of sound; electroacoustic transducers and fundamentals of sound techniques. Offered for Communications Disorders and some nonscience majors.

General Acoustics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: 3 credits of Communication Disorders

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 402 Introduction to Acoustics (3) Basic principles of acoustics and perception of sound; fundamentals of applications: electroacoustic transducers, noise measurement and control, architectural and building acoustics, underwater sound. Offered for science and engineering majors.

Introduction to Acoustics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PHYS 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 403 Modern Electronics for Engineering Acoustic Applications (3) A wide-ranging coverage of modern electronic technology and the application of this technical base to acoustics and acoustical problems.

Modern Electronics for Engineering Acoustic Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1982
Prerequisite: PHYS 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Acoustics (ACS)

ACS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 100 Adult Learners in the University (3) Opportunity to develop effective learning strategies while exploring critical issues related to adults entering or returning to higher education.

ADTED 100 Adult Learners in the University (3)

This course is designed for the adult learner who is entering the university for the first time, or who is returning after an absence from studies. In this course we will help you: develop or renew effective study skills, learning strategies, and time management tools that will help you succeed as a Penn State student; identify useful university resources; learn effective writing skills and hone critical reading abilities to meet the requirements of academic coursework. Practice your public speaking skills so you will feel more confident and articulate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 297 Special Topics (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 100S Adult Learners in the University (1) Opportunity to develop effective learning strategies while exploring critical issues related to adults entering or returning to higher education.

ADTED 100S First Year Seminar Adult Learners in the University (1)
(FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for the adult learner who is entering the university for the first time, or who is returning after an absence from studies. In this course we will help you: develop or renew effective study skills, learning strategies, and time management tools that will help you succeed as a Penn State student; identify useful university resources; learn effective writing skills and hone critical reading abilities to meet the requirements of academic coursework. Practice your public speaking skills so you will feel more confident and articulate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 456 Introduction to Family Literacy (3) Explores comprehensive family literacy models, focusing upon families, services, outcomes, and roles and responsibilities of individuals, organizations, and communities.

ADTED 456 Introduction to Family Literacy (3)

Introduction to Family Literacy is one of the five 3-credit courses in the 15-credit Certificate in Family Literacy developed by the Goodling Institute for Research in Family Literacy in the College of Education in partnership with the National Center for Family Literacy (Louisville, KY). It is offered both summer and fall semesters to about 20 students per class. The course is 15 weeks in length, entirely online, and cohort-based. Study materials are both web- and print-based. Students work in teams for most of their assignments although they are also expected to produce a portfolio of individual application activities. An Associate's Degree or 60 baccalaureate credits at an accredited institution are required to enter the course. Technological requirements, registration, and other support are provided.

This course provides opportunities for students to discover and analyze comprehensive family literacy within a model centered on how services evolved out of a need to break the cycle of intergenerational poverty and under-education.

Course objectives include to: (1) Identify the qualifying and distinguishing characteristics of families for whom comprehensive family literacy services are designed. (2) Describe ways in which comprehensive family literacy programs are designed to meet individual family needs. (3) Analyze the influence unique family and community characteristics have on family literacy programs and student learning. (4) Identify key characteristics and quality standards for Adult Education, Children's Education, Parent-Child Interactive Literacy, and Parenting Education. (5) Communicate an awareness of the characteristics of comprehensive family literacy as described in the federal definition. (6) Communicate an understanding of component integration and its importance. (7) Communicate an understanding of how to network with external agencies for program participant referral and services. (8) Describe key roles and responsibilities of family literacy staff. (9) Communicate an understanding of program tools for assessment, evaluation and reporting. (10) Analyze a family literacy site and develop plans intended to impact quality within that program that help family participants identify and meet their individual goals.

Based on criteria provided in rubrics, students are evaluated on weekly individual activities, collaborative team assignments, and various components of an individual final project. In addition to evaluation of these student assignments, each student is assessed on participation in team and whole-class discussion groups, and contributions to team effectiveness for completing assignments. Feedback is provided for each submitted assignment, using a rubric with instructor comments added.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Associate Degree or 60 undergraduate credits

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 458 Early Literacy Development and Parental Involvement (3) Focuses on young children's language and literacy development, including parental and staff support, grounded in scientifically based reading research.

ADTED 458 Early Literacy Development and Parental Involvement (3)

Early Literacy Development and Parental Involvement is one of the five 3-credit courses in the 15-credit Certificate in Family Literacy developed by the Goodling Institute for Research in Family Literacy in the College of Education in partnership with the National Center for Family Literacy (Louisville, KY). It is offered during the summer and fall semesters to about 20 students per class. The course is 15 weeks in length, entirely online, and cohort-based. Study materials are both web- and print-based. Students work in teams for most of their assignments although they are also expected to produce a portfolio of individual application activities. An Associate's Degree or 60 baccalaureate credits at an accredited institution are required to enter the course. Technological requirements, registration, and other support are provided.

This course focuses on young children's language and literacy development, including ways that parents and staff support this development, research related to children's learning, and ways in which family literacy supports early literacy development.

Course objectives include to: (1) Identify personal theories regarding children's reading, writing, and language and literacy development, reading and writing. (2) Know what research indicates regarding children's reading, writing, and language and literacy development. (3) Apply research to practice. (4) Know areas of language and literacy development and ways that adults support it. (5) Plan ways teachers can support language and literacy development, including within the realms of goal setting, the teaching/learning cycle, the learning environment, routines, and interactions. (6) Plan ways to inform and support parents. (7) Modify and adapt in order to serve students of all abilities. (8) Understand integration and demonstrate the integration of language and literacy learning across components. (9) Demonstrate ways language and literacy development informs interactive learning between parents and children and parenting education.

Based on criteria provided in rubrics, students are evaluated on weekly individual activities, collaborative team assignments, and various components of an individual final project. In addition to evaluation of these student assignments, each student is assessed on participation in team and whole-class discussion groups, and contributions to team effectiveness for completing assignments. Feedback is provided for each submitted assignment, using a rubric with instructor comments added.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Associate degree or 60 undergraduate credits

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 457 Adult Literacy (3) Surveys adult basic and literacy education programs and best practices; applies recent research on adult and family literacy.

ADTED 457 Adult Literacy (3)

Adult Literacy is one of the five 3-credit courses in the 15-credit Certificate in Family Literacy developed by the Goodling Institute for Research in Family Literacy in the College of Education in partnership with the National Center for Family Literacy (Louisville, KY). It is offered during the summer and fall semesters to about 20 students per class. The course is 15 weeks in length, entirely online, and cohort-based. Study materials are both web- and print-based. Students work in teams for most of their assignments although they are also expected to produce a portfolio of individual application activities. An Associate's Degree or 60 baccalaureate credits at an accredited institution are required to enter the course. Technological requirements, registration, and other support are provided.

The overarching course objectives are to equip students with the knowledge and skills to:
a) develop meaningful instruction for adult literacy learners.
b) Deliver basic skills instruction, using methods that enhance the learning of individual adult learners.
c) Encourage and guide adult learners in developing skills that promote lifelong learning.

Students set their own learning goals within the parameters of the course objectives. This allows students to focus their learning in a direction that best addresses their own adult literacy interests. Student goals, in turn provide the basis for the course project, which is a learning portfolio. Students define the purpose of their portfolio and develop the criteria that will be sued to evaluate their learning outcomes. The course portfolio provides students with a means to learn about integrating assessment into teaching/learning. It also puts into practice many aspects of adult learning theory. Portfolios include course assignments that involve student research and require student-developed lesson plans. In addition, students are required to create their own portfolio work to demonstrate their learning as it relates to their portfolio goals.

Students are also required to participate in group discussions and two team tasks. Group discussions are designed to enhance learning through the sharing of information and perspectives on a variety of adult literacy topics. Team tasks serve two purposes: (1) students are given a topic to research and present to the class and (2) students experience a powerful teaching method and are required to evaluate their group process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Associate Degree or 60 undergraduate credits

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 459 Interactive Literacy: Parents and Children (3) Focuses on literacy and language interactions between parents and their young children (including English language learners), implementing intentional/planned learning.

ADTED 459 Interactive Literacy: Parents and Children (3)

Interactive Literacy: Parents and Children is one of five 3-credit courses in the 15-credit Certificate in Family Literacy developed by the Goodling Institute for Research in Family Literacy in the College of Education in partnership with the National Center for Family Literacy (Louisville, KY). It is offered during the summer and fall semesters to about 20 students per class. The course is 15 weeks in length, entirely online, and cohort-based. Study materials are both web- and print-based. Students work in teams for most of their assignments although they are also expected to produce a portfolio of individual application activities. An Associate's Degree or 60 baccalaureate credits at an accredited institution are required to enter the course. Technological requirements, registration, and other support are provided. The courses focuses on the component of family literacy in which the low-literate parents engage in language and literacy development activities with their young children (birth to age 8). During interactive literacy the teachers both model and supervise the literacy interactions. Students learn to use planned and intentional activities that are developmentally appropriate for the children. They also learn how to teach the parent the necessary interaction skills as well as how to debrief the parents afterwards. They also learn how to assess the literacy interactions between parents and their children.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Associate Degree or 60 undergraduate credits

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 460 Introduction to Adult Education (3) History, methods, agencies, program areas, and problems of adult education in the United States.

Introduction to Adult Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 470 (CI ED 470) Introduction to Distance Education (3) An introduction to the history, philosophy, organizations, learning theories, and instructional procedures used in American and foreign distance education.

Introduction to Distance Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 496 Independent Studies (1-18) Creative projects supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 497 Special Topics (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 498A Teaching Adults Responsibly (3) Virtues operating in particular teaching situations are examined. Also examined are opportunities and challenges enabling and constraining those virtues.

Teaching Adults Responsibly (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Adult Education (ADTED)

ADTED 498A Teaching Adults Responsibly (3) Virtues operating in particular teaching situations are examined. Also examined are opportunities and challenges enabling and constraining those virtues.

Teaching Adults Responsibly (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 001S Aerospace Explorer--First-Year Seminar (1) First-Year Seminar explores aerodynamics, structural mechanics, flight mechanics, rotorcraft systems, high performance computers, air/space propulsion, and space systems.

AERSP 001S Aerospace Explorer--First-Year Seminar (1)
(FYS)

Aerospace Engineering deals with vehicles that fly -- airplanes, sailplanes, jets, helicopters, rockets, satellites, the space shuttle, space stations, etc. Students with an interest in these subjects can learn more about the variety of challenges and opportunities in the aerospace field through the small-class environment of the Aerospace Explorer First-Year Seminar.

An introduction to both the academic major and career paths in Aerospace Engineering, this seminar deals with the design, analysis and operation of aircraft and space vehicles. Students will learn about aerodynamics, structural mechanics, flight mechanics, rotorcraft systems, high performance computers, air-breathing propulsion, space propulsion, and space systems. The classes will include presentations by the Aerospace Engineering faculty, tours of the Aerospace Engineering laboratories, and presentations by student officers in the Penn State chapters of the American Institute of Aeronautics and Astronautics (AIAA) and the American Helicopter Society (AHS), as well as introductions to the use of scientific plotting, graphing, and analysis software.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 055 (GN) (S T S 055) Space Science and Technology (3) The science and technology of space exploration and exploitation; physical principles; research and development; history, space policy, and social implications.

Space Science and Technology (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 097S First Year Seminar - Hands on Helicopter (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

First Year Seminar - Hands on Helicopter (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 097S First Year Seminar - Hands on Helicopter (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

First Year Seminar - Hands on Helicopter (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 200 Principles of Aviation (3) Aviation history, piloting, principles of flight, navigation, meteorology,FAA regulations, the air transportation system.

Principles of Aviation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 204H Flight Vehicle Design and Fabrication I (2 per semester/maximum of 8) Integrated project management, design, fabrication, testing, and flight evaluation of an advanced composite flight vehicle.

Flight Vehicle Design and Fabrication I (2 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 301 Aerospace Structures (3) Aerospace structural design concepts, flight safety. Stiffness, strength, stability of thin-walled structures under combined loads. Energy methods, finite element analysis.

AERSP 301 Aerospace Structures (3)

AERSP 301 covers essential topics in aerospace structures. The objectives of the course are to help students: 1) appreciate the roles that structures and structural materials play in aerospace vehicles; 2) understand general design concepts for aerospace structures: vehicles, components, and materials; 3) develop the analysis tools and skills needed to analyze the performance of aerospace structures; and 4) gain experience identifying, formulating, and solving aerospace structural engineering problems.

AERSP 301 builds on structural mechanics topics covered in PHYS 211, E MCH 011 & 013 (or 210), and E MCH 215 & 216. It prepares students for study of advanced topics such as plates and shells, composites, structural stability, finite element analysis, structural dynamics, and aeroelasticity. It also provides students with the basic background needed to contribute effectively to multidisciplinary trade studies in vehicle design activities.

AERSP 301 begins with an overview of the general features of flight vehicle structures, with emphasis on thin-walled members and advanced materials. Then, the implications of assured safety of flight for structural design are explored, leading to coverage of: load cases, flight envelopes, load factors, factors of safety, kinds of structural failures, and margins of safety. Topics in structural analysis proceed from an initial review of topics in elasticity, structural materials, and beam bending. Then, the deflection and stress responses of thin-walled beams under transverse shear and torsional loading are addressed. More than a third of the course is devoted to energy principles and the development of the finite element method of structural analysis. The course finishes with a treatment of the structural stability of beams and panels, a key topic with respect to the behavior of thin-walled aerospace structures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 210 orE MCH 213 . Prerequisite or concurrent:AERSP 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 304 Dynamics and Control of Aerospace Systems (3) Vibrations of single, multiple, and infinite degree-of-freedom systems; operational methods applied to aerospace vehicles; design of controllers.

Dynamics and Control of Aerospace Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: AERSP 313, E MCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 306 Aeronautics (3) Lift and drag characteristics of aircraft; propulsion systems; airplane performance; introduction to stability and control.

Aeronautics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989
Prerequisite: AERSP 311, AERSP 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 305W Aerospace Technology Laboratory (3) Experiments in measurement systems, aerodynamics, aerospace structures, dynamics and control, and propulsion, technical report writing and presentations.

AERSP 305W Aerospace Technology Laboratory (3)

AERSP 305W is a junior-level experimental laboratory course in Aerospace Engineering. The purpose of this course is to expose students to the key principles and methods of experimentation as related to the field of aerospace engineering. Students learn the fundamentals of measurement techniques to determine quantities such as temperature, force, pressure, displacement, velocity, acceleration and strain in various laboratory situations. The course employs weekly "set-up" experiments that provide an opportunity for students to familiarize themselves with modern measurement techniques and gain valuable experience regarding the calibration and use of aerospace engineering research equipment. Students are expected to apply their knowledge of mathematics, science, and engineering in order to complete successfully the experiments encountered in the laboratory. The subsequent interpretation and analysis of the laboratory data requires the use of standard engineering tools and practices. Students work in lab groups to process data and then identify, formulate, and solve engineering questions associated with the experimental results.

Throughout the semester, students communicate their knowledge and understanding of the course material through a series of class assignments, written technical reports, and one final exam. Because writing and revising laboratory reports significantly enhances the understanding and interpretation of the research data, this course is "writing-intensive." As such, students are expected to improve their writing skills as they gain experience writing abstracts, informal reports and formal reports. Peer review of reports helps students to recognize good writing, and to learn how to provide constructive criticism. The course instructor provides written feedback for revised formal reports, and the quality of writing is a factor in determining final grades.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:AERSP 301, AERSP 311, ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 308 Mechanics of Fluids (3) Kinetics and dynamics of fluids; perfect fluid theory using complex variables; introduction to viscous flow theory; fundamentals of compressible flow.

Mechanics of Fluids (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 308H Mechanics of Fluids (3) Kinetics and dynamics of fluids; perfect fluid theory using complex variables; introduction to viscous flow theory; fundamentals of compressible flow.

Mechanics of Fluids (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212 orE MCH 212H;MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 309 Astronautics (3) Introduction to space and space flight; laws of particle mechanics; orbits and trajectories; space vehicles and propulsion.

Astronautics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212, MATH 251;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 311 Aerodynamics I (3) Fluid statics and kinematics; fluid dynamics of inviscid and viscous flows; Navier-Stokes equations; introduction to boundary layers.

AERSP 311 Aerodynamics I (3)

This is a first course in incompressible inviscid and viscous flows. It includes an introduction to fluids, fluid statics and hydrostatics. Fluid kinematics, including Eulerian versus Lagrangian viewpoint, steady versus unsteady flows, volume and mass flow rates, vorticity and circulation, and streamlines are described. Derivation of the governing equations for the conservation of mass, momentum and energy is presented. Dimensional analysis is covered. Potential flow with and without the effects of viscosity is analyzed. A derivation and exact solutions of the Navier-Stokes equations are given and boundary layers are introduced. This is the first of a two course sequence in aerodynamics, where both courses are required for senior-year propulsion and design courses. Evaluation of student performance will be by two midterm exams worth approximately 25% each, a final exam worth approximately 35% and weekly homework assignments worth approximately 15%.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212, MATH 250, CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 312 Aerodynamics II (3) Fluid mechanics of viscous and compressible flows, laminar boundary layers, turbulent flows, isentropic flows, shock waves, supersonic life and drag.

AERSP 312 Aerodynamics II (3)

Exact solutions of the Navier-Stokes equations for unsteady flow. Boundary layers solved by the methods of Blasius, Falkner-Skan and Thwaites. Boundary layer stability and transition to turbulence. Turbulent flow and solution methods. Fluid flow measurement techniques and numerical methods. Derivation of the governing equations for the conservation of mass, momentum and energy for compressible flow. Steady one-dimensional isentropic flow. Normal, traveling and oblique shock waves. Compressible flow with area change and converging-diverging nozzle flows. Prandtl-Meyer expansions and supersonic life and drag. One-dimensional flow with friction or heat transfer. Unsteady and linearized compressible flow. Introduction to the method of characteristics. This is the second of a two course sequence in aerodynamics and is a prerequisite for senior level courses in propulsion and design. Evaluation of student performance will be by two midterm exams worth approximately 25% each, a final exam worth approximately 35% and weekly homework assignments worth approximately 15%.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AERSP 311, AERSP 313, M E 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 313 Aerospace Analysis (3) Mathematical methods applied to aerospace engineering: Fourier series, ordinary and partial differential equations, complex variables, numerical methods, data analysis.

AERSP 313 Aerospace Analysis (3)

This course is designed to reinforce the mathematical concepts learned in the prerequisite mathematics and computer science courses and to present new mathematical material that is necessary for aeronautics, astronautics, dynamics and control, and fluid dynamics analysis. In practice, analytical and numerical approaches to problems solving are complementary, hence, this course will emphasize a combined analytical and numerical treatment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 220, MATH 230, MATH 250;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 401A Spacecraft Design--Preliminary (3) Conceptual and preliminary design of a spacecraft, its constituent subsystems, and related systems, to satisfy a given set of specifications.

AERSP 401A Spacecraft Design - Preliminary (3)

AERSP 401A is the first of a two-semester sequence of senior capstone design courses. In this course, students will begin to learn the design process, complete a conceptual design, and to begin a preliminary design of a spacecraft, working in teams. This process is inherently multidisciplinary, requiring the use of engineering practices in such subjects as structures, dynamics, electrical and thermal systems, propulsion, controls, and information systems. In addition to the technical design content, this course seeks to enhance students' skills in verbal and written communications, ethical thinking, and the team approach to design, which is widely used in industry and government. Classes (115 minutes each, twice weekly) include lecture and time for team meetings. Students are evaluated on the technical merit of the designs (presented in written and oral reports), as well as their ability to function on a team.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: AERSP 309 . Prerequisite or concurrent:AERSP 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 402A Aircraft Design--Preliminary (3) Conceptual and preliminary design of an aircraft, its constituent subsystems, and related systems, to satisfy a given set of specifications.

AERSP 402A Aircraft Design -- Preliminary (3)

AERSP 402A is the first of a two-semester sequence of senior capstone design courses. In this course, students will complete the preliminary design for an aircraft such that it satisfies the assigned specifications. Students completing this course will have the ability to design a system, component, or process to meet desired needs in aircraft systems; they will have the ability to function on multi-disciplinary teams; and they will have the ability to identify, formulate, and solve engineering problems. In addition, students will have the background to help determine what the ethical responsibilities are to themselves, to employers, and to society. Classes (115 minutes each, twice weekly) include lecture and time for team meetings.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: AERSP 306 . Prerequisite or concurrent:AERSP 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 401B Spacecraft Design--Detailed (2) Detailed design of the constituent subsystems and related support systems for a spacecraft.

AERSP 401B Spacecraft Design -- Detailed (2)

AERSP 401B is the second of a two-semester sequence of senior capstone design courses. In this course, students work in teams, continuing the design process begun in AERSP 401A. This process is inherently multidisciplinary, requiring the use of engineering practices in such subjects as structures, dynamics, electrical and thermal systems, propulsion, controls, and information systems. In addition to the technical design content, this course seeks to enhance students' skills in verbal and written communications, and the team approach to design, which is widely used in industry and government. Classes (115 minutes each, twice weekly) include lecture and time for team meetings.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: AERSP 301, AERSP 401A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 402B Aircraft Design--Detailed (2) Detailed design of the constituent subsystems and related support systems for an aircraft.

AERSP 402B Aircraft Design - Detailed (2)

AERSP 402B is the second of a two-semester sequence of senior capstone design courses. In this course, students will complete the detailed design for an aircraft, and all of its constituent and related support systems, such that it satisfies the assigned specifications. Students completing this course will have the ability to design a system, component, or process to meet desired needs in aircraft systems; they will have the ability to function on multi-disciplinary teams; and they will have the ability to identify, formulate, and solve the associated engineering problems. Classes (115 minutes each, twice weekly) include lecture and time for team meetings.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: AERSP 301, AERSP 402A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 403 Design of Air Transport Systems (3) Air transportation; vehicle technology; vehicle-airport-route design interface; ATC, energy, environmental, human, and regulatory considerations in design.

Design of Air Transport Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984
Prerequisite: AERSP 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 404H Flight Vehicle Design and Fabrication II (3 per semester/maximum of 12) Project management, design, fabrication, aerodynamic and structural testing, and flight evaluation of an advanced composite flight vehicle.

Flight Vehicle Design and Fabrication II (3 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: AERSP 204H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 406W Structures and Dynamics Laboratory (2) Experiments in static deformations and stresses, vibrations, and control of aerospace structures.

Structures and Dynamics Laboratory (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: or concurrent:ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 407 Aerodynamics of V/STOL Aircraft (3) Rotary wing aircraft; VTOL and STOL performance; propeller-wing combinations; jet flap; high lift devices.

Aerodynamics of V/STOL Aircraft (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1984
Prerequisite: AERSP 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 411 Aeroelasticity (3) Structural deformations under static and dynamic loads; static aeroelastic phenomena; unsteady two-dimensional incompressible and compressible flow; flutter.

Aeroelasticity (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: AERSP 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 410 Aerospace Propulsion (3) Analysis and performance characteristics of reciprocating engine, turbo-jet, turbo-prop, turbo-fan, ram-jets, and chemical rockets. Aerothermodynamics of inlets, combustors, and turbomachinery.

Aerospace Propulsion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: AERSP 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 412 Turbulent Flow (3) Homogeneous turbulence; spectral transfer of energy, viscous dissipation; turbulent shear flow: mixing-length theory, eddy viscosity, scaling laws, energy budget.

Turbulent Flow (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: one course in fluid mechanics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 413 Stability and Control of Aircraft (3) Static and dynamic stability and control of aircraft; open and closed loop systems.

Stability and Control of Aircraft (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989
Prerequisite: AERSP 304, AERSP 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 423 Introduction to Numerical Methods in Fluid Dynamics (3) Finite difference methods applied to solving viscid/inviscid fluid dynamics problems, error control, numerical stability.

Introduction to Numerical Methods in Fluid Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: AERSP 312 orM E 320;MATH 250 orMATH 251;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 420 Principles of Flight Testing (3) In-flight and analytical studies of airplane performance, stability, and control; reduction of data; instrumentation; flight test techniques.

Principles of Flight Testing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: AERSP 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 424 Advanced Computer Programming (3) Engineering and scientific programming topics: object oriented programming, parallel programming, and various modern languages (e.g. C++, Java, and Ada).

AERSP 424 Advanced Computer Programming (3)

This course presents an advanced view of computer programming, mainly using Java, C++, and Ada95. The use of current operating systems (e.g. Linus and Unix) and compilers (e.g. gcc) will also be presented. Object Oriented Programming will also be discussed in detail. Object Oriented Programming is quite different than functional or procedural programming, and it is difficult to learn on your own. The differences and similarities between Java and C++ and Ada95 will also be discussed. Hands-on programming will be a key part of the course. This course is one of the Core Courses for the Graduate Minor in High Performance Computing, and will also be a technical elective in Aerospace Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 430 Space Propulsion and Power Systems (3) Analysis and performance of chemical and nuclear rockets, electric propulsion systems. Introduction to solar, chemical, thermoelectric, and nuclear power sources.

Space Propulsion and Power Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AERSP 410 orM E 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 425 Theory of Flight (3) Advanced wing and airfoil theory, conformal mapping, slender body theory.

Theory of Flight (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: AERSP 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 440 Introduction to Software Engineering for Aerospace Engineers (3) Software engineering for safety- and mission-critical systems, including requirements, management, processes, designs, programming, validation/ verification, and other aspects of software development.

AERSP 440 Introduction to Software Engineering for Aerospace Engineers (3)

This course is an introduction to software engineering. Software engineering includes all aspects of professional software production, and is especially important for safety-critical and mission-critical software. It includes documentation, management, processes, requirements, design models, computer programs, validation, verification, and other aspects of the development process.

Aerospace systems, including aircraft, spacecraft, onboard avionics, ground-based systems, flight simulators, and air transportation systems, rely heavily on software. Software is a major cost of all aerospace systems. For example, the Boeing 777 has more than 1000 onboard processors and more than 4 million lines of software which is primarily written in Ada. The F/A-22 fighter has more than 2 million lives of software onboard, and much of this is Ada also.

Aerospace systems also demand a level of reliability far beyond that of most other systems, which means the software must be designed using rigorous mission-critical and safety-critical procedures, which makes the software quite unique compared to most other software. The FAA and DOD are both involved in certifying aircraft software, for example, through the DO-178B and DOD-2168 standards.

This course is required option in Aerospace Engineering (take one of AERSP 440, E E 305, or E E 210). If not taken to satisfy that requirement, it can be used as a technical elective.

This course is a required option in Aerospace Engineering (take one of AERSP 440, E E 305, or E E 210). If not taken to satisfy that requirement, it can be used as a technical elective.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 450 Orbit and Attitude Control of Spacecraft (3) Principles of mechanics and vector analysis applied to basic concepts of satellite motion and control, rocket ballistics, and gyroscopic instruments.

Orbit and Attitude Control of Spacecraft (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: AERSP 304, AERSP 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 470 Advanced Aerospace Structures (3) Design and analysis of aerospace structures. Plates and sandwich panels; composite materials; structural dynamics; aeroelasticity; damage tolerance.

AERSP 470 Advanced Aerospace Structures (3)

AERSP 470 covers important topics in aerospace structures beyond basic stress and deflection analysis of thin-walled beams. The objectives of the course are to help students: 1) appreciate the roles that structures and structural materials play in aerospace vehicles; 2) understand general design concepts for aerospace structures: vehicles, components, and materials; 3) develop the analysis tools and skills needed to analyze the static and dynamic performance of aerospace structures; and 4) gain experience identifying, formulating, and solving aerospace structural engineering problems.

AERSP 470 builds on structural, dynamics, and aerodynamics topics covered in PHYS 211, E MCH 011 & 013 (or 210), E MCH 215 & 216, AERSP 301, AERSP 306, and AERSP 304. It prepares students for entry-level work or graduate study in the analysis and design of aerospace structures. It also provides students with the strong background needed to contribute effectively to multidisciplinary trade studies in vehicle design activities.

AERSP 417 begins with a review of the general features of flight vehicle structures and aerospace structural design concepts. Then, the deflection and stress responses of flat plates and sandwich panels under lateral and in-plane loading are addressed. About a third of the course is devoted to the behavior of advanced composite panels, and another third to structural dynamics and aeroelasticity. The course finishes with treatments of joining and damage tolerance, both key topics with respect to the design of aerospace structures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: AERSP 301 . Prerequisite or concurrent:AERSP 304, E MCH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 460 Aerospace Control Systems (3) Design and analysis of feedback control systems for aerospace applications; stability, root locus, time- and frequency-domain, state-space methods.

AERSP 460 Aerospace Control Systems (3)

This course is an introduction to the design and analysis of feedback control systems as applied to aerospace systems. The course covers control theory that is commonly used in the aerospace industry and presents practical applications of this theory to aerospace systems. The course does not emphasize rigorous mathematical derivation, but instead emphasizes the application of control theory. It provides a comprehensive overview of classical control theory and single-input/single-output (SISO) design methods. The course also presents an introduction to modern control theory and multi-input/multi-output (MIMO) design methods. Aerospace examples and applications are emphasized throughout the course.

The course builds upon a required junior-level course in system dynamics and controls (AERSP 304), which provides students with basic dynamic system theory and a brief introduction to feedback control. The course also supplements required senior-level courses in either aircraft or spacecraft dynamics (AERSP 413 and 450) which provides background on vehicle dynamics. AERSP 460 provides an additional level of depth in dynamics and control theory, and prepares students for entry-level work or graduate studies involving the design of automatic control systems for aircraft and spacecraft.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: AERSP 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 473 (E MCH 473) Composites Processing (3) An introduction to the principles of mechanics governing manufacturing, computer-aided design, and testing of composite materials and structures.

Composites Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988
Prerequisite: E MCH 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 490 (E E 471, NUC E 490) Introduction to Plasmas (3) Plasma oscillations; collisional phenomena; transport properties; orbit theory; typical electric discharge phenomena.

Introduction to Plasmas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330 orPHYS 467

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 492 (E E 472) Space Astronomy and Introduction to Space Science (3) The physical nature of the objects in the solar system; the earth's atmosphere, ionosphere, radiation belts, magnetosphere, and orbital mechanics.

Space Astronomy and Introduction to Space Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330 orPHYS 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 494 Aerospace Undergraduate Thesis (1-3 per semester/maximum of 6) Individual problem investigations reported in written thesis and seminar lectures. Cooperative research with faculty guidance on topics of current interest.

Aerospace Undergraduate Thesis (1-3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 494H Aerospace Undergraduate Thesis (1-3 per semester/maximum of 6) Individual problem investigations reported in written thesis and seminar lectures. Cooperative research with faculty guidance on topics of current interest.

Aerospace Undergraduate Thesis (1-3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 497B Experimental Methods and Projects (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Experimental Methods and Projects (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 497I Spacecraft/Environment Interactions (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Spacecraft/Environment Interactions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 497K Aerospace Projects Lab (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Aerospace Projects Lab (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Aerospace Engineering (AERSP)

AERSP 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 003 Scholarship and Community (1) Introduction to college life for new students in a designated residential community to help them optimize their Penn State experience.

Scholarship and Community (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: students must be participating in the Pennypacker Experience to take this course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 083S (GH;US;IL) First-Year Seminar in African and African American Studies (3) Cultural, philosophical, economic, political, and global dynamics of the Black experience in the United States and the Diaspora.

AAA S 083S First-Year Seminar in African and African American Studies (3)
(GH;FYS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them including the opportunity to develop relationships with faculty and other students who share their academic interests.

Evaluation will be based on one research paper (10-12 pages in length with a bibliography and footnotes, representing 40% of the final grade); a book review (4-5 pages in length, representing 20% of the final grade); 6 weekly summaries based on the assigned readings, lecture notes, and films, representing 30% of the final grade); and participation in class discussion, representing 10% of the final grade.

This course is designed to support students wishing to study politics and history, as well as those interested in pursuing a major or minor in African and African American Studies. This course fulfills both the first-year seminar and a general education or Bachelor of Arts humanities requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 100 (GS;US) Evolving Status of Blacks in the Twentieth Century: Interdisciplinary Perspectives (3) An interdisciplinary, team-taught exploration of the evolving status of Black Americans in the twentieth century. Emphasis on the civil rights movement.

AAA S 100 Evolving Status of Blacks in the 20th Century: Interdisciplinary Perspectives (3) (GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines the African American conditions, community institutions and consciousness in the United States during the twentieth century. It is a chronological survey of the shifts in the social, economic, and political realities faced by African Americans. Also examined are changes in, and the creation of, African American cultural, and intellectual traditions. Major social movements will be analyzed as will key debates over gender, class, ethnicity, community, and public policy. Issues of national and international identity will be addressed as will major changes in international relations and the response of African Americans to them. Topics will be explored using original documents, recent interpretations, class discussions, group presentations, film, music, etc. Although the core periods and themes will be covered in each class, depending upon the instructor, different emphases will be placed on the core topics.

Students will be introduced to key events, processes, movements, and leaders which have shaped African American life in the twentieth century. In addition to refining general research skills, there will be a focus on developing systematic approaches to the study of African Americans and U.S. history through the examination and uses of methods derived from the social sciences and the humanities. Students will also be expected to become familiar with central historiographical debates in the study of African Americans. They will be required to both critique and use these approaches in their research papers. Social sciences methods will be discussed and used to understand economic, social and political conditions and change. Finally, they will be asked to study and apply methods derived from the critical cultural studies in literature in order to examine cultural practices and movements. The students' grasp of history and methodology will be evaluated in two short papers and a final fifteen to twenty page research paper. Short tests, group projects, individual presentations, and class discussions are also central features of the evaluation process.

This course should also be considered directly related to all courses in the social sciences and the humanities that address the United States in the twentieth century. It is required of all African and African American Studies majors and minors. The course will be offered at least three times a year with an enrollment limit of 40 students per class. The three active learning elements covered in the course are active use of writing, speaking, and other forms of self-expression, application of intercultural and international competence, and dialogue pertaining to social behavior, community, and scholarly conduct.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 101 (GH;US) (WMNST 101) The African American Woman (3) The sociological, historical, and political experiences of African American women, their roles and contributions to society.

AAA S (WMNST) 101 African American Women (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

The African American Woman is a survey course that examines how the historic milieu has shaped the African American woman's experiences. This course is designed to cover the cultural, political, and economical experiences of African American women such as Sojourner Truth, Ida B. Wells to Bell Hooks. It also examines issues and experiences from the plantation to contemporary times. Students will be required to do written assignments, collaborate on group projects and will engage in discussion. The course is designed to encourage students to develop the capacity to pursue research for a paper and for oral reports. The course will require each student to conduct research for a group project and to give written and oral reports on the class reading assignments. These requirements will enhance the students' public speaking skills.

Faculty Member Proposing Course: Deborah F. Atwater

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 102 (GH;IL) (WMNST 102) Women of Color: Cross-Cultural Perspective (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.

AAA S (WMNST) 102 Women of Color: Cross-Cultural Perspectives (3) (GH;IL)

Women of Color: Cross Cultural Perspectives is a survey course that examines the similarities and differences of various cultures and the influences that mainstream America has on these cultures. Stereotypes, perceptions, the media, and male influences are also examined. Students will be encouraged to identify contributions made to mainstream America by women representing these cultures. Students will also be required to submit written assignments, participate in group discussions and attend on-campus events relevant to the course. The course is designed to enhance students critical thinking, writing, and speaking skills. This course can be used to fulfill supporting courses and related areas in the Women's Studies and African and African American Studies majors and minors. Non majors may use this course to fulfill a general education humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 103 (US) (SOC 103, WMNST 103) Racism and Sexism (3) Critical analysis of the structure of race and gender in the contemporary United States.

AAA S (SOC/WMNST) 103 Racism and Sexism (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on racism and sexism through a critical analysis of race and gender equality/inequality. A primary objective of this course is to provide students with information and conceptual tools necessary for understanding the structure and composition of race and gender inequality in the United States today. The focus on both racism and sexism provides a perspective that is quite different from those of courses that deal with race or sex alone. Racism and sexism have much in common that suggests their combined study. The course examines the way in which these processes are socially constructed and defined and how these constructions and definitions are experienced in daily life at an individual level and societal level. The course also examines how social control dependent on power, privilege, and advantage continues to perpetuate sexism and racism. This understanding is fundamental to considering the ways in which society and its individual members may motivate social change that enhances equality. Other objectives include developing an appreciation of the commonalities and differences among women and among men and women of diverse ethnic groups in terms of their real-life experiences with these processes; expanding the ability to read and/or view critically information/misinformation encountered in everyday life; enhancing the capacity to express knowledge and perspectives both orally and in writing. In addition, each student comes to the class with personal objectives that the instructor attempts to ascertain and incorporate. A common foundation of knowledge is established through consideration of current statistical data and academic research studies, as well as essays and novels based on subjective thought and experience. Also included are historical documents that have influenced the social and legal status of women and of men and women of color throughout our country's history. Videos and the media are supplementary sources. Students are encouraged to be alert to relevant current events and be prepared to discuss them from a critical perspective. The format of the class is informal, emphasizing group participation and responsibility. Grades are based on the evaluation of short papers on the readings, relevant events, and contemporary culture; class participation; a book report; and a final project or take-home exam. AAA S/WMNST/SOC 103 is a supporting course for both the women's studies and sociology majors and minors and the African and African American Studies major. It is an additional course for the African and African American Studies minor. The course also meets the requirement for 3 credits on the topic of women of color for the women's studies major and the minor.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 105 (GN;IL) (EARTH 105) Environments of Africa: Geology and Climate Change (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, natural resources.

AAA S 105 Environments of Africa: Geology and Climate History (3)
(GN;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

"Environments of Africa: Geology and Climate History" investigates the interrelationships between geology, hydrology, land use and human development in several areas of Africa. We focus primarily on regions north of the equator, although there is a brief segment on South African mining. Specific topics include the Nile River (sources of the Nile, agricultural practices, effects of damming the Nile, hydropolitics), the Sahara and Sahel (salt mines, climate change, drought, water resources), and natural resources and their role in politics (gold, diamonds, oil and gas). The theme of climate change cuts across the entire semester. The quantitative and analytical components of the course working though a course of map exercises and data manipulations (flood stage, groundwater age, and temperature records). Writing exercises are conducted both individually (essays, analysis of readings) and in collaborative teams (climate change analysis). Readings for the course come from the popular scientific literature; current refereed research journals, and transcribed oral histories of African people. Faculty lectures will comprise -30% of the course, and student presentations -20%, with the remainder of the time devoted to in-class collaborative exercises.

The goals of the course are to (1) introduce the scientific study of Africa; (2) develop quantitative and scientific reasoning skills; (3) explore the relationship between human society and the natural world. The topics that we explore (e.g., global climate change, allocation of limited water resources) are important political issues that affect peoples in developed and developing countries throughout the world. It is crucial that the next generation of citizens be informed as to how scientific data are obtained, presented, and interpreted by scientists as well as politicians. Students will work individually and (more commonly) in teams to analyze real data from natural African systems, and will then report their findings to the class both orally and in writing. Examples of the data sets include 100-year records of monthly rainfall and temperature from stations throughout the continent, fossil suites from ancient lake cores in the modern Sahara, and historical writings of Nile flood levels from pre-Biblical times. Through these exercises students will gain an appreciation of the scope of geological time and change, and will be able to incorporate this new long-term perspective into identification and resolution of modern questions.

General Education: GN
Diversity: IL
Bachelor of Arts: Natural Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 110 (GS;IL) Introduction to Contemporary Africa (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.

AAA S 110 Introduction to Contemporary Africa (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will introduce students to the realities of contemporary Africa. Students need to study the history in order for them to understand the complexities of modern Africa. The first part of the course will deal with the history of the first encounters between Africa and Europe. The legacies of the Atlantic Slave Trade and colonialism on contemporary Africa will be analyzed.

Colonialism will be examined in its multifaceted experience. The difference between the settler states and the indirect rule states, the uniquely nationalist flavor of the various colonial powers -- England, France, Portugal, Italy, Germany, and Belgium and the resulting preparations for independence will be studied. Mau Mau and Algeria, the indigenous guerrilla wars of Africa, will be presented. The important African independence ideologies will be studied in great detail, with special reference to Pan-Africanism, Mkrumah's neo- colonialism, Nyere's African socialism and Cabral's African Marxism. We will look at the U.N. failures in Africa and the tragedy of Lubumba and the Congo. The creation of the Organization for African Unity and its effectiveness will be discussed.

Questions concerning leadership in Africa will be raised by studying several countries such as Kenya, Nigeria, Ivory Coast, and Zimbabwe. Zambia Civil wars have been a serious problem in post-colonial Africa. We will examine four of the civil wars of the last decade -- Congo, Rwanda, Liberia, and Sudan. Additionally, the politics of the Horn of Africa, particularly the revolutions in Ethiopia, the wars of liberation in Eritrea, and the civil war in Somalia, will be analyzed in some detail.

We will look at the entire history of South Africa, from the arrival of the Dutch to the Boer War, from Apartheid to Nelson Mandela. Development and economic problems plague contemporary Africa. The last part of this course will be devoted to the study of development in Africa. We will look at the different theories from Walter Rodney's How Europe Underdeveloped Africa to World Bank theories. Students will be required to analyze a particular development problem in an African country and find a solution as their final project.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 110U (GS;IL) Introduction to Contemporary Africa (3) Consideration of influences and forces shaping modern African society; analysis of current local and global problems and issues facing Africa.

Introduction to Contemporary Africa (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 132 (IL) (SPAN 132) Afro-Hispanic Civilization (3) A general introduction to human and cultural elements of African origin in Spanish- and Portuguese-speaking countries of Latin America.

AAA S (SPAN) 132 Afro-Hispanic Civilization (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The nations and peoples of Latin America have a unique, interesting history and cultural heritage that are rooted in the traditions, beliefs, experiences, values, and struggles of Native American, European, African and other populations. This course focuses on the presence and participation of African peoples and their descendants in the formation and development of societies and cultures in representative areas of the Caribbean, South America, and Central America and on the evolution, diversity, and richness of the African heritage therein. Course content includes the African background, the experience and impact of slavery, the social, cultural, and economic heritage of slavery, the role of race in Latin America, and Afro-Hispanic intellectual, literary, and artistic developments (e.g., aspects of folklore, music). The course aims to provide students with a general introduction to human and cultural elements of African origin within the Spanish- and Portuguese-speaking nations of the Americas so that they may be more knowledgeable of the meaning, significance and widespread influence of the African diaspora. It proposes to provide the student with a better understanding of Africa's contribution to Latin American identity, diversity, culture, and development; to promote appreciation for the values and practices of other cultures, and greater awareness of the relations between the nations of the region and the United States. Classes usually combine lecture and discussion of reading assignments, with an expectation of high student participation. Films, videos, and recordings will enhance and illustrate readings. One required examination (covering approximately one half the lessons presented), an occasional quiz, a library research exercise, an oral presentation, a written research project, and participation and attendance will be the basis of the evaluation of student learning and grades. This course will fulfill the Intercultural/International Competence or Diversity Requirements. The course does not count toward credits in the major or minor in Spanish because it is taught in English. Nevertheless, it will complement the department's offerings by providing students with a greater appreciation of Latin America's cultural origins, socioeconomic development, and everyday realities. AAA S 132 is an option that fulfills the Intercultural/International Competence requirement for African and African American Studies majors. The African and African American Studies Department has a minor with a diaspora concentration and this course is an elective to that minor.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 145 (GH;US;IL) (RL ST 145) African American Religion (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.

AAA S (RL ST) 145 African American Religion (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to African American religion in the U.S. We will investigate the history and significance of the religious dimension of African American life and culture. We will also examine the demographics of race and religious experience. African Americans (the term Black American is also used) have many different religious backgrounds including Protestant, Catholic, Moslem, and others, which are examined in this course. However, since well over 90% of Blacks who have a religious experience and organization are Christian, the history of the Black Christian church and Blacks in the Christian churches in the United States will occupy most of our study. This course will also examine the theological backgrounds of the Black church from the basic Christian documents in the New Testament, to the most widely known Black theologians and the development of "black liberation theology," one of Christian theologies most important contributions. The theology of Martin Luther King, Jr., will be of particular concern. We will also watch videos on the subjects of interest and have a number of guest speakers, including local church pastors and Penn State faculty, talk about the meaning of religion in the Black experience.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 146 (GH;US) (RL ST 146) The Life and Thought of Martin Luther King, Jr. (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.

AAA S (RL ST) 146 The Life and Thought of Martin Luther King Jr. (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course attempts to provide an accurate description of the life and thought of Martin Luther King, Jr., an historical summary of the civil rights movement and an understanding of nonviolent means of social change. The students degree of achievement will be assessed by means of short-answer and essay examinations (not to exceed three in number) and a research project. Each of these will be equal in weight. This course will count in the supporting courses category of the major and minors in African/African American studies. It also will fulfill additional courses credits in the Religious Studies Program. It may also fulfill GH and US requirements for non majors.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 147 (GH;US) (RL ST 147) The Life and Thought of Malcolm X (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.

AAA S (RL ST) 147 The Life and Thought of Malcolm X (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine in-depth the life, speeches, and thoughts of Malcolm X/El Hajj Malik El Shabazz. While the "Autobiography" will be a major source, we will also use other sources to develop an understanding of the philosophy and thought of Malcolm X. We will explore the social, economic, political, cultural, religious, moral, and spiritual context of America in general and of African Americans in particular. We will examine Malcolm X's influence on the period in which he lived and since his assassination. We will compare and contrast his view on issues of race, culture, politics, education, crime, human rights, civil rights, morality, and economics with those of other African American leaders and with the prevailing views of most Americans on those subjects. We will devote a large portion of the course to the examination of the social movements that impacted on Malcolm and those that he influenced. The speeches of Malcolm X and the writings about Malcolm X are instructive and will be utilized along with other documents. Videotapes and audiotapes will also be employed as instructional materials. Students are expected to be ACTIVE participants in the learning/teaching experience. Students are required to participate in class discussions centered on the readings and related topics. There will be a written mid-term examination and a written final examination. Students are expected to complete an individual research project related to the course and write a paper on that research as well as to participate in a collaborative group project of their choosing on a subject related to the class. This course will count in the supporting courses category of the major and minors in African/African American studies. It also will fulfill credits in the Religious Studies Program. It may also be used to fill GH and US requirements.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 150 (GH;IL) Africa in Cinema (3) The study of the image of Africa as seen in fiction and non-fictional feature length films, ethnographic and documentary films.

Africa in Cinema (3)

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 191 (GH;IL) (HIST 191) Early African History (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.

AAA S (HIST) 191 Early African History (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is an introduction to the history of Africa south of the Sahara from the origins of humankind to roughly 1750. Since it is not possible to undertake a systematic survey of the period -- the continent is too vast and our data too sparse -- we will focus on a number of common themes in the cultural and historical development of African societies. We will start with an introduction to African cultures and the problems in studying them, move on to examine the evidence for the early origins of humans on the African continent, the agricultural revolution, and ancient African kingdoms, empires and civilizations (including Egypt). We will then explore three interrelated themes in the history of Africa from the 16th-18th centuries: trade, state formation, and the spread of Islam. Finally, we will turn to an examination of the slave trade and its impact on Africa and the Americas. This is also a course in historical reconstruction and analysis. There are few documentary sources for this period and much of the data we have is fragmentary. The resulting history consists largely of long-term social changes rather than detailed narrative. We must thus learn to reconstruct history from what evidence is available, using general principles of African social, economic, and political organization that we will develop in class. Typically, students will be evaluated on the basis of a map quiz, short papers, exams that have both an identification and essay component, and participation in class discussions and debates. AAA S/HIST 191 provides an excellent foundation for both AAA S/HIST 192 (Modern African History) and History 479 (imperialism and Nationalism in Africa). In addition to satisfying the GI requirement, AAA S/HIST 192 satisfies general credit requirements for the history major or minor, including the "non-western" component of the major. Non-majors may use this course to satisfy a general education humanities selection. The course also may be used to fulfill requirements for the African and African-American Studies major and the African Studies minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 192 (GH;IL) (HIST 192) Modern African History (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.

AAA S (HIST) 192 Modern African History (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines the colonial period in Africa from roughly 1750 to the present. Given the vast geographical breadth of the African continent, its diverse peoples and cultures, and the divergent trajectories of colonial rule, this course cannot provide a comprehensive overview of the modern era in Africa. Rather, it considers some of the most significant transformations in modern African history, including the impact of the Atlantic slave trade and the transition to 'legitimate commerce'; the causes and consequences of European imperial conquest from the 1870's; the dynamics of the colonial encounter; the struggles of African peoples for independence in the 1950's and 1960's; and the enduring impact of the colonial experience on contemporary African social, political, and economic realities. The course is designed to familiarize students with the major events and chronology of modern sub-Saharan African history, and to provide an overview of the key themes and theoretical debates which animate contemporary African historiography. Emphasis throughout the course will be on the understanding and application of historical arguments and theories to available information. The course is intended to help students develop analytical skills vital to the discipline of history, which include the ability to collect and analyze evidence and to construct arguments in both oral and written presentations. To this end, students will have the opportunity to practice both identifying and building arguments by writing several focused short papers that deal with the material covered in a week of class lectures and readings. In these papers, as well as in the two essay exams, students will be asked to generate thesis-driven responses to particular historical problems encountered in the course material. The short papers are intended to promote active engagement with the course material and will be used as the basis for in-class discussions and debates. Typically, students are evaluated on a map quiz, several short papers, participating in class discussions of assigned readings, and exams which have both an identification and essay component. The course content of AAA S/HIST 192 is designed to chronologically follow that of AAA S/HIST 191 (Early African History), and provides an excellent foundation for History 479 (Imperialism and Nationalism in Africa), for which it is a prerequisite. In addition to satisfying the GI requirement, AAA S/HIST 192 satisfies general credit requirements for the history major or minor, including the "non-western" component of the major. Non-majors may use this course to satisfy a general education humanities selection. The course also may be used to fulfill requirements for the African and African-American Studies major and the African Studies minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 200 (US) Languages of the African Diaspora in America (3) This course focuses on the development, linguistic structures, and sociolinguistic status of the languages of the African Diaspora in America.

Languages of the African Diaspora in America (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 202 (GS;IL) (WMNST 202) Gender Dynamics in Africa (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.

AAA S (WMNST) 202 Gender Dynamics in Africa (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In terms of gender studies, western academics have dominated the field. The course will offer a very different, more African-centered, analysis of the gender relations of African. Important African women writers will be read and their works analyzed. The role of African gender dynamics on the African Diaspora (North American, South America, the Caribbean, and the Middle East) will also be studied in this course.

Feminism is one of the latest Western theoretical fashions to be applied to African societies. Following the one-size-fits all (or better still the Western-size fits all) approach to intellecual theorizing, it has taken its place in a long series of Western paradigms.

African scholars, in particular African women scholars and others, are challenging the very conceptualizations of gender that are used to define, describe or categorize women and men. This class will examine the historical relationships between men and women in Africa and examine the new approaches to the study of gender dynamics in Africa. The course will challenge your perceptions of gender. The ability to critically think and an open mind are requirements for this class. You will also be expected to participate in all class discussions.

This course represents a logical sequel to an exisiting course, AAA S/WMNST 102, Women in a Cross Cultural perspective; and three courses, AAA S/HIST 191, Early African History, AAA S/HIST 192, Modern African History, and WMNST 4, Global Perspectives on Feminism, which have already been approved by the Senate. This course can be used in both the African and African American Studies major and minors. Grades: map exam 10%, oral history 15%, mid term 30%, and final 45%.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 208 (GA;US;IL) (THEA 208) Theatre Workshop in Diverse Cultures (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.

AAA S (THEA) 208 Theatre Workshop in Diverse Cultures (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre Workshop in Diverse Cultures is a performance-oriented class that aims to introduce students to the broad cultural diversity that exists in artistic expression. The class will focus on several plays throughout the semester that will represent cultural, ethnic, and gender diversity as well as different literary styles. Students will be exposed to various cultures by working on plays created by artists from those cultures. The course will concentrate on a specific playwright, culture, or region, such as plays from the Caribbean. Students will be required to read, study, analyze, and perform plays from the genre. For example, the class may focus on the works, life, and philosophy of August Wilson and read Joe Tumer's Come and Gone, Seven Guitars, Piano Lesson, and Fences. The class may explore Asian styles such as Noh Theatre and Asian American works by D. H. Hwang or work by Nigerian playwright and Nobel Prize winner Wole Soyinka. The presentation of these plays will be a principle part of the class, but the reading and discussion of the material will be as important. Students will participate in some capacity with the production of these plays in areas such as stage management, dramaturgy, sets and props, lights, sound, costumes, house management, publicity, and acting. These pieces will be performed in class, in workshop, and occasionally for the general public. Students will work as an ensemble and become acquainted with basic acting and theatre techniques The course objectives are: 1) to develop and enhance students' appreciation for the discipline and commitment required for multicultural theatrical presentations, 2) to help to sensitize all students to the broad cultural diversity in artistic expression, and 3) to provide students with an introductory engagement with drama. AAA S/THEA 208 serves as a primary selection for students pursuing the Theatre minor.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 210 (GH;US) (HIST 210) Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) The course will explore the context and events that shaped African American life over the period 1896-1932.

AAA S (HIST) 210 Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) (GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for students wishing to develop an understanding of race in American society and politics over the course of the 20th century. It will focus in considerable detail upon the influence of the Plessy vs. Ferguson decision (1896) in the shaping of America over the four decades that followed. Of central concern is an exploration of the ways in which African Americans and their leaders responded to the institutionalization of segregation within American life, and the divergent strategies advocated for dealing with 'Jim Crow' as an impediment to the development of African Americans. The course will also explore the impact of the migration of African Americans out of the South into the cities of the North and the impact of that migration upon both the opportunities for African Americans and the American political system.

Students will be evaluated on the basis of a book review (4-5 pages), a short research paper (5-6 pages), a long research paper (10-12 pages), and their participation in class discussion. The written assignments are designed to improve student research and writing skills, and students are encouraged to be active participants in class discussion.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Summer 2005
Prerequisite: AAA S 100, HIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 211 (GH;US;IL) (HIST 211) The Emergence and Evolution of the Black Diaspora in the Atlantic World (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.

The Emergence and Evolution of the Black Diaspora in the Atlantic World (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 003 orHIST 020 orHIST 021 orHIST 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 212 (US) Black History to the Twentieth Century (3) An examination of Black political, economic, social, and cultural life in America from the era of colonization to 1905.

AAA S 212 Black History to the Twentieth Century (3)
(US)

BLACK HISTORY TO THE 20TH CENTURY. A study of political, economic, social and cultural aspects of the African-American experience in the United States from the African roots to the beginning of the 20th century. Students will learn about the contributions made by African-Americans to America social and cultural life. The course will include discussions on the relationships between African-Americans and other population groups such as European-Americans and Native Americans. Students also learn about the varied perspectives on major events in American history such as the Civil War and Reconstruction Periods.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 235 (US) (ENGL 235) African-American Oral Folk Tradition (3) The origins, forms, and function of the oral folk tradition of African Americans.

AAA S (ENGL) 235 African-American Oral Folk Tradition (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

By its concentration on ethnic and racial difference, AAA S/ENGL 235 fulfills the requirements of the University for the designation of an Intercultural/International Competence (GI) course. This lower division course provides an opportunity for undergraduate students to examine the origins, forms, and function of the oral folk tradition of Americans of African descent, especially the speech and music, from signifying to rap. Beginning with the issues of African or European origins, students will explore questions concerning the definitions, source, transmission, variation, meaning, and function of African-American folklore as the basis for a better understanding and appreciation of the distinctiveness of African-American culture and character. Assessment of student performance will include two oral reports, a folklore collection project, two (outside of class) essays of 5-10 pages typed, and a final examination consisting of essay questions and short answers. Students will also be evaluated upon their participation in class discussions. AAA S/ENGL 235 will be a basic core course for students emphasizing African-American literature within the English major. It will also be important in the offerings of African and African American Studies. AAA S/ENGL 235 will satisfy one of the five 200-level courses required for the major in English. It can also satisfy one of the six courses required for a minor in English. It will also be important in the offerings of African and African American Studies. This course can be used to fulfill a major requirement for African and African American Studies. It also will fulfill the University's cultural diversity requirement.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 240 (GH;US) (HIST 240) Harlem: History, Culture, and Politics, 1890-Present (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.

Harlem: History, Culture, and Politics, 1890-Present (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 250 (GH;IL) (HIST 250) Introduction to the Modern Caribbean (3) A survey course which, explores the historical evolution and emergency of the modern Caribbean.

AAA S (HIST) 250 Introduction to the Modern Caribbean (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the evolution of the Caribbean region from the eve of the arrival of Columbus to the 20th century. It will explore the emergence, migration, and evolution of Amerindian societies in the Caribbean islands prior to the arrival of Columbus. It will then explore the European-Amerindian interactions that lead to the disappearance of these indigenous peoples from the region and the consolidation of European colonial empires. The course will then explore the various forms of coercive labor systems that emerged in the region including indentureship, enslavement, transportation of European prisoners and other social outcasts, African slavery, and the establishment of the plantation system that defined the region until the 20th century using both free and unfree labor to maintain its dominance in these island societies until the late 20th century. The course will also cover the issue of slave resistance, the Haitian revolution, the formation of maroon communities, and the role of abolitionist politics as a factor in bringing an end to slavery. It will also look at the re-emergence of indentureship of Asians as a response to the crisis of labor and the growth of peasant agriculture in the 19th century Caribbean. The course will also explore the emergence of nationalist sentiment in the region, especially the way in which the decay of Spanish colonial authority and the rise of American imperial ambitions helped to set the stage for the nationalist awakening that defined the course of the 20th century in the region. This is the course that will complement and expand upon issues raised in AAA S/HIST 211 - The Emergence and Evolution of the Black Diaspora in the Atlantic World. It will also serve as an introduction to the 400-level course on the Caribbean in the 20th century that will be proposed simultaneously. The course will be required for students interested in pursuing the African Diaspora minor. It may be used to fulfill general education and diversity requirements. It can also be used as a course to meet non-Western history requirements in the History major.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 297 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 335 (GA;IL) (ART H 335) African Art (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.

AAA S (ART H) 335 African Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course will examine the arts of various African peoples in historical, religious, sociological and geographic contexts, providing an introduction to the many visual art forms of Africa including masquerade, costume, and indigenous architecture. While the vast majority of documented art objects in this field of study are sculpture from West Africa, the course will also include materials from South and East Africa as well as Nubia. Contemporary African art, the influence of African art on European art and African-American art are important topics that will conclude this to course. In addition to the traditional format of a geographic organization of the material, students will explore thematic approaches. Literature, in the form of the novel, Arrow of God by Nigerian writer Chinua Achebe which includes a character who is a traditional sculptor, may also be used to provide a cultural backdrop for the mid-term examination. Each of the topic assignments requires completion of essays which draw upon the multiple course texts and readings. Museum visits to collections in New York or Washington DC may also be part of the requirements. Exams include slide identification and short essays. As ART H/AAA S 335 will be regularly offered as a Distance Education course, a packet of illustrations will substitute for slide presentations and the actual examination of pieces owned by the instructor.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 302 (US) (BB H 302) Diversity and Health (3) Exam the relatinship of diverse personal and sociocultural factors to health, like socioeconomic class, race-ethnicity, gender, age, and sexual orientation.

AAA S (BB H) 302 Diversity and Health (3)
(US)

AAA S 302 is an introduction to an interdisciplinary study of the impact of diversity on health in America and across nations. The course is designed to provide an understanding of the complex interaction between concepts of diversity including but not limited to race, ethnicity, culture, gender, age, socioeconomic status, and sexual orientation. The course will also consider and critique the methods used in the study of these concepts and issues related to the measurement of health among diverse groups. The ultimate goal of this examination is to assist students in developing an appreciation of the current diversity and the impact diversity has on assessments and study of health, health status, and health promotion in America and other nations. The course is also designed to integrate different sources of information about diversity by utilizing critical thinking skills for the consumption of health information.

The educational objectives will be to enable students to: 1) Consider the implications of race, ethnicity, gender, age, socioeconomic status and sexual orientation on health/social policies in light of research findings, 2) Understand the legacies and historical events that have impacted our view, the status, and treatment of diverse populations, 3) Appreciate the importance of understanding the origins of different health behaviors that impact biological processes, as well as the impact of biological processes in the context of social, environmental, and cultural influences when examining health issues.

To achieve these objectives, the course will involve open class discussions, small break-out group discussions, written assignments, and a presentation (e.g., poster or other media presentation) requiring the acquisition and utilization of information/research from library and internet resources.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 364 (GS;US) (WMNST 364) Black & White Sexuality (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.

Black & White Sexuality (3)

General Education: GS
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 397 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 400 African Studies Seminar (3 per semester/maximum of 9) A study of the Organization of African Unity (OAU) leading to participation in the Model OAU Conference in Washington, D.C.

African Studies Seminar (3 per semester/maximum of 9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: AAA S 110, AAA S 191

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 401 Afro-American Studies Seminar (3) A seminar examining theoretical and methodological issues in Afro-American Studies.

Afro-American Studies Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: AAA S 100, AAA S 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 403 South Africa Today (3) A course examining the South African government's policy of apartheid: its history, why it exists, how it works, and the prospects for change.

South Africa Today (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: AAA S 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 404 (IL) Eastern and Central African Societies (3) Cultural and historical studies of Eastern and Central Africa employing a multidisciplinary approach.

Eastern and Central African Societies (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Spring 2006
Prerequisite: AAA S 191, AAA S 192

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 409 (US) (SOC 409) Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.

AAA S (SOC) 409 Racial and Ethnic Inequality in America (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the impact of inequality and discrimination on individual and group identity for a wide range of social groups with special focus on racial and ethnic majorities and minorities. Using an extensive list of readings, writing assignments, small group activities, and journals (for personal reflection and scholarly critique) the students join the instructor in exploring the effects of inequality and discrimination. While emphasis is given to the inequality and discrimination experienced by local and national populations, a significant portion of the class will address issues rooted in international structures and institutions. Students are evaluated on quizzes, reaction papers, and analysis journals. AAA S/SOC 409 is not a required course in Sociology; it is, however, an optional 400-level course for all majors and minors that fulfills one of their upper-level course requirements. AAA S/SOC 409 is not required for the major or minor, but it is one of several optional courses from which they can choose to fulfill major and minor requirements.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: SOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 405 African Studies Methodologies (3) Multidisciplinary research techniques for studying in and about Africa.

African Studies Methodologies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 409U (US) (SOC 409U) Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.

Racial and Ethnic Inequality in America (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 410 (WMNST 410) Spirit, Space, Survival: Contemporary Black Women (3) How recent Black women have used spirit and space to survive.

Spirit, Space, Survival: Contemporary Black Women (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: AAA S 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 412 (US;IL) (THEA 412) African American Theatre (3) Exploration of the development of African American theatre from its roots in Africa through the Diaspora to the present time.

AAA S (THEA) 412 African American Theatre (3)
(US;IL)

In this course, we will explore the development of African American theatre from its roots in Africa and Europe, through the diaspora, to the present time. We will learn something of the rich diversity of African American people and their contribution to the world's creative mainstream. We will become acquainted with both historical and contemporary artists who created and continue to create this unique American art form. The goals of the course are: 1)to develop familiarity with African American theatre and the socio-historic context in which it was created, 2) to develop an understanding of the relationship of African American theatre to mainstream American theatre, 3) to acquire an appreciation of the schools, styles, and techniques of African American theatre. We will do this by reading and engaging plays in the context of the period in which they were created, viewing films of plays, and attending relevant productions where possible.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 415 (US;IL) (HIST 415) Race, Gender, and Politics in the United States and South Africa (3) This thematic course will compare key issues, figures, and events in the historical development of the United States and South Africa.

Race, Gender, and Politics in the United States and South Africa (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 102, AAA S 110, AAA S 192 orHIST 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 416 (US;IL) (S T S 416, WMNST 416) Race, Gender and Science (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.

AAA S (S T S/WMNST) 416 Race, Gender and Science (3)
(US;IL)

The course's objective is to provide a seminar for students to integrate feminist theory, social theory, and science studies through class discussions, essays and research. The role of science in defining, producing, applying and policing of gender and race in society will be explored through the work of feminists and traditional scholars working in a variety of disciplines from cultural studies to science studies. Students will be encouraged to develop a critical analysis of race and gender in science in order to understand the impact of gender and race on the production of scientific knowledge. This course is designed for students in the humanities, social sciences, science and technical fields. Readings will be taken from past and contemporary social theory (i.e. students will be reading original works not textbooks). Students will be expected to read, understand and synthesize 75-100 pages of reading per class and to discuss them in a seminar fashion in order to analyze, critique and evaluate various theories to develop their own understanding of the interrelationship of science, race and gender. In addition they will do two professional-style book reviews during the semester. At the end of the semester students will integrate theory with social, cultural and historical data that they collect through library research (with a minimum of 50 sources). Students will present the paper to the class in a conference style presentation that will conclude with a Q&A session.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 431 (US;IL) (HIST 431) Black Liberation and American Foreign Policy (3) This course deals with American foreign policy and Black liberation in Africa since 1945.

AAA S 431 Black Liberation and American Foreign Policy (3)
(US;IL)

Black Liberation and American Foreign Policy in Africa since 1945 presents an interdisciplinary approach to the study of American foreign policy in Africa. Course readings will consist of both secondary and primary sources to explore the evolution of American policy toward the continent over the last half-century, and the meaning of the American engagement with American politics and society.

The course will also examine the reasons that Africa has served as a focus of concern among African Americans both prior to and over the period 1945 to the present. Of particular concern will be the ways in which American policy has reflected pressures from African Americans as a constituency in foreign policy.

The focus of the course will be student-centered written research and discussion. Students will be required to select topics from the course outline for presentation in class with the instructor serving as the moderator of discussion and guide to relevant research materials. Students will be encouraged to use both primary and secondary sources for their research. They will be expected to prepare two individual written presentations which will serve as the basis for class discussion (30% of the grade), a book review (10% of the grade), and a research paper of 15 pages (40% of the grade) on a topic drawn from the areas identified in the course outline. The final 20% of the grade will be awarded for participation in class discussion.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 192;PL SC 001 orPL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 422 (US) (CAS 422) Contemporary African American Communication (3) A focused study on the continuities between African and African American culture and communication.

AAA S (CAS) 422 Contemporary African American Communication (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

At least once a year, this multidisciplinary course is designed to serve both Speech Communication and African and African American Studies. It is concerned with the relationship between a people's culture and world view and their systems of rhetoric/communication. It also provides a focus on the continuities between African and African American culture and communication. Specifically, it offers an approach to ascertaining the salient features of African and African American communication for community development. Special emphasis is given to the development and rhetoric of the Civil Rights Movement. The course utilizes videos, guest lectures, tapes of speeches, etc. to clarify objectives and stimulate classroom discussion.

Students will be evaluated on two exams, one oral report, a final paper and class participation. Even though students need 400 level courses for their major and minor, this course is not required for Speech Communication majors. However, it does meet the Intercultural and International Competency requirement because it focuses on the communication of African Americans and how that communication has affected all Americans. The course will accommodate ten students in Speech Communication and ten students in African and African American Studies to ensure active discussion of issues.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: SPCOM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 432 (IL) (HIST 432) Between Nation and Empire: The Caribbean in the 20th Century (3) An exploration of the political evolution of the Caribbean Region over the course of the 20th Century.

AAA S (HIST) 432 Between Nation and Empire: The Caribbean in the 20th Century (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the political evolution of the Caribbean Region over the course of the 20th century. Its focus will be the ways in which imperial rule and the search for national identity have been the parameters that have shaped Caribbean political history over that period. Students will explore, in written assignments and class presentations, the ways in which the region which has historically been a theatre of confrontation among the major powers in the international system continued to serve that role over the course of the 20th century. The costs that have been borne by the people of the region from these conflicts have been enormous and crippling for several societies, especially Haiti, Cuba, Jamaica, and the Dominican Republic. Among those costs have also been the continued dependence of these societies upon human migration, limited economic strategies of transformation, increasing levels of poverty, and the emergence of a wide variety of political systems that reflect different historical experiences, demographic diversity, varying levels of political autonomy, and a remarkable level of cultural similarities. Evaluation will be based upon two class presentations; one research paper and class participation. The course will be required for students pursuing the African Diaspora minor and for those seeking to broaden their diversity requirements. It can be used to meet non-Western history requirements in the History major.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: AAA S 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 434 (IL) (PL SC 434) War and Development in Africa (3) This course will examine the relationship between war and development in sub-Saharan Africa in the post colonial era.

AAA S (PL SC) 434 War and Development in Africa (3)
(IL)

This course will examine the relationship between development and war in sub-Saharan Africa in the modern era. Specifically, it will analyze the extent to which the processes of state building, nation building, and international intervention have contributed to the incidence of both civil war and international conflict in Africa. We will begin with a review of several theoretical arguments on the causes of warfare in Africa and then turn to a discussion of theses on African political development. This course complements present offerings in international relations and comparative politics in the PL SC department and can serve as an advanced undergraduate offering in the African Studies concentration in AAAS. The course directly complements our present offerings in international conflict given that we don’t have a regularly offered course that focuses on conflict in a specific region. In addition, it will augment our comparative politics offerings with an examination of prominent issues in comparative politics such as political development, democracy, and modernization. The course will fulfill the IL requirement and encourage students understanding of the historical background as well as the political, economic, and cultural factors that influence African politics. African conflicts are often viewed as “ethnic conflicts” and in this class students have an opportunity to assess the extent to which ethnic, linguistic, or religious factors influence the likelihood of conflict and contribute to development in African states. Students will also be required to write essays evaluating the contribution of a range of theoretical arguments on Africa’s conflicts in order to assess the degree to which cultural more than political or economic factors contribute to their onset. Students will then have the opportunity to conduct more extensive research on a specific African case to develop their analyses further. These exercises will often require that students reevaluate their beliefs about social identities such as race (e.g. in Rwanda the difference between Tutsi and Hutu is often viewed as a “racial” difference between black Africans, which is at odds with most Western conceptions of race). They also require students to challenge stereotypes regarding the subordination of African values in conflicts to a simple concern with “tribe”. Students will gain a broader knowledge and appreciation of the different values, traditions, and cultures evident in Africa and understand how these can both exacerbate and mitigate conflict.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: PL SC 114 orPL SC 003 orAAA S 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 443 (IL) (PL SC 443) Ethnic Conflict in Africa (3) This course explores the various causes and impacts of ethnic conflicts in the African context.

AAA S (PL SC) 443 Ethnic Conflict in Africa (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Ethnic conflict is presently a pervasive worldwide phenomenon. Ethnic groups in various regions of the world contest the terms of their incorporation into the 'nation' state and the world order. Such contests have often erupted into violent conflicts crossing national borders. The objectives of this course are to examine the problems of state building, the evolving nature of the state, and ethnic conflicts in the African context. The course explores the factors that contribute to violent ethnic conflicts and the factors that mitigate such conflicts. The course largely evolves around the following two general questions. What are the most important internal and external factors that cause ethnic conflicts? The second is what political systems and arrangements tend to mitigate or resolve ethnic conflicts? In an effort to deal with these two general questions the course examines a number of case studies from different parts of Africa. The course is organized into three parts. The first part surveys general theories on the causes of ethnic conflicts and how democracy relates to ethnic conflict. The second part examines several case studies from Africa and attempt to construct a general hypothesis on the major causes of ethnic conflicts and how democratization or lack of it impacts the conflicts. The third part examines measures that may contribute in the resolution of ethnic conflicts and enhance the process of state building in Africa. Students in groups of two or three will choose a case and give a class presentation on the most important issues involved in a given conflict.

This course compliments other courses that deal with African politics, politics of developing areas, and social movements. It also supplements courses in African and African American Studies, Sociology, and Political Science that deal with issues of ethnic and race relations, as well as issues of nation building (state building).

This course exposes students to the various internal and external factors that precipitate ethnic conflicts in Africa and the economic, social, and political implications of these conflicts. It allows students to explore how different states attempt to address the problem.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 110, PL SC 001, PL SC 003, PL SC 007, PL SC 014, PL SC 017, PL SC 020 orAFRAS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 440 (US;IL) (PL SC 440, I B 440) Globalization and Its Implications (3) This course explores the socioeconomic implications of globalization.

AAA S (I B/PL SC) 440 Globalization and Its Implications (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the socioeconomic implications of globalization and some fundamental changes that have taken place in the global socioeconomic system. The bipolar configuration of global power has been radically altered, market-state relations have been reformulated, and global systems of production and finance have been reorganized.Given these recent changes in the world's structure, globalization as a socioeconomic force is examined with a special emphasis on its implications on social issues, capital-labor relations, the roles of unions and trans-nationals, unemployment issues, poverty and inequality, gender and ethnicity issues, race relations, and democratization around the world. This course also allows students to explore how different countries, communities, social classes, business firms and even institutions are affected differently by globalization. The implications of globalization on Africana communities is given special attention.

The course is organized into three parts: A) The first part of the course attempts to define globalization and identify its essential characteristics in light of social and economic change. This part attempts to answer questions such as what constitutes globalization, how do we know if glonalization is taking place, and what aspects of it are new. B) The second part of the course attempts to assess the implications of the different aspects of globalization (identified in the first part) on many critical social issues, including capital-labor relations, the roles of unions and transnational corporations, problems of unemployment, poverty and inequality, gender, ethnic, and race relations, and democratization. C) The third part of the course examines the implications of globalization to African communities.

This course exposes students to the economic, social, political, and cultural implications of the unfolding global order. It allows them to explore how different countries, communities, social classes, business firms and even institutions are affected differently by globalization. Evaluation will be based on daily attendance, along with a class presentation of a design of a research paper; an actual research paper, a mid-term exam and a final exam.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: AAA S 100 orAAA S 110 orPL SC 003 orPL SC 014 orPL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 445Y (US) (LER 445Y, PL SC 445Y) Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.

AAA S (LER/PL SC) 445Y Politics of Affirmative Action (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of this course are to introduce students to the relationship between affirmative action and other policies purportedly designed to end racial inequality in the U.S. This course approaches the study of affirmative action in the context of the historic racial discrimination and inequality that Black Americans have faced since the founding of the Nation. The purpose of this course is to help students think about how contemporary and historic affirmative action policies relate to race, concepts racial inequality, the historic and continuing causes for racial inequality, public opinion, American politics and economic thought. The course materials will lead students through scholarly and popular articles, books and video presentations on the topic. It is hoped that students will become familiar with the history of affirmative action from its conception. Students will gain an intimate understanding of affirmative action economic and social outcomes on various racial groups. No prior knowledge is assumed, however a knowledge of civil rights history, quantitative methods, and constitutional law will be useful. The Politics of Affirmative Action satisfies the requirements for major and minor electives for the African American Studies, and major and minor electives for Political Science, and Labor Studies and Industrial Relations. Students are evaluated on the basis of an examination, term paper, class participation and class presentations of papers.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: AAA S 100 level course andPL SC 001 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 459 (IL) (PL SC 459) Culture and World Politics (3) Role of culture in world politics.

AAA S (PL SC) 459 Culture and World Politics (3)
(IL)

This course examines the role of culture in world politics through an analysis of the varying dimensions of culture and their respective impact on the likelihood of cooperation and conflict among the state and non-state actors in the global system. Specifically, we examine the impact of culture in terms of social boundaries, political associations and the likelihood of an emergent global culture defined largely in terms of customs and practices related to international trade and economic production. We also examine the role of culture as a mechanism for the dissemination and maintenance of patterns of hierarchy. Integrating these different conceptions of culture, we examine the relationship between culture and foreign policy in the US.

The cultural approach to studying politics complements the institutional and rational choice perspectives that are featured in most of our current offerings in the area of international politics. As a consequence, this course will provide students with an opportunity for a course of study that is representative of the diverse traditions in the discipline.

AAA S 459 satisfies the international relations requirement for the Political Science major and the Supporting Courses requirement for the revised International Politics major. Evaluation is based on examinations, class participation, and frequent essays.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 454 (IL) (PL SC 454) Government and Politics of Africa (3) Contemporary African Politics, institutions, and ideologies; patterns of change, social forces, and nation building in selected African states.

Government and Politics of Africa (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: 3 credits from:AAA S 110, PL SC 003, PL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 460 (US;IL) (PHIL 460) African American Philosophy (3) Major works by African American Philosophers, on topics of race, freedom, citizenship, nationhood, law and society.

AAA S (PHIL) 460 African American Philosophy (3)
(US;IL)

African American philosophers and social activists have produced important texts that both take their place in the philosophical canon and revise the canon and indeed how we understand the practice of philosophy. This course surveys twentieth century African American philosophy, from Du Bois's Souls of Black Folk and Dusk of Dawn, to King's Why We Can't Wait, to Davis's Women, Race and Class, to Boxill's Blacks and Social Justice. The books refer back to both liberal democratic and socialist philosophical treatises, as well as theological and jurisprudential writings, in order to construct new conceptions of race, citizenship, freedom, the rule of law. Moreover, they are all grounded in the concrete, problematic situation of African Americans in twentieth century America, so that they raise with special urgency the question of how philosophical reflection can address social change. In classroom debate, students will rediscover and critically examine how the history of racial strife and reconciliation affects local, national and international civic life. One constant feature of this course is that white students and students of color become aware of differing perspectives that are hard to reconcile; this helps them to re-examine their own social identities and those of their classmates. When the course is team-taught (with one white faculty member and one faculty member of color) the same dynamic occurs between the instructor: watching them reconcile their views in discussion and pedagogy helps the students as well. It is hoped that this course will often or always be team-taught.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: AAA S 100 orPHIL 009 and 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 464 (IL) (PL SC 464) Globalization, Extractive Industries, and Conflict in Africa (3) Socioeconomic and environmental impacts of extractive industries in Africa.

AAA S (PL SC) 464 Globalization, Extractive Industries, and Conflicts in Africa (3) (IL)

Globalization has brought increased investments in extractive industries in many African countries. Investments in extractive industries are also likely to continue to increase rather rapidly, given the rising intensity in the competition for African resources, brought about by growing involvement of countries, such as China and India. The terms African countries obtain from corporations for mineral rights have been generally unfavorable. The unfolding competition for African resources brought about by investments from China and India may, however, help African governments to renegotiate the terms of mining concessions corporations to obtain better deals for their resources. Despite the rather poor terms African governments currently have, investments in extractive industries have stimulated economic growth in several countries. Some African countries, including Equatorial Guinea, Botswana, Gabon, Angola, Cameroon, and the Sudan, are experiencing what might be regarded as resource-based economic boom.

Such growth has, however, intensified compulsory acquisition of communal lands by African governments for concessions to extractive industries exposing large numbers of rural communities to evictions form the land they traditionally owned. The expropriations, which purportedly take place for public and development purposes, have led to serious socioeconomic problems, including unemployment and poverty of those evicted from their land, disintegration of traditional institutions of governance, civil wars, communal conflicts, human rights violations, high levels of corruption, and alarming rates of environmental degradation. The conflicts have ravaged many African counties and are likely to continue to occur until mechanisms that allow rural communities to become partners of the transformation are developed. This course examines the socioeconomic and environmental problems associated with land expropriations and extractive industries.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: AAA S 110 or at least one of the following:PL SC 003 orPL SC 014 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 465 (US) (HIST 465) Civil Rights and American Politics 1933-1968 (3) The civil rights struggle and its impact upon American politics.

AAA S 465 Civil Rights and American Politics 1933-1968 (3)
(US)

Students will be encouraged to explore the period over which the civil rights of African Americans and other Americans of emerge permanent features of American political and social life. They will be asked to think systematically about the transformation of American society over the course of the 20th century from a society based upon the constitutional sanction of 'white supremacy' and 'racial segregation' to one in which ethnic pluralism and equality of races have become the principles accorded increasing legitimacy in principle, if not in fact. They will also be encouraged to explore the process of political realignment within the major parties, the Democrats and Republicans, and the ways in which the politics of race have been instrumental in shifting the electoral strategies and ideological debates within and between the parties.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: AAA S 100, HIST 021, HIST 152, PL SC 001 orPL SC 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 469 (US) (ENGL 469) Slavery and the Literary Imagination (3) The impact of slavery on the petitions, poetry, slave narratives, autobiographies, and novels of African Americans.

AAA S (ENGL) 469 Slavery and the Literary Imagination (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/AAA S 469 provides an opportunity for undergraduate students to examine African American petitions, poetry, slave narratives, autobiographies, and novels as literary reconstructions of the economics, politics, ethics, and poetics of slavery. Authors under consideration will vary from class to class, but may include writers such as Paul Laurence Dunbar, Phillis Wheatley, F. Harper, James Weldon Johnson, Langston Hughes, Claude McKay, Sterling Brown, Booker T. Washington, Harriet Jacobs, W. W. Brown, Harriet Wilson, Margaret Walker, Arna Bontemps, D. Bradley, S. A. Williams, Toni Morrison, Ishmael Reed, and Charles Johnson. The course will focus on the complex relationship of slavery to the literary imagination of Americans of African descent as they increasingly discovered the limitations and possibilities of reading and writing themselves into freedom, literacy, and wholeness as human beings and American citizens. Topics covered will vary, but will include issues of the legacy of slavery in the west; the political aims and rhetorical conventions of African-American autobiography; the myths and realities of slavery; economic, political, ethical, and aesthetic issues of the representation of slavery; understandings of black consciousness and black culture on the road from slavery to freedom; the rise of African American realism as a response to the legacy of slavery; Black Feminism and issues of slavery; the role of history and memory in the construction of slavery; post-modern configurations of slavery; and the like. This class will prepare students for advanced courses in African American literature, as well as other academic courses that engage in the verbal and written analysis of complex written forms. Students will be evaluated by class participation, a group oral presentation, small group problem solving exercises, three out-of-class essays (of 5-8 pages each), and an in-class final examination consisting of essays and short answers. AAA S/ENGL 469 will satisfy one of the six 300H-400 level courses required for the major in English and the required 400 level course for the emphasis in African American literature within the major. It can also satisfy one of the six courses required for a minor in English. The course may be used as English Major elective credit or as credit towards the English minor. It will also be important in the offerings of African and African American Studies, American Studies, and American History. This course can be used to fulfill major requirements on the African and African American Studies major.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

African and African American Studies (AAA S)

AAA S 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 101 (GS) Economic Principles of Agribusiness Decision Making (3) Introduction to economic principles and their application to real world examples of agribusiness management issues.

Economic Principles of Agribusiness Decision Making (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 102 Economics of the Food System (3) Introduction to topics designed to develop an understanding of how the food production, processing, and marketing system works and evolves.

Economics of the Food System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 106 Agribusiness Problem Solving (3) Development of quantitative problem solving skills applied to specific examples of agribusiness management problems, using EXCEL spreadsheets.

AG BM 106 Agribusiness Problem Solving (3)

The goal of this course is to develop agribusiness problem solving skills. These skills include optimization, marginal analysis, time discounting, and measuring efficiency. Examples will be implemented using Microsoft EXCEL spreadsheets rather than algebra, calculus and abstract mathematics. This course, then, plays an important role by building skills for use in later agribusiness management courses as well as teaching important problem solving skills to non-majors who want to learn quantitative economics problem-solving skills in the context of agribusiness management.

Material will be organized according to the course topics areas: optimization, marginal analysis, time discounting, and efficiently measurement. Each topic area presentation will rely on specific examples of agribusiness management problems. The first lecture of each week will be a standard lecture emphasizing concepts, presented in a passive learning format. The second lecture of each week will be presented in a technology classroom with spreadsheet examples being worked out by the professor in front of the class, who will guide the students. The third lecture of each week will be taught in a computer laboratory, with students solving the problems actively, but with supervision. Problem solving skills will be reinforced by assigning problem sets for students to do on their own after the computer laboratory experience. It is permitted for students to submit identical labs but problem sets should not be identical.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: AG BM 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 200 Introduction to Agricultural Business Management (3) Application of management principles and processes to agricultural business firms in their planning and operating in domestic and international markets.

AG BM 200 Introduction to Agricultural Business Management (3)

AG BM 200 is the course for people who wish to combine a technical major with an interest in the business management of agricultural and food based businesses. This is the combination of skills that employers most desire when they look for potential employees.

Examples from a variety of industries in agribusiness are used to present the principles of business management. In addition, emphasis is also given to exploring the institutions, and issues such as food safety and biotechnology that are unique to managers in the agribusiness sector. The presentation of the material in an agricultural and food context enhances your chances for learning so you can become more "employer ready." Regardless of your major, most people will find themselves as business managers some time during their careers because they will have to manage time, money and people. The material you will learn in this class focuses on the principles of agribusiness management. Principles endure and are always applicable regardless of when and where you apply them. When you have completed AG BM 200 successfully you will have a firm grasp of the critical agribusiness management skills you will need to successfully handle just about any management situation you might face.

NO PRIOR BUSINESS EXPERIENCE IS REQUIRED OR EXPECTED OF THOSE TAKING THIS COURSE.

AG BM 200 deals primarily with the principles of agribusiness management. I will not be teaching you the material in the book. Classroom time will be spent discussing and applying the reading material and decision cases that were assigned for that day. This approach will allow us to cover more material in greater depth. It should enhance your learning because it will engage your higher level thinking skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 220 Agribusiness Sales and Marketing (3) Principles underlying the sales process and practical application for selling situations in agribusiness. Role of selling in the total marketing process.

AG BM 220 Agribusiness Sales and Marketing (3)

Students take an applied approach in this course, to fulfill the course objective of learning skills in sales and marketing. The topics presented in the course are organized as they would appear in a corporate sales training program. Class activities include discussing and solving selected case situations that illustrate or amplify assigned text readings. Lectures and audio-visual presentations cover specific aspects of the selling process, from prospective new customers to the servicing of customers after the sale. A major focus is on role-playing exercises, trying to convince another student acting as a buyer to undertake a particular course of action. Each student is expected to take an active part in the role-playing exercises. During the course students participate in as both buyer and seller. A student peer evaluation comprises a portion of the grade on each role-playing exercise which is videotaped for purposes of critique.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 302 Food Product Marketing (3) Analysis of economic and psychological determinants of the demand for food; marketing decisions in an increasingly consumer-driven food system.

Food Product Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: AG BM 101, AG BM 102, AG BM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 308W Strategic Decision Making in Agribusiness (3) Utilize case studies to investigate strategic decision making among agribusiness firms, highlighting how information and market power shape strategies.

AG BM 308W Strategic Decision Making in Agribusiness (3)

This course is designed to analyze strategic decision making among agribusiness firms and other economic agents in a market environment characterized by imperfect information and market power. The course draws upon game theory and other strategic decision tools to analyze four broad types of strategic decisions, each of which corresponds with the four main parts of the course: 1)Strategic Decisions Between Rival Firms: Focusing on firm decisions made between rivals with full information, part one includes the following topics and strategies: limit pricing, entry deterrence, predatory pricing, excess capacity, wars of attrition, strategic commitment, tit-for-tat pricing, and retaliation. 2) Strategic Firm Decisions in an Uncertain World: Focusing on firm decisions made with incomplete information, part two, includes topics on probabilities, expected value and expected utility, learning curves, investment decisions, flexibility, and option value. 3) Stra Strategic Decisions Between Unequal Partners Focusing on firm decisions made between unequal partners with asymmetric information, part three includes topics on vertical coordination, incentive compensation, franchising, and auctions. 4) Cooperation and Strategic Alliances: Part four investigates how firms can overcome informational problems described above through the use of strategic partnerships. This writing, intensive course will rely on both class lectures and a substantial amount of class discussion. The course content will feature eight to ten industry applications and case studies of individual companies to reinforce economic theory.

Learning Objectives - Students will:

- Classify practical agribusiness problems by the type of available information - full, incomplete, or imperfect and by the nature of market power in an industry.
- Construct and analyze game trees and other representative models of strategic decisions facing businesses and employees.
- Solve strategic business problems using economic models based on game theory and other economic principles.
- Write business-style memos and reports that summarize a business decision, plan, or solution that is supported by economic analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: AG BM 101, AG BM 102, AG BM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 338 (IL) Agribusiness in the Global Economy (3) Managing agribusinesses in the global food industry, international food product marketing, key public institution and policies affecting food trade.

Agribusiness in the Global Economy (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: AG BM 101, AG BM 102, AG BM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 320 Markets and Prices: Analysis and Forecasting (3) Understand how prices are determined; develop the skill to analyze and forecast how prices change as the underlying conditions change.

Markets and Prices: Analysis and Forecasting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: AG BM 101, AG BM 102, AG BM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 407 Farm Planning and Financial Management (3) Economic principles applied to the management of farms, with particular emphasis on the financial aspects of management.

Farm Planning and Financial Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: AG BM 101, AG BM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 408 Financial Decision Making for Agribusiness (3) Develop financial management and business analysis skills, integrating previous course work and finance training; principles of financial management, planning, control.

Financial Decision Making for Agribusiness (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: AG BM 308W, B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 420 Agribusiness Markets & Prices (3) Understand and forecast price level and volatility for commodities, differentiated products, services. Why markets work and why they may not.

Agribusiness Markets & Prices (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: 6 credits in Agribusiness Management Business Administration Agricultural Economics and/or Economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 440 Food Product Innovation Management (3) A problem-based course designed to enhance decision-making skills in the context of industry's approach to developing new food products.

Food Product Innovation Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: AG BM 302 or junior/senior standing in Food Science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 460 Managing the Food System (3) Firm management in the food system; coordination with suppliers and customers, including supply chain management, strategic thinking, risk management.

Managing the Food System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: AG BM 320, AG BM 338

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 495A Internship in Agribusiness and Rural Development (1-6) Supervised field experience in an agribusiness or rural development setting.

Internship in Agribusiness and Rural Development (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: prior approval by department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 495B Internship in International Agribusiness (6) Supervised field experience related to student's major, minor, or option.

Internship in International Agribusiness (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: prior approval by department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 497B United Kingdom Study Abroad Program (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

United Kingdom Study Abroad Program (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 497B United Kingdom Study Abroad Program (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

United Kingdom Study Abroad Program (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agribusiness Management (AG BM)

AG BM 499 (IL) Foreign Studies - Agribusiness Management (1-12) Study in selected countries of agricultural economic institutions and current agricultural economic problems.

Foreign Studies - Agribusiness Management (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Communications (AGCOM)

AGCOM 495 Internship (1-3) Supervised field experiences related to student's professional interest in agricultural communications; limited to minors in agricultural communications.

Internship (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: a grade of C or better required inCOMM 260W ; and prior approval of the professor-in-charge of Minor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Communications (AGCOM)

AGCOM 462W Advanced Agricultural Writing (3) Practice in journalistic writing strategies to report scientific and technical information in the agricultural/environmental sciences to general audiences.

AGCOM 462W Advanced Agricultural Writing (3)

Advanced Agricultural Writing focuses on scientific and technical topics in the agricultural/environmental sciences and public policy issues related to such subjects for the print media. Instructional objectives include:

- To learn and practice diverse forms of writing for general audiences, including brief news articles and feature formats, such as process, human interest, policy, and news reporting in the agricultural/environmental sciences.
- To recognize and use standard journalistic conventions, including grammar, mechanics, usage, and style.
- To develop an understanding of a writer's responsibilities and obligations within the context of journalistic ethical standards.
- To analyze and evaluate situations that require writing in order to respond appropriately to the needs and interests of general as well as specialized audiences.
- To develop feature writing skills through extensive writing and revising exercises.

Student evaluation is based on writing assignments and class participation, particularly contributions to the peer review process. Every writing assignment (with the exception of short in-class exercises) is critiqued in peer response groups in class. Before the first draft of a feature article or query letter is due, the class develops a criteria sheet that is specific to the diverse forms of writing students are doing. The day the first draft is due, the class divides into peer response groups and, using the criteria sheet, provide feedback for each writer. The instructor also offers feedback on drafts of each article. Only final drafts are evaluated and graded by the instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: a grade of C or better required inCOMM 260W or equivalent coursework

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 201 (CED 201) Introductory Environmental and Resource Economics (3) Apply principles of economics to analyze environmental protection policies and natural resource use decisions. Examine contemporary policy issues.

AG EC (E RRE) 201 Introductory Environmental and Resource Economics (3)

An introduction to the concepts, theories, and applied methods used in the economic analysis of environment and natural resource issues. The course covers topics such as the principles of market efficiency, why the market often fails where environmental and natural resource issues are concerned, and environmental policy prescriptions and tools designed to correct this market failure. These principles and tools are explored with respect to air and water pollution, management and use of renewable natural resources such as forests and fisheries, and the unique problems of managing nonrenewable resources such as minerals and oil. The course aims to give students an understanding of how traditional economic principles can be used to suggest and evaluate possible responses to the environmental and resource problems facing society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG BM 101 orECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 404 (CED 404) Methods in Natural Resource and Environmental Economics (3) Empirical research methodology in the areas of environmental and natural resource economics.

AG EC (E RRE) 404 Methods in Natural Resource and Environmental Economics (3)

Students will learn practical approaches to empirical research in the areas of environmental and natural resource economics. Students will learn how to design and administer data collection efforts, including surveys, and how to analyze the data generated to infer economic values associated with changes in the levels of non-market goods. Additionally, students will learn how to design and run experimental economics sessions useful for investigation of individual behavior regarding for example provision of public goods and extraction of open-access resources, as well as in simulating markets for public and private goods. The course will also discuss of the reliability and validity of these empirical methodologies. Students will work in groups to measure the value of a change in a public good, using one of the three methods discussed in class. Students will present their results in-class at the end of the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG EC 201 orECON 302, ECON 428

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 429 (E RRE 429) Natural Resource Economics (3) Optimal management of resources; roles of markets and other institutions; resources and economic development; public policy.

Natural Resource Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002 Ending: Summer 2010
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 430 (CEDEV 430) Principles of Community Economic Development (3) Concepts, strategies and techniques of local economic analysis, planning and development; case studies and decision-making exercises.

AG EC (CEDEV) 430 Principles of Economic Development Planning (3)

This course is designed to introduce the issues giving rise to concern for rural and regional economies, and the theories, concepts and tools of rural and regional economic development. The goal is to integrate theory and practice and apply them to economic development problems. Tools are presented in a "how to" manner. Topics include current issues in rural economies; the economic view of rural development; business retention, expansion and location; entrepreneurship and its role in the economy; understanding the local economic structure and the forces of change; introduction to economic growth theories; export base theory and economic base analysis; the role of labor and capital in development; techniques of market area, central place, shift-share and input-output analysis; policies of local economic development and growth.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: introductory course in economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 431W (E RRE 431W) Economic Analysis of Environmental and Resource Policies (3) Economic Analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques, resource damage assessment.

Economic Analysis of Environmental and Resource Policies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Economics (AG EC)

AG EC 450 (IL) International Development, Renewable Resources, and the Environment (3) Theories of agricultural and economic development, with particular attention to interactions between development, renewable resources, and the environment.

AG EC 450 International Development, Renewable Resources and the Environment (3) (IL)

This course is designed to introduce the key economic concepts and theories used to analyze agricultural and economic development in developing countries, with particular attention to interactions between development, renewable resources, and the environment. The course examines how economic development can affect natural resources and the environment, and how resource and environmental conditions affect development. The goal is to integrate theory with empirical evidence from developing countries, so that students gain an understanding of how different development strategies have actually fared in practice. Topics covered include economic growth and development, agriculture in developing countries, human capital in developing countries, international poverty, natural resources and the environment in developing countries, human capital as an engine of economic growth, international trade as an engine of economic growth, capital markets and access to credit, economic growth and the environment, international trade and the environment, sustainable development, and climate change and developing countries.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005 Ending: Summer 2010
Prerequisite: 6 credits in agricultural economics or economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 495 Internship (1-10) Independent study and supervised field experience related to the student's professional interest. Intended for Agricultural Science majors.

Internship (1-10)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985
Prerequisite: fifth-semester standing in the Agricultural Science major with a G.P.A. of 2.00 or greater and prior approval of proposed plan before registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Science (AG SC)

AG SC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 101 Mechanization Principles for Production Agriculture (3) Applying engineering and mechanization principles for selection and application of agricultural equipment, structural environmental control, and soil and water conservation.

Mechanization Principles for Production Agriculture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 210 Turfgrass and Outdoor Power Equipment Systems Management (2) Management of turfgrass and outdoor power equipment (OPE) systems. Application of mechanical systems in the turfgrass and OPE industry.

A S M 210 Turfgrass and Outdoor Power Equipment Systems Management (2)

A S M 210, *Turfgrass and Outdoor Power Equipment Systems Management,* is a 2 credit course that explores the technology aspects of turfgrass and outdoor power equipment systems as they relate to equipment management. Topics to be covered include: gasoline and diesel engine operation and troubleshooting, electrical and hydraulic system principles and components, machinery management concepts and systems, equipment and chemical safety, and reel and rotary blade theory and sharpening. Students will use a hands-on approach to reinforce the concepts of these topics. Activities will focus on the concerns of a turfgrass or outdoor power equipment manager.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: MATH 021 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 217 Landscape Soil and Water Management (3) Landscape soil and water management and practices including irrigation, hydrology, erosion, open channel, drainage, and impoundments.

A S M 217 Landscape Soil and Water Management (3)

A S M 217 is a service course developed entirely to meet the needs of the Landscape Contractors and Landscape Architecture programs. This course is also elected by a few students in Turf and Soil Science and Horticulture. The first six weeks of this course are devoted to the design, layout and management of landscape irrigation systems. Proper selection of sprinklers, irrigation system management and scheduling, control systems and pressure considerations are covered at a level appropriate for the Landscape Contractors and Landscape Architecture juniors and seniors. The second portion of the course focuses on understanding the rainfall-runoff relationships and their influence on soil erosion and sedimentation on landscape sites, especially during construction activities. Students learn how to develop erosion and sedimentation control plans including channels, sedimentation basins and sediment traps. Students also learn to predict soil erosion and understand the impacts of adding wet (continuously water-filled) basins to landscapes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 221 Introduction to Agricultural Systems Management (3) Application of engineering principles critical to agricultural systems management.

Introduction to Agricultural Systems Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: MATH 110, PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 307 Golf Course Irrigation and Drainage (3) Golf course irrigation systems; including sprinkler selection; piping; control systems; scheduling. Surface and subsurface drainage topics. Note: Students may not take both A S M 217 and A S M 307 for credit.

A S M 307 Golf Course Irrigation and Drainage (3)

A S M 307 is a course developed to instruct students, interested in working in the golf course management profession, about water management. The primary clientele is expected to be Turfgrass Science students. The two large topic areas are irrigation and drainage. About 70 percent of the course is devoted to irrigation topics with a strong concentration on golf course irrigation applications. The discussion starts with sprinkler characteristics and selection and continues to where sprinklers should be placed to be most efficient and effective. Once sprinklers have been properly located, a management scheme is developed that leads to an efficient piping and control system. The management scheme must take into account the highly variable turfgrass evapotranspiration and soil characteristics, plus the personal desires of the turf manager. This is followed with how to most effectively layout and size the piping system so all sprinklers will receive water at their recommended pressure. This is followed by a discussion about pumps, their characteristics and limitations. Students are asked to compute the two primary pump selection parameters. The irrigation section is concluded with the introduction of several additional topics such as thrust blocking, venting, draining the irrigation system for winter storage, etc. All students are required to develop or analyze an irrigation system for a 9-hole golf course. This is a semester-long project that constitutes a major portion of their grade. Following the irrigation, we spend two to three weeks discussing golf course drainage. We discuss classical surface and subsurface drainage and then introduce the details of how classical drainage is applied to recreation areas and golf courses. Drainage is about 30% of the course. In addition to the project, students are evaluated using two exams and weekly homework.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MATH 021, SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 309 (E R M 309) Measurement & Monitoring of Hydrologic Systems (3) Introduction to measurement and monitoring equipment/techniques commonly used in analyses and design of hydrologic systems.

A S M (E R M) 309 Measurement & Monitoring of Hydrologic Systems (3)

This course will provide students the opportunity to learn and apply basic measurement techniques that serve as critical tools in professional practice in water resources. Mapping development and use serves as a critical aspect of water resources engineering and planning, and a major portion of this course will focus on the fundamentals of surveying and translation of surveyed data into useful maps and engineering drawings. Students will learn the theory that underpins basic surveying and then apply this theory in actual survey practice. Autocad serves as a primary software tool used in engineering design and water resources planning, and students will be afforded opportunities to use Autocad to present and process various watershed- and survey-based data. Geographic information system (GIS) techniques will also be investigated as a tool to process, record, analyze, and display various spatial data commonly used in water resources planning and engineering design. Students will learn the basic techniques and processes used to transfer data between GIS and Autocad, both of which are commonly used in practice. The course will also investigate the instrumentation, techniques, and theory involved in common water resources measurements including weather conditions (which serve as the principle driving conditions in water resources), flow monitoring, basic soil properties, water movement in soils, and water quality sampling and analyses. Students will conduct hands-on exercises that will focus on the use of various instruments and techniques commonly employed to conduct such measurements. Data collected will be processed and analyzed within the context of professional practice case studies. The various aspects of the course will coalesce around the concept of the watershed being the basic unit of water resources analyses and design, and students will experience how various measurement techniques and approaches are necessary tools for practicing professionals. This course will be useful to any undergraduates seeking degrees in a major related to water resources planning, engineering, or technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: PHYS 211 orPHYS 250, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 310 Power Transmission in Agriculture (3) Selection and maintenance of mechanical, hydraulic, and pneumatic power transmission components and systems. Electric motor principles and controls.

A S M 310 Power Transmission in Agriculture (3)

After successful completion of A S M 310, students will apply the physical principles, of mechanical power transmission system components such as shafts, belts and sheaves, chains and sprockets, gears, torque limiters, clutches, and universal joints by selecting suitable mechanical drives and specifying proper maintenance procedures. Students will be able to read hydraulic and pneumatic schematics, size fluid power components such as pumps, lines, valves, cylinders, and troubleshoot hydraulic and pneumatic systems. Students will also be able to explain the electrical and physical principles of AC and DC electric motor operation. They will be able to identify torque, speed, voltage, and current operating characteristics and will be able to select controls and circuit protection devices necessary to achieve proper performance. As a required course in the Agricultural Systems Management major, A S M 310 is a prerequisite for other courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: or concurrent:A S M 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 320 Combustion Engines for Mobile Equipment (3) Operating principles of internal combustion engines; performance, selection, and maintenance aspects of engine systems in mobile equipment.

A S M 320 Combustion Engines for Mobile Equipment (3)

After successful completion of A S M 320, students will explain and evaluate the theoretical and practical aspects of internal combustion engines. Students will evaluate and compare alternative engine thermodynamic cycles, alternative fuels (gasoline, diesel, biodiesel, compressed natural gas), performance enhancing attachments (turbochargers, intercoolers), and supporting systems (fuel injection, lubrication, starting, cooling, emissions cleansing). Students will be able to properly select engines and related systems for mobile applications. Students will employ important maintenance procedures required for economical useful life and proper operation. Students will be able to troubleshoot engine systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: A S M 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 326 Hazard Identification and Control in Production Agriculture and Related Businesses (2) Identification and control of hazards common to farms and agriculturally related rural businesses, including structures, equipment, animals, chemicals, outdoor environment.

Hazard Identification and Control in Production Agriculture and Related Businesses (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: third-semester or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 327 Soil and Water Resource Management (3) Soil and water management systems and practices including hydrology, surface drainage, open channels, and erosion, subsurface drainage, impoundments and irrigation.

Soil and Water Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 327L Soil and Water Resource Management (3) Soil and water management systems and practices including hydrology, surface drainage, open channels, and erosion, subsurface drainage, impoundments and irrigation.

Soil and Water Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 327P Soil and Water Resource Management (3) Soil and water management systems and practices including hydrology, surface drainage, open channels, and erosion, subsurface drainage, impoundments and irrigation.

Soil and Water Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 391 (GWS) (B E 391) Contextual Integration of Communication Skills for the Technical Workplace (2) To develop corporate communication skills in technically focused students in a contextual manner.

A S M (A B E) 391 Contextual Integration of Communication Skills for the Technical Workplace (2)

A B E/A S M 391 is the first half of a two-semester capstone experience in corporate focused leadership and communication skills training. The sequence is formatted into two 2-credit courses (second semester Junior for A B E/A S M 391 and first semester senior for the companion A B E/A S M 392 course). A key facet of this training is the contextual approach taken. All course modules are focused around the needs of industry and corresponding technical course content — a complete contextual approach. To meet the needs of the student, the course will reflect clear understanding of leadership and communication but also appreciate critical aspects of the technical content of student's work and of the industries within which the students will ultimately work. The primary focus for 391 is communication skills (oral and written) with a secondary focus on leadership and career skills. The course provides the student with interaction with individuals from industry (company visitors, industry trips, and recruiting opportunities). Students will be evaluated through writing and speaking projects, professional presentations, written worksheets in class and out, creation of portfolios and reports, in class group and individual exercises, computer graphics presentation assignments, library assignments, interaction with industry executives (reports), and leadership journals.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: Junior level standing in B E or A S M

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 392 (GWS) (B E 392) Contextual Integration of Leadership Skills for the Technical Workplace (2) To develop corporate leadership skills in technically focused students in a contextual manner.

A S M (A B E) 392 Contextual Integration of Leadership Skills for the Technical Workplace (2)

A B E/A S M 392 is the second half of a two-semester experience in corporate-focused leadership and communication skills training. The sequence is formatted into two 2- credit courses (second semester Junior for A B E/A S M 391 and first semester senior for the A B E/A S M 392 course). A key facet of this training is the contextual approach taken. All course modules focus on leadership and communication needs of industry within its corresponding technical content — thereby representing a complete contextual approach. To meet the needs of the student, the course will reflect clear understanding of leadership and communication but also appreciate critical aspects of the technical content of student's work and of the industries within which the students will ultimately work. The primary focus of A B E/A S M 392 is on leadership, with communication and career issues the secondary focus. The course provides students with interactions with individuals from industry (company visitors, industry trips, and recruiting opportunities). Topics developed for A B E/A S M 392 include personal development, ethical decision-making, corporate social responsibility, strategic group management, facilitation, and diversity. Students will be evaluated through writing and speaking projects, professional presentations, written worksheets in class and out, creation of portfolios and reports, in-class group and individual exercises, interaction with industry executives (reports), and leadership journals.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: A S M 391 junior level standing in B E or A S M

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 420 Off-Road Power Units (3) Cabs, traction, power allocation, and electronic systems for tractors and other off-road vehicles; requirements for production agriculture, logging, and construction.

A S M 420 Off-Road Power Units (3)

A S M 420 covers the technical aspects of off-road power units such as tractors, self-propelled harvesters, and logging and construction equipment. Upon successful completion, students will understand the many facets of design and management of such vehicles (such as power generation, power allocation, power transmission, traction, operator enclosures, and electrical and electronic systems).

Grades will be based on homework, laboratory exercises, a special project report as well as a mid-term and a final examination. Laboratory exercises will involve full-scale equipment with instrumentation used to measure performance.

While A S M 420 is not a prerequisite for any other course, it complements engineering and technology courses related to machinery. This course serves as a technical selection in the Agricultural and Biological Engineering major and as an agricultural selection in the Agricultural Systems Management major. It complements other courses for anyone interested in the off-road machinery industries. A S M 420 covers several aspects of function and design related to off-road machinery.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:A B E 306 orA S M 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 422 Environmental Systems for Agricultural Buildings (3) Planning and layout of environmental control systems for agricultural production and storage buildings; functional planning of agricultural buildings.

Environmental Systems for Agricultural Buildings (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: A S M 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 424 Selection and Management of Agricultural Machinery (3) Function and operation of field and farmstead machines; energy, quality, and loss considerations; selection and utilization; precision agriculture technology.

A S M 424 Selection and Management of Agricultural Machinery (3)

A S M 424 covers the many aspects of mobile agricultural machinery and fleet management. Integration of economic analysis and functional performance topics are the focus. Optimization, sizing criteria and cycle diagrams, repair and maintenance, reliability of machinery, and precision agriculture technology are major topics covered. Students will give demonstrations of machines as part of the course. Software will be used to select proper sets and sizes of machinery as well as predict impact of machinery selections that may be non-optimal.

Grading will be based on homework, laboratory exercises, a demonstration project as well as mid-term and final examinations. Laboratory exercises will involve full-scale equipment with instrumentation used to measure performance.

While A S M 424 is not a prerequisite for any other course, it complements engineering and technology courses related to machinery. This course serves as a technical selection in the Agricultural and Biological Engineering major or as an agricultural selection in the Agricultural Systems Management major. It complements other courses for anyone interested in the off-road machinery industries. A S M 424 covers several aspects of selection and management of agricultural production and processing machinery.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:A B E 306 orA S M 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 425 Physical Principles in Agricultural Processing (3) Dimensions and units, mass and energy balances, fluid flow, heat transfer in the context of specific agricultural process applications.

A S M 425 Physical Principles in Agricultural Processing (3)

Heat transfer, fluid mechanics, and materials transport are engineering technology concepts that are important for students who desire to manage, evaluate, or develop commercial agricultural processes. This course introduces or reinforces these concepts in the context of materials that are of interest to agricultural systems management students. The applications include: grain drying and storage; milk acquisition, transport, and processing; waste and manure management; and biofuel processing and transport.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: A S M 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 428 Electric Power and Instrumentation in Agriculture (3) Basic principles and applications of electric circuits for power distribution, electric motors, automatic controls, and instrumentation used in agriculture.

Electric Power and Instrumentation in Agriculture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: A S M 221, A S M 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 426 Management of Safety and Health Issues in Production Agriculture and Related Businesses (3) Management of safe workplaces and workers, hazard identification, employee training, legal responsibilities, and program development for farms and related businesses.

A S M 426 Management of Safety and Health Issues in Production Agriculture and Related Business (3)

A S M 426, Management of Safety and Health Issues in Production Agriculture and Related Businesses, is a 3-credit-hour course that explores the management aspects of farm and agricultural-related business safety and health. Topics to be covered include: orientation to farm and related business safety and health issues, legal and ethical responsibilities, how to approach and organize safety and health management plans, and safety and health education and training. Students will use a case-study approach to devise safety and health management plans for an existing farm or agricultural related business enterprises. Activities focus on the analyses of worksheet hazards, developing a hazard control plan, and employee training. Evaluation will be based on homework and class participation, quizzes, a final exam, and a final paper and class presentation. A S M 426 presents students with a systems approach to developing management strategies to counteract work hazards and methodology for preparing occupational safety and health management plans for production agriculture and related businesses that serve production agriculture. A S M 426 is an upper-level elective for the Industrial Safety and Health program in the Department of Energy & Geo-Environmental Engineering, College of Earth & Mineral Sciences, and would be in the selection list for a supporting/related course in the A S M Off-Road Equipment Minor.

Faculty MemberS Proposing Course: D. J. Murphy and J. W. Hilton

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: A S M 326

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 429W Agricultural Systems Analysis and Management (3) Theory of systems thinking; optimization and quantitative techniques for analysis of agricultural production and processing systems.

A S M 429W Agricultural Systems Analysis and Management (3)

ASM 429W is a capstone course for the Agricultural Systems Management major. The course covers systems analysis and optimization techniques including an introduction to systems theory, qualitative and quantitative analysis, linear programming, waiting line models, PERT/CPM, minimal spanning tree, calculus methods, simulation modeling for decision making, inventory, and energy audits. All topics are presented in the form of case studies that require the students to solve problems in realistic agricultural production and processing scenarios. All exercises, exams, and projects are team-based. The course also provides a writing-intensive structure. The course targets ASM students in their last semester because it integrates knowledge and experiences acquired in prior ASM, business, and agricultural science courses. Grades are based on reports, a mid-term exam, and a final project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: A S M 422, A S M 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 490 Agricultural Systems Management Seminar (1) Senior seminar to prepare Agricultural Systems Management graduates for positions in business, industry, government service and to foster continuing professional growth. .

Agricultural Systems Management Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural Systems Management (A S M)

A S M 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Biological Engineering (A B E)

A B E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Biological Engineering (A B E)

A B E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Biological Engineering (A B E)

A B E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 201 (GS) Interpersonal Skills for Tomorrow's Leaders (3) Study of concepts of self identity, values and interpersonal relations as related to professional and personal life.

AEE 201 Interpersonal Skills for Tomorrow's Leaders (3)
(GS)

The purpose of the course is to aid students in becoming competent in conducting interpersonal relationships in their daily life, and to help students acquire skills basic to becoming a leader in their personal life. The following topics will be addressed. A framework for interpersonal skill development sets the stage for improving one's interpersonal skill. Understanding individual differences addresses information that is the foundation of effective interpersonal relations. Interpersonal communications deals with skills in sending and receiving messages. Developing teamwork skills sensitizes the student to a vital set of skills in the workplace as well as organizations. Group problem-solving and decision making provides additional skill in collaborative efforts. Cross-cultural relations and diversity develops cross-cultural skills in the classroom, community organizations and the work place. Resolving conflicts develops skills in finding constructive solutions to differences of opinion and disputes with others. Becoming an effective leader addresses: 1) exercising effective leadership in clubs, organizations and the workplace, 2) motivating and helping others to develop and grow through coaching, counseling and teaching, 3) using power and influence for constructive purposes, and 4) translating ethical behaviors into usable skills. Each class meeting will focus on one or more concepts related to leadership and interpersonal skill development. Students will be provided a number of experiential activities that help them practice a particular set of skills. In addition, students will be required to complete a service learning project applying their leadership and interpersonal skills with individuals in the community who are in need of their help.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 100 Agricultural Education Orientation (2) Examination of agricultural and extension education; exploration of aptitude and interest in teaching, including early clinical practicum.

Agricultural Education Orientation (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 205 Teaching Agricultural and Environmental Science Competencies (1 per semester, maximum of 2) Practicum to develop students' pedagogical and technical competence for teaching agricultural mechanics; agricultural business management; plant, animal, and soil science.

Teaching Agricultural and Environmental Science Competencies (1 per semester, maximum of 2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 295 Observation of Teaching in Agriculture and Environmental Science (1-3) Supervised observation of teacher and student activities in a selected high school; appraisal of related responsibilities of teachers of agriculture.

Observation of Teaching in Agriculture and Environmental Science (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 296 Independent Studies (1-12) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 297A Practical Parliamentary Procedure (2) This course will emphasize the motions and procedures used in business meetings of civic organizations, boards, committees, corporations, and conventions.

Practical Parliamentary Procedure (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 311 Developing Youth Leadership through Organization and Program Structure (3) Basic strategies and procedures for effectively coordinating Supervised Occupational Experiences, Future Farmers of America, and Young Farmer Association activities in secondary and postsecondary schools.

Developing Youth Leadership through Organization and Program Structure (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 313 School-Based Program Planning and Instructional Development (2) Planning and developing courses of study, summer programs, advisory committees, and facilities for vocational agriculture.

School-Based Program Planning and Instructional Development (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: AEE 100, AEE 295, AEE 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 330W Communication in Agricultural and Natural Resource Careers (3) The course explores the conventions of writing and speaking found in agricultural professions through the use of case studies.

Communication in Agricultural and Natural Resource Careers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: ENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 350 Teaching Methods for Agricultural and Environmental Laboratories (3) An introductory course that prepares students to instruct and manage students in laboratory settings.

Teaching Methods for Agricultural and Environmental Laboratories (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 360 Leadership Development for Small Groups (3) Students will learn about leadership dynamics in small groups and how to be more influential in work settings.

AEE 360 Leadership Development for Small Groups (3)

This course is designed to teach students the dynamics of leadership in small groups. Specifically, students will learn to identify characteristics of leaders and understand their own personal leadership style. In addition, students will participate in team building activities and understand small group and motivational factors.

Evaluation will be via a series of four examinations and two papers reflecting on impact and shadowing exercises. This course will be part of a series on leadership development offered through the Department of Agricultural and Extension Education.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 395 Internship (1-13) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.

Internship (1-13)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 400 Educational Programs in Agriculture for Developing Countries (3) Development and implementation of educational programs in agriculture in developing countries.

Educational Programs in Agriculture for Developing Countries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: INTAG 100 orINTAG 481

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 412 Methods of Teaching Agriculture and Environmental Science (4) Instructional strategies and media; directing individual and group learning activities; assessing student performance and quality of instruction in vocational agriculture.

Methods of Teaching Agriculture and Environmental Science (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 413 Program Planning and Instructional Development (3-4) A course in planning, developing, and organizing school-based curriculum, summer programs, advisory councils, and facilities for environmental/ agricultural education.

AEE 413 Program Planning and Instructional Development (3-4)

Organization and administration of secondary programs of education in and about agricultural/environmental sciences, including Ag In The Classroom (Elementary School Agriculture), marketing, summer programs, and state vocational finances. Topics will include discussion of instructional techniques for secondary educators in agriculture, with emphasis on classroom management, discipline and motivation, and teacher evaluation.

The course is arranged in 10 units (for students who have completed AEE 100 as an undergraduate certification requirement) or 15 units (for returning adult students seeking certification who have already completed an Agricultural/Environmental Science undergraduate degree). Thus, this is a variable credit offering designed to meet the needs of these two groups of students.

In each unit there are objectives that need to be met by the students. The students "click" on the objective to open the lessons. Within the lessons are research materials, articles, textbook references (all copyright permission), additional WWW links, and other supporting resources. At the end of the article is an opportunity for students to enter the Penn State Coursetalk electronic "chat" room to engage in discussions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 418 Effective Laboratory Development for Agricultural and Environmental Science (1-4) Current problems and practices; issues and policies; relationships involving other educational services and agencies.

Effective Laboratory Development for Agricultural and Environmental Science (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 424 Workforce Guidance in Agricultural Industry (1-4) Opportunities and developments in agricultural industry, on-farm agricultural work, professional agricultural positions, and off-farm, nonprofessional agricultural occupations.

Workforce Guidance in Agricultural Industry (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 426 Adult Education in Agriculture and Natural Resources (1-4) Organization, conduct, and appraisal of instruction in agriculture to include farming and off-farm agricultural occupations.

Adult Education in Agriculture and Natural Resources (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: AEE 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 430 (RPTM 430) Environmental Education Methods and Materials (3) Methods and materials for developing, implementing, and evaluating environmental education programs within formal and non-formal educational settings.

AEE (RPTM) 430 Environmental Education Methods and Materials (3)

The primary objective of this course is to provide students with an introduction to Environmental Education (EE) methods (pedagogy) and materials for both formal and non-formal settings. A second objective is to provide the student with an opportunity to apply specific methods and materials to practical situations at Shaver's Creek Environmental Center. These opportunities include Outdoor School, School Day Programs, Maple Harvest Festival, and Scout Programs. A third objective is to provide information about gaining access to EE materials through web-based, written, and personal contacts.

Main topics typically include:

- Introduction to the history, definition, and philosophy of Environmental Education (EE)
- Differences between formal and non-formal EE settings
- PDE Environment & Ecology Standards
- Models of EE pedagogy
- Place-based-education labs covering: The Land, Water Resources, Fauna, and Flora
- "Keystone Aquatic Resource Education" teacher resource workshop (or other national curricula- i.e. P WILD, PLT, Project WET, etc.)
- EE Resources available at SCEC, the web, and other EE centers

This course is one of the selections for RPTM majors in the environmental interpretation emphasis and adventure-based programming emphasis within the Outdoor Recreation option. Students from other majors may enroll in this course if they have met the pre-requisite (RPTM 325).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: AEE 100 orRPTM 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 434 Agricultural and Environmental Development (1-6) Intensive professional and technical treatment of various subject-matter fields to aid teachers in maintaining competence.

Agricultural and Environmental Development (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: senior-year standing or experience as a teacher or extension agent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 437 (AN SC 437) Equine Facilitated Therapy (3) Equine Facilitated Therapy uses equine-related activities to contribute positively to the wellbeing of people with disabilities.

AEE (AN SC) 437 Equine Facilitated Therapy (3)

The primary goal of this course is to acquaint the participant to equine facilitated therapy (therapeutic riding) and to introduce them to individuals who benefit/participate in such programs through lecture, audio-visual media, discussions, program visitation, independent research and via a practicum at a therapeutic riding program. Additionally, this course is designed to introduce the participant to various exceptional characteristics and conditions which may benefit from exposure/participation in equine facilitated therapy and other animal related therapy programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 440 Communication Methods and Media (3) Mass media techniques for reporting and promoting extension and related programs, including message preparation, presentation, and strategy development.

Communication Methods and Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: 3 credits in communication

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 450 Program Design and Delivery (3) Principles, methods, and practices of extension education in agriculture, community resource development, family living, environmental affairs, 4-H, and youth programs.

AEE 450 Program Design and Delivery (3)

This course will help students develop a basic understanding of non-formal educational programs including Cooperative Extension and other non-credit granting educational opportunities where participation is typically voluntary. Students will learn how non-formal programs are planned, delivered and evaluated in community settings. In addition, students will select and critique existing extension programs developed for use in the United States and others in use around the world.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: 6 credits in social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 465 Leadership Practices: Power, Influences, and Impact (3) Explores the leader role as it relates to issues of purpose, social responsibility, political influences, and legal constraints.

AEE 465 Leadership Practices: Power, Influences, and Impact (3)

In this course, students will explore leadership roles as they relate to issues of purpose, social responsibility, political influences and legal constraints. It is designed to help students develop greater sensitivity to the variety of factors and forces impacting leadership processes and to acquire an increased understanding of key elements of successful leadership practices. The overall objective of this course is to help students learn specific leadership competencies that will make them a more effective leader when addressing problems and seeking solutions in public and/or private domains.

Evaluation will be based upon unannounced quizzes, several short written projects, and a final paper in which students will be expected to demonstrate an integrated application of causes, barriers and key ingredients of a leader they consider to be successful. This course will be part of a series on leadership development offered through the Department of Agricultural and Extension Education.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 460 Foundations in Leadership Development (3) This course explores historical and contemporary leadership theories, models and perspectives within social, cross-cultural, and political contexts.

AEE 460 Foundations of Leadership Development (3)

This course is designed to provide students with a philosophical and theoretical framework of leadership by examining historical and contemporary theories, models and leadership styles within a social, political and global context. Students will explore leadership effectiveness and its relationship to issues of power, influence, persuasion, motivation and ethical decision-making. The overall objective of this course is to help students learn specific leadership competencies that will make them a more effective leader when addressing problems and seeking solutions in public and private domains.

Evaluation will be based upon quizzes, written projects, leader interview and a final paper in which students will be expected to demonstrate an integrated application of causes, barriers and key ingredients of successful leadership practices. This course will be part of a series on leadership development offered through the Department of Agricultural and Extension Education.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: AEE 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 490 Colloquium (1-3) Seminars consisting of a series of individual lectures by faculty, students, or outside speakers.

Colloquium (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 495A Student Teaching in AG (1-12) Participation in the total program of instruction in agriculture in a selected high school.

Student Teaching in AG (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AEE 412, AEE 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 495 Internship in Agricultural and Extension Education (1-15) Participation in the total program of instruction in agriculture in a selected high school.

Internship in Agricultural and Extension Education (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: AEE 412, AEE 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 495C Student Teaching in Environmental Science (1-12) Participation in the total program of instruction in agriculture in a selected high school.

Student Teaching in Environmental Science (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AEE 412, AEE 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 495D Internship - Leadership (3) Participation in the total program of instruction in agriculture in a selected high school.

Internship - Leadership (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: AEE 412, AEE 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 495D Internship - Leadership (1-15) Participation in the total program of instruction in agriculture in a selected high school.

Internship - Leadership (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AEE 412, AEE 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 495D Internship in Agricultural and Extension Education (1-15) Participation in the total program of instruction in agriculture in a selected high school.

Internship in Agricultural and Extension Education (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: AEE 412, AEE 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 496B McNair Scholar Reserach (3) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

McNair Scholar Reserach (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 496A Introduction to Research Methods - McNair Scholars (3) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Introduction to Research Methods - McNair Scholars (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 497 Special Topics (1-9) Formal courses given on topical or special interest subjects which may be offered infrequently.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 497A An International Experience in Extension Education, Guanajuato Mexico (1) Formal courses given on topical or special interest subjects which may be offered infrequently.

An International Experience in Extension Education, Guanajuato Mexico (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agricultural and Extension Education (AEE)

AEE 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 100 Job Placement Skills and Strategies (1) Strategies and skills designed to identify career/life goals and implement career decisions.

Job Placement Skills and Strategies (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 113 Exploring Careers in Agriculture (1) Examination of career opportunities in agriculture with an exploration of the relationship between student interest and career decisions.

Exploring Careers in Agriculture (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 100 (SC 101) Job Placement Skills and Strategies (1) Strategies and skills designed to identify career/life goals and implement career decisions.

Job Placement Skills and Strategies (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 150S Be a Master Student! (2) Students explore agricultural issues and research methodologies through literature review, library searches, field studies, and critical thinking.

Be a Master Student! (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: first- or second-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 160 (GH) Introduction into Ethics and Issues in Agriculture (3) The course explores ethical theories, concepts of critical thinking, and major ethical issues related to American agriculture.

AG 160 Introduction into Ethics and Issues in Agriculture (3) (GH)

Ethics and the social contract include substantive ethical theories focusing on rights-based ethical theories (libertarianism and egalitarian theories) and consequentialist theories (utilitarianism and axiology). These theories assist in conceptually defining levels of participation and consent in democracy. This course explores the circumstances in which rational persons and political groups historically agree to be bound in collective decision making. The primary focus by examines four separate ethical themes illustrating why and how individuals accept a variety of terms.

The course highlights philosophical/ethical decisions related to agriculture issues during the history of the United States. Issues range from non-interference rights to opportunity rights dealing with food, fiber, natural resource and environmental issues. Procedural theory emphasizes the formation of legitimate and defensible rules rather than ethics. Policy choices are assumed to be legitimate and defensible as long as individuals follow the rules/procedures for decision making. The content of this course meshes the procedural and the substance theories found throughout historical debates in agriculture communities. The course identifies traditional agrarian problem identification, policy formation, policy adoption and funding, program implementation and program evaluation.

How ethics figures historically in agriculture policy processes is applied in a variety of case studies and debates as well as selected readings. The course includes an examination of the ethics of when, how and where the policy process historically influenced agriculture public policies. The course emphasizes the need to critically think about various points of view expressed by various conflicting authors.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 301W Introduction to Agricultural Law (3) A survey of the legal system and legal issues that typically arise in agricultural and agribusiness situations.

Introduction to Agricultural Law (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 400 Biometry/Statistics in the Life Sciences (4) Application of statistical techniques to experimental and survey research in the life sciences.

Biometry/Statistics in the Life Sciences (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: 6 credits in the natural sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 451 (FOR 451) Artificial Intelligence and Expert Systems for Agriculture and Natural Resource Management (3)
Application of artificial intelligence in agriculture and natural resources, with emphasis on expert systems.

Artificial Intelligence and Expert Systems for Agriculture and Natural Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: one course in computer science or computer applications

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agriculture (AG)

AG 495 Internship (1-18) Independent study and supervised field experience related to the student's major. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: approval of proposed assignment by instructor prior to advance registration deadline in semester preceding that semester in which the assignment is to be carried out

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 121 (GN) Plant Stress: It's Not Easy Being Green (3) The many hazards faced by plants and the dynamic ways that plants respond to these problems are examined.

Plant Stress: It's Not Easy Being Green (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 134 (GN) (R SOC 134) Sustainable Agriculture Science and Policy (3) The science, socio-economics, and politics of managing food and fiber production systems. Sustainability implications of current practices and future options.

AGECO (R SOC) 134 Sustainable Agriculture Science and Policy (3) (GN)

This general education course will teach students about the soil, plant, animal, and ecological sciences; technologies, and policies of our agroecosystems in an integrated manner. We will examine agricultural resources and options available for sustainable management of resources for food production. Students will have many opportunities to examine and critically analyze scientific knowledge and policies during discussions, writing exercises, and role playing to develop analytical and communication skills. There are no prerequisites for this course. This course can link with other courses that address how research and efforts in agricultural sciences, ecology, policy, economics, philosophy, education, and communication influence sustainable management of natural resources for the present and the future.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 122 (GN) (METEO 122) Atmospheric Environment: Growing in the Wind (3) Dynamic effects of weather on ecosystems and habitation of Earth.

AGECO 122 Atmospheric Environment: Growing in the Wind (3) (GN)

Atmospheric Environment: Growing in the Wind is for first-year students who are interested in learning about the dynamic effects of weather on ecosystems and habitation of the Earth. It is about how processes at the ground surface and in the air govern weather conditions on Earth. Growing in the Wind focuses on five major weather elements: energy, temperature, moisture, pressure, and wind and how these factors govern ecosystems and habitation of Earth. Emphasis is also given to human impacts on weather and climate. The lectures (2, one-hour lectures each week) are organized around the central theme that the unequal distribution of incoming solar energy (both spatially and temporally) produces temperature and pressure contrast at the Earth's surface and in the atmosphere that in turn cause storms and control the weather and climate. Computer lab exercises (1, two-hour lab each week) will reinforce concepts learned in lecture.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 144 (GN) Principles and Practices of Organic Agriculture (3) An introduction to the science, principles and practices of organic agricultural systems for food production.

AGECO 144 Principles and Practices of Organic Agriculture (3)
(GN)

This general education course will teach students about the science of agroecology, with a focus on organic agriculture. We will examine the science, history and development of organic agriculture and its principles and practices. Students will learn about the scientific basis and implementation of fundamental organic farming principles and practices including soil health, diversified cropping systems, organic pest management, and a system perspective. We will also discuss certified organic regulations and policies, organic farming business management and marketing. Learning activities will include: i) reading and discussing agricultural scientific articles, ii) listening to guest speakers and videos, iii) hands-on laboratory and greenhouse activities, iv) attending a field trip, and v) two group projects. The only prerequisite for this course is a high school level biology or ecology course. This course can link with other courses that address the agricultural sciences, food systems, environmental resource management and policy, landscape management and design, and natural resources. Student learning will be evaluated from class participation, questions on reading assignments, short papers and presentations, and a group project and presentation conducted by student teams.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 197A Principles of Agronomic Field Operations (2) Field based class to explore the practical aspects of agronomic crop production from planting to harvesting.

Principles of Agronomic Field Operations (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 201 Introductory Agroecology (3) Introduction to the processes and considerations that lead to the development of integrated solutions to crop production problem solving.

Introductory Agroecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 295 Agroecology Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Agroecology Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 418 (AN SC 418, SOILS 418) Nutrient Management in Agricultural Systems (3) Comprehensive review of nutrient flow in animal agricultural systems, environmental regulations, and environmental stewardship practices.

AGECO (AN SC/SOILS) 418 Nutrient Management in Agricultural Systems (3)

Nutrient Management in Agricultural Systems is a senior level course that applies the fundamentals of animal and plant, sciences to the concept of a nation-wide food animal system. The regional concentration and consolidation of animal production enterprises has resulted in important economic savings for consumers. But these changes have also had some detrimental impacts on the environment. For example, some nutrients such as calcium and phosphorus and certain trace elements are mined, while others such as nitrogen and potassium are deiived from crop production systems. In all cases, the nutrients are transported to areas of livestock concentration. A small portion of the nutrients leave the farm in the form of animal products, while 60 to 70% of the nutrients are excreted and applied to nearby crop land. The environmental implications of the net influx of these nutrients to livestock producing communities have only recently been recognized. These concepts will provide the background around which regulations are written and sound nutrient management strategies are developed and implemented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 438 (AGRO 438) Principles of Weed Management (4) Weedy plant taxonomy, biology and ecology of weedy plant populations, and integration of biological, chemical, cultural and biological controls.

AGECO (AGRO) 438 Principles of Weed Management (4)

The study of weeds and their management is a challenging and demanding task that requires diverse abilities. The term weed is an anthropocentric construct meaning it is a human colored definition. We will study the biology and ecology of weedy plants drawing on examples from a wide range of plant systems; those systems include agricultural fields (agronomic and horticultural crops) and forests. Of course our knowledge of the biology and ecology of weedy plant populations will then be used to underpin and assess control tactics and their integration. The discipline has a history of equating management with herbicidal control and in fact some 80% of the pesticides used in U.S. agriculture are herbicides. However through novel farmer designed management systems, through a research community focused on alternative methods of management and through increased focus on invasive species, exciting breakthroughs are occurring in alternative methods of management and prevention. This course seeks to introduce you to the breadth of management approaches in use and under study. The specific objectives are for students to be familiar with: 1) the local weed flora, 2) fundamental aspects of weed biology and ecology relevant to managed landscapes, 3) the control methods used in managing weed populations, 4) how control measures can be integrated to accomplish acceptable levels of pest suppression, 5) operationalizing a weed management plan, 6) how herbicides enter and move to their site of action in plants, 7) classifying herbicides by their site of action, and 8) the distinction between herbicide concentration in soils and plant available herbicide concentration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: 6 credits in plant sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 457 (CI ED 457) Principles of Integrated Pest Management (3) Integrated study of pest complexes and their management, emphasizing ecological principles drawing on examples from a range of agricultural, forestry and urban systems. This course is designed for sixth, seventh, and eighth semester students and graduate students.

AGECO (AGRO/ENT/PPATH) 457 Principles of Integrated Pest Management (3)

ENT (AGECO/AGRO/PPATH) is designed to provide junior/senior level undergraduates and graduate students with the knowledge and tools needed to design and implement IPM programs. The course integrates pest management principles and concepts developed specifically for or across the disciplines of weed science, entomology, plant pathology, crops and soil science, horticulture and ecology. Students will also be taught the underlying ecological, historical, sociological and economic principles required for successful development of IPM programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Must take two or more of the following:ENT 313 and/orPPATH 405 and/orPPATH 318 and/orHORT 238

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 490 Agroecology Colloquium (3) Students will be discussing topics related to the major and develop presentations in consultation with the course instructor.

AGECO 490 Agroecology Colloquium (1)

Students learn from commercial farmers about current issues, needs, and successes in the application of agroecological principles. Pennsylvania and northeastern farmers are invited to discuss their farming practices and decision making processes involved in managing farm and environmental resources. Through discussions with the guest speakers, written papers and class discussions students reflect on, analyze, and summarize what they learn direct from practitioners about agroecosystem management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: 3 credits in agroecosystems science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 461 Emerging Issues in Agroecosystem Management (3) A discussion-based capstone course that elucidates the interdisciplinary issues facing agriculture today.

AGECO 461 Emerging Issues in Agroecosystem Management (3)

Emerging Issues in Agroecosystem Management (AGECO 461) is a capstone course designed for the Agroecology degree program, but is also available to students from other majors. This highly participatory course emphasizes many of the interdisciplinary topics facing agriculture today, with a focus on balancing agricultural production with environmental conservation. Topics include: implications and management of soil quality; genetically modified crops; climate change and agriculture; pest and nutrient management alternatives; biofuels; and urbanization. Many of the lectures are given by guests that are experts in the specific topics, which are followed by a student-led discussion with the guidance of the primary instructor. Select readings from the peer reviewed literature are also included. Students will prepare a case study of an actual agricultural production system, emphasizing the sustainability issues covered in the class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 495 Agroecology Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Agroecology Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecology (AGECO)

AGECO 499 (IL) Foreign Studies (1-2 per semester/maximum of 4) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-2 per semester/maximum of 4)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecosystems Science (AGESS)

AGESS 460 Integrated Pest Management Systems Design (3) This course will provide students with the principles and concepts necessary to develop the components of Integrated Pest Management systems.

Integrated Pest Management Systems Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: AGECO 201, AGRO 438, ENT 313, ENT 316, PPATH 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agroecosystems Science (AGESS)

AGESS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 028 Principles of Crop Management (3) Biological and agronomic principles applied to production and management of major feed and forage crops of the northeastern United States.

Principles of Crop Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: 6 credits in biological science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 410W Crop Science (4) Study of the relation of crop plants to their environment, crop ecology, and the physiology of crop growth.

Crop Science (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: AGRO 028, BIOL 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 423 Forage Crop Management (3) Application of agronomic, ecological, and physiological principles to the production and management of pasture and forage crops.

Forage Crop Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: AGRO 028

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 425 Field Crop Management (3) Application of agronomic, ecological, and physiological principles to management systems for the efficient production of the major field crops.

Field Crop Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: AGRO 028

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 438 (AGECO 438) Principles of Weed Management (4) Weedy plant taxonomy, biology and ecology of weedy plant populations, and integration of biological, chemical, cultural and biological controls.

AGRO (AGECO) 438 Principles of Weed Management (4)

The study of weeds and their management is a challenging and demanding task that requires diverse abilities. The term weed is an anthropocentric construct meaning it is a human colored definition. We will study the biology and ecology of weedy plants drawing on examples from a wide range of plant systems; those systems include agricultural fields (agronomic and horticultural crops) and forests. Of course our knowledge of the biology and ecology of weedy plant populations will then be used to underpin and assess control tactics and their integration. The discipline has a history of equating management with herbicidal control and in fact some 80% of the pesticides used in U.S. agriculture are herbicides. However through novel farmer designed management systems, through a research community focused on alternative methods of management and through increased focus on invasive species, exciting breakthroughs are occurring in alternative methods of management and prevention. This course seeks to introduce you to the breadth of management approaches in use and under study. The specific objectives are for students to be familiar with: 1) the local weed flora, 2) fundamental aspects of weed biology and ecology relevant to managed landscapes, 3) the control methods used in managing weed populations, 4) how control measures can be integrated to accomplish acceptable levels of pest suppression, 5) operationalizing a weed management plan, 6) how herbicides enter and move to their site of action in plants, 7) classifying herbicides by their site of action, and 8) the distinction between herbicide concentration in soils and plant available herbicide concentration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: 6 credits in plant sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 438B Weed Identification (1) Identification of 150 weeds common to the Northeastern United States.

Weed Identification (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: 6 credits in plant sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 460 (BIOTC 460) Advances and Applications of Plant Biotechnology (3) This course provides a comprehensive overview and current status of plant biotech research. The course provides knowledge of plant systems that fall in the category of GMOs.

AGRO (BIOTC) 460 Advances and Applications of Plant Biotechnology (3)

This course will provide a comprehensive overview and status of current plant biotech research. The focus is on providing knowledge of the biology of plant systems. Consequences of development of a transgenic plant either for food (crops) or as a tool to understand molecular, genetic, and inheritance mechanisms of a trait will be discussed in detail. The course will deliver the current literature and understanding of mechanisms involved in herbicide resistance in transgenic plants. Specific topics that will be of interest to students from various disciplines include disease and insect resistance, quality traits, and secondary metabolites. Molecular biology of different pollination systems will be examined so that students will understand the concept of gene flow from transgenic to non-transgenic crops. Examples from recent developments on the beneficial use of transgenic plants as producers of modified compounds, starches, antibodies and their use in phytoremediation of toxic and organic pollutants will be discussed from the perspective of genetic and molecular plant systems. Gene expression of transgenic plant traits and the stability of an engineered crop will be discussed. Specific emphasis will be on different modes of inheritance that a transgenic plant can follow after its development and release into the environment. The course also prepares students for understanding the regulatory processes that are required for testing, moving, and environment release of transgenic crops. The laboratory component of the course will introduce students to the common technique of molecular biology that are used to detect expression in transgenic plants. Transgenic maize plants will be grown in a greenhouse and analyzed for expression of introduced genes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: BIOL 230W orB M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 489 Supervised Experience in College Teaching (1-3) Participate with instructors in teaching an undergraduate agronomy course; assist with teaching, evaluation, and development of instructional materials.

Supervised Experience in College Teaching (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: AGRO 028 approval of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 490 (SOILS 490) Colloquium (1) Continuing written and oral presentations developed by students in consultation with the course instructor.

Colloquium (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 495 Internship (1-5) Supervised field experience related to the student's major.

Internship (1-5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1981
Prerequisite: approval of proposed assignment by instructor prior to registration.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Agronomy (AGRO)

AGRO 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 152 The Foundations of the United States Air Force II (2) Continued study of officership and leadership. Mission and organization of today's Air Force are discussed.

The Foundations of the United States Air Force II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 151 The Foundations of the United States Air Force I (2) Survey course designed to introduce students to Air Force opportunities, officership, professionalism, and military customs and courtesies, and communication skills.

The Foundations of the United States Air Force I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 251 The Evolution of USAF Air and Space Power I (2) Examines aspects of air and space power from the first balloons to the beginning of the Cold War era.

The Evolution of USAF Air and Space Power I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 351 Leadership Studies I (3) Study of leadership, management fundamentals, and communication skills required of Air Force officers. Students apply these concepts using case studies.

Leadership Studies I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 252 The Evolution of USAF Air and Space Power II (2) Continued examination of air and space power from the Cold War era to the Persian Gulf War and beyond.

The Evolution of USAF Air and Space Power II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 352 Leadership Studies II (3) Continued study of leadership includes professional knowledge, AF personnel evaluation systems, and leadership ethics. Students apply concepts using case studies.

Leadership Studies II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 451 National Security Affairs/Preparation for Active Duty I (3) This course examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine.

National Security Affairs/Preparation for Active Duty I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Air Force (AIR)

AIR 452 National Security Affairs/Preparation for Active Duty II (3) Topics focus on preparation for military service after commissioning and current issues affecting the Air Force way of life.

National Security Affairs/Preparation for Active Duty II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 050 (GH) The Literature and Lore of Mining (3) Experience and values of mining tradition: survey of the literature and lore, including field research.

AM ST 050 The Literature and Lore of Mining (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

AM ST 050 is a nontraditional approach to the humanities whose central methodology is a comparative use of literature, lore, and oral history to explore humanistic themes related to the coal mining experience and tradition regionally, nationally, and internationally. Throughout the course, knowledge about the miner and his tradition is derived and synthesized from a variety of sources. During the 15 weeks, students typically read one novel, one play, six short stories, a dozen poems, six essays and articles, and a mining culture and lore anthology. Students also view films and videos, examine historical documents, artifacts, and photos, listen to oral history tapes, and visit a coal heritage site. Central to the course is a three-week segment devoted to preparing students to conduct field research involving an interview of a miner or miner's wife. The other 12 weeks are divided equally to stress poetic, fictional, dramatic, and expository expressions of the mining experience. Students analyze and interpret information collected during the field research and make connections between the contents of the interview and the contents of the national and international literature selections assigned for class. By reading, analyzing, and discussing works of literature, students learn how the mining tradition was an inextricable part of American culture and how it played a vital role in the industrial revolution of America. Issues related to immigration, ethnicity, and the struggle between labor and management are also illuminated. Some universal themes related to the human condition to be explored are: the search for dignity, security, and justice; the struggle against the environment to achieve purpose and meaning in life; the indomitable human spirit versus resignation to fate; and the values of solidarity, brotherhood, and family relationships. Representative authors to be studied who have written about coal mining are D.H. Lawrence (England), George Orwell (England), Franz Kafka (Austria-Czech), Stephen Crane (U.S.) Alexandre Kuprine (Russia), and Emile Zola (France). After reading selections by these authors, students compare and contrast the mining tradition in the U.S. to the mining tradition in other countries, with special emphasis on the coal miner's life style, character, and values. For assessment, students will complete three exams-objective and essay in nature. They will conduct an oral history field research project, prepare three reports, and keep a journal. Class attendance and discussion of the work assigned will also be factors in evaluation. The course will fulfill a general education humanities requirement.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 083S (GH) First-Year Seminar in American Studies (3) Critical approaches to the interdisciplinary study of American culture.

AM ST 083S First-Year Seminar in American Studies (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will be an open topic course in American Studies, limited to 20 students, and taught by an experienced professor. The course will be designed to provide a small, interactive learning environment for first-year students. Each section of 083 will address a large theme or number of themes that encourage students to examine a range of assigned texts in the context of broad questions of ethical and social value. Each section of the course will focus on a well-defined body of scholarship that is topical in the discipline, such as 'Civil Disobedience,' "Utopian Communities, and Blacks and Jews: A Multi-Cultural Perspective." In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests. Each section of the course will require active class participation from all students and a minimum of three substantial written assignments. Each of these written assignments will take one of the following forms: essay, essay exam, or a semester-long reading journal. The course fulfills a General Education humanities requirement or a Bachelor of Arts humanities requirement.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 100 (GH;US) Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.

AM ST 100 Introduction to American Studies (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

American Studies 100 is a broad-ranging introduction to American culture. While specific topics may vary from class to class, the course examines what "America" means and what it means to be "American." These issues will be examined form a variety of perspectives: literature, history, politics, film, race, gender, and geography. The course is often broken down into discussion sections to facilitate student discussion of the material and the lecture. Requirements generally include community service projects, and students will be evaluated on essay tests, papers, journal entries and attendance. American Studies 100 (or American Studies 105) is a requirement for the American Studies major and minor, and offers students valuable experience in critical thinking, analysis, and writing. Non-American Studies majors and minors may use this course to fulfill a general education or Bachelor of Arts-Humanities credits. The course offers students a broad introduction to American culture, also serves as preparation for more advanced courses in American studies, American literature, and American history, in particular.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 100U (GH;US) Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.

Introduction to American Studies (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 100Y (GH;US) Introduction to American Studies (3) A study of selected attempts to identify and interpret movements and patterns in American culture.

AM ST 100Y Introduction to American Studies (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

American Studies 100 is a broad-ranging introduction to American culture. While specific topics may vary from class to class, the course examines what "America" means and what it means to be "American." These issues will be examined form a variety of perspectives: literature, history, politics, film, race, gender, and geography. The course is often broken down into discussion sections to facilitate student discussion of the material and the lecture. Requirements generally include community service projects, and students will be evaluated on essay tests, papers, journal entries and attendance. American Studies 100 (or American Studies 105) is a requirement for the American Studies major and minor, and offers students valuable experience in critical thinking, analysis, and writing. Non-American Studies majors and minors may use this course to fulfill a general education or Bachelor of Arts-Humanities credits. The course offers students a broad introduction to American culture, also serves as preparation for more advanced courses in American studies, American literature, and American history, in particular.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 103 (GH;US) American Masculinities (3) Introduction to aspects of masculinities and manhood in America.

AM ST 103 American Masculinities (3)
(GH;US)

This course examines aspects of masculinities and manhood in America from a variety of perspectives. It views American manhood through the lens of gender, and presents ideas on the ways that issues of masculinity and sexuality enter, or have entered, discourses of politics, literature, and medicine, among others. It takes up discussion of the varieties of masculinities in American experience across regions, ethnicities, and religions. Students will view these forms of masculinities in different media, including folklore, media, advertising, art, and literature.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 105 (GH;US) (ENGL 105) American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.

AM ST (ENGL) 105 American Popular Culture and Folklife (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

AM ST/ENGL 105 covers a broad scope of materials, which may range from early to contemporary American folk and popular cultures. While selected topics for reading and discussion often vary from class to class, all courses focus on a critical examination of a variety of popular and fold cultures in order to produce an enriched understanding of America and its inhabitants. To meet this goal, popular and folk cultures will be examined from a variety of perspectives, including literature, history, politics, film, race, gender, class, and geography. Course requirements frequently include: essay exams, papers, journal entries, vigorous class discussion, and course talk participation. Technology is often incorporated into the class well, this course (or AM ST 100) is a requirement for the American Studies major and minor, and offers students valuable experience in critical thinking, analysis, and writing. Non-American Studies majors and minors may use this course to fulfill a general education or Bachelor of Arts/Humanities credit. AM ST/ENGL 105 serves as a broad introduction to American popular and folk cultures as well as interpretive strategies relevant to the study of cultures and individuals. The course, as a result, provides preparation for more advanced courses in American studies, American literature, and American history.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 104 (GH;US) (WMNST 104) Women and the American Experience (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.

AM ST (WMNST) 104 Women and the American Experience (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

AM ST/WMNST 104 is a broad-ranging introduction to women in American culture. While specific topics may vary from class to class, the course examines the history and literature of American women, paying particular attention to issues of race and diversity. Students will be evaluated on essay tests, papers, journal entries, and attendance. The course offers students valuable experience in critical thinking, analysis, and writing. The course offers students a broad introduction to American women's issues, and so serves as preparation for more advance courses in American studies, American literature, American women's history, and Women's studies.

AM ST/WMNST 104 counts towards the American Studies major and minor and the Women's Studies major and minor. Non-American Studies majors and minors may use this course to fulfill a general education humanities (GH) or Bachelor of Arts humanities credit requirements.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 105U (GH;US) American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.

American Popular Culture and Folklife (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 140Y (GH;US) (RL ST 140Y) Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.

Religion in American Life and Thought (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 108 The American Dream and the Vietnam War (3) Interdisciplinary study of the Vietnam War experience ad it affected American culture; focus on legacies including gender, race, and ethnicity.

The American Dream and the Vietnam War (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 187 American Studies Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

American Studies Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: first-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 187S Revisiting Jefferson's Washington: Research/Writing/Presentation (3) The in-situ seminar will teach hands-on and electronic research/writing skills in a collaborative/laptop setting.

Revisiting Jefferson's Washington: Research/Writing/Presentation (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 187T Revisiting Jefferson's Washington: Research/Writing/Presentation (3) The in-situ seminar will teach hands-on and electronic research/writing skills in a collaborative/laptop setting.

Revisiting Jefferson's Washington: Research/Writing/Presentation (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 193 (ENGL 193) American Folk Song in English (3) British songs in America; native repertoire, white and black; folk ballad; and musical development.

American Folk Song in English (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 196 (GH;US) (ENGL 196, AMSTD 196) Introduction to American Folklore (3) A basic introduction to verbal and non-verbal folklore stressing the basic procedures of collection, classification, and analysis.

AM ST (AMSTD; ENGL) 196 Introduction to American Folklore (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

English 196 is an introduction to the verbal and nonverbal folk traditions characteristic of several American subcultures, including Native Americans, Hispanic Americans, African Americans, and immigrants. It will cover important genres of folklore, including folk speech, folk narrative, beliefs and religious experiences, use of space, and material culture. Topics under consideration will include ethnicity and cultural identity, the ways in which verbal and material cultures have influenced the literary, political, and economic development of the United States. Students will learn strategies for "reading" and valuing the folklore of subcultures other than their own. This class will prepare students to be able to perform well in future courses that deal with analyzing written, oral, and nonverbal texts and being able to analyze their significance within the subculture that produced them. By the end of the course, students will be able to recognize the cultural, political, and historical implications of such traditions. Additionally, they will have received first-hand practice in compiling a fieldwork project from first-hand interviews and site observations, combined with archival research. Students will be evaluated on the basis of class discussion, oral presentation and group exercises, in-class examinations, and a fieldwork portfolio, based on the fieldnotes, research, and analysis done as part of their project. This course may be used by English majors for English Major elective credit or as credit toward the English Minor, and (as AMST 196) also by American Studies majors in the same way. Non majors may use this course to fulfill a general education or Bachelor of Arts Humanities requirement. English 196 will be offered twice a year with 60 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 301 (GH) American Civilization (3) An interdisciplinary overview of major themes, works, and events, in American history and culture.

AM ST 301 American Civilization (3)
(GH)

This course will provide an interdisciplinary overview of major themes, texts, and events in American civilization from its beginnings to the present. Themes that distinguish an American civilization, such as individualism, constitutionalism, moralism, diversity, and mobility. The course puts these themes in historical context and integrates arts, literature, and culture into an understanding of the American experience. The course serves students from all majors seeking an understanding of the American experience. Although American Studies majors can take the course, it does not count toward the requirements for the major.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: HIST 020 orHIST 021 or 3 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 302 Approaches to American Studies (3) A survey of the American Studies movement and its scholarship, emphasizing changes in theories, methods, and topics.

Approaches to American Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AMSTD major or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 307 (GA;US) (ART H 307) American Art (3) History of art in the English colonies and the United States from the seventeenth century to the present.

AM ST (ART H) 307 American Art (3)
(GA;US)

(BA) This course meets the Bachelor of Arts degree requirements.

American art, from the colonial period to the present, is examined through paintings, sculpture, buildings, prints and photographs, as well as exhibitions and national/world fairs. The class places special emphasis upon the predicament of national identity by examining the ways in which the very notion of the "American" has historically been highly contested. Special points of emphasis include: negotiations between indigenous, colonial and European artistic styles, representations of and by displaced populations (colonial subjects, Native Americans, African Americans), myths of the American landscape, the cult of domesticity and the gendering of American citizenry, later transatlantic experiences of expatriate artists, conflicts between urban and rural conceptualizations of the "typical" American experience, the role of the American avant-garde after World War II, and debates over federal funding for the arts. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to American art to a student of any major. This course has no prerequisite and presumes no prior exposure to fine art. Students majoring in Art History will learn both the common vocabulary of the field and the outlines of the field that form the foundation for the future study.

General Education: GA
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 321 (US) American Indian Studies (3 per semester, maximum of 99) A study of American Indian history, societies and cultures (may be repeated for credit).

American Indian Studies (3 per semester, maximum of 99)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 3 credits of American Studies or ANTH 146 or HIST 153

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 320 Pennsylvania Studies (3) Study of selected topics on the history, society, and culture of Pennsylvania (May be repeated for credit).

AM ST 320 Pennsylvania History and Culture (3)

This course will cover selected topics on the history, society, and cultures of Pennsylvania, and relate them to American Studies scholarship. Subjects may include Quaker influence and religious diversity; the French and Indian wars in the colony; Pennsylvania's role in the American Revolution and the birth of the republic; early 19th century agricultural development; late 19th century politics, industry, and ethnicity; 20th century deindustrialization; and current events and issues. The course will incorporate areas of arts, literature, folklore, and society and their relationship to historic events. The course satisfies the "area" requirement in history for undergraduate American Studies majors, and is open to all majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: HIST 012 or 3 credits of American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 322 (US) Ethnic America (3) A study of the sources, contributions, and conflicts of ethnic groups in the American experience.

Ethnic America (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 3 credits of American Studies or HIST 158 or SOC 119.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 323 American Folklore and Folklife (3) A study of American folklore and folklife, including folkloristic approaches to verbal, gestural, social, and material expressions of culture.

AM ST 323 American Folklore and Folklife (3)

This course examines the forms and functions of folklore in contemporary American life by concentrating on the expression of community and group identity. Students will learn the background of folkloristic approaches to problems of verbal, gestural, social, and material expressions of culture, documenting contemporary and historic American folklore and folklife, ways of interpreting this material by functionally analyzing, comparing, structuring, and contextualizing, ways that folklore and folklife are applied to solve problems in public and private settings, and ways that folklore in America reflects diverse ethnic, regional, occupational, and religious values, hopes, and ideas. Evaluation methods include examinations and essays. The course satisfies the "area" requirement in culture for undergraduate majors in American Studies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 3 credits of American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 324 Popular Culture (3) An examination of mass media and society and the impact of popular culture.

Popular Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AM ST 105 or 3 credits of American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 325 (PUBPL 325) American Political Culture (3) Study of political culture in the United States.

AM ST (PUBPL) 325 American Political Culture (3)

Examination of American political culture, including political history, party structure, campaign practices, elections analysis, voter behavior, and political ideology. The course satisfies the "area" requirement in society for undergraduate majors in American Studies, and is open to all majors. Students analyze social and cultural influences on the American political process. Issues of regional, ethnic, rural, urban, and gender traditions on campaigns are considered. Distinctive characteristics of American politics such as the two-party system, populism, and coalition building are discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 3 credits of American Studies Political Science Public Policy or Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 363 American Music (3) A survey of all styles and types of American music from 1620 to the present.

American Music (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 3 credits of AMSTD and MUSIC

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 400 Early America to 1765 (3) American society and culture in the colonial period.

AM ST 400 Early America to 1765 (3)

A study of early American history and culture from the Columbian encounter to the end of the colonial period in America. The course covers the results of contact between Native American civilizations and Europeans, forms of government and community that emerged in America, the formation of an American identity, and the creation of a distinctive, expanding American cultural landscape. The course satisfies the "area" requirement in history for undergraduate majors in American Studies, and is open to all majors.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies or History

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 401 Revolution and Early Republic, 1765-1815 (3) American society and culture during the period of the Revolution and the Early Republic.

AM ST 401 Revolution and Early Republic 1765-1815 (3)

American society and culture during the period of the Revolution and Early Republic. The course satisfies the "area" requirement in history for undergraduate majors in American Studies, and is open to all majors. An objective of the course is for students to understand the significance of this formative period on the emergence of the United States as a nation. Students will examine the mythology of the Revolution as well as its historical record. They will consider the development of social and political institutions in the early years of the new nation, including the creation of pivotal texts of the Declaration of Independence and Constitution.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 402 Antebellum and Civil War Era, 1815-1876 (3) Social and cultural conditions, sectional rivalry, political crises, warfare, and Reconstruction from 1815 to 1876.

Antebellum and Civil War Era, 1815-1876 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies or History

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 404 Industrial America (3) An analysis of American politics, literature, society, and economics from the 1870s to World War II.

Industrial America (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 405 Cold War (3) Examination of social and cultural currents in American life from World War II to 1990.

AM ST 405 Cold War America (3)

Examination of social and cultural currents in American life after World War II to 1990. The course satisfies the "area" requirement in history for undergraduate majors in American Studies, and is open to all majors. Students will analyze the way that the confrontation between communist superpowers and the United States shaped politics, culture, and society. Among the events discussed are the nuclear bomb, space and arms race, Kennedy assassination, Watergate scandal, and Korean and Vietnam wars. The cultural expression of the period in film, television, literature, music, and art will be analyzed.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 406 Contemporary America (3) A study of the historic and cultural currents of life in the United States during the recent past.

Contemporary America (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: HIST 021 or 6 credits of American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 410 (INART 410) Early Pennsylvania Decorative Arts and Furniture (3) The study of Pennsylvania and related furniture, pottery, paintings, and decorative arts of the seventeenth, eighteenth, and early nineteenth centuries.

AM ST (INART) 410 Early Pennsylvania Decorative Arts and Furniture (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the aesthetic, cultural, and social significance of the household arts common in Pennsylvania in the seventeenth, eighteenth, and nineteenth centuries. Emphasis is placed on the major periods and styles (Puritan, William and Mary, Queen Anne, Chippendale, and Federal) as represented in furniture, pottery, paintings and decorative arts. Indigenous styles and crafts representative of Pennsylvania arts and crafts will be explored in detail.

The course combines lecture and discussion with seven field trips to historic sites to provide students with the opportunity to view furniture and decorative arts within the setting of period homes.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 412 American Eras (3) Examination in depth of various and distinctive American time periods; subtitle expresses specific content. (May be repeated for credit.)

AM ST 412 American Eras (3)

Examination in depth of various and distinctive American time periods. The subtitle expresses specific content. May be repeated for credit. The course satisfies the "area" requirement in history for undergraduate majors in American Studies and is open to all majors. The course covers periods or eras in American history that are not covered or emphasized in other courses. Some eras to be studied are the Great Depression, World War II, and 1960s. In addition to analyzing major events of the period, students will consider social and cultural developments.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of American Studies or History

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 415 (INART 415) Nineteenth Century Pennsylvania Architecture and Restoration (3) Interior and exterior design of early Pennsylvania architecture; understanding and evaluation of and experience in restoration.

AM ST (INART) 415 Nineteenth Century Pennsylvania Architecture and Restoration (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides students with hands-on practical experience in the restoration of historic buildings of the nineteenth century. Each semester, students will research, evaluate, identify problems, and develop solutions to restore these structures in an historically correct manner. Students will then practically restore these structures and gain practical experience in the process of restoration.

Major classroom topics will vary in order to meet the specific needs of the project at hand. Topics may include wood technology, structural problems and solutions, vernacular architecture, use of early tools, etc. Students will also take field trips to several restored homes to gain insight into applicable methods and approaches to restoration and gain perspective on costs and outcomes.

INART 410 Early Pennsylvania Decorative Arts and Furniture is the prerequisite for this course.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: AM ST 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 417 American Beliefs and Myths (3) A study of symbols, beliefs, and myths in the American experience; subtitles express specific content. (May be repeated for credit.)

American Beliefs and Myths (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 421 (PHIL 401) American Philosophy (3) Survey of key figures and movements in American thought, including the Transcendentalists, the Pragmatists, and contemporary developments.

American Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy or 6 credits of philosophy at the 200-level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 422 (RL ST 422) Religion and American Culture (3 per semester, maximum of 6) Selected topics, problems, or historical movements in American religion; relation between religion and American culture.

Religion and American Culture (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 430 (US) (WOMST 430) Women in American Society (3) A historical study of women's roles and experiences in the United States.

Women in American Society (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of American Studies Sociology or Women's Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 431 National Character (3) An examination of the characteristics of the American people and other national groups.

AM ST 431 National Character (3)

An examination of the characteristics of the American people and other national groups. The course reviews techniques that have been used in scholarship to characterize national groups in the United States and cross-culturally, including data gathering in polls, surveys, and censuses; behavioral observations of cultural "personality"; racial and ethnic categorizations; geographical and historical causation. The course analyzes the changes in attitudes toward nationality and "peoplehood" in American history and culture. The course satisfies the "area" requirement in society for undergraduate majors in American Studies, and is open to all majors.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AM ST 301 or 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 432 Ethnicity and the American Experience (3) Theoretical and conceptual framework of ethnic studies: examination of specific issues related to major American ethnic and racial groups.

Ethnicity and the American Experience (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 435 Americans at Work (3) A study of occupational and organizational cultures in America.

AM ST 435 Americans at Work (3)

A study of occupational and organizational cultures in America. The course examines historical and social changes in primary occupations of Americans, including agriculture, crafts and trades, mining and trapping, maritime, manufacturing, corporate, and service and information work. The role of unionism, individualism, and mobility in shaping attitudes toward work will be examined. Students will learn techniques of ethnography and historical analysis to interpret images of work in American society. Evaluation includes application of historical analysis and ethnographic observation of Americans at work in written essays, and two examinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies or Labor and Industrial Relations or Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 439 American Regional Cultures (3-6) An interdisciplinary study of the culture of a region of the United States, such as the south or the west.

American Regional Cultures (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 441 (US) (KINES 441) History of Sport in American Society (3) Background, establishment, and growth of sport in America from colonial times to the present.

AM ST (KINES) 441 History of Sport in American Society (3)

Study of the background, establishment, and growth of sport in America from colonial times to the present, and the role of American sports in American culture and society. The course will examine the ways that sports have operated in the United States as the country has developed into a modern, mass society. Issues of national identity, commercialism, race, ethnicity, class, and gender will be discussed in relation to the popularity of sports. Another set of issues will center on language and media; students will employ methods of analysis such as ethnography and rhetorical criticism that emphasize the multiple layers of meaning inherent in sports culture.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: KINES 141 or 3 credits of United States history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 448 (ANTH 448) Ethnography of the United States (3) Ethnographic descriptions of various dimensions of life in the United States.

AM ST (ANTH) 448 Ethnography of the United States (3)

Ethnographic descriptions of various dimensions of life in the United States. The course covers uses of ethnography in American Studies toward an understanding of social and cultural communication and performance. The application of ethnography and concepts of cultural anthropology to complex societies such as the United States is discussed. The course teaches students to use ethnographic methods for research of American society and culture. Attention is given to the ethics and issues of ethnographic fieldwork. The course satisfies the "area" requirement in "society" for American Studies majors.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 460 American Art and Architecture of the Seventeenth and Eighteenth Centuries (3) Survey of American painting, sculpture, decorative arts, and architecture of seventeenth and eighteenth centuries with special emphasis on non-British cultures.

American Art and Architecture of the Seventeenth and Eighteenth Centuries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 461 American Art and Architecture of the Nineteenth Century (3) A survey of American painting, sculpture, decorative arts, and architecture of the nineteenth century.

American Art and Architecture of the Nineteenth Century (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 462 American Art and Architecture of the 20th Century (3) A survey of American painting, sculpture, decorative arts, and architecture of the twentieth century.

American Art and Architecture of the 20th Century (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 475 (US) (ENGL 431) Black American Writers (3 per semester, maximum of 6) A particular genre or historical period in the development of Black American literature.

AM ST 475 (ENGL 431) Black American Writers (3)
(US)

A study of a particular genre or historical period in the development of Black American literature. This course will allow faculty and students to focus a semester's study on a particular genre, theme, or problem in African-American literature. The flexibility of the course will allow faculty a forum in which to share current scholarship or to relate issues in African-American literature to larger school-wide themes in a classroom environment. Because of the potential variety of topics and faculty members, specific evaluation methods will be determined by the instructor and specified in the syllabus. The course satisfies the "area" requirement in culture for American Studies majors.
General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 472 (ENGL 434) Topics in American Literature (3) Focused study of a particular genre, theme, or problem in American literature. (May be repeated for credit.)

AM ST 472 (ENGL 434) Topics in American Literature (3)

This course will allow faculty and students to focus a semester's study on a particular genre, theme, or problem in American literature. The flexibility of a topics course will allow faculty a forum in which to share current scholarship or to relate issues in American literature to larger school-wide themes in a classroom environment. Because of the potential variety of topics and faculty members, specific evaluation methods will be determined by the instructor and specified in the syllabus. The course satisfies the "area" requirement in culture for American Studies majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits of ENGL ENLSH or LIT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 476 (ENGL 492, WMNST 491) American Women Writers (3) A study of selected American women writers.

AM ST 476 (ENGL 492, WOMST 492) American Women Writers (3)

A study of selected women writers, this course provides the opportunity to study writing by American women from an historical perspective and to explore the views these women have of themselves as artists. The course will concentrate on a careful reading of works by a variety of authors. It will raise the question of the role that gender--as well as other differences such as race, class, and ethnicity--play in the selection of literary forms and the development of character, theme, symbol, and rhetorical strategy. It will also explore the dimensions American women have brought to the American literary tradition. The course satisfies the area requirement in culture for American Studies majors and is open to all majors meeting the prerequisite requirements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 479 American Expressive Forms (3) Examination in depth of various and distinctive American expressive forms; subtitle expresses specific content. (May be repeated for credit.)

AM ST 479 American Expressive Forms (3)

Examination in depth of various and distinctive American expressive forms. The subtitle expresses specific content. May be repeated for credit. The course satisfies the "area" requirement in culture for undergraduate majors in American Studies, and is open to all majors. The course covers periods or eras in American history that are not covered or emphasized in other courses. Some expressive forms to be studied are American essays, American humor, and American films. In addition to analyzing the traditions and patterns of these forms, students will consider the historical, social, and cultural context of these forms in the American experience.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 481 Historic Preservation (3) A study of preservation practices and programs in America.

AM ST 481 Historic Preservation (3)

A study of historic preservation practices and programs in America. This seminar will examine the historic preservation movement in the United States, including its history, function, and practice. Its role in government, economic development, and community and regional planning will be discussed. The ways that American studies scholarship has influenced historic preservation will be considered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 480 Museum Studies (3) An introduction to the basic purposes, philosophies, and functions of a museum, with emphasis on the problems of museum administration. (May be repeated for credit.)

AM ST 480 Museum Studies (3)

An introduction to the basic purposes, philosophies, and functions of a museum, with emphasis on the problems of museum administration. The course examines applications of American Studies to mechanics of operation and development of core services including exhibits, structured educational programs, and special events. The course places these functions within the philosophy of the "experience economy," whereby museums and historical organizations are challenged to meet expectations of an increasingly sophisticated audience.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 482 Public Heritage (3) A study of public heritage practices and programs in America. (May be repeated for credit.)

AM ST 482 Public Heritage (3)

A study of public heritage practices and programs, which encompasses interpretation and education projects in American history and culture, disseminated through institutions to the general public. The areas under public heritage include the practices and programs of museums, expositions and fairs, archives, historical and cultural agencies, government bureaus, foundations, community organizations, magazines, films, festivals, and computer sites. The course traces the changes that have occurred in the public heritage movement, especially the ways that American Studies scholarship has been distilled through various public institutions and programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 484 Archives and Records Management (3) A study of archives and records management in America.

AM ST 484 Archives and Records Management (3)

A study of archives and records management in America. Students will learn basic skills in the administration and care of archival records, including theory, appraisal, and identification of types of records, their conservation and preservation, security, access, and research potential. The uses of archives and records management in American Studies scholarship will be discussed. Participants will gain hands-on processing and conservation experience along with the ability to recognize historical and cultural record formats.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 483 Oral History (3) A study of oral history techniques and issues in America.

Oral History (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in American Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 491W American Themes, American Eras (3-6) Interdisciplinary American culture course on major themes and eras such as the American Revolutionary Era or the 1930s.

American Themes, American Eras (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 493 (ENGL 493) The Folktale in American Literature (3) A survey of the literary uses of the folktale and legendary materials, with particular concentration on the literature of America.

The Folktale in American Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1986
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 495 Internship (1-6) Supervised internship for undergraduate or graduate American Studies majors at a museum or another cultural, historical, or arts agency.

Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior-level status for undergraduate students; 18 credits of course work in major for graduate students; approval of program required

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 497A Community Based Learning: Writing Local Jewish History (3) Students in this course will participate in community-based learning (CBL) in Berks County, PA and will also conduct and report research about CBL.

Community Based Learning: Writing Local Jewish History (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

American Studies (AM ST)

AM ST 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 037 Horse and Man (2) Relationship of horse and man; development of breeds; use, adaptability, and economic importance of the horse in today's society.

Horse and Man (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 100 Animal Agriculture (3) Magnitude, importance, and complexity of the beef, dairy, horse, poultry, sheep, and swine industries, with particular emphasis on Pennsylvania agriculture.

Animal Agriculture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 110S Contemporary Issues in Animal Biotechnology and Society (1) An introductory survey of animal biotechnology in society, the role for biotechnology and how it will benefit society.

AN SC 110S Contemporary Issues in Animal Biotechnology and Society (1)

This First-Year Seminar is designed to provide an introduction to the field of animal biotechnology. Emphasis will be placed on providing the student a perspective of the history of biotechnological innovation in animal agriculture and an overview of the scientific bases for animal biotechnology. The history, need for and development of food biotechnologies will be discussed. A major component of the course will focus on the regulatory processes in place in the U.S. for approving animal biotechnologies and the benefit/risk evaluation process used to assess safety and efficacy of new animal biotechnologies. Social and economic implications of animal biotechnology will be discussed as well as overview about how to effectively communicate the benefits of the new food biotechnologies to policymakers and the public.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 107 Introduction to Equine Science and the Equine Industry (2) Prepare students to proceed into further studies in equine science by providing background to communicate effectively with educators and industry.

AN SC 107 Introduction to Equine Science and the Equine Industry (2)

This course will provide students with basic knowledge about the equine industry to prepare them to be more effective communicators with educators and industry personnel. Topics will include basics of equine evolution, history of use, breeds, colors, disciplines and tack, anatomy and physiology, basics of the equine industry including the organization, components and careers; and will prepare students to proceed into further studies in equine science. The course will feature presentations and interaction with industry professionals and instructors of higher level equine science courses at Penn State. In addition to the academic topics addressed, the course will also introduce students to using the university course management and web conferencing systems, give them experience collaborating in a team and require that they provide a presentation. Academic integrity through use of scientific references and proper citations are also integrated into the course along with the introduction of key faculty in the academic area.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 117 Equine Marketing (2) Principles of marketing and event planning including marketing systems, advertising, management systems, team building and other aspects of conducting a purebred livestock sale. Students learn through the planning and conducting of the annual Penn State Equine Science Showcase and Registered Quarter Horse Sale.

AN SC 117 Equine Marketing (2)

The Equine Marketing course is designed to allow students the opportunity to learn information related to the marketing of horses. Specific topics will include letters on marketing methods, event planning and management, advertising layout and design, the significance of pre-purchase exams to the marketing process, preparation and presentation of sale animals, and the role of the auctioneer.

In addition to classroom lectures, students will have the opportunity to put the information gathered to use through the planning of Penn State's annual Equine Science Showcase and Registered Quarter Horse Sale. Students will be assigned to committees and will be responsible for all of the planning and implementation of the event. Specific tasks will include development of advertisements, public relations, development of press releases, development of an online and hard copy sale catalog, development of all office paperwork for the sale, interaction with industry leaders to gain industry buy in for the event, working with outside breeders who participate in the event, set up, clean up, and preparation and presentation of the horses being offered for sale.

Through the process students will also learn many skills necessary to be successful in their future careers above and beyond those related to the marketing of horses. Some of these skills include working within a group, team building skills, communication with industry professionals, development of plans of work, and many more.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 201 Animal Science (4) Scope of animal and poultry science; genetic, physiological, nutritional, and health factors in food production.

AN SC 201 Animal Science (4)

This course examines the scope and diversity of disciplines comprising the animal and poultry sciences. The first portion of AN SC 201 focuses on animal products such as milk, meat, eggs, and wool. Students learn product compositions and their relevance to humans worldwide. Later lectures outline the roles that environmental, housing, nutrition, and health play in current animal production systems. A major focus of the course is digestive physiology. In-depth topics include nutrients, monogastric and ruminant digestion, and feed analysis methods. The final portions of the course focus on reproduction, lactation, behavior, genetics, and biotechnology. These areas are critical to successful animal production systems. Throughout the semester, current issues in animal sciences that are related to the course material are integrated into the lectures. The laboratories support the concepts presented in lecture related to animal products, nutrition, animal health, and reproduction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 208 (FD SC 208) Animal Products Technology Laboratory (1) Harvesting and processing of foods from animals; hands-on and demonstration exercises; industry procedures for processing meat, milk, and egg products.

AN SC (FD SC) 208 Animal Products Technology Laboratory (1)

This laboratory, intended to be taken along with or following Animal Products Technology lecture, provides students an opportunity to experience the procedures involved in harvesting and processing foods from animals. Upon completion of this course, students will be able to describe, demonstrate, and explain procedures commonly used in harvesting and processing of muscle food, milk, and egg products. Students will be able to recognize and predict the impact of incorrect procedures for harvesting and processing muscle food, milk, and egg products. The course includes hands-on exercises and demonstrations that allow students to experience the "look and feel" of industry procedures used in harvesting and processing meat, milk, and egg products for human consumption. Focus on issues related to food safety and food quality.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: or concurrent:AN SC 207

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 207 (FD SC 207) Animal Products Technology (2) Composition, safety, palatability, preservation, and processing of foods from animals, impact of animal production, and handling practices on product properties.

Animal Products Technology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 211 Introduction to Avian Biology (3) Introduces the biology of birds; lectures, laboratories on anatomy and function, incubation, breeding, disease control, management techniques, and student projects.

Introduction to Avian Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: or concurrent:BIOL 110 ; orBIOL 011, BIOL 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 213 Introduction to Animal Biotechnology (3) An introduction to the multidisciplinary area of animal biotechnology: from molecular, genetic, genomics and development issues to their technological applications.

AN SC 213 Introduction to Animal Biotechnology (3)

This course provides an early exposure to the emerging and diverse field of animal biotechnology. Basic principles underlying recombinant DNA technology, genetics, gene transfer technology, genomics and their technological applications will be discussed. This is a fairly intensive course taught from the technological perspective that differs from the perspectives of basic science-or technique-oriented courses. This course will be a pre-requisite for the proposed course in 'Laboratory Methods in Small Animal Research (AN SC 314)'. The course will be offered in the spring semester; classes meet twice a week for 75 minutes each. The information provided in the required text-book, accompanying websites and current literature will be discussed extensively in the form of formal lectures, tutorials and review sessions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201, BIOL 110, CHEM 110, CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 215 (GS) Pets in Society (3) Introduction to the varied roles that companion animals play in human society and their impact on human activity and well-being.

AN SC 215 Pets in Society (3)
(GS)

Companion animals have far-reaching influence on many aspects of human society. How humans relate to pets varies from individual to individual and is influenced by many factors. The field of human-animal interactions is quickly evolving and is supported by a variety of disciplines and empirical research.

This course provides a broad introduction to the varied roles and influences of pets on human life and society. Topics of discussion include the historical, social, economic, scientific, legal and political roles of pets in American society. The influence of companion animals on human development and mental health throughout the lifespan and in the case of disability is examined from a social science perspective Genetics, breed, physical, and environmental influences play obvious and important roles in the development of canine and feline behavior and are used as examples of the multiple causes of behavioral development and expression. Learning theory and operant conditioning are discussed as they relate to training. Newly discovered risks and benefits of animal ownership on human health are discussed, including the influence of pet ownership on cardiovascular disease and allergy development. Issues of responsible pet selection and owner ship are discussed in relation to animal welfare and societal responsibility.

Because of the emerging nature of human-animal interaction research, an important goal of the course is to instruct students on the scientific method and recognition of research methodologies. Critical evaluation of theoretical models and empirical research in class and small group discussions is used to show how these questions can be addressed scientifically. Throughout the course, students have the opportunity to gather information from various sources and make informed decisions on controversial topics and to understand the impact of individual actions and decisions on broader society.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 217 Introduction to Horse Judging (2) Introductory analysis of halter and performance classes of stock-type horses, with emphasis on conformation, gaits, patterns, and oral reasons.

AN SC 217 Introduction to Horse Judging (2)

AN SC 217 encompasses the introductory information necessary for students to begin their competency in horse evaluation. From external parts and critical evaluation of conformation of halter horses, to rail classes with gaits and transitions, to pattern classes with objective evaluation and scoring methods, to more specialized classes (trail, hunter hack, pleasure driving, etc.), students will expand their depth and breadth of knowledge for evaluating suitability to purpose of stock-type horses. Careful observation, critical thinking, decision-making and oral communication skills of students are repeatedly critiqued and enhanced in this course. Following successful completion of AN SC 217, students who elect to take AN SC 417 will be eligible to compete for a position on the Penn State Intercollegiate Horse Judging Team.

Furthermore, this course serves as an elective for students outside of the Animal Sciences major and students throughout the University who simply have an equine interest; as well as a required course for students enrolled in the Equine Sciences minor offered by the Department of Dairy and Animal Science.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 226 Meat Selection and Grading (2) Training in identifying, grading, and judging carcasses and wholesale cuts of meat and in selection and identification of specification cuts.

AN SC 226 Meat Selection and Grading (2)

Students will learn skeletal and musculature anatomy in order to evaluate carcasses and wholesale cuts of beef, lamb, and pork. They will be required to learn quality and yield grading of carcasses of various species and be expected to learn the various parts and evaluative terminology of carcasses and cuts. In addition, students will be trained in the identification and cutting procedures required for the institutional meat specification cuts and retail cuts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 291 Externship with Animal Science Business (1-2 per semester/maximum of 4) Students will obtain a one-week on site work experience with an animal-related agribusiness.

AN SC 291 Externship with Animal Science Business (1-2 per semester/maximum of 4)

This course will provide an opportunity for students to acquire on-site skills and knowledge in a potential interest area of an animal-related agribusiness. Externship opportunities are provided during one week of winter break and one week of spring break and 1 credit is earned for each experience. Student responsibilities are to: prepare a cover letter and résumé; participate in the interview process; maintain and submit a typed summary of a daily log of activities; prepare a final report to the instructors (copy sent to the agribusiness sponsor); present an oral presentation of the externship experience to their peers and a group of faculty; and complete a self evaluation of AN SC 291. Limited to Animal Sciences majors.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 290W Careers in Animal Agriculture (1) A description and analysis of career opportunities in the animal sciences and allied industries.

Careers in Animal Agriculture (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297A Dairy Judging (1) Students will learn to evaluate dairy cattle by using the PDCA Scorecard and by presenting oral reasons to justify their placings of classes.

Dairy Judging (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1982

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297B Introduction to Penn State Dairy (1) A survey of dairy industry trends and Penn State's Dairy Science program.

Introduction to Penn State Dairy (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297B Externship with Animal Science Businesses (1) Students will spend one week during Christmas break or Spring break with a company representative. Students must prepare cover letter and resume and participate in the interview process. If selected, register for AN SC 297B. Maintain a daily log of activities during the one-week externship. The daily log will be typed and submitted with the typed first report. Present an oral presentation of the externship experience. Complete an evaluation of AN SC 297B.

Externship with Animal Science Businesses (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297C Equine Events Management (1) Management and coordination of equine shows and events, including program planning, staff and volunteer management, time management, publicity and promotion for fairs, shows, clinics, expos, and other events.

Equine Events Management (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297E Introduction to Equine Science and the Equine Industry (2) Blended course meeting on-line M 1:25-2:15. This course provides a strong basis for future studies in equine science. Topics include basics of equine evolution, history of use, breeds, colors, disciplines and tack, anatomy and physiology, and the equine industry.

Introduction to Equine Science and the Equine Industry (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 297E Introduction to Equine Science (2) This course is intended to provide a strong basis for students entering studies in equine science to help them communicate more effectively with educators and experts in the industry. Topics will include basics of equine evolution, history of use, breeds, colors, disciplines and tack, anatomy and physiology, basics of the equine industry including the organization, components and careers; and will prepare students to proceed into further studies in equine science. The course will feature presentations and interaction with industry professionals and instructors of higher level equine science courses at Penn State. This course is a web-based course using the ANGEL course management system and with a weekly on-line class meeting http://breeze.psu.edu/ANSC297E.

Introduction to Equine Science (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 300 (GN) Integrated Animal Biology (3) An integrated study of the biology of domestic animal growth and the underlying cellular, endocrine and immune systems involved.

Integrated Animal Biology (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 1998
Prerequisite: BIOL 011 andBIOL 012 orBIOL 110 ; at least third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 301 Principles of Animal Nutrition (3) Nutrients and their metabolism; the nutritional requirements of livestock; the nutritional value of various feeds; principles of ration formulation.

Principles of Animal Nutrition (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: 3 credits in biochemistry or organic chemistry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 305 Companion Animal Nutrition (3) Principles of care and nutrition and contemporary importance of companion animals with emphasis on canine and feline species.

AN SC 305 Companion Animal Nutrition and Management (3)

Students of the animal sciences must be equipped for a variety of career opportunities in the twenty-first century. It is apparent that most students will benefit from a balanced exposure to a variety of animal species. This is especially true for students who pursue a career in the many supportive agricultural industries such as the commercial feed industry, animal health, and research and development.

This course is part of a series of courses related to the nutrition and management of animals. While the other courses will be related to farm animal species, this course will be the only one addressing companion animals. As such it should meet the demand of students without a strong farm background or interest; those planning to attend a veterinary or professional school; as well as a large group of students with a non-professional interest in companion animals. It is felt that the sophomore or junior level of the course is appropriate after students have completed Animal Science 001.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 306 Swine Production and Management (3) Application of the principles of enterprise and facility development, operations management, quality control, public relations, marketing for the efficient operation of a swine production business.

Swine Production and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 308 Sheep and Goat Production and Management (4) Application of principles of nutrition, breeding, physiology, health, facilities, marketing, and product development, to animal production agriculture.

AN SC 308 Sheep and Goat Production and Management (4)

AN SC 308 - Sheep and Goat Production and Management, offered on alternate (even) years to an anticipated 15-20 students, encompasses the requisite information for students to manage any of the small ruminant livestock species including meat and wool sheep, hair sheep, and meat goats. Students will critically evaluate genetic, reproductive, nutritional, economic, and management criteria that influence profitability and sustainability of small ruminants as viable agricultural animal enterprises in Pennsylvania, the United States and the world.

Student learning objectives are: a. to describe the global importance of sheep and goat products for the welfare of mankind; b. to develop critical skills in formulating integrated breeding, feeding, and marketing plans for sheep and goats that are economically viable and environmentally sustainable; and c. to develop a knowledge of the genetic diversity and versatility of sheep and goats throughout the world.

Critical thinking, decision-making and oral communication skills of students are evaluated and enhanced in this course. This is accomplished by assigning students production scenarios requiring independent evaluations of genetic, nutritional and marketing plans; the results being presented in both written and oral forms. Additionally, hands-on learning is provided via the laboratories held at the Penn State Sheep Barns operated by the Department of Dairy and Animal Science in the College of Agricultural Sciences and in the College's computer laboratories. Student performance will be evaluated via written exams, laboratory reports, and oral presentations to the class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 309 Beef Cattle Production and Management (4) Application of principles of nutrition, breeding, physiology, health, facilities, and marketing to produce and manage beef efficiently.

AN SC 309 Beef Production and Management (4)

Beef Production and Management, offered every spring semester to an anticipated 20-40 students, will provide a comprehensive review of the business-related and production oriented concepts associated with modern beef production. This course will combine traditional disciplines of beef management with business management, operations management, quality control and marketing. Additional topics will include economics and factors affecting cost of production. As the course progresses, and following the exposure of students to the fundamentals of beef production, they will be given the opportunity to evaluate real production scenarios for development of business and management recommendations. In addition to the classroom, the Penn State Beef Center, College computer labs, and selected field trips will comprise the facilities used to teach the course. In addition, students will conduct problem solving exercises on beef enterprises throughout the state. Beef Production and Management will be included in the series of other production courses offered in this department. Having completed the course, students will be able to:

1. Describe the necessary management procedures in a beef enterprise that are vital for efficient and profitable production.
2. Describe and understand the fundamentals of the various segments of the cattle industry.
3. List the important components of a business management plan for a beef operation, including short and long-term capital requirements, and a projected budget.
4. Discuss the trends and important issues facing the beef industry in Pennsylvania, the nation and world.
5. Critically evaluate business and production scenarios to provide an in depth analysis and a recommended course of action for improving a beef enterprise.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 310 Dairy Cattle Production and Management (3) Principles of dairy management including the dairy industry and control points associated with nutrition, genetics, lactation, reproduction, and housing.

Dairy Cattle Production and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 311 Poultry Production and Management (4) The application of fundamental concepts and preparation for careers in the economically integrated commercial poultry industry.

AN SC 311 Poultry Production and Management (3)

Poultry Production and Management will provide a comprehensive review of the business-related and production oriented concepts associated with modern commercial poultry production. The course will provide the student with an overview of poultry nutrition, physiology, genetics, health, welfare, and products and describe how these disciplines integrate with effective and efficient management, quality control, and marketing of poultry and poultry products. Additional emphasis will be given to the economics of poultry production, as well as current issues and challenges facing the industry. Throughout the course, students will be provided with experiential learning opportunities and will be required to use this knowledge to solve problems and to evaluate "real world" production scenarios in order to develop effective management and production skills.

Having completed this course, students will be able to:

1. Describe and evaluate the key operational and management factors in a commercial broiler, egg-layer, and turkey operation.

2. Describe and understand the important business, environmental, food safety, and welfare issues and challenges facing the poultry meat, and egg industries in Pennsylvania, the nation, and the world.

3. Critically evaluate poultry business and production scenarios to provide a fact based analysis and recommended course of action for solving management or production problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 314 Laboratory Methods in Rodent Research (2) Application of methods and techniques in small animal research including handling, necropsy procedures; histology and molecular methods including genotying.

AN SC 314 Laboratory Methods in Rodent Research (2)

This course focuses on applications and techniques used in pharmaceutical and medical research settings. It is a "hands-on" laboratory course. The objectives are to prepare students with the background and an introduction to small animal research methods in the laboratory. The course meets in a laboratory where techniques will be demonstrated by the instructors. Time for the student to learn the technique under the tutelage of the instructors will be a portion of each laboratory session. Each laboratory focuses on an interrelated set of small animal research skills. Student learning is evaluated in several ways including laboratory practicals, instructor assessment of hands-on procedures, written submissions of assignments, and two examinations.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201, AN SC 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 315 Small Animal Health and Disease (3) Introduction to the principles of small animal health, including the recogniti recognition, prevention and control of common small animal diseases.

AN SC 315 Small Animal Health and Disease (3)

Small animals play increasingly important roles in human lives. In addition to their function as pets, they serve the disabled; protect human well-being through the police, military and border inspection services; and act as research subjects for the development of medical and technological advances. Control of disease and promotion of animal health is important in all small animal industries and uses.

This course is designed to provide a basic background in the principles of health in small animal species (primarily dogs and cats). Emphasis will be on the maintenance of a healthy animal system, including the recognition, prevention and control of the most common small animal diseases.

Because of the increasing among of information available to all people through the internet and media, students will be given tools to understand basic medical terminology and will practice reading and interpreting scientific research. In addition, the importance of animal disease on public health will be addressed.

Diagnosis and treatment of disease will only be covered in a general, illustrative fashion. This course is not intended to train students in the diagnosis and treatment of specific diseases, but rather to recognize the conditions and factors which encourage disease, but rather to recognize the conditions and factors which encourage disease spread and to understand how to control and rectify those situations.

Because of the varied situations in which small animals function, a primary objective will be to be able to apply the principles of animal health and disease prevention to varied facets of the small animal industry (e.g. private ownership, veterinary medicine, shelter work and management, service animal breeding/training, biomedical and nutritional research).

This course is designed for students planning to work in or having a special interest in the small animal industry, including veterinary medicine, the pet food and pet products industry, the working dog industry, live animal sales, pharmaceutical sales, and research.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MICRB 106 orMICRB 201 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 317 Horse Handling and Training (3) Responses of horses to various stimuli during the training period. Laboratory exercises involve extensive practice with young horses.

Horse Handling and Training (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: AN SC 327 and approved level of horsemanship

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 322 Principles of Animal Breeding (3) The fundamental principles of genetics as applied to breeding farm animals.

Principles of Animal Breeding (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 322H Principles of Animal Breeding (3) The fundamental principles of genetics as applied to breeding farm animals.

Principles of Animal Breeding (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 324 Value Determination of Meat Animals (3) Live animal and carcass evaluation of cattle, sheep, and swine to determine value of market animals and meat products.

Value Determination of Meat Animals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 327 Horse Production and Management (3) Principles of selection, breeding, feeding, management, and marketing of horses; emphasis on light horses.

Horse Production and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 331W Applied Physiology of Reproduction in Farm Animals (3) Physiological principles controlling reproductive patterns of cattle, horses, sheep, and swine; factors affecting fertility and methods for improving reproductive efficiency.

Applied Physiology of Reproduction in Farm Animals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201 ; 3 credits of physiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 350 Dairy Problem Solving (2) Students will use dairy records to analyze herd performance in order to identify bottlenecks for higher productivity.

AN SC 350 Dairy Problem Solving (2)

This course will develop case based approaches to problem solving using dairy records. Students will learn to read and interpret dairy herd improvement herd summaries. Herd performance will be benchmarked against parameters from similar herds across the Northeast in order to identify production bottlenecks. Popular dairy herd management software will be used to analyze bottlenecks more completely. Additionally, the use of herd management software to record cow health events and set up management routines will be demonstrated. Classes will include in depth analysis of nutritional, reproductive, culling, genetic and milking management parameters as they relate to the dairy enterprise. In addition, economic and fiscal management will be presented as it relates to various aspects of the dairy industry.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: or concurrent:AN SC 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 395 Animal Science Internship (1-12) Supervised field experience and study related to the student's major professional interest. Written and oral critique of activity required.

Animal Science Internship (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1985
Prerequisite: Animal Sciences majors; 6 credits in major plus approval of proposed assignment by instructor prior to advance registration deadline in semester preceding the semester in which the assignment is to be completed

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 397A Beef Cattle Production (3) Application of principles of nutrition, breeding, physiology, health, facilities, and marketing to produce and manage beef efficiently.

Beef Cattle Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 400 Application of Management Principles (1) Students will learn to apply business management skills to the animal production environment through interactive discussions and assignments.

Application of Management Principles (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 405 Advanced Canine Nutrition and Management (3) Application of biological principles to the care and nutrition of dogs; interactive discussions of contemporary nutrition and management issues.

AN SC 405 Advanced Canine Nutrition and Management (3)

Animal Science 405, Advanced Canine Nutrition and Management, is a 3 credit senior-level course emphasizing the application of biological principles to the proper care and nutrition of dogs. Students scheduling this course must first complete a junior level course in companion animal care and nutrition and are expected to schedule AN SC 400, Application of Management Principles, concurrently. Course objectives are to a) develop an appreciation for the role and importance of the dog in contemporary society; b) develop skills in formulating sound management plans for the selection, breeding, feeding, training, and health care of the dog; and c) encourage independent student thought, written communication, and oral communication of topics related to the care and management of canines. AN SC 405 is one of several "capstone" advanced management courses offered by the Department of Dairy and Animal Science for students with intensive interest in various animal species. Special student interests are accommodated via short "lectures" that students will research, prepare, and deliver to the class. In several areas, industry experts will be invited to guest lecture and several field trips to sites of interest are planned.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: AN SC 305 andAN SC 400 ; or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 410 Advanced Dairy Herd Management (4) Application of dairy herd management principles using case studies and actual dairy farm situations.

Advanced Dairy Herd Management (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: AN SC 310 . Prerequisite or concurrent:AN SC 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 407 Advanced Horse Management (3) Detailed study of anatomy and physiology of the horse as related to nutrition, reproduction, athletic ability, unsoundness and control of diseases and parasites. Detailed discussion of management practices, facility design and contemporary issues.

Advanced Horse Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: AN SC 327, AN SC 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 413 Transgenic Biology (3) The principles and concepts used to generate genetically engineered animals by pronuclear, knockout, and cloning methods; and applied biotechnology applications.

AN SC 413 Transgenic Biology (3)

The Transgenic Biology course is offered each spring semester for those students interested in learning the concepts, principles, and applications of genetic engineering in animals. The mouse is used as a model system, but the discussion encompasses large animals and commercial applications. Techniques covered are pronuclear, embryonic stem, and somatic-nuclear transfer generated animals. Content also includes the use of morpholinos and RNAI use to "knockdown" gene expression. Other systems discussed are Zebrafish and Xenopus as well as gene analysis by mutagenesis and gene trapping. The course objectives are (1) to provide the student with a working knowledge of the processes involved in functional analysis of gene expression using model animal systems and (2) to give the student understanding for the practical aspects of generating transgenic animals including microinjection, screening, breeding, and phenotypic analysis. Students are evaluated using several parameters including exams, presentations of current journal articles, abstracts of current journal articles, and a paper dealing with an aspect of transgenesis in the student's field of interest.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: a course in Molecular Biology and/or Biochemistry and/or Genetics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 414 Comprehensive Animal Biotechnology (3) A comprehensive review of the multidisciplinary area of animal biotechnology examining historical developments, current progress, and future directions.

AN SC 414 Comprehensive Animal Biotechnology (3)

This course intends to provide an advanced treatment of currently evolving topics of animal biotechnology. Equal emphasis will be placed on basic principles, current progress and potential controversies surrounding biotechnology. The course is designed to provide an insight into how biotechnological enterprises commercially exploit scientific principles. This is designed to be a capstone course in the series of courses to be offered in the Animal Biotechnology curriculum. The course will be offered in the fall semester and limited to 20 students. Students enrolled are expected to have a basic knowledge about molecular biology, genetics and genomics. The course will be based on advanced text books and current literature.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: 3 credits in molecular biology genomics genetics or biotechnology courses

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 417 Horse Judging (2) Evaluation and selection of halter and performance horses, and presentation of oral reasons.

AN SC 417 Horse Judging (2)

Animal Science 417 encompasses all of the information necessary for students to pursue competencies in horse evaluation. From external parts and evaluation of conformation of halter horses, rail and pattern classes, to special classes (trail, pleasure driving, etc.) students will expand the depth and breadth of knowledge for evaluating classes of stock-type horses. Following successful completion of AN SC 417, students will be eligible to compete for a position on the Penn State Intercollegiate Horse Judging Team (AN SC 426 Advanced Judging and Selection). Students who elect to take AN SC 417 and AN SC 426 will fulfill the writing and speaking skills requirement for the Animal Science major. Furthermore, this course serves as an elective for students outside of the major, Animal Science, who are enrolled in the Equine Sciences minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 418 (AGECO 418, SOILS 418) Nutrient Management in Agricultural Systems (3) Comprehensive review of nutrient flow in animal agricultural systems, environmental regulations, and environmental stewardship practices.

AN SC (AGECO/SOILS) 418 Nutrient Management in Agricultural Systems (3)

Nutrient Management in Agricultural Systems is a senior level course that applies the fundamentals of animal and plant, sciences to the concept of a nation-wide food animal system. The regional concentration and consolidation of animal production enterprises has resulted in important economic savings for consumers. But these changes have also had some detrimental impacts on the environment. For example, some nutrients such as calcium and phosphorus and certain trace elements are mined, while others such as nitrogen and potassium are deiived from crop production systems. In all cases, the nutrients are transported to areas of livestock concentration. A small portion of the nutrients leave the farm in the form of animal products, while 60 to 70% of the nutrients are excreted and applied to nearby crop land. The environmental implications of the net influx of these nutrients to livestock producing communities have only recently been recognized. These concepts will provide the background around which regulations are written and sound nutrient management strategies are developed and implemented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 419W Applied Animal Welfare (3) Assessment of management practices impacting animal welfare; devoted to livestock species, companion animals, captive exotic species, and animals in research.

Applied Animal Welfare (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201 or 6 credits of biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 420 Animal Nutrition and Feed Technology (4) Feedstuff evaluation, quality control, handling, storage: life cycle feeding of beef cattle, dairy cattle, sheep, swine, horses, and poultry.

Animal Nutrition and Feed Technology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: AN SC 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 421 Poultry Evaluation and Selection (2) Introduction and application of standards and principles used to evaluate live poultry and poultry products.

Poultry Evaluation and Selection (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 422 Dairy Cattle Evaluation and Selection (3) Methods used in evaluation of production and type traits and their role in selecting dairy breeding stock domestically and internationally.

Dairy Cattle Evaluation and Selection (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: AN SC 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 424 Livestock Breeding Evaluation and Selection (3) Evaluation and selection of beef cattle, sheep, swine, and horses; critical analysis of performance records and genetic evaluations.

Livestock Breeding Evaluation and Selection (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: AN SC 324

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 423 Comparative Physiology of Domestic Animals (3) A comparative approach to understanding body function in domesticated avian and mammalian species.

Comparative Physiology of Domestic Animals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 425 (VB SC 425) Principles of Avian Diseases (3) Principles of pathogenesis and control of diseases in poultry and other avian populations. Case material used where appropriate.

AN SC (VB SC) 425 Principles of Avian Diseases (3)

This course discusses the major diseases of domestic poultry, with etiology, prevention, and treatment reviewed on each disease. Since many of these diseases also affect wild birds and pet birds these are also reviewed. Lastly, avian disease with zoonotic (human public health) potential are also discussed in the course. This course is required by those seeking a poultry minor.

Previous coursework in pathogenic microbiology is beneficial.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201, BIOL 110 4 credits in microbiology and 3 credits of anatomy and/or physiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 427 Milk Secretion (3) Development and physiology of the mammary gland and factors which affect the amount and composition of milk produced.

Milk Secretion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201 3 additional credits in dairy science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 426 Advanced Judging and Selection (2 per semester, maximum of 4) Development of critical thinking and communication skills through evaluation and selection of animals and animal products.

Advanced Judging and Selection (2 per semester, maximum of 4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: AN SC 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 429 Advanced Beef Cattle Production (3) Application of scientific and business principles to practical production and management issues using case studies or selected live settings.

AN SC 429 Advanced Beef Cattle Production (3)

This course was developed to train students to critically evaluate management, facility, and husbandry practices of working beef cattle operations. Students visit owner facilities where they gather necessary information by interacting with the owners and inquiring about the owner’s practices. The students use knowledge gained through previous courses and material covered in class to make recommendations. The students work in teams to present to the owners possible solutions to their problems. Each team will present a 30 minute critical evaluation of each case study with the owners being present. Students interact and answer questions concerning their presentation from the owners, students, and faculty. Students are introduced to the NCBA and Cattle FAX which they can use to stay abreast of beef industry concerns after completion of the class. If available, a field trip to either national or Pennsylvania state agriculture offices will occur.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: AN SC 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 431W Physiology of Mammalian Reproduction (4) Physiological processes of reproduction in animals, including the use of current and emerging technologies.

Physiology of Mammalian Reproduction (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: 3 credits in animal physiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 437 (AEE 437) Equine Facilitated Therapy (3) Equine Facilitated Therapy uses equine-related activities to contribute positively to the wellbeing of people with disabilities.

AN SC (AEE) 437 Equine Facilitated Therapy (3)

The primary goal of this course is to acquaint the participant to equine facilitated therapy (therapeutic riding) and to introduce them to individuals who benefit/participate in such programs through lecture, audio-visual media, discussions, program visitation, independent research and via a practicum at a therapeutic riding program. Additionally, this course is designed to introduce the participant to various exceptional characteristics and conditions, which may benefit from exposure/participation in equine facilitated therapy and other animal related therapy programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 432 Techniques in Livestock Reproduction (2) Demonstration and practice in estrus detection, inseminating techniques, pregnancy detection, embryo recovery and transfer methods.

AN SC 432 Techniques in Livestock Reproduction (2)

This course is designed to train students in the areas of artificial insemination and pregnancy detection of livestock. Additionally, students will be familiarized with techniques in semen handling, embryo transfer, heat detection, and estrous synchronization. The primary focus of this course is hands on instruction of the techniques. However, lectures will also be included to broaden the instruction base and expose students to a multitude of advanced reproductive technologies that are currently available to livestock producers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: AN SC 431W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 442 Quantitative Inheritance and Animal Breeding (3) Genes in populations: additive and nonadditive gene effects; selection and mating systems.

Quantitative Inheritance and Animal Breeding (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: 3 credits in genetics and breeding; 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 447 Applied Equine Behavior (3) Theory and application of behavior principles as they apply to horses in free-running and domestic situations.

AN SC 447 Applied Equine Behavior (3)

Applied Equine Behavior is an advanced course in equine science that examines the behavior of horses in free-running and domesticated situations. Outcome-based course objectives are as follows: 1) develop a working repertoire of behavior terminology and principles particularly as they apply to the horse; 2) apply critical thinking skills toward understanding and predicting behavior in horses under intensive management as it is modified from instinctive behavior seen in free running horses; 3) critically analyze and compare various training theories; 4) develop a new expertise in careful observation and analysis of behavior; 5) practice communication skills and increase information literacy, particularly in the study of behavior.

This course presupposes previous coursework in equine science or biology and complements other courses such as horse production and management, animal behavior/sociobiology, physiology, and genetics. Applied Equine Behavior is [will be] a supporting course for the Animal Science Major. Students will be able to make full use of the University horse herd and available data recording and analysis instruments and software.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201, AN SC 327 and fifth-semester standing; or fifth-semester standing and six credits in biology; or permisssion of the instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 450 Dairy Farm Management Systems (3) Capstone course emphasizing integration of dairy farm management principles into whole farm systems.

Dairy Farm Management Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: AN SC 310, AN SC 400, AN SC 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 467 Equine Nutrition and Feeding (3) Equine gastrointestinal anatomy and physiology; energy and nutrient requirements for body functions; applied interrelationships between nutrition, health, and performance.

AN SC 467 Equine Nutrition and Feeding (3)

AN SC 467, Equine Nutrition and Feeding, is a 3 credit junior or senior-level course emphasizing the application of biological principles to the proper nutrition of horses. Students scheduling this course must first complete AN SC 301 and AN SC 327. Course objectives are to a) explain and emphasize the importance of form and function to nutrition; b) provide an in depth coverage of energy and nutrient sources and requirements; c) enable students to apply what they have learned so that they understand how to improve equine health and performance through proper nutrition. Students will provide an evaluation of a feeding program from one of ten example farms. As a part of this evaluation, students will also recommend changes that may improve health and performance of the horses on that farm. Students will be evaluated via a series of quizzes, exams, presentations and class participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: AN SC 301, AN SC 327

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 457 Equine Reproduction and Breeding Farm Management (3) Advanced aspects of equine reproduction will be covered, including collection of semen, processing it for shipment, and insemination of mares.

AN SC 457 Equine Reproduction and Breeding Farm Management (3)

Equine Reproduction and Breeding Farm Management is intended to expand on the knowledge of equine reproduction and breeding farm management acquired in other classes. The students will get hands on experience in artificial insemination of mares and semen collection of stallions.

Having completed the course, students will be able to:
A. Collect semen from a stallion.
B. Assess seminal characteristics and process the chilled semen to be sent to another farm.
C. Artificially inseminate a mare.
D. Apply scientific principles to make the decisions necessary to manage an equine breeding facility. The information covered will include but not be limited to reproductive management of the mare and stallion, foaling, and neonatology.

Evaluation will be based on written tests, research and presentation of a selected topic, and laboratory attendance and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: AN SC 327, AN SC 407

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 479 (BIOL 479) General Endocrinology (3) Endocrine mechanisms regulating the morphogenesis, homeostasis, and functional integration of animals.

General Endocrinology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: BIOL 141 orBIOL 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 496A Teaching Assistant (2) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Teaching Assistant (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 496A Animal Sciences Teaching Assistant (2) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Animal Sciences Teaching Assistant (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 496H AN SC Honors Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

AN SC Honors Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 496H Animal Sciences Honors Independent Study (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Animal Sciences Honors Independent Study (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497B Advanced Turkey Management (3) Basics of embryology, incubation, brooding, rearing, ventilation, nutrition, processing and carcass yield of domestic turkeys.

Advanced Turkey Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497B Animal Genomics (3) Approaches and techniques used to sequence and analyze genomes and their application in animal breeding, production and technology.

Animal Genomics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497B Companion Animal Behavior (3) Genetic, physiological and environmental bases of canine and feline behavior with applications to management, welfare and behavior modification.

Companion Animal Behavior (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497C Animal Biotech Lab (2) Laboratory based course that exposes students to molecular biology techniques with applied emphasis on livestock agriculture and animal biotechnology.

Animal Biotech Lab (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497C Riding Instructor Training (1) Management of equestrian riding lessons, teaching techniques, lesson plans, program planning, events coordination, time management and handling of mounted groups.

Riding Instructor Training (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497D Dairy Challenge (1) Students will complete whole farm evaluations to gain experience identifying limitations to productivity and profitability of dairies.

Dairy Challenge (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497D Dairy Challenge (1) Students will complete whole farm evaluations to gain experience identifying limitations to productivity and profitability of dairies.

Dairy Challenge (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497E The Clocks That Time Us (3) Biological clocks of varying time scales are found in all living organisms and directly control virtually every physiological and behavioral processes in the body. Consequently, the understanding of how clocks function is important to our understanding of biology itself. This class will examine the molecular, cellular and systems level mechanisms that animals utilize to adapt to rhythmic changes in the physical environment, in particular focusing on the mechanisms of biological clock functions as they relate to real world outcomes.

The Clocks That Time Us (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497E Advanced Beef Production (3) Advanced beef cattle management; application of scientific and business principles to practical beef cattle management using case studies. Must be 7th semester standing.

Advanced Beef Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: AN SC 201 andAN SC 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 497F Advanced Swine Production (2) An on-line course to provide the student with an in depth exposure to one or more aspects of swine production.

Advanced Swine Production (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: AN SC 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Animal Science (AN SC)

AN SC 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 002 (GS) Introduction to Archaeology (3) Survey of basic approaches used by archaeologists to interpret basic prehistoric human cultural patterns.

ANTH 002 Introduction to Archaeology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirement.

Introduction to Archaeology is designed to introduce the basic theories, methods, and data archaeologists use to study ancient peoples, past cultures, and their natural environments. A problem-oriented approach to learning about archaeology combines two one-hour lectures with a one-hour, hands-on lab session each week. The theories and methods introduced in lectures are applied to archaeological data in the computer lab in order to answer questions about life in the past. Hands-on involvement is emphasized through the use state-of-the-art computers, archaeological software, and (where possible) the handling of archaeological collections. Grades for this course are based on two to three exams and the lab exercises.

The course may vary from this standard on other campuses depending upon the availability of computer labs and archaeological collections. However, the weekly lab exercises are available to all campuses from the Department of Anthropology. Students on all campuses will be expected to interact with each other and with the instructor in weekly discussions and exercises. They engage in data gathering, synthesis, and analysis, using exercises that make use of information on the internet as well as data provided by PSU archaeologists. The exercises emphasize human cultural diversity over time and space. There is also an emphasis on the ethics of archaeological research and the ways in which scientific choices and ethical choices interact in professional archaeology. The logical and ethical principles learned are applicable to a broad range of problems that students are likely to encounter in anthropology, in other disciplines, and later in their lives.

This course is one of three core courses required of majors in the Anthropology department and it is also required for the minor. ANTH 002 serves as a stepping stone to more advanced and specialized courses in anthropology. This course can be used to fulfill three credits of General Education in the Social/Behavioral Sciences for the Bachelor of Arts requirement.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 001 (GS;US;IL) Introductory Anthropology (3) Prehistoric and traditional peoples and cultures; traditional customs and institutions compared with those of modern society.

Introductory Anthropology (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 008 (GS;IL) Aztecs, Mayas, and Incas (3) Comparative survey of the development of the pre-Columbian Latin American civilizations.

ANTH 008 Aztecs, Mayas, and Incas (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Anthropology 008 is a general survey of three great New World civilizations - the Aztecs and the Maya of Mesoamerica (southern Mexico and northern Central America), and the Inkas of the Central Andes of South America. Both the Aztec and the Inka empires were thriving in the 16th century when Europeans arrived, and are known in almost ethnographic detail from oral and written records. Maya civilization matured much earlier --- between AD 250-900, and is known primarily through archaeological research, but also through the lens of the New World's only sophisticated writing system. Course information emphasizes the nature of these societies, analysis and interpretation of their basic institutions, their religions and world views, and their culture histories. Central to the presentation is the degree to which modern Latin American cultures and populations have deep cultural and biological roots in the Precolumbian past, and many ethnographic models are discussed. Within the context of each segment sociological concepts such as "institution", "household", "stratification", "political economy", "urbanization", and a host of others are used as organizing features. Issues of gender, ethnicity, and class structure are also discussed.
At the end of each semester, time permitting, issues such as the peopling of the Americas, the origins of agriculture, and some of the spectacular pre-Aztec cultures of Mesoamerica are also reviewed.
Specific examples of how archaeologists design and carry out research are included, including several in which members of the Anthropology Department have been involved. In addition to lectures, much visual material will be presented, including telecourse programs recently produced under the direction of Anthropology Department faculty.
Evaluation will consist of 3-6 museum or web-based writing assignments worth 15-30% of the grade. There will be two mid-term examinations and one final examination worth 70-85% of the grade. Although this is a large course, exams are hand-written and graded, and require a mix of objective and subjective responses. Each exam has an essay component.
This course serves as a useful precursor to Anth. 422 (Mesoamerican Ethnography and Archaeology), Anth. 424 (Andean Ethnography and Archaeology), Anth. 456 (Cultural Ecology), and has a companion course on the Old World--Anth. 009--and the two are often taken as a linked pair by students. Anth. 008 also prepares students for courses in other departments where broad-based comparisons of ancient civilizations or archaeological methods are of concern. This course can fulfill elective credits for anthropology majors and minors. Anth 008 also may be used to fulfill three credits of General Education in the Social/Behavioral Sciences for the Bachelor of Arts requirement or three credits of Other Cultures in the Social/Behavioral Sciences for the Bachelor of Arts requirement. It can also serve as three credits toward the university requirement for United States and International Cultures Competence.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 009 (GS;IL) Rise of Civilization in the Old World (3) Evolution of Old World complex societies, especially the first great civilizations of Mesopotamia, Egypt, China, and the Indus Valley.

ANTH 009 Rise of Civilization in the Old World (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

ANTH 009 is an introductory anthropology course with several major themes and purposes. Most fundamental are the origins and development of the earliest complex human societies - what we conventionally call civilizations – in the Old World, namely those of Mesopotamia, Egypt, the Indus Valley, and China. Course information emphasizes the nature of these societies, analysis and interpretation of their basic institutions, their religions and world views, and their culture histories. Within the context of each segment sociological concepts such as "institution", "household", "stratification", "political economy", "urbanization", and a host of others are used as organizing features. Issues of gender, ethnicity, and class structure are also discussed, and much information is presented in weeks 2 and 3 that is pertinent to an understanding of human biological variation and our cultural attitudes toward it, with obvious implications for issues of race.

The course is much broader, however, in that it attempts to place the emergence of these ancient civilizations into the overall perspective of the larger evolutionary career of the human species in the Old World, including human biological and cultural evolution during the later stages of the Paleolithic, the origins and spread of early agriculture, etc. During the first part of the course there is also a series of introductory lectures designed to inform students about what archaeology is and how prehistoric archaeologists carry out scientific research to reconstruct and explain what happened in the past. A great deal of emphasis is placed on ideas, concepts, and theories used by anthropological archaeologists to design and interpret their research and to explore not only what happened in the past, but to develop ideas about why things happened as well. Also included are lectures about archaeological finds or issues that have been particularly well publicized and about which students often express considerable curiosity. The main objectives are a) to expose students to a series of historically significant non-modern, non-Western societies and cultures using overtly evolutionary, behavioral, and sociological perspectives; b) to enlighten students concerning the kinds of extant information are available for these societies, how research is designed to acquire new data, and how scholar's interpret these data, and c) to stress the nature of the agrarian human condition out of which modern societies so recently emerged, and under which people in many developing societies still live. Central to the latter are issues of subsistence agriculture and human demography.

Central to ANTH 009 are comparisons among several great Old World civilizations, comparisons with other world civilizations and cultures, and comparisons with modern society. Also inherent in the course are extensive discussions of geographic and ecological variation and human adaptation to both. The very deep time depth exposes students to societies very different from our own, including social and cultural forms that have no direct analogs in the modern world. A final intent is to make students understand basic concepts such as biological and cultural evolution, as well as a host of more restricted ones, such as "institution", "household", “stratification", "political economy", "urbanization", and a host of others that are all used to organize presentations. Issues of gender, ethnicity, and class structure are also discussed. Evaluation will consist of 3-6 museum or web-based writing assignments worth 15-30% of the grade. There will be two mid-term examinations and one final examination worth 70-85% of the grade. Although this is a large course, exams are hand-written and graded, and require a mix of objective and subjective responses. Each exam has an essay component. This course parallels ANTH 008, its New World counterpart. It serves as a useful precursor to ANTH 456 (Cultural Ecology), and also for courses in other departments where broad-based comparisons of ancient civilizations or archaeological methods are of concern, or where (as in CAMS) more specialized courses in Egyptian archaeology, etc., are offered.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 010 (J ST 005) Mediterraean Prehistory (3) Archaeology of the circum-mediterranean area, from the Middle Pleistocene through the third millennium B.C., emphasizing the evolution of regional cultures.

Mediterraean Prehistory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 011 (GS;IL) Introductory North American Archaeology (3) Introduction to archaeology of the North American Indians; sites, methods, and results of research interpreted in cultural history.

Introductory North American Archaeology (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 021 (GN) Introductory Biological Anthropology (3) The role of human biology and evolution in culture, society, and behavior.

ANTH 021 Introductory Biological Anthropology (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

"Introduction to Biological Anthropology" is designed to present to the student the basic principles and findings of human population biology. To that end, the instructors review data on biological variability among contemporary human populations and among the extensive fossils that document human evolution. Comparison between human and nonhuman animals, particularly, the surviving nonhuman primates, provides an essential "Zoological Perspective" by which we can understand the origins and evolution of humankind on this planet. The single unifying concept in biological anthropology is evolution. In this course, the student will be introduced to the mechanisms underlying evolution and their application to past and present human populations. Evolutionary biology emphasizes the similarity between closely related forms, for example, chimpanzees and humans share more traits in common than do dogs and humans, because they have a more recent common ancestor. It also underscores the diversity among individuals in a population, for example, despite being members of the same species, all humans are biologically unique. The process of evolution accounts for both the similarities and the differences within and between populations. It is therefore the theory of evolution that will organize the diverse content of this course. There are two lectures per week. In addition, there is a weekly practicum class where the student explores material presented in lectures as well as learns new information. Exercises and hands-on demonstrations help the student understand the principles and findings of biological anthropology. Brief written practicum exercises often based on team projects foster interactive learning. Grades are based on three examinations and practicum exercises. This course is one of three core-courses required of majors and minors in the Department of Anthropology. The course can be used to fulfill three credits of General Education in the Natural Sciences. Students can expect to acquire a general introduction to the University as an open community of researchers and scholars who attempt to describe accurately, and hence understand, "The Human Condition." Students in this class will therefore have the opportunity to explore their responsibilities as members of an intellectual community of free inquiry. This course offers the student the opportunity to develop intellectual relationships with faculty, graduate students and fellow classmates who share similar academic interests in biological anthropology and related fields of inquiry.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 022 (GN) Humans as Primates (3) The biological basis of human behavior within the context of primate biology, behavior, and evolution.

ANTH 022 Humans as Primates (3)
(GN)

Humans as Primates is intended to introduce the student to the biological bases of human anatomy and behavior by drawing comparisons to the behavior and biology of our closest living relatives, the non-human primates. The principal goal of the course is to critically evaluate arguments concerning what uniquely makes us human and the role of genetics, environment, and evolutionary history on the development of human behavior and anatomy. The course will draw heavily on studies of living non-human primates as well as evolutionary theory, paleontology, and psychology to addresses issues such as human growth and development, diet, human variation, communication, intelligence, reproduction, aggression, and culture. Humans as Primates is divided into four main thematic units each designed to present a set of related lessons exploring the role of biology in various aspects of human life. The first unit provides the foundation for the course by introducing the place of humans in the natural world. This unit presents a survey of living primates and their relationship to humans as well as an overview of evolutionary processes and human evolution. The other units present topics in human biology, communication, and social behavior focusing specifically on topics of importance to current events and aspects of popular culture and modern life. This course should be of significant interest to students in a diversity of disciplines including the biological and social sciences as well as anyone interested in human behavior. The course will rely on readings from the scientific and popular literature and will present information using a variety of formats including images, movies, and interactive activities. Students will be evaluated with a combination of frequent online quizzes, individual assignments, participation in online discussions. The course can be used to fulfill three credits of General Education in the Natural Sciences. As such this course will help students understand how scientific information from a variety of disciplines can be used to investigate and understand human biology and behavior. The course will introduce the student to methods of data collection and analysis, foster critical thinking skills, and provide a rich background for understanding human diversity, human biology, and behavior. Students will have the opportunity to synthesize information from a broad range of disciplines to develop a fuller understanding of the biological basis of human behavior.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 040 Biocultural Evolution (3) Examination of evolutionary models of the development of the human capacity for culture, and of culture as an adaptive mechanism.

Biocultural Evolution (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 040H Biocultural Evolution (3) Examination of evolutionary models of the development of the human capacity for culture, and of culture as an adaptive mechanism.

Biocultural Evolution (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 045U (GS;US;IL) Cultural Anthropology (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.

Cultural Anthropology (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 045 (GS;US;IL) Cultural Anthropology (3) Beginnings of human culture; economic life, society, government, religion, and art among traditional peoples.

ANTH 045 Cultural Anthropology (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

"Cultural Anthropology" is designed to introduce the student to the cultural diversity of our planet. "Culture" can be defined as that set of rules, standards, conventions, and beliefs shared by members of a given human society. These rules are transmitted by social learning. Culture defines what counts as "normal" thought and behavior by the members of a given society. The course will provide the student with an understanding of the basic methods, data and, theories that cultural anthropologists use to study the varieties of human thought, behavior, and social life in their associated physical and social environments. A weekly recitation section allows the students to discuss material presented in lectures as well as to engage in independent research projects. These projects involve individual and group research based upon library and computer-based resources and further foster interactive learning. Teamwork is an essential aspect of both research and presentation of recitation section work. Oral presentations and written papers are stressed. Recitation discussions in cultural anthropology emphasize inter-cultural understanding. Grades are based on three examinations and recitation exercises.

This class is one of three core-courses required of majors and minors in the Department of Anthropology. The course can be used to fulfill three credits of General Education in the Social/Behavioral Sciences for the Bachelor of Arts requirement. Students can expect to acquire a general introduction to the University as an open community of researchers and scholars who attempt to describe accurately, and hence understand, "The Human Condition." Students in this class will therefore have the opportunity to explore their responsibilities as members of such an intellectual community of free inquiry. In addition, students will develop first-hand knowledge of the learning tools and resources available to them at Penn State including the ever-expanding Web-based Internet. This course offers the student the opportunity to develop intellectual relationships with faculty and fellow classmates who share similar academic interests in cultural anthropology and related fields of inquiry. "Cultural Anthropology" is offered every semester, including the summer session.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 060 (GS;IL) (J ST 060, PL SC 060, SOC 060) Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.

ANTH (J ST/PL SC/SOC) 060 Society and Cultures in Modern Israel (3) (GS;IL)

This course will review the social, cultural, and political systems in the State of Israel as they have developed and changed since its inception in 1948. The role of immigration, ethnicity, and religion on Israeli society and cultures will be explored along with the non-Israeli cultures that have helped to shape conditions there. The course will look into the diverse social and political institutions of contemporary Israel, examine the borders and geographic features of the region, and discuss who lives there, where they reside, and for which portions of this period. It will examine the wars and tensions between Israel and neighboring Arab states; the status of the Arab/Palestinian minority in Israel; and the growth of Palestinian nationalism. Social conditions in the State of Israel are the result of a unique history. Israelis have absorbed large numbers of immigrants from many parts of the world while engaged in ongoing political and military conflicts. Jewish settlers in Israel/Palestine revitalized a language (Hebrew) and developed unusual collectivistic institutions (e.g., the kibbutz). Israeli nationalism is founded both on secular and religious ideologies. It includes notions of a return from Diaspora and the desire for personal and collective redemption. The study of social processes such as these will provide an opportunity to consider the foundations and functions of nation-states and social systems generally. Materials will include selections from primary texts, official documents, novels, films, and ethnographic materials along with scholarly reviews and essays. Students will be exposed to materials produced from a variety of disciplinary and political perspectives. Through writing assignments, projects, and essay examinations, students will integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies, Sociology, Anthropology, Political Science, and Middle East Studies and will satisfy the IL requirement. It enables those in Jewish Studies to examine the roughly 30% of Jews who reside in Israel, builds upon a current course on Zionism, and provides context for the study of modern Hebrew. It offers an additional international alternative for students in Sociology and Political Studies and a topical area in cultural Anthropology. Students in Middle East Studies will find it worthwhile to study a nation with a significant impact on the region.

General Education: GS
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 083S (GS) First-Year Seminar in Anthropology (3) This seminar introduces students to anthropology as a scientific discipline with ties to other social and natural sciences.

ANTH 083S First-Year Seminar in Anthropology (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

This seminar introduces students to anthropology as a scientific discipline with ties to other social and natural sciences. Through active participation in the seminar, students will be exposed to an aspect of anthropology that corresponds to a faculty member's area of expertise. Because students are introduced to cuffing edge research, the course content will vary from one semester to the next. Seminar topics highlight current debates in the discipline and the research process. Research design, analytical methods, and sampling issues are covered by having students read and discuss new and controversial developments in anthropology. Strong emphasis is placed on the broader societal significance of scholarly research related to the seminar's principal focus. Student comprehension of topics raised in class will be assessed by classroom participation, exams, and papers. In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests. This seminar fulfills both a first-year seminar requirement and a general education sociobehavioral science requirement or Bachelor of Arts sociobehavioral science requirement.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 146 (GS;US) North American Indians (3) An introduction to the cultures of the indigenous peoples of North America, north of Mexico, and the effect of contact.

North American Indians (3)

General Education: GS
Diversity: US
Bachelor of Arts: Other Cultures and Humanities and Social and Behavioral Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 152 Hunters and Gatherers (3) A comparative study of hunter/gatherer societies using both archaeological and ethnographic evidence.

Hunters and Gatherers (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 187 Anthropology Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Anthropology Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 216 (GN;GS) Sex and Evolution (3) Introduction to evolutionary theory and its application to understanding human sexuality and sex differences.

ANTH 216 Sex and Evolution (3)
(GN;GS)

This course introduces students to evolutionary theory and explores its relevance to the anthropological study of human sexuality. After honing their evolutionary skills by investigating non-human reproduction, students will apply evolutionary principles to understanding human sexuality. Why do we prefer certain characteristics in a mate? How do these preferences differ between and within the sexes, and why? How do mating behaviors vary across cultures, and why are some more culturally variable than others? Other topics covered include sexual conflict and rape, and parental care and abuse. In understanding the evolutionary basis for a trait, it is helpful to understand its development. Thus, this course also covers the basics of sexual differentiation and investigates how variation in these processes might lead to variation in sexual orientation and gender identity. Students should take away not only a better understanding of human sexuality but also a way of thinking that helps them understand all living things.

General Education: GN;GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 241 (IL) Peoples and Cultures of Highland New Guinea (3) History, ecology, social, economic, religious, and political systems of the aboriginal peoples and cultures of highland New Guinea.

ANTH 241 Peoples and Cultures of Highland New Guinea (3)
(IL)

This course will introduce students to the cultural systems of highland New Guinea, an area that became known to the outside world as recently as the 1930s. When first contacted by Europeans, the million or so people living in the highlands of New Guinea used a stone tool technology, had no knowledge of the wheel, and lived in small, politically and economically autonomous local groups. They provided an example of a major population engaged in a way of life typical of human societies in a technologically simpler past. The study of these cultures affords students an opportunity to explore the processes through which these people have assimilated thousands of years of technological, political and economic innovation in a very brief period, while maintaining and recreating their cultural identity, despite the impact of colonial rule.

The course will complement other courses in Anthropology that deal with non-western cultural systems and with the effects of western colonization and modernization on native peoples and cultures. A prerequisite course in Anthropology 45 or Anthropology 001 will provide students with the general anthropological concepts that will enable them to understand more fully the particular cases explored in this course.

The course can be used to fulfill an Anthropology requirement in both the major and minor in general Anthropology, and will also provide students in other departments with the opportunity to study aspects of diverse, non-western cultures.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2007
Prerequisite: ANTH 001 orANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 242 (IL) Peasant Societies (3) A critical examination of anthropological approaches to the study of peasantry around the globe.

Peasant Societies (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: ANTH 001 orANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 285 (GS;IL) Culture Contact (3) Survey of changes in indigenous societies following contact with colonial powers.

ANTH 285 Cultural Contact (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course treats anthropology as a scientific discipline with ties to other social and natural sciences. Emphasis is placed on how the research process is relevant to information acquisition and the evaluation of controversies that have long interested both scholars and the public. Research design, analytical methods, and sampling issues are covered by having students read and discuss hotly debated issues about how contact with Europeans affected small-scale indigenous societies. Student comprehension of topics will be assessed by classroom participation, exams, and papers. This class fulfills an elective requirement for both the major and minor in anthropology, and the General Education GS and IL requirements.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: ANTH 002, ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 321W Intellectual Background of Archaeology (3) Introduction to primary sources on the development of archaeology as a scientific discipline.

Intellectual Background of Archaeology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: ANTH 002, ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 380 Anthropology Museum Studies (3) Introduction to the history, significance, and operation of anthropology museums.

ANTH 380 Museum Studies (3)

This course introduces students to the operation of anthropology museums and to the growing field of museum studies. The course explores the historical setting within which these institutions evolved and the role of museums in the development of anthropology. Students will learn about the primary functions of museums through individual and group projects. Other topics to be covered include museum organization and administration, collection management, curation and conservation, research and education, public relations and financing, and ethical and legal issues. Students will get hands-on experience with the planning and implementation of a display in the Matson Museum of Anthropology. In addition, students will learn about museum careers, museum developments in other countries, and contemporary controversies, such as repatriation and the shifting role of museums in contemporary society. The course will provide the student with an introduction not only to the behind-the-scenes nuts-and-bolts of daily museum operations but also to the institutional role of museums as the preservers, interpreters, and communicators of humanity's cultural heritage. Students are evaluated based on two papers, work on Matson Museum exhibits, and participation in class discussions. This course fulfills a 3-credit requirement for additional courses for the anthropology major. This course expands on the history of anthropology and professional employment in the field that is presented in introductory courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 401 Human Evolution: The Material Evidence (3) Human origins as seen in the fossil record and comparative biology of humans and their primate relatives.

Human Evolution: The Material Evidence (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: ANTH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 405 Primatology (3) Nonhuman primate origins, evolution, comparative physical and behavioral characteristics, ecological context, phylogeny and taxonomy; and their importance in anthropology.

Primatology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: ANTH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 408 Anthropological Demography (3) Analysis of demographic studies in traditional and very small populations.

ANTH 408 Anthropological Demography (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines population-related problems from an anthropological perspective. Special emphasis is placed on ecological and economic approaches to the study of population dynamics in small-scale, preindustrial societies. This is an advanced undergraduate course that builds upon introductory anthropology and leads the student into more difficult demographic problems that are linked with economics, politics, religion and other cultural factors that shape population and population change. While the course is designed to introduce any of the basic analytical methods of demography, attention is focused primarily on fundamental theoretical issues concerning population growth, resources, fertility, mortality, age structure, and household demography in traditional societies. Data is drawn from ethnographic studies of living populations, from historical demography, and from paleodemography (the reconstruction of population patterns from skeletal samples). There will be three take-home problem sets. These will be a mixture of short essay questions and simple numerical exercises that can be solved on a pocket calculator or a spreadsheet. This course fulfills a 3 credit 400-level requirement for the Anthropology major and minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2003
Prerequisite: 3 credits in anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 406W Problems in Human Evolution (3) Investigation of human evolution in terms of the history of ideas and contemporary research on genetic and evolutionary processes.

Problems in Human Evolution (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: ANTH 021 or 3 credits in biology 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 410 Osteology (4) Introduction to the systematic study of the human skeleton from an evolutionary developmental biological perspective.

ANTH 410 Osteology (4)

This course introduces students to the aspects of the human skeleton and dentition that are of anatomical, archaeological, forensic, and developmental significance. Topics include the identification of skeletal and dental structures; the distinction between normal and pathological bone; the estimation of age, sex, and stature from skeletons; bone metabolism; growth and development; and the functional aspects of musculoskeletal and dental systems. Up to one-half of the course is spent on bone identification and skeletal anatomy. Lectures are supplemented by labs that provide practical experience in the identification of individual bones and anatomical structures, age and sex estimation, and the differentiation of abnormal from normal bony structures. It is absolutely essential for students to attend labs to familiarize themselves with bone specimens and casts. At the close of this course, students are expected to be able to recognize human bones and be familiar with anatomical terms, the bony landmarks that define their shape, and the relation of those bones with various soft-tissue structures. Students will have a basic grasp of bone growth and development, as well as how to identify an individual’s general characteristics from the skeleton, such as age, sex, and prior life-history events including disease and trauma. The course fulfills a 400-level elective for the Anthropology (BA) major and minor, as well as the Archaeological Science and Biological Anthropology (BS) degree programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: 3 credits in anthropology 3 credits in the biological sciences or concurrent enrollment inANTH 401 orANTH 501

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 411 Skeletal Forensic Anthropology (3) An introduction to anthropological forensic science with an emphasis on what can be learned from human skeletons and archaeological recovery methods.

ANTH 411 Skeletal Forensic Anthropology (3)

This course is a survey of forensic anthropology focusing on human skeletal remains and archaeological recovery methods. Emphasis is placed on field methods used to collect human remains from surface and buried contexts; taphonomic processes; estimating age, sex, stature, and ancestry from human skeletons; recognizing signs of trauma and scavenger damage; and identifying individuals from skeletons. Lectures are accompanied by class discussions and complemented by practical lab sections closely tied to lecture materials. There will be two exams, a midterm and a final, and students are responsible for preparing a poster and presenting a semester-long research project. This course is related to existing ANTH 410, Human Osteology, and proposed course ANTH 413, Molecular Forensic Anthropology. It fulfills a 400-level requirement for the anthropology major or minor, as well as the university's Forensic Science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ANTH 021 orANTH 410 or Forensic Science major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 412 Settlement Demography (3) Examination of the demography and ecology of human settlement systems in the preindustrial past.

ANTH 412 Settlement Demography (3)

This seminar will examine the population dynamics of human settlement systems in preindustrial societies, living, historic, and prehistoric. The focus will be on subsistence-level agrarian settlements, but some attention will also be paid to settlement patterns in hunter-gatherers, in market economics, and in complex societies. After reviewing basic assumptions and problems of working with spatial data, the course will examine processes determining settlement size, composition, and location on the micro-level (i.e. that of individual households, farmsteads, hamlets, and villages) and then pass on to regional patterns of transport, migration, and defense. The processes of site colonization, settlement expansion and contraction, site abandonment, and re-colonization will all be considered in detail. Since human settlements are always non-randomly distributed across spatially-heterogeneous landscapes, some basic landscape ecology will be presented in the course. Some fundamentals of geostatistical analysis will also be taught, although the course is not intended to be a survey of quantitative geography or spatial analysis. Rather, it is designed to be a more specialized follow-up to ANTH 408 (Anthropological Demography); the new course builds upon the basic explored in ANTH 408 by extending them into the spatial domain. During the last quarter of the semester, students will split into 2-3 teams, each of which will re-analyze settlement data from a region and time period of its choice for presentation to the rest of the class. The proposed course will provide 3 elective credits toward the undergraduate major and minor, and will be open to graduate students as well. The overall aim is to produce scholars who can think in creative ways about the dynamics of settlement systems in their own reading and research. The course should be of interest to archaeologists, anthropological demographers, ethnologists, and other students interested in human population science, especially as it relates to preindustrial society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ANTH 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 413 Molecular Forensic Anthropology (3) An introduction to the field of the application of DNA methods to estimating forensically useful phenotypes.

ANTH 413 Molecular Forensic Anthropology (3)

This course is a survey of forensic anthropology focusing on human genetic methods. Emphasis is placed on laboratory methods for analyzing DNA variation, the genomic and geographical distributions of genetic variation, estimating genetic ancestry, sex, pigmentation, facial features, and other traits. Lectures are accompanied by class discussions and complemented by practical lab sections closely tied to lecture materials. There will be three exams and students are responsible for preparing a poster and presenting a semester-long research project. This course is related to existing ANTH 411, Skeletal Forensic Anthropology. It fulfills a 400-level requirement for the anthropology major or minor, as well as the university's new Forensic Science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: ANTH 021 or Forensic Science major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 421 Intro to Geospatial Science in Anthropology and Archaeology (3) This course is a practical, data driven, introduction to applications of Geospatial tools in anthropological and archaeological research.

ANTH 421 Intro to Geospatial Science in Anthropology and Archaeology (3)

As anthropologists, we are interested in humans, how humans interact with each other, and how that interaction is modulated by space and place. The purpose of this course is to introduce students to the basic concepts of spatial theory in anthropology, and the use of GIS (Geographic Information Systems) as a tool in anthropological and archaeological research designs. Students will gain familiarity with geospatial technologies, their use as a tool for data creation, storage and manipulation, and a broad array of data analyses. The course is relevant to anyone documenting or investigating spatial dimensions of human social behavior. Students will gain familiarity with GIS software, its use as a tool for data creation, and a broad array of data analyses.
This class will be offered each Fall semester. It will introduce students to sources and uses of data in addressing anthropological or archaeological research questions. It will prepare the student for more advanced spatial analysis courses such as Advanced Geospatial Science for Anthropologists and Archaeologists. Students will be expected to develop a research project which uses GIS as a tool to address broader anthropological research questions. The class will culminate in the development of a research contract for a future fieldwork project. A list of sample topics is provided. Students will be expected to develop an original and functioning GIS which addresses their research question. The purpose of this exercise is to introduce the student to all stages in the development and operationalization of an anthropological research GIS in the development of an archaeological or anthropological project. There are two components to this class: classroom and labs. The classroom component will consist of lectures and discussions. The student will receive hands-on experience with GIS applications during the laboratory component of the class. The laboratory component will enable students to gain experience applying the concepts discussed in class to archaeological data through use of GIS programs in a technology classroom setting. Data used in the laboratory exercises derive from actual anthropological and archaeological fieldwork. Students are expected to complete labs in one of the several computer labs across campus that have GIS software installed. Grades are based upon the completion of 12 lab exercises, a draft of a proposed contract, the final contract and a short presentation of the proposed contract to the class. This course will fulfill three credits of the requirement in both the Minor and Major in Anthropology. This is the first part of a two part course. The second part of this course is called Advanced Geospatial Science for Anthropologists and Archaeologists.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: ANTH 001 orANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 420 (J ST 420) Archaeology of the Near East (3) Culture of the Near East and India from Paleolithic times through the Bronze Age.

Archaeology of the Near East (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 1999
Prerequisite: ANTH 008, ANTH 009, ANTH 011 orANTH 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 422 Meso-American Archaeology and Ethnography (3) Survey of ethnohistorical and ethnographic patterns of Meso-American society; origin and development of ancient civilization in Mexico, Guatemala, and Honduras.

Meso-American Archaeology and Ethnography (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 1999
Prerequisite: ANTH 008, ANTH 009, ANTH 011 orANTH 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 423 The Evolution of American Indian Culture (3) Historic and archaeological sources used to trace American Indian lifestyles from the first immigrants to the period of Euro-American contact.

The Evolution of American Indian Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 1999
Prerequisite: 3 credits in anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 426W Archaeological Laboratory Analysis (3) Scientific laboratory methods used in the analysis of ceramic and lithic artifacts.

ANTH 426W Archaeological Laboratory Analysis (3)

This course, Archaeological Laboratory Analysis, employs experiential learning to teach students how to ask and answer archaeological questions using real data. While students learn the fundamentals of interpretation in other courses using already processed computer (and internet) assembled data sets, this is not how archaeological data are analyzed. Archaeological data emerge from the ground covered with dirt and the analyst must learn how to identify and measure their important attributes, and interpret what they mean. This class will provide a hands-on learning experience where students learn how to examine and use physical remains to reconstruct and interpret human behavior.

Students in the Anthropology program currently learn this critical step on an *ad hoc* basis by working with faculty on individual research projects. This approach, while effective, is neither systematic nor comprehensive. This is a course on analytical systematics. It provides students with an introduction to problem formulation, artifact processing, artifact cataloging, attribute identification, artifact classification, analysis, data illustration and photography. At the same time, students will be introduced to two separate and distinct approaches to interpretation: 1) morphological/diacritical analysis, and 2) direct experimentation and replication.

Students will be graded on the completion of nine laboratory exercises. These exercises will require that students identify the research question being addresses, the theoretical assumptions used in the analysis, the data sample, the analytical method(s) employed, and the conclusions reached. The exercises will also request that students identify personal insights and difficulties encountered during the analysis.

This course fills a vital position in training undergraduate majors by providing them with practical training in research design and data analysis. It also provides the logical link between our general courses in prehistory, our courses on archaeological theory, and our method courses on field methods of data recovery. All of these courses intersect in the archaeological laboratory where data interpretations are made and new information about the past takes shape. In addition to contributing to both the BA and BS undergraduate majors and minors, this course will also provide a framework for training graduate students who enter the program with minimal field and laboratory training in archaeology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: ANTH 007, ANTH 008, ANTH 009 orANTH 011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 424 Andean Ethnology and Archaeology (3) Cultures of the Andes from earliest settlements to Inka Empire; includes discussion of life in modern Andean communities.

ANTH 424 Andean Ethnology and Archaeology (3)

(BA) This course meets the Bachelor of Arts degree requirements.

When the Spanish conquistadors arrived in the Andes in 1532, they were astonished by the complexity and grandeur of the Inca Empire, which stretched along western South America incorporating a multitude of different societies that occupied a seemingly inhospitable landscape with coastal deserts, rugged mountain chains, and dense jungles. This course traces out the history and development of Andean cultures from the earliest peopling of the continent to the rise and fall of the Inca Empire. Using archaeological, historical, and ethnographic sources, students will learn about the relationship between Andean societies and their environments and landscapes, as well as the economic, social, and political changes that transformed small egalitarian communities through time into large, stratified states. Through the course, students will not only gain a strong background in pre-Columbian Andean history but will also hone their skills in the use of different lines of evidence to reconstruct the past while learning to critically evaluate existing interpretations. All students are expected to participate actively in discussions. Lectures will be supplemented by illustrations (slides, handouts, videos), and students will learn how societal dynamics are expressed in material culture and in the organization of architecture and settlements. Grades will be based on the results of three exams, a short paper, and participation in discussions. The course complements existing courses at the same (400) level on the archaeology of Mesoamerica (ANTH 422) and North America (ANTH 423). It continues the discussion (at a higher level) of some of the themes covered in ANTH 008 (Incas, Aztecs, Mayas). It fulfills the archaeology credits requirement for the major and is one of the 400-level courses that can be used for the minor. For students outside the major, it may be used to meet the Other Cultures or the Social Sciences requirement in Bachelor of Arts programs.

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2002
Prerequisite: ANTH 002, ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 427W Forensic Archaeology (3) Application of archaeological techniques to crime scene investigations, with practical experience in field and laboratory contexts.

Forensic Archaeology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: ANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 429 Paleoethnobotany (3) Introductory course in paleoethnobotany, the study of the interrelationships between people of the past, natural environment, and plant resources.

ANTH 429 Paleoethnobotany (3)

This course is a survey of the fast-developing field of paleoethnobotany-- also known as “archaeobotany” or “phytoarchaeology”-- that involves the extension of ethnobotany into the past, emphasizing archaeological plant remains and study of the historical dimensions, complex dynamics, and myriad interrelations between people and plant resources. The primary goals of the course are 1) to promote understanding of the vital interplay between the natural environment and human societies, with their diverse systems of belief and resource use, especially those of the past but with relevance to the present; and 2) to foster an appreciation for what modern paleoethnobotany involves as a subdiscipline or specialization in archaeology, related to both anthropology and the plant sciences.

The course begins by considering the history and nature of the field, including parallel developments in plant biology. The first half of the semester entails weekly sessions that focus attention on the plant organism, sources of archaeobotanical data, taphonomic issues, and the major classes of archaeobotanical materials. Fundamental issues involved in fieldwork, and the variety of laboratory concerns and methodologies specific to paleoethnobotany as whole and with regard to individual subareas are addressed. Individual laboratory sessions highlight the different preservation states that affect ancient plant materials, as well as methods of identification and analysis. In the second half of the semester, attention is focused on theory and application, issues central to and/or addressed by paleoethnobotany as a subdiscipline of archaeological anthropology.

The course follows a seminar style, with substantial participation by students, including individual presentations, laboratory study, and analysis. Learning is augmented and enhanced by use of various visual aids, along with modern comparative specimens and actual archaeological plant remains.

ANTH 429 will fulfill 3 credits of the additional courses in the Anthropology minor and majors. Anth 002 is a prerequisite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 428 Archaeological Methods and Theory (3) Scientific methods as applied to archaeological data: evolution, ecology, diffusion, and cyclicism theory.

Archaeological Methods and Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ANTH 007, ANTH 008, ANTH 009, ANTH 011 orANTH 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 431 Advanced Geospatial Science for Anthropologists and Archaeologists (3) This course is an intensive, data driven, treatment of the use of geographic information systems in anthropological and archaeological research.

ANTH 431 Advanced Geospatial Science for Anthropologists and Archaeologists (3)

As anthropologists, we investigate how humans evolved, behave, define groups, and interact socially. Examining how these processes are shaped by space and place is central to the anthropological enterprise. The use of geospatial science in anthropological and archaeological research is now commonplace. Geospatial technologies are now intimately involved in anthropological and archaeological research designs. The course objective is to expose students to advanced concepts and techniques of conducting geospatial science research in anthropological and archaeological contexts. The course is a continuation and development of the introductory geospatial science course and it will fulfill three credits of the requirement in both the major and minor in Anthropology. Students will develop an in depth understanding of anthropologically and archaeologically tailored geospatial project design and implementation. Students are expected to complete the work for the course in one of several computer labs across campus that has the appropriate software installed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: ANTH 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 432 Environmental Archaeology (3) Introductory course in Environmental Archaeology, with empahsis on method and theory in the subfields archaeobotany, pedoarchaeology, and zooarchaeology.

ANTH 432 Environmental Archaeology (3)

This class is a survey of the fast-developing field of environmental archaeology, or archaeobiology, which encompasses archaeology, the earth sciences, plant biology, and zoology. Environmental archaeologists apply techniques and insights obtained from these fields to questions concerning the relationships among humans, cultural systems, and the natural world, as reflected in the archaeological record. The general goal of the course is to promote understanding of the vital interplay between human societies, with their diverse systems of belief and cultural practices, and the natural environment, with emphasis on human interactions with biotic resources. Instruction is by lecture, supplemented by laboratory sessions emphasizing hands-on experience. Weekly topics are explored through selected readings and class discussions, augmented with laboratory assignments (practical exercises) variously focused on specific types or classes of archaeobiological materials.

ANTH 432 will fulfill 3 credits of the additional courses in the Anthropology minor and major, as well as the Archaeological Science major. Anth 002 is a prerequisite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 433 Archaeological Ethics and Law (3) Introductory course that examines prominent ethical and legal issues in archaeology integral to modern applied research and practice.

ANTH 433 Archaeological Ethics and Law (3)

This course explores the ethical, legal, and practical dimensions of modern archaeology through a consideration of the following topics: archaeology as a profession; archaeological ethics; the relationship between archaeology and others (the public, ethnic groups, avocationals, collectors, etc.); international and national approaches to archaeological heritage management; the antiquities market; maritime law, underwater archaeology, and treasure hunting; cultural resource management in the united states; and archaeological outreach and education. Students are introduced to a variety of legal and ethical issues in archaeology that span local to international scales. Through lecture, discussion, and readings, students will consider the archeology and ethics of ownership and stewardship, including issues centered on intellectual property rights, representation, repatriation, and reburial of cultural properties. They will be able to identify the various stakeholders in contemporary archaeology, and assess their values and interests in issues such as the treatment, ownership, and disposition of human remains, heritage sites, submerged cultural resources, and antiquities. They will consider growing problems with illicit collecting and excavation, illegal trade, and global concerns centered on the international trafficking of antiquities, and will be variously exposed to relevant national and international legislation involving cultural patrimony and management of antiquities, including international treaties such as the 1970 UNESCO Convention on Cultural Property, and related pieces of US federal legislation. The 1990 Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological and Historic Preservation Act (ARPA) of 1974 figure prominently in the course. In general, upon completion of the course students will come to have a stronger appreciation of archaeological ethics and “archaeopolitics”; they will have a good understanding of the U.S. Secretary of the Interior’s standards (36CFR61) for professional archaeologists and will be able to assess and evaluate contemporary issues of archaeological ethics and law in the context of modern practice.

ANTH 002 is a prerequisite of this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 440 South American Tribal Societies (3) Ethnographic survey of tribal societies in South America. Special emphasis on non-Andean area.

South American Tribal Societies (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 441 (IL) From Stone Ax to Uzi: Tradition and Change in the New Guinea Highlands (3) This course explores cultural change and innovation among tribal peoples of Highland New Guinea from stone tool technology to globalization.

ANTH 441 From Stone Ax to Uzi: Tradition and Change in the New Guinea Highlands (3) (IL)

The indigenous peoples of Highland Papua New Guinea were unknown to the outside world until the 1930s and began to be seriously influenced by European contact only after the First World War. At first contact with Europeans, the million or so people living in the Highlands used a stone tool technology, had no knowledge of the wheel, and lived in small, politically and economically independent local groups. They presented a major population engaged in a way of life typical of human society in a technologically simpler past, and have been crucial in anthropology's discussion of the general characteristics of human culture and institutions. The study of these cultures also provides an opportunity to explore the processes through which these peoples have assimilated thousands of years of technological, political, and economic innovation in a very brief period, while simultaneously maintaining and recreating their cultural identity, despite the impact of colonial rule and global influences. Apart from the specific history of these populations, the course will also give students insight into the processes of globalization and internationalization that necessarily effect changes in traditional cultures, and will require that they consider the advantages and disadvantages that accrue from these processes.

Among the topics this course will cover are traditional and current approaches to dispute settlement, economic changes that entail moving from subsistence agriculture as the basis of the economy to cash cropping for a global market, the ecological effects of extractive industries such as mining and how those effects are translated into social and cultural domains, the reorganization of gender roles, the incorporation of politically independent tribal units into a centralized, powerful state, and the demise of traditional religion with the conversion to Christianity.

Students will be evaluated on contributions to class discussion, essay exams, a term paper and a brief oral presentation based on that paper.

The course will provide support and depth for more general courses dealing with warfare, gender, religion, politics and economics and specific understandings for programs devoted to exploring cultural variation and modernization.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 442 (IL) Indians and Peasants of Mexico and Central America (3) Indian culture and society in Mexico and Central America.

ANTH 442 Indians and Peasants of Mexico and Central America (3)
(IL)

This course introduces students to the rich variety of indigenous cultures found throughout Mesoamerica (a region which we will broadly define as including the countries of Belize, Costa Rica, Guatemala, Honduras, Mexico and Nicaragua). We will concentrate on the indigenous cultures found in Mexico, Guatemala and Belize and specifically look at three key areas of study. First, students are introduced to the anthropology of Mesoamerican indigenous societies and culture using ethnographic resources. The focus here is to understand how indigenous Mesoamericans use cultural their cultural traditions to cope with rapid socioeconomic change in creative and active ways. Second, students' time. Third, we will focus on social organization throughout the region and look at common patterns as well as differences that exist among various Mesoamerican indigenous groups. Specific issues we will cover include human rights in Mesoamerica, migration, ritual life and traditions, and political activism by native groups.

To encourage a dynamic classroom this course will include lecture and discussions. Students will be asked to formally present issues for in-class debate and discussion. I expect students to come to class with reading assignments complete and will pass out questions that will be debated. To foster collaborative teaming early in the semester students will jointly produce a "geographic diary" that will summarize the modern day countries that are included in our broad conceptualization of Mesoamerica. This assignment will ask students to use the library, internet, class resources, and the resources of the Matson museum to actively organize brief reports and posters on various topics and countries. The reports will be compiled in class and used as a resource for all students in the course. Students will also plan a family altar based upon traditional models in Mesoamerica Indian homes. This altar will become the basis for modeling the social hierarchies/traditional practices common to most peasant/Indian communities in rural Mexico and Guatemala. These exercises will promote intercultural teaming and cross-cultural understanding. These assignments will also promote a healthy understanding of how social inequality works outside of the US and more importantly, some of the creative and powerful ways in which native peoples organize themselves and their communities to effectively face socioeconomic change.

Short writing assignments in class will be used in addition to tests and longer assignments to assess student progress and foster in class discussions. Finally, students with competence in Spanish will be encouraged to go to foreign resources in their reports and assignments to further their educations. This course will fulfill requirements for credits in the anthropology minor and major. It will also fulfill the 3-credit requirement for united states and international cultures competency.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: ANTH 001 orANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 444 Primitive Warfare (3) Critical overview of the ethnography and theory of primitive warfare.

ANTH 444 Primitive Warfare (3)

Anthropology 444 is concerned with the phenomenon of lethal group violence in tribal societies so called "primitive war". Through lectures, readings, and research projects, this course reviews anthropological approaches to the study of primitive war, focusing both on ethnographic examples and on theoretical approaches. The course covers topics such as explanations, traditional and modern, for the existence of warfare; the primate background to human warfare; and the social causes and individual motives leading to warfare in tribal societies; as well as its consequences for those societies. Students become familiar with both general and particular manifestations of primitive warfare, and are exposed to individual ethnographic cases of primitive warfare as they motivate a variety of theoretical paradigms.

All students are expected to attend all lectures and to complete all weekly readings. At the last class meeting of each week, a rotation of students are assigned to organize and direct the class discussion of the week's readings in the light of the lectures earlier in the week. Performance in this activity constitutes 40% of the student's grade. Another 40% is earned in the research term paper each student must prepare. The final 20% of the grade is based on overall student contribution to class discussion, particularly during those weeks when the student is not a discussion leader. There is no final examination. This course can be used to fulfill major and minor requirements in Anthropology. Because warfare was and often still is a major activity in most tribal societies, this course provides an important complement to area-focused ethnography and archaeology courses such as ANTH 241(Peoples and Cultures of Highland New Guinea), ANTH 422 (Mesoamerica), ANTH 423 (North America), ANTH 425 (American Southwest), ANTH 440 (Lowland South America), and ANTH 447 (Africa). This course is also relevant to topically focused course such as ANTH 450 (Comparative Social Organization), ANTH 451 (Economic Anthropology), ANTH 454 (Political Anthropology), and ANTH 456 (Cultural Ecology). On the graduate level, this course addresses central topics covered in ANTH 522-523 (Ecological Theory in Anthropology), ANTH 556 (Social Organization of Traditional Societies), and ANTH 559 (Behavioral Anthropology).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: ANTH 045 ; andANTH 002 orANTH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 445W Ethnographic Film (3) Comparisons of written and visual ethnography; critical assessment of ethnographic film; cross-cultural variation.

ANTH 445W Ethnographic Film (3)

Students will be presented with both written and filmed ethnographic material dealing with a number of cultural subsystems (e.g., kinship and family relations, religion, political systems) and with a number of different world cultures. The aim of the course is three-fold: 1) to convey through visual anthropology the complexity and inter-relations of cultural subsystems, which is often difficult to do in written sources; 2) to develop the skills of critical viewing of ethnographic film; and 3) to provide students with critiques of their written work that will enable them to learn and practice the skills of clear, organized and convincing writing. Towards these ends, students will be expected to read and view weekly assignments for selected topics, to write twelve critical essays that compare the written and filmed sources, and to evaluate the aims, effectiveness, and methods of the films. Essays will be graded for both content and form and will provide a basis for class discussion. Students will also be required to write a term paper focused on a particular ethnographic film of their choice (one not shown in class) supplemented by additional research. As an aid in the writing of the paper, at least one class period will be devoted to learning how to do library research in Anthropology.

This course will complement other courses in Anthropology such as ANTH 045 and ANTH 001. The course can be used to fulfill a requirement in both the major and minor in Anthropology, and will fulfill both a Writing Intensive requirement and a Bachelor of Arts social/behavioral science requirement. It will also provide students in other departments with the opportunity to study aspects of diverse, non-western cultures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ANTH 001 orANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 447 (IL) Peoples and Cultures of Africa (3) Ethnographic survey of peoples and cultures of Africa.

Peoples and Cultures of Africa (3)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: AAA S 110 orANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 446 Mating and Marriage (3) An examination of human mating mainly from the viewpoint of behavioral ecology, centering on the species-typical institution of marriage.

ANTH 446 Mating and Marriage (3)

This course is an examination of human mating and marriage mainly (although not exclusively) from the viewpoint of evolutionary behavioral ecology. Its central concern is the species-typical and uniquely human institution of marriage. Why do all human societies recognize this peculiar institution, whose social and biological functions, apparently obvious, become mysterious on close examination? What, exactly, is marriage? What are its consistent characteristics and attributes--or does it have none? How are spouses chosen, and by whom? What does being married imply for the behavior of the spouses, and that of their children and other relatives? What are the evolutionary scenarios that might have led us to marriage? Although sexual behavior is clearly a key element in answering some of these questions, and receives considerable attention, this is not a course on human sexuality. Nor is it a course on kinship, even though kinship is also crucial to understanding marriage and also receives a good deal of attention. Rather, this course attempts to bring to bear on this central social institution bodies of knowledge from the biological and social sciences that may contribute to understanding how and why marriage arose as a universal feature of human societies, and how and why it is perpetuated in contemporary societies. We begin the semester with the posing of the central problem--what is marriage and why do we have it? For about half the course, we approach this question from an evolutionary, sociobiological point of view: We look into the biological background of human mating--its evolutionary history, its physiology, its behavioral ecology, etc. as we go through a semi-popular book on the subject by a biological anthropologist. Next we turn to more academic readings, old and new, that further elucidate the ecological constraints and fitness consequences of various behaviors relating to mating and mate choice, child rearing, etc., in terms of reproductive success, survivorship, etc. In the second half of the course, we take a more social anthropological point of view. We look at what anthropologists have written about marriage and marriage customs over the years. We try to relate the traditional social anthropology to more modern human behavioral ecology. Finally, in a research project report, each student examines some specifics of marriage as it is manifested in ethnographically known societies. In these reports we are particularly interested in how and by whom mates and spouses are chosen, and who contributes what to the raising of children.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: ANTH 045, ANTH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 448 (AM ST 448) Ethnography of the United States (3) Ethnographic descriptions of various dimensions of life in the United States.

ANTH (AM ST) 448 Ethnography of the United States (3)

Ethnographic descriptions of various dimensions of life in the United States. The course covers uses of ethnography in American Studies toward an understanding of social and cultural communication and performance. The application of ethnography and concepts of cultural anthropology to complex societies such as the United States is discussed. The course teaches students to use ethnographic methods for research of American society and culture. Attention is given to the ethics and issues of ethnographic fieldwork. The course satisfies the "area" requirement in "society" for American Studies majors.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 450 Comparative Social Organization (3) Social structure and cultural change among nonliterate societies.

Comparative Social Organization (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 1986
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 450W Comparative Social Organization (3) Social structure and cultural change among nonliterate societies.

Comparative Social Organization (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 451 Economic Anthropology (3) Different approaches to the study of the economics of non-Western societies, emphasizing the interrelationships between noneconomic factors and economic behavior.

Economic Anthropology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 452 Critical Readings in Social Organization (3) Critical overview of approaches to kinship and social organization.

ANTH 452 Critical Readings in Social Organization (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Anthropology 452 is concerned with principles of social organization in traditional societies. Through readings and discussion, this course will review a variety of anthropological approaches to the study of social organization, focusing on both ethnographic examples and theoretical approaches and will include topics such as social structure, social evolution, gender studies, and political economy. Students will become familiar with both the generalized and the particular aspects of social organization and will be exposed to the history of anthropological approaches to kinship and social organization as they represent and shape particular theoretical paradigms. Students will be expected to complete all weekly assigned readings, and present both written and oral presentations throughout the semester. Each student will present written responses weekly to questions on the readings. Written assignments will be due each week during class period; questions for the following week will also be distributed at that time.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 454 Political Anthropology (3) Comparative study of institutions which control force in nonstate societies.

Political Anthropology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 453 Anthropology of Religion (3) Traditional and modern religions and historical and contemporary religious movements from an anthropological perspective.

ANTH 453 Anthropology of Religion (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine the origin, evolution and social function of religion from a cultural materialist perspective. It will begin with a general discussion of an anthropological approach to the study of religion, using numerous examples from different cultures for purposes of illustration. Following a discussion of several topics relevant to the anthropological study of religion --including magic, rituals, witchcraft and mythology-- the course will focus on the relationship between politics and religion: first discussing the role of religion as a mechanism of social and political control, and then examining the role of religion as a vehicle of sociopolitical change in the form of what anthropologists call revitalization movements. This course links to courses on the sociology, history, and philosophy of religion, to courses on intellectual history, and history of social sciences. Course evaluation will be based on 3 take-home essay examinations. Students will give the instructor 3 questions at indicated times; the instructor will return one question; the student will write an essay on the indicated question. Attendance is mandatory. This course will fulfill a 3 credit 400 level requirement for the Anthropology major and minor.

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 2003
Prerequisite: ANTH 001 orANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 455 Global Processes and Local Systems (3) Ethnographic, comparative, historic, evolutionary treatment of global economic, political, and cultural processes and their consequences for local systems.

ANTH 455 Global Processes and Local Systems (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Students will learn about global economic, political, and cultural processes and their consequences for local systems, how anthropologists do ethnography in the modern world of villages and factories; varieties of anthropological approaches and theories and how to assess them and how to critically assess ethnographic work.

Students will write a series of book reviews in which they critically analyze the works they read in the course. Each review will present the main argument of the work; the theoretical assumptions the argument entails; the evidence the author used, the methods the author used to develop the evidence; the relationships among theoretical assumptions, arguments, evidence, and methods; and conclusions. Each review will assess the validity and reliability of the findings and the relationships of findings, arguments, and assumptions to the conclusions. These reviews will direct the student's attention to the salient points of scientific ethnography and anthropological theory with specific examples. Grades for the reviews will be assigned on the basis of how well each component of the review is completed, short in-class writing assignments to test reading comprehension and orient discussion, and a synthetic essay.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 457 (US;IL) (J ST 457, SOC 457) Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.

ANTH (J ST/SOC) 457 Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) (US;IL)

This course addresses an understudied aspect of Jewish experience. It aims to expand our understanding of Jewish communities by focusing on those that are, alternatively, small, situated in out-of-the-way places, culturally outside the Jewish urban mainstream, or embedded in a larger society with markedly different values and traditions. These communities often constitute the points-of-contact between Jews and non-Jews, and in so doing sometimes transform Jews, non-Jews, and the relationships among them. Other such communities constitute experiments in Jewish lifeways and provide mainstream Jews with pilot projects for potential social and cultural change. This course will explore the significance of small, little-known, idiosyncratic, and anomalous Jewish communities on Jewish history and culture, and draw on them to instruct students on the social and cultural processes of small or unusual communities generally. The communities studied will be located both in the U.S. and elsewhere in which Jews have lived as a minority community during modern times. The course will look at the founding, growth, and decline of such communities and at their social processes and institutions. It will explore how to understand and analyze such communities, which vary from one part of the world to another. The social world of Jewish communities, large and small, is a core interest of Penn State’s Jewish Studies Program. This course will complement the current offerings in Jewish Studies, strengthening the social, cultural, and contemporary perspectives available in the Program. It will provide students with an opportunity to explore individual experience and micro-level processes among Jews, and to study the dynamics of identity and survival. It will complement the current offerings in Sociology and Anthropology by affording an opportunity to focus on community-level social processes and by adding a course on contemporary Jewry. The course will integrate knowledge from a variety of sources and fields, promote intercultural understanding, and meet US and IL requirements. Materials will be interdisciplinary, and will include ethnographies, sociological studies, population studies, histories, and personal narratives. They will include primary texts, creative works, and scholarly analyses. The assignments will be structured to facilitate preliminary experience in independent analysis, library research, or field research. The course will be offered approximately once a year.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006
Prerequisite: ANTH 001 orANTH 045, HEBR 010, J ST 010, SOC 001, SOC 005, SOC 007, SOC 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 456 Cultural Ecology (3) Survey of the methods and concepts of cultural ecology, focusing on the interaction between cultural and geographical systems.

Cultural Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986
Prerequisite: 3 credits in anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 458 Ethnographic Field Methods (3) Course introduces students to ethnographic field methods, includes student projects and simple analyses that don't require statistical sophistication.

ANTH 458 Ethnographic Field Methods (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce you to some (not all) ethnographic field methods. It will include actual projects you will have to carry out and other material that will make you a better ethnographer, such as how to pose questions that can be answered, how to select an appropriate sample for a project, how to take and use field notes. Because the emphasis is on field methods, we will do only simple analyses that dont require any statistical sophistication (e.g., descriptive statistics, chi square tests).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 459 Applied Anthropology (3) A survey of the development of applied anthropology and the current issues facing anthropologists working in non-academic settings.

ANTH 459 Applied Anthropology (3)

This course surveys the development of applied anthropology and the current issues that face anthropologists as they work in nonacademic settings.

Topics covered for 3 weeks each:
The roots and place of applied research in contemporary anthropology doing applied research Development--defined and evaluated Applied anthropologizing and contemporary problems in North America career. In this class students will learn what it means to be an applied anthropologist and to do anthropology outside of the academic
setting. We will learn the historical development of applied anthropology and some of the special tools (and methods) applied anthropologists use in their work. We will also focus on the area of development and the role anthropologists play in their development as facilitators and critics. We will look at how applied anthropologists approach problems in North America from homelessness to drug addiction to AIDS and other diseases. Finally, we will survey the careers of various applied anthropologists to better understand the opportunities that are outside of the academic world. This course will fulfill the requirements for a 400-level course or elective for majors and minors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 460H (BIOL 460H) Human Genetics (4) Gene mapping in humans; molecular basis of genetic disease; genomic structure; immunogenetics; and genetic evidence for human evolutionary history.

ANTH (BIOL) 460H Human Genetics (4)

Students will explore interesting normal or pathological variation to understand first its biological nature, then its epidemiological distribution, genes and genetic mechanisms associated with the trait, phylogenetic origins or comparison, and the nature of relevant genotype-phenotype relationships. Alternatively, students may explore methods for identifying and characterizing gene action or structure, or historical subjects related to human variation and evolution. Ethical and societal aspects of these issues will be considered as well. Time will be taken for faculty or students to read and present current important papers appearing in the literature, relevant to the current course topics. As an Honors course, we will have the time, and the students the dedication, to pursue the chosen topic(s) in much greater and more rigorous detail than is possible in the usual lecture or even seminar course format of Human Genetics 460 which, while presenting material at a sophisticated level, will not have time to explore the more subtle, problematic, or challenging aspects. The students who enroll for this course will be given a description of the approach and the intended general topic, on a course web page or by email when the instructor learns they have registered. The nature of the course will be described including semester-specific themes or focus that will apply (if any). Requisite background reading will be identified so students will know what will be expected of them. Some prior reading will be assigned, so that we can begin the semester with a common basis in background. Students will be evaluated on the quality of their project work, including writing ability, presentation ability, and depth of thought. Several written assignments will be given and graded for content and expression quality. Although students will take regular Human Genetics 460 lectures, they may be given separate exams (corresponding to those given in the regular course) that will allow more freedom of expression than multiple-choice exams or homework assignments. Depending on the workload in any semester, there may be a separate written take home synthetic essay final exam. The Honors session each week will be highly interactive rather than passive, and students will be graded on attendance, participation and whether they have done assigned work in advance of the class. Students will be expected to have the stipulated background knowledge of biological anthropology, evolutionary biology, statistics and genetics. This course should count as 4 credits toward additional courses in biological anthropology required for the Anthropology major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: 3 credits in genetics orANTH 021 orBIOL 222 orBIOL 230W ; and 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 460 (BIOL 460) Human Genetics (3) The human genome, its variation, origins, and relation to disease and other traits.

ANTH (BIOL) 460 Human Genetics (3)

The course considers many examples derived from the study of the genetics of human disease, and includes most general areas of interest, including simple Mendelian disorders, and complex chronic diseases such as cancer and cardiovascular disease, and variable special topics including immunogenetics and the genetics of imprinting or other processes. The course usually also touches briefly on the nature of forensic genetics and the problem of making inferences from individual genotypes. Finally, the course considers the bioethical and societal issues involving contemporary human genetics. The study of disease genetics is important for students preparing for graduate work in medicine and other health professions as well as for graduate studies in molecular and evolutionary genetics and related areas, including biological anthropology and bioethics. This course is relevant to requirements or appropriate electives for life science majors and graduate students (check with your academic advisor). OVer the years, it has been proven to be excellent preparation for subsequent graduate and professional work in these areas. The course is offered most years, in the fall semester. Depending on enrollment and other factors, the course may include graded homework or other components, but evaluation is predominantly based on exams during the semester and a comprehensive final. This course is cross-listed as ANTH 460 and BIOL 460, but there is only one course, at the same time and place, for all students no matter how they register. In some years, a 4-credit Honors version is offered (ANTH 460H/BIOL 460H), that is identical to 460 but with an additional class period each week involving additional written and presentational assignments and term projects, along with the regular 460 exams, that combine to determine the final grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 230W or 3 credits in genetics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 461 Molecular Anthropology (3) Provides framework to understand current issues in biology, genetics, and anthropology as they relate to the evolution of our species.

ANTH 461 Molecular Anthropology (3)

The aim of this course is to provide students with the framework to understand current issues in biology, genetics, and anthropology as they relate to the evolution of our species. Basic methods in molecular biology, structure of the genome, molecular evolution, and human population genetics will be covered in the first part of the course. Once these tools are in place we will examine both classical and contemporary research reports on a number of topics, including the place of humans among the apes; mitochondrial Eve, DNA in forensics; Neandertal DNA and other applications of ancient DNA; reconstructing recent human evolution' the biological meaning of race; disease gene mapping; recent technological advances in genomics; skin, hair, and eye color genes; and the genetic future of our species. There will be three exams that will each count for 25% of the grade. Attendance and participation are mandatory and will count for 25% of the final grade. A portion of this participation grade is earned by presenting 10 min. summaries of particular readings. Each student will be expected to summarize a scientific paper four times during the semester. These summaries are not expected to be exhaustive reports on the material, but should reflect an effort on the part of the student to understand and discuss the material and may require some background work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: 3 credits in biological anthropology or 3 credits in biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 462 The Biometry of Human Reproduction (3) A survey of statistical studies of human fertility and reproductive biology.

The Biometry of Human Reproduction (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: BIOL 177, STAT 451

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 463 Quantitative Analysis of Morphological Data (3) The application of morphometric methods to anthropological data: phenotypes of organisms, artifacts, and traits.

ANTH 463 Quantitative Analysis of Morphological Data (3)

This course will focus on morphometric data and methods in place of traditional statistical approaches to anthropological data sets. Morphometrics, the fusion of biology and geometry, includes various methods for the statistical analysis of shape and shape change. A large number of specialized methods have been developed. Students need to be informed about these methods so that they can critically evaluate the literature and conduct morphometric studies themselves. The course will introduce students to the field of morphometrics and provide practical training so that they can conduct independent laboratory research on morphology. The format of the course will be lecture, discussion and laboratory work. Students will be required to attend all class meetings, lead discussions and prepare a final project involving the analysis of a data set that they have collected and analyzed. The course will cover problem formulation, data collection and analysis. Problem formulation (week 1) will focus on the types of questions that can and cannot be answered by the application of morphometric methods. Formulation of a research question and determination of the morphological data that bear on the question will be covered in a lecture and discussion format. Data collection will be presented (weeks 2 and 3) and demonstrated. The primary type of data that will be discussed is landmark data and the students will be directed in how to collect landmark data directly from specimens using digitizers and indirectly using digital images of specimens. Measurement error will be presented. The following weeks will focus on specific analytical methods used in morphometrics. These include: D'Arcy Thompson grids, traditional morphometrics, allometry, Procrustes analysis, Fourier analysis, Eigenshape analysis, finite-element scaling analysis, and thin-plate splines. Approximately one week will be spent on each method. Students will fill the remaining sessions with presentations. These presentations will include a report of the analysis of data sets that the students have collected and analyzed using methods studied during the course. This course may be used to fulfill a 400-level 3 credit elective for the Anthropology major or minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: ANTH 002 orANTH 021;STAT 200 ; 3 additional credits in anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 464 (BIOL 464) Sociobiology (3) The study of the adaptive function of social behavior, the comparative analysis of social organization, and the ecology of sociality.

Sociobiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: 6 credits in biology or anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 466 The Skull (3) Survey of the mammalian skull from many perspectives including evolution, development, anatomy, function, and variability of the skull.

ANTH 466 The Skull (3)

This course will provide a survey of what is known about the Mamallian skull from many perspectives including evolution, development, anatomy, function, and variability of the skull. The course will consist of lectures and a laboratory component. Students will learn about the basic skull architecture and be introduced to various specializations of extinct and extant species. The section on evolution will cover the evolution of the skull from the earliest jawless vertebrates through human evolution. During the section on development, we will discuss the nature of the formation of bone embryologically. Other topics include the ways in which bone changes shape and size during prenatal and postnatal growth, how changes in growth can result in evolutionary change in morphology. The section on the function of bone will focus on biomechanical interpretations of the morphology of the skull. The lectures will focus on human anatomy but provide contrasts with other mammals (e.g., horse, dog, mouse). The last section on variability will survey the major groups of mammals highlighting similarities and differences in bony architecture and skull morphology. This portion of the course will be more laboratory-based with students examining specimens, taking measurements and leading discussions on hypotheses regarding why skull architecture is so different among mammals. The objective of this course is to provide the student with a broad survey of information relating to the mammalian skull. Through assigned readings and lectures the student will become familiar with salient anatomical and osteological features, obvious differences in skull architecture and the various biological processes responsible for these differences. During the final laboratory part of the course the students will bring their knowledge to an assigned problem and specimen in order to apply what they have learned to a scientific question. Students will be required to attend all lectures and laboratories. Periodic quizzes will be administered as well as an exam at midterm. A paper that focuses on the student's laboratory experience will be required at the completion of the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: ANTH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 465H Fifteen Great Biology Papers (3) Reading and discussion of the most influential papers in the history of biology that illustrate exceptional insight and elegant reasoning.

ANTH 465H Fifteen Great Biology Papers (3)

Thousands of papers are published annually in the life sciences, but only a few have lasting impact on their field. These are usually characterized by elegant and thoughtful insight, and creative scientific thinking. For each of the fourteen weeks of the semester we will read and discuss a landmark paper of this type. The 15th paper? That will be the student's term project. The student will read one classic paper in the history of biological thought each week and discuss the paper in class. During the last half of each class in last third of the semester, the students will present the classics they have chosen for their term paper. The major topics covered in this course are: Weeks 1-4: Basic history of thought about origin and nature of variation in living organisms Weeks 5-8: Landmarks in the philosophy of science Weeks 9-12: History and development of ideas in evolutionary biology. Weeks 13-14: Foundations of 20th Century biology The objective of this course is to give students an experience with and appreciation for (1) the history and origins of science, biology in particular, (2) the nature of cogent critical thinking and expression, (3) the basis for fundamental ideas in biology today, (4) a sense of the nature of papers that had great influence on the future of the field, and (5) experience scouting, choosing, evaluating, and writing about papers of this nature. Evaluation will be based on class attendance and participation, critical thinking ability and effort as manifest in class, and a term paper (graded also to include quality of writing and research.) This course is generally related to all life science courses, and relevant to social and other sciences, philosophy, and history. This course can fulfill elective credits for Anthropology majors and minors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: ANTH 021 or 3 credits in evolutionary biology or genetics and 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 470H Our Place in Nature (3) An evolutionary and genetic consideration of our understanding of human beings as a part of the natural world.

ANTH 470H Our Place in Nature (3)

The title "Our Place in Nature" takes off from T.H. Huxley's famous book in 1863 that put humans in rather than outside of nature, and the idea of the course is to place humans in the context of organic evolution both specifically and as a kind of general "model" organism (for example, genomic, phylogenetic, and comparative perspectives will be included). We will take a theme (one or more related topics, depending on enrollment, timeliness, etc.), which students will be assigned to work on singly or in groups. We'll first read from the historical, comparative, and evolutionary literature to see how "Our Place in Nature", relative to that theme, was first argued. Then we will follow the literature in evolutionary, developmental and genetic biology to the present to see how our current understanding of the trait evolved. Current research, especially on developmental and genetic aspects of the trait, will be examined in depth. We'll pay special attention to research strategies, comparative and genomic approaches, and latent working assumptions that help or hinder our explanations. The sociocultural context will be considered throughout, including the implications for society of our changing scientific assessment of the trait.

As an Honors course, we will have the time, and the students the dedication, to pursue the chosen topic(s) in much greater and more rigorous detail than is possible in the usual lecture or even seminar course formats. The students who enroll for this course will be given a description of the approach and the intended general topic, on a course web page or by email when I learn they have registered. Requisite background reading will be identified so students will know what will be expected of them. Some prior reading will be assigned, so that we can begin the semester with a common basis in background. The course will assume the level of knowledge such as can be obtained in one of several recent "Evolution" texts, an understanding of modern genetics and genetic methodology, basic statistics, and a general work on the history and philosophy of science and evolutionary thinking (initially, probably J.A. Moore's Science as a Way of Knowing). This substantial background requirement is based on this being an upper-level class; for good students to get what good students deserve at a good university, we need to be able to start at a high level.

Evaluation will stress original synthetic thought and investigation rather than memorized factual recapitulation. Work groups will tackle particular problems, present them, and turn in written products. There will be a written take-home synthetic essay exam. There will be other written assignments summarizing assigned reading or topics to keep students on track. The class will generally be based on oral discussion and/or be run in Socratic Q&A format. Evaluation will include a major component related to attendance and to level and quality of in- class participation, acquired knowledge and quality of thought and communication. This course will build on, and incorporate, knowledge acquired in physical anthropology, evolutionary biology, statistics, and genetics courses and will count as 3 credits toward the additional courses in biological anthropology required for the Anthropology major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: 3 credits each in genetics evolutionary biology and statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 473 Genetics of Human Disease (3) Human genetic variation and evolution as reflected in disease patterns; methods for assessing and quantifying such disease patterns.

Genetics of Human Disease (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: 3 credits in statistics; 3 credits in biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 471H Biology, Evolution, and Society (3) Exploration of the genetic theory of evolution and development, its history and application within Biology and beyond.

ANTH 471H Biology, Evolution, and Society (3)

This will be a reading, discussion, and exploration course that looks at the way theory about the nature of life and its origins and diversity have developed over time into today’s evolutionary theory. The course will examine the Darwinian theory, and then new elements that recent biological research have revealed about the nature of biological traits themselves and how genes produce them. These points were not part of evolutionary theory itself, but are an important supplement that could not have been made before results from the last 20 years have been available. A theory can be called a cosmology when its assumptions go beyond hypotheses to be tested, to become assumptions that are no longer under test but are used to devise future research and that then set the directions of science. This includes, but isn't restricted to the kind of cosmology that deals with life space. We have to use theory to order our work and to anticipate what we have not yet found (for example, that newly discovered species will be related to other known species). But in the case of biology, a modern ‘biocosmology’ has developed steadily since Darwin, increasingly centered on molecular genetics and genes as the ultimate units of biological causation. Sometimes that theory has become so unquestioned as to impair research and even to be somewhat misleading. Elements of biological theory, such as natural selection, are powerful and general, and are being borrowed by physicists and astronomers (a reverse of the borrowing that occurred in the last century), to account for aspects of the physical universe in explicit evolutionary terms (including natural selection). For somewhat similar reasons, also having to do with the role of science in society, modern biocosmology has routinely been extended to apply to sociopolitical issues, such as economic and educational policy, science funding decisions, and views about socially delicate issues such as behavior, sexuality, talents and abilities, and much else. This course will discuss how the modern theory of life has arisen historically and the evidence and research methods that have been used to develop that theory. A view of biological theory as a broader cosmology leads to the additional consideration of the nature of biological causation as a statistical rather than purely deterministic phenomenon, and the kinds of research approaches that are used to understand biological problems. The latter include the engineering of organisms, the health sciences, and the nature, evolution, and biological basis of behavior. The objective of this course is to give students a broad understanding of the evolutionary and genetic theory of life and a broader view of the way that theory extends to areas not yet understood, as well as to its origins in and relevance to human society. Everyone is familiar with Darwin’s basic theory that life is historical and evolves via natural selection, and that genes are the basis of it all. But these ideas are often only superficially understood—sometimes even by biologists—and many clearly central aspects of life have been left out of the Darwinian theory. That theory explains how organisms evolve, but not what evolves or how genes make those traits possible. These are topics in gene function and developmental mechanisms. Along with some modifications to Darwin’s ideas, largely involving elements of chance and population structure and ecology, the genetic theory evolution can be augmented by a few simple organizing principles to explain the nature of traits and flesh out a more comprehensive understanding of life. These principles are in daily use in research but it will be helpful for students to have them organized into a synthetic framework placed explicitly within evolutionary theory itself. This course will be generally related to all life science courses, and relevant to social and other sciences, philosophy, and history. But it is not tied to any particular other course, and as a kind of overview of the governing notions of life at the onset of the 21st century, complements the education of anyone in these related fields. This course will be of interest to students who have or will take courses in astrobiology, developmental biology, evolutionary biology and/or population genetics, or anthropological genetics and human evolution. The grade will be based on attendance and participation. Reading and/or research of some kind will be assigned most weeks, with students responsible for oral reporting or writing brief descriptions of what they have found. There will be a term paper or project, but no formal exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ANTH 021, BIOL 222, BIOL 230, BIOL 322 orBIOL 460 ; 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 473W Genetics of Human Disease (3) Human genetic variation and evolution as reflected in disease patterns; methods for assessing and quantifying such disease patterns.

Genetics of Human Disease (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: ANTH 021 or 3 credits in biology; 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 474 Ecology of Gender (3) Survey of the human biology and cultural ecology of gender.

Ecology of Gender (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1988
Prerequisite: ANTH 021 orBIOL 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 476W (WMNST 476W) Anthropology of Gender (3) Cross-cultural construction of gender and sex roles; theories of gender construction; case studies and practical effects.

ANTH 476W Anthropology of Gender (3)

Students will learn the current theoretical approaches in anthropology to the cultural construction of gender and sex roles. The first 2-3 weeks of the course will concentrate on exploring and understanding these theoretical approaches. The remaining weeks will focus on case studies of non-western gender systems, and on the practical effects of those systems, but students will also be encouraged to relate these systems to their own experience. Each meeting will be based on discussion of the readings assigned for that meeting and students will be expected to participate. During the period devoted to theoretical approaches, discussion will focus on the assumptions, advantages, and disadvantages of each approach. For the part of the course devoted to readings on individual societies, one reading each week will be the basis for a critical essay of approximately five pages. These essays will be expected to include: 1) an identification of the theoretical approach that informs the work, 2) a statement of the author's arguments or questions, 3) a discussion of the methods used to provide data in support of the arguments or to answer questions, 4) a critique of the adequacy of data, and 5) a statement suggesting which additional elements might make for a better study. These essays will be graded for both content and form and students will have the option of rewriting essays (and improving their grade) after they receive comments. These essays will provide 60% of the course grade, while participation in discussions will provide another 15%.

A short research paper will also be required. The paper must focus on a question or hypothesis concerning gender, and a preliminary proposal that includes the focus of the paper, its relevance to the course, and a beginning bibliography is required. A first draft of the paper will be required two weeks before the end of the semester. The research paper will provide 25% of the course grade.

The course complements other courses in Anthropology that deal with sex differences, but will provide a perspective on gender that is not available elsewhere in the curriculum. The course can be used to fulfill a Behavioral Anthropology requirement in both the major and minor in Anthropology and a writing across the curriculum requirement. It will also provide students in other departments with the opportunity to study aspects of diverse, non-western cultures. The course is currently identified as one that may be taken to fulfill the requirements of the Women's Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: 3 credits in women's studies or anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 477 (US;IL) Language, Culture, and Society (3) Relationships among language, culture and society, with an anthropological emphasis.

ANTH 477 Language, Culture, and Society (3)
(US;IL)

Anthropologists have long acknowledged the importance of language as a major adaptive tool of the human species and as our principal means of transmitting culture. Indeed, it is often difficult to separate language, culture and society because of their intrinsic interrelatedness; language requires a social environment, while culture requires an efficient and expressive means of communication. This course will explore the relationship of language, culture and society, within an anthropological context that distinguishes it from the standard approach of linguistics courses. Linguistic anthropologists have focused on language as a way to make inferences about larger anthropological issues such as world view, semantic fields, the relationship between speech and socialization and the interaction of linguistic and social communities. The course will include a section on the structure of languages, emphasizing the similarities and differences in human languages and the expression of the general language code in particular languages. It will also deal with the origins of language and briefly explore language change, including contacts between members of different societies and the changes that those contacts entail. The major hypotheses concerning the relationship between language and culture will be assessed. Finally, a major part of the course will be devoted to the study of language and its social context, the ways in which speech is associated with social relations, how speech affects and is affected by social interaction. Students will gain an understanding of the importance of language in human adaptation and the transmission of culture and as a social marker both between and within social groups. Students will be evaluated through written exams, problem sets, contributions to class discussions and presentations. The course will provide 3 credits in the Major and Minor in Anthropology.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ANTH 045 orANTH 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 478 (IL) Cannibalism (3) Explores the cultural institution of cannibalism, uses of the "cannibal" label, and cannibalism's meaning among those who practiced it.

Cannibalism (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ANTH 045

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 493 Field Techniques (3-6) Training in techniques involving analyses of archaeological, behavioral, or biological data.

Field Techniques (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: ANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 492 Intermediate Field Methods (3-6) On-site experience in collecting archaeological, behavioral, or biological data.

Intermediate Field Methods (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: ANTH 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall ouside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 497A Ethnography of the Bari (3) An exploration of the culture of the Bari people of Colombia and Venezuela from a largely ecological perspective. Particular attention is given to their subsistence strategy (a combination of slash-and-burn agriculture, fishing, and hunting): their history of warfare with surrounding peoples; and their reproductive ecology, especially that informed by their belief in "partible paternity," in which a child is held to be the product of all the men who had intercourse with the mother during her pregnancy.

Ethnography of the Bari (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 497A Archaeological Ethics and Law (3) Course introduces students to a variety of legal and ethical issues in archaeology that span local to international scales.

Archaeological Ethics and Law (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 497B Taphonomy and Paleoecology (3) This course presents information on how animal bones are preserved and become fossils (taphonomy).

Taphonomy and Paleoecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 497B The Evolution of Human (3) The goal of this course is to bring students in contact with the primary literature on human sexuality and sexual selection.

The Evolution of Human (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 497H The Ancient Economy (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

The Ancient Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 499A (IL) (CAMS 499A) Landscape Archaeology (3) This course introduces student to the basics of archaeological surveys.

Landscape Archaeology (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 499B (IL) (CAMS 499B) GIS for Archaeologists (3) This course gives students hands-on introduction to the use of GIS program in archaeological research.

GIS for Archaeologists (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 499C (IL) (CAMS 499C, J ST 499C, HIST 499C) Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.

Archaeological Field School (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Anthropology (ANTH)

ANTH 499D (IL) (CAMS 499D, J ST 499D, HIST 499D) Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.

Conservation and Public Archaeology (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 211S (GS;US;IL) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

Foundations: Civic and Community Engagement (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 211 (GS;US;IL) (CAS 222, CIVCM 211) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

Foundations: Civic and Community Engagement (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 295A Observation of Cooperative Extension Service Programs (1-2) Supervised observation of extension education in agriculture, community resource development; family living, 4-H programs; appraisal of responsibilities of extension professionals.

Observation of Cooperative Extension Service Programs (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 438 (US) Living in an Increasingly Diverse Society (1-3) Students in this course will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning.

Living in an Increasingly Diverse Society (1-3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 439 Contemporary Youth Issues (3) This course focuses on empirically-supported interventions that promote resiliency and reduce risk for problem behaviors among youth in community settings.

Contemporary Youth Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: a minimum of six credits in courses that focus on youth and/or families

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 470 Consumer and Financial Skills (3) Consumer and financial issues formal and non formal educators need to be informed about to function in today's society.

Consumer and Financial Skills (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: Six credits of social and behavioral sciences and six credits of quantification (math)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 455 Extension Youth Development Programs and Volunteer Management (3) A study of 4-H/Extension youth programs and the variety of roles played by volunteer leaders.

Extension Youth Development Programs and Volunteer Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 6 credits of social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 495 Internship in Youth and Family Education Programs (6-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.

Internship in Youth and Family Education Programs (6-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 495A Internship in Youth and Family Education Programs (6-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.

Internship in Youth and Family Education Programs (6-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 496A Independent Studies - Youth and Family Education (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies - Youth and Family Education (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

App Yth Fam&Comm Edu (AYFCE)

AYFCE 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 083S (GS;US;IL) First-Year Seminar in Applied Linguistics (3) Introduction to the application of theories of language to cognition, culture, gender, society, and second language acquisition.

First-Year Seminar in Applied Linguistics (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 210 The Ecology of Global English (3) This course explores how English language enables globalization processes and how globalization changes the structure, norms, and usage of English.

The Ecology of Global English (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 200 (GH;IL) Introduction to Language, Culture, and Social Interaction (3) Introduction to the interrelationships among language, culture, and social interaction and their fundamental links to social identities and discourse communities.

Introduction to Language, Culture, and Social Interaction (3)

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 410 Teaching American English Pronunciation (3) Study and application of principles of North American English phonetics and theories of teaching pronunciation.

APLNG 410 Teaching American English Pronunciation (3)

(BA) This course meets the Bachelor of Arts degree requirements

This course, for teachers who deal with speakers of other languages, integrates research and theory on the acquisition and development of pronunciation, as well as current pedagogy, to enable them to construct their own principled theory of teaching pronunciation. Students are introduced to the characteristics of the consonant and vowels systems of English. In addition, students are introduced to variations in the production of consonants and vowels by speakers of languages other than English. Students are expected to understand and to be able to describe the stress rhythm, and intonation of English as well as the adjustments that are made in connected speech. Students will learn how grammar and orthography influence the pronunciation of phonemes. Students will learn how to diagnose an individual's difficulties in the production of North American English and will learn how to develop appropriate curriculum. By focusing on instructional strategies from fields as diverse as theater arts, psychology, and instructional technology, students will be able to individualize their instruction by providing alternative ways to better respond to second language speakers' learning styles and preferences. Moreover, this course requires students to develop and implement appropriate curriculum for both hypothetical, real tutorial, and whole class instruction.

The objectives of this course are for teachers 1) to develop a satisfactory understanding of the phonetics of North American English, including consonants, vowels, rhythm, stress, intonation and prominence, 2) to develop an understanding of the relationship between listening and pronunciation, as well as orthography and pronunciation, 3) to develop an ability to explain these phonetic concepts appropriate to students with varying learning styles using a variety of techniques such as kinesthetic and tactile reinforcement, 4) to develop an ability to diagnose speakers' particular pronunciation difficulties and to create instructional materials in response, 5) to develop a coherent philosophy of the teaching of pronunciation, and 6) to develop an ability to evaluate pronunciation textbooks and materials and supplement them when necessary.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 482Y (IL) Introduction to Applied Linguistics (3) Application of theories of language to psycholinguistics, philosophy of language, anthropological linguistics, sociolinguistics, bi/multilingualism, second language acquisition and teaching.

APLNG 482Y Introduction to Applied Linguistics (3)
(IL)

This is a survey course concerned with the application of theories of language to issues in the areas of psycholinguistics, philosophy of language, anthropological linguistics, sociolinguistics, bi/multilingualism, second language acquisition, and second language teaching. Specifically, the course focuses on: a) how language influences the way people think and bring meaning to what they do, b) how language users match their utterances to specific functional purposes within specific social contexts, c) how the language practices of a particular culture are closely tied to the beliefs and conceptual principles by which people in the culture live, d) how language is used by speakers of different races, genders, and ethnic backgrounds, and e) how language is acquired, used, and perceived within bi/multilingual societies. Through reading, writing, and discussing the major issues in each of these areas students will come to understand how theories of language have influenced the way we think and bring meaning to what we do, the ways we communicate within different cultures and societies, and the way languages are learned and used.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 412 Teaching Second Language Writing (3) This course provides opportunities for exploring various perspectives on theory, research, and pedagogial applications in second language writing.

APLNG 412 Teaching Second Language Writing (3)

This course has been designed to provide opportunities to explore various perspectives on theory, research, and pedagogical applications in second language writing. Through readings, writing, class discussion, and development of practical applications, students may develop an understanding of how research and theory can inform their practice, as well as an awareness of how personal and professional factors come together to inform their own theory of second language writing. By engaging in instructional activities, such as evaluating writing, responding to writing, and developing materials, students may begin to develop an understanding of how to implement theory in practice aligned with understanding. The overriding objectives are for students to help develop self-awareness as a writer and a teacher of writing, develop their own philosophy of teaching composition in an additional language context and to develop curriculum that embodies this philosophy. Students will be evaluated on reading journals, tutoring in the Writing Center, literature review, materials development project and developing of materials. APLNG 412 is an elective course in the M.A. TESL program and/or PhD option in Applied Linguistics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 484 Discourse-Functional Grammar (3) Develop a working knowledge of the structure of English and apply such knowledge to research and/or classroom situations.

APLNG 484 Linguistic Structures for English as a Second Language (3)

This course is designed to enable prospective and practicing ESL/EFL teachers to understand the linguistic structures of the English language. Through the use of transformation grammar, students will interpret and analyze the basic grammatical structures of the English language. Students will apply their developing skills of linguistic analysis to recognize, and analyze, and remediate both oral and written grammatical errors in ESL/EFL instructional contexts. Students will understand the current theoretical issues related to pedagogical grammars and develop an appreciation for the practical and theoretical relevance of linguistics analysis for second language educators.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 493 (IL) Teaching English as a Second Language (3) Theory, research, and pedagogy that focus on the teaching of English to speakers of other languages in varied contexts.

APLNG 493 Teaching English as a Second Language (3)
(IL)

This course focuses on the teaching of English to speakers of other languages. Specifically, the course explores the multidimensional nature of the teacher as a learner of teaching, the context of schools and schooling within which teaching occurs, and the activities and content of second language teaching and learning.

Throughout the semester, students will engage in a range of theoretical, pedagogical, and reflective activities that will enable them to: 1) understand their own beliefs and knowledge about language learning and language teaching and become aware of the impact of such knowledge and beliefs on their classroom practices, 2) recognize the highly situated and interpretative processes involved in language teaching and be able to reflect on, critically analyze, and evaluate their own teaching practices, 3) become sensitive to the complex social, cultural, political, and institutional factors that affect language teaching and students' language learning, 4) come to recognize students' strengths and development as learners and language learners, 5) understand subject matter content from an instructional perspective and learn to anticipate areas that may require additional instructional support, 6) use their knowledge of theory to inform their instructional practices, 7) participate in professional collaborations with other teachers as they learn about language teachers, language teaching, and language learning.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 491 Theory: Second Language Acquisition (3) An investigation into current issues in the theoretical bases of second language acquisition.

APLNG 491 Theory: Second Language Acquisition (3)

This course considers the relationship between second language acquisition (SLA) theory and language teaching. An examination of various aspects of first language (l1) and second language (L2) learning/acquisition processes provides a framework for consideration of basic questions in SLA research and interpretation of findings to date. Of particular interest is the relationship of this research to teaching materials and methods. The questions addressed include the following: What is SLA? What are the methods and aims of SLA Research? How are theories of SLA related to major theoretical models of human language and human learning? What have been or could be important interdisciplinary perspectives in SLA?

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Applied Linguistics (APLNG)

APLNG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 001 Elementary Modern Standard Arabic I (4) Introduction to reading, writing, pronunciation, and aural comprehension of modern standard Arabic; simple grammatical forms; basic vocabulary.

Elementary Modern Standard Arabic I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 002 Elementary Modern Standard Arabic II (4) Continuation of ARAB 001; development of additional skills in conversation, reading, and writing; grammar and vocabulary building; cultural components.

ARAB 002 Elementary Modern Standard Arabic II (4)

(BA) This course meets the Bachelor of Arts degree requirements.

This language and culture course, which counts towards the language requirement for B.A. (and some other) degrees, presents the second semester of the study of the Modern Standard Arabic language and an exploration of several aspects of Arab cultures.

Arabic 002 is the continuation of Arabic 001, an elementary course designed to introduce learners of Arabic as a second/foreign language to the basic structures of Arabic and to its uses in common situations of everyday communication. Arabic 002 begins with a review of the basics learned in Arabic 001, and, as in some sections of Arabic 001, the course may follow the story of an Arab American family. Arabic 002 expands on vocabulary, goes into more complex grammar structures, and further introduces Arab culture. The “multiplicity” of the Arabic language and the coexistence of spoken (colloquial) and written standard forms of Arabic continue to be addressed in order to prepare the student for the complex reality of the language. This course underscores all four communication skills (reading, speaking, listening and writing) and uses audio and video material to take the learner to native speakers in their natural environment; introducing invaluable listening segments and various cultural aspects of the Arab world. The course may also have recourse to popular media such as films, comics, newspaper headlines, websites, music, and songs. Students are reminded through their oral presentations that Arabic is spoken as an official language in 22 countries with diverse and rich historical, political, economical, religious, artistic, and literary venues, and Arabic is also used in many additional parts of the world. Class activities and projects are designed to enable students to become active, creative participants, and transmitters of new knowledge to their peers.

The course is designed for students who have completed Arabic 001 in Penn State’s language sequence or have the equivalent level of language proficiency. In turn, this course serves as a prerequisite for Arabic 003. Placement within the Arabic language sequence follows the University’s foreign language placement policy; for example, students whose native language is Arabic are not eligible to receive credit in this course.

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2009
Prerequisite: ARAB 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 003 Intermediate Modern Standard Arabic (4) More complex grammatical forms; vocabulary building principles; continued development of skills in conversation, reading, writing; culturally-oriented readings and films.

ARAB 003 Intermediate Modern Standard Arabic (4)

(BA) This course meets the Bachelor of Arts degree requirements.

This language and culture course, which completes the 12th-credit-level language requirement for B.A. (and some other) degrees, presents the third semester of the study of the Modern Standard Arabic language and an exploration of several aspects of Arab cultures.

ARAB 003 is an intermediate course designed as a continuation of ARAB 002 and a basis for further study of Arabic as a second or foreign language. The course intends to alert students to the wealth and intricacies involved in learning the Arabic language and its many cultures. In addition to being the official language of 22 countries, with great ancient civilizations, complex modern histories, and intense political situations, Arabic is also the language of the Islamic religion; the language of a booming music and film industry, and the language of a significant body of literature. The multiplicity of the Arabic language, as well as the coexistence of colloquial and modern standard Arabic, is addressed in this course. The course emphasizes all four communication skills (reading, speaking, listening and writing). Vocabulary and grammar are expanded. Students become involved in the Arabic language and its cultures through various activities, which may be designed around a serialized and audio-visually enhanced story set in an Arabic environment, as well as through an oral report presented in class. The course may use popular media such as films, comics, newspaper articles, music, websites, and songs. Themes relating to contemporary experience are treated, such as relationships with family members and friends, the decision to immigrate, daily life within a residence, how a child of an Arab immigrant feels, the cultural importance of hospitality, and the month of Ramadan.

The course is designed for students who have completed ARAB 002 in Penn State's language sequence or have the equivalent level of language proficiency. In turn, ARAB 003 course serves as a prerequisite for ARAB 110. Placement within the Arabic language sequence follows the University's foreign language placement policy; for example, students whose native language is Arabic are not eligible to receive credit in this course.

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2009
Prerequisite: ARAB 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 051 Elementary Intensive Arabic for Graduate Students I (3) Intensive introduction to Modern Standard or Colloquial Arabic: first half of graduate sequence in elementary reading, writing, listening, cultures.

ARAB 051 Elementary Intensive Arabic for Graduate Students I (3)

Students learn the Arabic alphabet. They learn to form the letters in all their different positions, they also learn to read them. Practice through dictation, listening and reading lists of words containing the different sounds and letters. Students learn how to greet one another. They also learn vocabulary words they can use in simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 052 Elementary Intensive Arabic for Graduate Students II (3) Intensive introduction to Modern Standard or Colloquial Arabic: second half of graduate sequence in elementary reading, writing, speaking, listening, cultures.

ARAB 052 Elementary Intensive Arabic for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Arabic. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Arabic vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ARAB 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 053 Intermediate Intensive Arabic for Graduate Students (3) Continued intensive study of Modern Standard or Colloquial Arabic at the intermediate level: reading, writing, speaking, listening, cultural contexts.

ARAB 053 Intermediate Intensive Arabic for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Arabic. Continued intensive study of Arabic at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ARAB 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 110 (GH;IL) Arab Language, Cultures, and Current Topics (3) Fourth-semester Modern Standard Arabic: study of cultures through authentic discourse, texts, film; development of reading, writing, listening, speaking skills.

ARAB 110 Arab Language, Cultures, and Current Topics (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This language and culture course, which fulfills the Humanities or the International Cultures requirement within General Education or the Other Cultures requirement within the Bachelor of Arts degree, will offer a continuation of the study of the Modern Standard Arabic language and an exploration of several aspects of Arabic cultures, such as the religious and cultural traditions of the month of Ramadan, the differences between American and Arab relationships, preparing for a trip to the Middle East, and an introduction and brief exposition of the Palestinian problem. The course is designed for students who have completed ARAB 003 in our language sequence or have the equivalent level of language proficiency. Students will develop listening, reading, writing, and speaking skills, and will be introduced to a range of Arabic cultures and encouraged to see both commonalities and differences among them. The material is always presented through culturally rich texts. The course offers opportunities for students to increase their knowledge and appreciation of not only the language, in its Modern Standard form, but also the varieties of cultural production in the Arabic-speaking world, in their many facets and diverse manifestations. Along with continuation of language learning, students are exposed to Web sites, film, music, comics, literature etc. Students' assignments use a combination of reading, writing, listening, and researching skills. Students often work in groups, performing oral and written class activities. This course serves as a prerequisite for ARAB 401.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language and Other Cultures
Effective: Spring 2008
Prerequisite: ARAB 003 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 165 (IL) (HIST 165, RL ST 165) Introduction to Islamic Civilization (3) Islamic history, culture, and religious life c.600-1500 C.E.

Introduction to Islamic Civilization (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 401 (IL) Advanced Language & Cultures I (3) Fifth-semester Modern Standard Arabic: reading more complex texts, films, further development of conversation, composition skills, Arab cultures, current issues.

ARAB 401 Advanced Language & Cultures I (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirement.

This language and culture course, which fulfills International Cultures requirement or the Other Cultures requirement within the Bachelor of Arts degree, will offer a continuation of the study of the Modern Standard Arabic language and an exploration of several aspects of Arab cultures. Language skills (reading, writing, speaking, listening) are further developed through the exploration of several culturally important themes that illustrate a range of cultural situations and contexts. Among the themes that may be discussed are the following: new opportunities and also persistent problems facing Arab youth; social and economic conditions in which fundamentalist and other groups present their agendas; the condition of women and the pressures often exerted by society's norms and traditions to keep women out of the public scene; cultural, emotional, and literary reactions to the tragedy of displaced peoples; Islam and other religions among Arab cultures; love and the images and symbolism used to describe it; the writings of one or more well-known authors, including the evolution within the works of the author(s) and the influence of these writings on Arab thought; Arabic cultures in various parts of the world, including the U.S. All themes are presented in the target language and represent a wide range of Arabic culture and current issues. The course may also involve popular media such as comics, newspaper headlines, music and songs, and a visit to the library. Class activities and projects are designed to enable students to become active and creative participants and transmitters of new knowledge to their peers. Students will be asked to conduct research using authentic material, and to write a short paper in Arabic as a wrap up of their final presentation.

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ARAB 110 or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 402 (IL) Advanced Language & Cultures II (3) Sixth-semester Modern Standard Arabic: reading more complex texts, films, further development of conversation, composition skills, Arab cultures, current issues.

ARAB 402 Advanced Language & Cultures II (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This language and culture course, which fulfills the Humanities or the International Cultures requirement within General Education or the Other Cultures requirement within the Bachelor of Arts degree, will build upon previous courses in the Arabic curriculum and offer a continuation of the study of the Modern Standard Arabic language, an exploration of several aspects of Arab culture in a range of contexts, and the exploration of current issues and topics of interest in Middle Eastern media. Among the themes that may be discussed are the following: the achievements of Arab Nobel Prize winners, holiday traditions, colloquial Arabic, love, social and economic conditions of the poor and the middle-class, practical and psychological problems arising from belonging to a certain social class, ways in which the state (in different countries) relates to the needs of the people, Arab cultures in various parts of the world including the U.S., and a variety of the most recent social and political newspaper and magazine articles.
All themes are presented in the target language and represent a wide range of Arabic culture and current issues. The course course may also involve popular media via the reading of comics, relevant headlines, music and songs, and computer practice for students to learn how to type in Arabic and benefit from available resources to equip students with this useful Arabic tool. Class activities and projects are designed to enable students to become active and creative participants and transmitters of new knowledge to their peers. Themes will often be examined comparatively and will draw on students’ personal experience to connect with the material presented.
The course is designed for students who have completed Arabic 401 in our language sequence or have the equivalent level of language proficiency.
At University Park the course will be offered every semester or every other semester, according to enrollment patterns and the availability of staff. At other locations, course-offering patterns will be determined by their needs.

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ARAB 401 or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 497A (CAMS 497A) Introduction to Classical Arabic (3) Introduction to the grammar of classical Arabic.

Introduction to Classical Arabic (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arabic (ARAB)

ARAB 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 097 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 197 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 124S Architectural Engineering Orientation (1) Introduction to architectural engineering; lectures and discussions with special reference to the relation of architectural engineering to the building industry.

A E 124S Architectural Engineering Orientation (1)
(FYS)

This course is designed to help students decide whether they do or do not want to major in Architectural Engineering. It has four major goals. The first is to introduce the role of the architectural engineer in the building industry. The second is to introduce the concepts of integrated building systems design and construction management. The third is to familiarize students with the Architectural Engineering curriculum, department facilities, and faculty. The fourth and final goal is to develop an awareness and interest in the periodicals and publications related to buildings.

This course will provide students with access to the regular faculty of the program, a feature that continues throughout the students' 5 year career in Architectural Engineering. Students and faculty will be connected through discussion of topics related to the building industry and the areas that future A E students will be studying. Since this program operates under enrollment control, this course will address entrance to the major, the requirements placed on the freshman year, and the selection process. Additionally, special features of the program will be discussed, including option selection, which takes place after 3 years, the study abroad program at the University of Leeds, and the integrated graduate/undergraduate program.

Depending upon the semester in which the course is taken, students will be provided with either an opportunity to participate in the annual A E Career Fair or the 5th year thesis presentations. Students will take field trips to buildings and construction sites on campus to reinforce the material learned in class. As a result of this class, all students should be better prepared to make a decision as to whether or not the wish to apply for this major at the end of their first year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 202 Introduction to Architectural Engineering Concepts (3) Introduction to profession of architectural engineering, building envelope systems, sustainable design, fire protection systems, and engineering economics.

A E 202 Introduction to Architectural Engineering Concepts (3)

As the first course after students are admitted into the major, A E 202 is designed to expose students to two aspects the profession: the interdisciplinary nature of architectural engineering and the concept of professional practice.

Technical areas of focus chosen for this course are building envelope and fire protection. These disciplines of architectural engineering require students to sufficiently understand the application of a number of disciplines in the creation of successful and integrated solutions. Students will learn to integrate architectural design and detailing, structural analysis and design, the influence of thermal science, construction processes and building codes in the proper execution of the design of specific building systems.

Social and environmental responsibility will be introduced through the discussion of sustainable design. Understanding the Greed design concepts and the LEED certification system provides the practical basis for the students to put idealism to work.

Early exposure to professional practice and engineering economics provides students with a framework of understanding to manage the relationships of the myriad of technical courses.This course is designed to provide students an appreciation that the practice of architectural engineering includes proper executions of business and management practices. Students will also learn to analyze design options based on economic factors.

The course utilizes lectures, practicums, examinations, projects and presentations to deliver and reinforce the technical content. The course offers students opportunity to work in team settings and to present their work orally to their peers. The broad coverage of the technical and social issues and professional skills intentionally involves students early in their education to all the ABET educational outcomes. The projects present opportunities to engage students in discussion and application of social and ethnical responsibilities.

The course is open to architectural engineering students in the second year with an ENGAE standing. Students in other curricula may enroll in this course with prior approval of the program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 210 Introduction to Architectural Structural Systems (3) Qualitative study of architectural structural systems; historical development of structures; insights of structural analysis and synthesis; comparative structural types. This course is intended for Architecture students.

A E 210 Introduction to Architectural Structural Systems (3)

A E 210 is an introductory course in structural analysis and engineering mechanics (primarily statics) with an emphasis on buildings. This course was created specifically for Penn State architecture students. The course is designed to give students an understanding of the behavior of building structural and related architectural elements under a variety of loading conditions. A E 210 is designed to provide students with an understanding of the interpretation and application of structural aspects of building code requirements, particularly in the area of design loads. In addition, this course provides the necessary prerequisite knowledge for two additional structural design courses that are required for architecture students.

Faculty Member Proposing Course: M. Kevin Parfitt

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: algebra trigonometry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 221 Architectural Building Materials (3) The structural and architectural use of building materials; commercial standardization, classification, and description as encountered in the building trades.

A E 221 Architectural Building Materials (3)

The course objective is for students to understand building materials and methods. It is taught using a combination of these methods, 1) job site visits to current construction projects on campus, 2) guest speakers from manufacturers, engineering firms, building code organizations, construction managers and contractors, 3) video series of building construction, and other various DVD's, 4) visits to local building suppliers and testing facilities, 5) bus trip to several manufacturing, fabrication, milling plants, 6) hands-on mock-ups of construction assemblies, and 7) actual material samples. This course prepares students for further study in the advanced architectural engineering courses. Student evaluation and individual grades are based on a combination of homework, projects, quizzes, attendance and a final cumulative exam. The major part of the final grade is from six (6) quizzes of which the lowest quiz grade is dropped. Special facilities consist of 1) the drafting room, where various drawings and specifications are utilized to understand materials, 2) the computer lab, where students have access to the internet, which provides them with information from manufactures, suppliers and construction trade organizations, 3) the material samples room, where actual material samples and fasteners are examined and understood, 4) the hands-on mock-up room, where true size mock-ups are built by student groups and 5) the structures testing lab, where concrete beams, wood trusses, etc. built by the students are load tested to understand construction methods and failures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005

Concurrent: A E 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 211 Introduction to Environmental Control Systems (3) Qualitative study of humans in macro- and micro-architectural environmental systems. This course is intended for Architecture students.

A E 211 Introduction to Environmental Control Systems (3)

A E 211 introduces Architectural students to building thermal environmental and building mechanical issues. Thermal environmental issues include: thermal comfort, natural environmental impacts, heat transfer through the building envelop, heating and cooling design, noise and vibration of mechanical systems, and building energy consumption. Building mechanical system issues include: heating, ventilating and air-conditioning systems. Emphasis is placed on building design in response to the technical, environmental and societal challenges, with a focus on sustainable design principles and guidelines applied to mechanical systems.

The course utilizes lectures, practicums, examinations, projects and presentations to deliver and reinforce the technical content. The course offers students opportunity to work in team setting and to present their work orally to their peers. The broad coverage of the technical and social issues and professional skills challenges the architecture students to incorporate technical issues as an integral part of the overall building design.

The course is required for students enrolled in the undergraduate architecture program. The course is not available to architectural engineering students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 222 Working Drawings (3) Materials and methods of construction used in residences, and preparation of working drawings for a small building.

A E 222 Working Drawings (3)

The course objective is for students to understand construction documents, communicate construction information with sketches and to create drawings and specifications. The course is organized around a series of modules related to working drawings. These modules consist of: 1) reading and interpreting construction documents, 2) hand drawn sketches, from existing mock-ups, from existing drawings, from assigned details of existing campus buildings, from only given material and connection parameters, 3) CAD drawings of plans, elevations, wall sections, building sections, details, schedules. The final partial construction documents will be in accordance to CAD standards and various codes, including zoning, International Building Code, ADA, etc. This course prepares students for further study in the advanced architectural engineering courses. Student evaluation and individual grades are based on a combination of homework, projects, in class assignments, exams, quizzes and attendance. In class assignments are generally short and given to demonstrate a concept or as practice. Special facilities consist of: 1) the drafting room, where various drawings and specifications are utilized and where students prepare sketches, 2) the computer lab, where students have access to computer aided design software, presentation software and communication software, 3) the material samples room, where actual material samples and fasteners are examined and understood and 4) the hands-on mock-up room, where true size mock-ups that represent the students drawings are built by student groups.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EDSGN 130 orEDSGN 100
Concurrent: A E 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 297 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 296 Independent Studies (1-18) Creative projects including research and design that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 308 Introduction to Structural Analysis (4) Algebraic and graphical methods of analysis of determinate members, deflections; introduction to indeterminate analysis methods. Course includes practicums.

A E 308 Introduction to Structural Analysis (4)

In this introductory course, students develop skills to perform analysis of structures, with emphasis on buildings and their structural elements. The objectives of this course are as follows: 1) to determine loads that the buildings/structural elements are likely to be subjected to during the lifetime of the building; 2) to discuss procedures used to determine reactions and internal forces in trusses, beams, and frames; 3) to introduce methods that can be used to calculate deflections. These objectives can be seen as three general steps that define structural analysis. Although the main emphasis in this course is the analysis of planar, statically determinate structures, an introduction to the analysis of indeterminate structures is also given. The course is required to be taken by all architectural engineering undergraduate students in the third year. A knowledge of statics and strength of materials is required and this course serves as prerequisite for steel and concrete design courses in the Architectural Engineering Program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211, E MCH 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 309 Architectural Acoustics (3) Acoustical design for good hearing conditions and noise control; construction details, materials, acoustical properties of room shapes; sound absorption, transmission. Course includes practicums.

A E 309 Architectural Acoustics (3)

Architectural acoustics encompasses four distinct areas of study: room acoustics, sound isolation, mechanical system noise and vibration and sound reinforcement. The course concentrates on the performance of the building components as they impact on the acoustical environment. The goal of good acoustical design is to provide an environment to afford occupants of a building a high quality listening environment and to minimize intrusion by offending noises. By manipulation of building materials, spatial relationships and geometry, the students learn to improve acoustical performance of a building.

Through lectures, practicums, projects, tours to campus performance venues and examinations, the concepts of acoustical design are delivered and reinforced. The course offers students opportunity to work in team settings and to present their work orally to their peers.

The course is required for all architectural engineering students, typically taken in the 3rd-year. Physics 213 is a prerequisite for this course. This course is a prerequisite for Advance Architectural Acoustics and Noise Control. Students not in the architectural engineering curriculum are encouraged to consult with the instructor prior to enrolling in the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 221, A E 222, PHYS 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 310 Fundamentals of Heating, Ventilating, and Air Conditioning (3) Fundamental principles and engineering procedures for the design of heating, ventilating, and air-conditioning systems, including energy utilization and constraints.

A E 310 Fundamentals of Heating, Ventilating, and Air Conditioning (3)

A E 310 explores the fundamentals of the heating, ventilating and air-conditioning (HVAC) systems that control environmental conditions inside buildings. HVAC systems have common basic components, although they may significantly differ in physical appearance and arrangement. The course considers a variety of HVAC systems and presents methods of analyzing air-conditioning processes.

HVAC systems maintain not only an acceptable level of thermal comfort within conditioned spaces, but also a healthy environment. Hence, the conditions for a comfortable and healthy indoor environment, such as physiological considerations, environmental indices, and control of indoor air quality are defined.

The design of a successful HVAC system requires an accurate estimate of the peak rate at which energy must be added to (heating load) or removed from (cooling load) a space. Therefore, the various types of heat transmission in buildings and methods for estimating them are discussed in order to prepare students to estimate buildings energy consumption and size HVAC systems properly.

The target audience is Architectural Engineering students at a junior level who have taken A E 202 "Introduction to Environmental Systems in Buildings," and M E 023 "Introduction to Thermal Science."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 201 ; Prerequisite or concurrent:A E 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 311 Fundamentals of Electrical and Illumination Systems for Building (3) Fundamental principles, systems, and planning concepts for electrical and illumination systems in modern buildings.

Fundamentals of Electrical and Illumination Systems for Building (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:E E 211, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 372 Introduction to the Building Industry (3) Introduction to the building industry; owner, designer responsibilities; documents, bidding procedures; design-construct contracts; project management; insurance, labor relations.

Introduction to the Building Industry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: sixth-semester standing in Architectural Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 397 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 398 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 401 Design of Steel and Wood Structures for Buildings (3) Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in steel and wood of simple buildings.

A E 401 Design of Steel and Wood Structures for Buildings (3)

A E 401 is a first course in structural steel and wood design taken by all undergraduate Architectural Engineering students in the 6th or 7th semester. It applies the principles of engineering mechanics to layout, analysis, design, and detailing of structural steel elements. The course covers the principles of structural design, structural safety, structural stability, steel as a material, methods of structural steel design, design of tension members, design of columns, design of beams (flexure, shear, deflection, bearing, web crippling, web yielding), combined stresses (beam columns), fasteners/connections. It also treats wood design, including material characteristics, beam design, column design, and fasteners. After completion of the course students will be able to design simple wood and steel structures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 221, A E 222, A E 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 403 Advanced Steel Design for Buildings (3) Continuation of A.E. 401. Advanced analysis, design, and detail of the structural elements in wood and steel.

A E 403 Advanced Steel Design for Buildings (3)

A E 403 is designed for 4th year Architectural Engineering students in the structural option, to build on the design and analysis base developed in the first course in steel design. This course is intended to develop competency in analysis and design of multi-story steel buildings subjected to gravity, wind and earthquake loadings, including study of connections, framing systems, composite design and plastic design of steel members.

The course prerequisites include determinate and indeterminate analysis and structural design of steel members. It will cover such topics as types of construction, the design process, loading and load cases, floor systems, floor vibration, moment rotation characteristics of connections, plastic analysis, multi-story frames, braced and unbraced frames, seismic design, leaning columns, drift, composite design and connections.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 401, A E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 402 Design of Concrete Structures for Buildings (3) Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in concrete of simple buildings.

A E 402 Design of Concrete Structures for Buildings (3)

This course is designed to provide all Architectural Engineering students with an ability to analyze and design reinforced concrete and an understanding of the theoretical behavior of reinforced concrete members. The primary focus is on the analysis and design of one-way systems comprised of slabs, beams, and columns. Evaluation methods include, but are not limited to, exams and homework assignments. A prerequisite knowledge of structural analysis is necessary. It is a required course in the Architectural Engineering curriculum. Additionally, this course provides the necessary prerequisite knowledge for several upper level concrete courses in both Civil and Architectural Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 221, A E 222, A E 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 404 Building Structural Systems in Steel and Concrete (3) Basic analysis, design, and detailing of steel and concrete structural elements for buildings, emphasizing systems design and comparisons. A E 404 is not permitted for AE Structural Option students or for Architecture students.

A E 404 Building Structural Systems in Steel and Concrete (3)

The course is designed for architectural engineering students in the Construction, Mechanical Systems and Lighting/Electrical options to gain an ability to design simple building members in steel and concrete using current professional standards, specifications and guidelines. Students will learn to combine these members into simple structural systems and compare the performance and load carrying characteristics of these systems. The course will also address general performance parameters of these materials, construction issues and key systems-integration issues for beams, columns, flooring and roofing systems, and lateral bracing systems constructed in steel and concrete. This course is considered to be the terminal course for non-structural option AE students, and is designed to provide a general understanding of design, construction and integration issues that affect these structural systems. This course may be be taken by AE Structural Option students or Architecture students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A E 221, A E 222, A E 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 421 Architectural Structural Systems I (3) Qualitative and quantitative analysis and design of architectural structures, force flow; structure configurations; measurement and experiments; design studio critique.

Architectural Structural Systems I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990
Prerequisite: A E 210 3 credits in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 422 Architectural Structural Systems II (3) Continuation of A E 421, with emphasis on structural configuration and construction assemblies.

Architectural Structural Systems II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990
Prerequisite: A E 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 424 Environmental Control Systems I (3) Fundamental principles and applications of environmental systems in buildings. This course is intended for Architecture students.

A E 424 Environmental Control Systems I (3)

This course is a complement to A E 211. Environmental control systems other than the thermal environmental systems are covered in this course. A E 424 introduces architecture students to building illumination, acoustical, fire protection, electrical and plumbing design issues. Emphasis is placed on building design as a response to the technical, environmental and societal challenges.

The course utilizes lectures, practicums, examinations, projects, presentations and field trips to deliver and reinforce the technical content. The course offers students opportunity to work in team settings and to present their work orally to their peers. The broad coverage of the technical and social issues and professional skills intentionally involves students in discussion and application of social and ethical responsibilities. The course is required for students enrolled in the undergraduate architecture program. A E 211 is a prerequisite for this course. The course is not available to architectural engineering students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 430 Indeterminate Structures (3) Classical methods of analysis for beams, frames, arches, and secondary stresses as applied to buildings; introduction to modern methods.

Indeterminate Structures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984
Prerequisite: A E 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 431 Advanced Concrete Design for Buildings (3) Continuation of A.E. 402. Advanced analysis, design, and detail of concrete masonry, prestressed and reinforced concrete.

A E 431 Advanced Concrete Design for Buildings (3)

This is the last course in reinforced concrete design in the Architectural Engineering curriculum, and builds on previously learned skills in reinforced concrete design and analysis of statically determinate and statically indeterminate systems. Successful students will come away with sufficient understanding of the theoretical basis of concrete design to be able to learn any further aspect of concrete design on their own, and a set of specific critical skills needed by any structural designer involved with reinforced concrete structures. These skills include:

- Identification of the assumptions and weakness of the theory of reinforced concrete members.
- Detailed design of reinforced concrete beams and girders.
- Design of reinforced concrete slabs by the direct design method.
- Design of reinforced concrete slabs by the equivalent frame method.
- Analysis of reinforced concrete members subjected to torsion, to determine bending and torsional moments.
- Design of reinforced concrete members subjected to torsion.
- Design of reinforced concrete columns, slender and non-slender.
- Design of reinforced concrete columns in biaxial bending.

This course is taught by a combination of lectures, solution of example problems, and design projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 402, A E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 432 Design of Masonry Structures (3) Analysis and design of unreinforced and reinforced masonry: non-bearing walls, bearing walls, shear walls, masonry building systems.

A E 432 Design of Masonry Structures (3)

This course is intended to prepare students in Architectural Engineering and related disciplines such as Civil Engineering and Agricultural and Biological Engineering to design load-bearing and non load-bearing masonry structures. Although the emphasis will be on reinforced masonry, the design of unreinforced masonry will also be covered. The course will begin with a discussion of the materials used in masonry construction: clay units, concrete units, mortars, grout, and reinforcement. Since masonry is designed by allowable stress methods, a discussion of allowable stress design, as compared to load and resistance factor design, is necessary from the outset. The first design applications to be discussed will be non load-bearing walls, reinforced and unreinforced. This will be followed by a brief coverage of the topic of columns. The next topic will be load-bearing walls, reinforced and unreinforced. The discussions of load-bearing walls will describe two methods for their design: the use of a straight-line interaction formula and the construction of interaction diagrams. The analysis of systems of shear walls will be described in detail, followed by shear wall design. The design of particular building systems, both low-rise and mid-rise will either be covered by lectures, or by other exercises.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: A E 402 orC E 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 439 Modern Structural Systems (3) Analysis and design of building structures of unusual types.

Modern Structural Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1981
Prerequisite: A E 401, A E 402, A E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 444 Micro CADD Applications for Buildings (3) Application of microcomputer based CADD systems to architectural engineering problems including graphics, system customization, and AI programming techniques.

Micro CADD Applications for Buildings (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: A E 222;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 441W Integration of Architectural Engineering Systems (3) Analysis and synthesis of systems--structural, mechanical, electrical, sanitary, construction--considering interrelationship in performance, economics of total systems, computer programs.

Integration of Architectural Engineering Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: A E 309, A E 310, A E 311, A E 401, A E 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 454 Advanced Heating, Ventilating, and Air Conditioning (3) Engineering design and performance analysis procedures for complex commercial building systems, including energy conservation techniques; design project.

Advanced Heating, Ventilating, and Air Conditioning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: A E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 455 Advanced Heating, Ventilating, and Air Conditioning System Design (3) Design of several different systems for a course project building; control strategy; economic comparisons using life-cycle cost techniques.

Advanced Heating, Ventilating, and Air Conditioning System Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: A E 454

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 456 Solar Energy Building System Design (3) Solar radiation, collectors, and thermal storage; design and analysis of a heating system using system-simulation computer program.

Solar Energy Building System Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984
Prerequisite: seventh-semester standing in Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 457 HVAC Control Systems (3) Theory of automatic control. HVAC control applications. Control system components, control loops, development and documentation of control logic, control commissioning.

A E 457 HVAC Control Systems (3)

The objective of the course is to develop the knowledge and skills necessary to understand, design, document, and diagnose problems in HVAC control systems. The course builds on knowledge of HVAC system function and design obtained in prior courses in the curriculum and prepares students for advanced design courses and the capstone project. The course begins with an introduction to concepts and terminology of automatic control, followed by detailed study of control system components: sensors, controlled devices, and controllers. Understanding of these fundamentals is then applied to the development and documentation of controls for common HVAC systems and the commissioning of control systems. Relevant standard and guideline documents are referenced as necessary.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A E 454

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 458 Advanced Architectural Acoustics and Noise Control (3) Advanced consideration of noise control in buildings; ventilating system noise and vibration; acoustic design variables.

Advanced Architectural Acoustics and Noise Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: A E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 461 Architectural Illumination Systems & Design (3) Lighting units & photometry; lighting equipment; design criteria, calculation methods; the design process; energy codes.

A E 461 Architectural Illumination Systems & Design (3)

This course will prepare students to design basic lighting systems by providing them with background information and experience to do the following:

1. Develop their knowledge of lamp, luminaire, and control types and evaluate their applicability to a particular design situation.
2. Establish fundamental design criteria for a variety of lighting applications.
3. Conduct appropriate and accurate analyses of lighting systems to assess system performance and evaluate its ability to meet design criteria.
4. Implement a completed design by specifying all of the components of the system and providing an appropriate system layout.

This is the first full-semester lighting course that students receive in the Architectural Engineering Department's Lighting/Electrical Option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 464 Advanced Architectural Illumination Systems & Design (3) Flux transfer theory; advanced lighting and control systems; emergency lighting; daylighting; visual performance issues; psychological aspects of lighting.

A E 464 Advanced Architectural Illumination Systems & Design (3)

This is the final undergraduate architectural lighting course in the Lighting/Electrical Systems Option. The course focuses on advanced topics related to lighting design such as luminous flux transfer and its application to lighting analysis procedures, advanced issues in photometry, advanced control systems, and advanced topics in lighting design. The light design topics include the psychological aspects of lighting, and design for complex spaces such as museums, stores, and video conferencing.

The course includes a weekly hands-on practicum experience, homework, exams and a design project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 466 Computer Aided Lighting Design (3) Design and analysis for outdoor area; floodlighting; and interior applications, including design criteria; economic analysis; modeling algorithms; and visualization.

A E 466 Computer Aided Lighting Design (3)

The goal of this course is to cultivate an understanding of good lighting design practice through a series of design and analysis problems. Course topics include design criteria, design practice, and the application of lighting hardware and analysis procedures for outdoor area lighting, economic analysis of lighting systems, interior lighting design and lighting system visualization.

Commercially available computer software is applied to approximately seven design projects, which students present in either PowerPoint or submit in a short report format. Students, faculty and outside professionals critique the project solutions. The critiques enhance the learning experience for all students through the evaluation of different lighting solutions applied to the same design problem.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 444, A E 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 470 Residential Building Design and Construction (3) Managerial aspects; architectural and code considerations; cost estimating, design, and construction of structural, plumbing, HVAC, and electrical systems.

Residential Building Design and Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989
Prerequisite: A E 372 orC E 331 ; seventh-semester standing in Architectural Engineering or Civil Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 467 Advanced Building Electrical System Design (3) Design of electrical systems for commercial and industrial facilities emphasizing design practice and integration with codes and standards.

Advanced Building Electrical System Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: A E 311, E E 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 471 Building Construction Assemblies (3) Performance characteristics and special problems associated with assembly- erection procedures for building construction materials and components; case studies of failures.

Building Construction Assemblies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: A E 221, A E 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 472 Building Construction Planning and Management (3) Construction organization and contracts; preconstruction services; estimating; scheduling; cash flow; site planning and preparation; building construction sequences; construction business presentations; value engineering.

A E 472 Building Construction Planning and Management (3)

The objective of A E 472 is to introduce students in the construction management option of the Architectural Engineering program to the process in which building construction contractors acquire building projects, and the range of services typically provided on these projects. Upon completion of this course, students will have a working understanding of the preconstruction process and methods of acquiring negotiated work in building construction. They will be capable of assembling estimates, schedules, cash-flow curves, and site plans for building projects, and will have a working knowledge of competitive presentation strategies and develop professional presentation skills.

The content of the course centers upon the process in which companies plan for and acquire projects as construction managers and general contractors. Specific topics include schematic estimating and scheduling, design coordination of structural, architectural, and mechanical systems, value engineering processes, and site planning. The financial aspects of construction work are also presented, including project financing, cash flow, and accounting. A significant portion of the course is also devoted to the development of strategic and competitive business presentation, including risk assessment, fee structure, team dynamics, and technical presentation skills.

The class relies heavily upon the application of all content by students in the context of a team project. The project involves the distribution of a "Request for Proposal" for which students prepare a competitive proposal for an actual building construction project planned on the Penn State University Campus. Class activities include the presentation of key issues followed by in-class or independent exercises to reinforce themes and strategies to be applied in the project proposal. Students are assessed on their performance on discussion quizzes on ANGEL, independent exercises, class participation, a team presentation, and exams.

For A E students, the prerequisite for the course is the successful completion of A E 372. For non-A E majors, students are admitted at the discretion of the instructor. A E 472 is a prerequisite course for A E 473.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: seventh-semester standing in Architectural Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 473 Building Construction Management and Control (3) Building construction project planning; construction cost, schedule, quality and safety control systems; project cost accounting; change management; construction company management.

A E 473 Building Construction Management and Control (3)

The goals of this course are for students to learn how to perform detailed construction planning, identify potential problems during construction, and manage changes throughout a construction project. By completing this course, students will better understand the role of the general contractor/construction manager in analyzing the construction aspects of a building project and designing the construction engineering and management systems to effectively execute the project.

The main course objectives include learning how to perform and implement detailed planning for a construction project together with monitoring the project progress and performance including detailed cost control. Other course objectives emphasize gaining knowledge of the key decisions that construction executives make when managing a construction company and identifying potential projects to pursue. Students will also be introduced to the management of changes which occur throughout a project and how to negotiate changes. Finally, ethical standards for a professional engineer and their impact on decisions within the construction industry are important course learning objectives.

The course is taught via a combination of teaching methods that rely on problem based learning through both in and out of class activities; lectures by faculty and industry experts; project case studies; student presentations; and team and individual assignments. Completion of A E 472 is a prerequisite for this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 474 Building Construction Estimating (3) Construction estimating and cost engineering fundamentals; quantity take off; pricing, bid preparation; estimating, cost accounting by computer.

Building Construction Estimating (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: A E 372

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 475 Building Construction Engineering I (3) Project planning, supervision, inspection of architectural and structural operations in major buildings; mobilization, coordination of trades; offsite testing and fabrication.

Building Construction Engineering I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: A E 401 orA E 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 476 Building Construction Engineering II (3) Construction of mechanical and electrical systems in major buildings; fire protection, sound control, elevatoring; trade coordination; manufacturers' developments; computer application.

Building Construction Engineering II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: A E 309, A E 475

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 477 Senior Building Construction Project (3) Investigation of current or completed major construction project; studies of industry management problems; formal project presentation, critique.

Senior Building Construction Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1981
Prerequisite: A E 475, A E 476

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 481W Comprehensive Architectural Engineering Senior Project I (4) Building project selection and preparation of overall plan; preliminary investigation of building design and construction issues; creation of individual Capstone Project Electronic Portfolio (CPEP) and project proposal required.

A E 481W Comprehensive Architectural Engineering Senior Project I (4)

The course sequence of A E 481W and A E 482 comprises the capstone engineering design program for Architectural Engineering students. A E 481W is taken by all undergraduate architectural engineering (A E) students and also serves as the writing intensive course requirement in A E. Based on an actual building project model, students will investigate the building, perform technical analysis, develop project criteria and prepare a written proposal for more detailed work to be accomplished in A E 482. Evaluation methods include but are not limited to written reports, verbal and written presentations, faculty consultations and development of a capstone project electronic portfolio (CPEP).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: ARCH 441 fifth-year architectural engineering standing in major area of emphasis

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 482 Comprehensive Architectural Engineering Senior Project II (4) Continuation of A E 481W. Engineering analysis of building systems; emphasis on analysis and design of building structural, mechanical, lighting/electrical, and construction related systems. Final written report, web-based project portfolio and verbal presentation are required.

A E 482 Comprehensive Architectural Engineering Senior Project II (4)

A E 482 is the second half of the capstone engineering design project for Architectural Engineering students. The course is taken by all undergraduate architectural engineering and serves as a direct follow up to A E 481W. Students perform detailed option specific work in conjunction with individual proposals written in A E 481W. Students are also required to demonstrate work in the breadth areas of architectural engineering. Evaluation methods include but are not limited to written reports, verbal and written assignments, faculty consultations, maintaining their capstone project electronic portfolio, a final comprehensive written report and a verbal presentation to a faculty jury.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: A E 481W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 486 Professional Engineering Practice (3) A study of the influences which affect the practice of architectural engineering, particularly codes, ethics, legal considerations, and contract documents.

Professional Engineering Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 497F Load/Energy Simulation (3) Developing models of the time depenent loads on building system on the basis of fundamental conservation of energy and heat transfer relationships; energy utilization modeling skills that allow alternative building system designs to be explored.

Load/Energy Simulation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 497B Basics of Communications Systems (1) The basics of telecommunications systems and system infrastructures in buildings.

Basics of Communications Systems (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering (A E)

A E 498 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 101 Building Materials (3) Structural and architectural use of building materials and construction assemblies.

Building Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 103 Plumbing and Fire Protection (3) Layout of plumbing and fire protection in buildings to meet code and usage requirements.

Plumbing and Fire Protection (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: or concurrent:AE T 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 102 Methods of Construction (3) Materials and methods of construction used in buildings, as expressed in drawings.

Methods of Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: AE T 101, EG T 101, EG T 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 113 Site Planning (2) Energy conservation through optimum site utilization, contours, cut and fill calculations, storm drainage, spot grading, and finish grading.

Site Planning (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 121 Introduction to Building Environmental Systems (2) Introduction to building environmental systems technology terminology, concepts, and the design process.

Introduction to Building Environmental Systems (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 204 Heating, Ventilating, and Air Conditioning Layout (3) Fundamental calculations and layout of systems in buildings.

Heating, Ventilating, and Air Conditioning Layout (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: AE T 103 . Prerequisite or concurrent:AE T 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 206 Architectural Presentation (2) Visual communication through architectural presentation drawings. Line, value, color, and composition.

Architectural Presentation (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: E G 001 orE G 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 207 Advanced Construction Methods (3) Integration of materials and systems in working drawings.

Advanced Construction Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 210 Architectural Engineering Office Practice (3) Procedures involved in production of contract documents, both drawings and specifications.

Architectural Engineering Office Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 210W Architectural Engineering Office Practice Using Writing Skills (3) Concepts, procedures, and writing-intensive activities to properly prepare site observation reports, cost estimates, contractual conditions, and outline and technical specification.

Architectural Engineering Office Practice Using Writing Skills (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 212 Building Lighting and Electrical Layout (3) Layout of lighting and electrical distribution in buildings.

Building Lighting and Electrical Layout (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 214 Steel Construction (3) Strength of materials as applied to the design of simple steel structures.

Steel Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: AE T 102, MCH T 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 215 Concrete Construction (3) Fundamentals of design and construction of reinforced concrete structures.

Concrete Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: AE T 102, MCH T 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 228 Air Heating, Cooling, and Ventilating Systems (3) Air systems and distribution components; fans and ductwork; heat exchange coils; dampers and controls; residential fired equipment operation.

Air Heating, Cooling, and Ventilating Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Concurrent: AE T 227

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 227 Liquid Heating and Cooling Systems (3) Water, steam, and refrigerant systems and components; pumps and piping; heat exchangers; fluid and component selection; power and controls.

Liquid Heating and Cooling Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: AE T 121, MET 281

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 229 Analysis of Building Environmental Systems (3) Comprehensive analysis and application of building environmental systems with focus on selected areas; calculation and layout; computer modeling of systems.

Analysis of Building Environmental Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 297A Introduction to 3-D Architectural Drafting (3) Build on the fundamentals of 2-D computer aided drafting skills to an intermediate/advanced level, using locally available 3-D software packages, through applications from the student's major course of study.

Introduction to 3-D Architectural Drafting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architectural Engineering Technology (AE T)

AE T 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 095 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 098 Special Topics (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 099 (IL) Foreign Studies--Architecture (1-15) Individual or group instruction conducted in a foreign country.

Foreign Studies--Architecture (1-15)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 101 Introduction to Architecture Studio (3) Basic concepts/methods of architectural design; introduction/exploration of techniques of architectural communication/representation; structural, functional, and aesthetic dimensions of architecture are examined.

Introduction to Architecture Studio (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 121 Visual Communications I (2) Development of two and three-dimensional graphic communications skills and techniques required for the practice of architecture.

ARCH 121 Visual Communications I (2)

The course is designed to introduce two and three-dimensional graphic communication skills. Assignments will develop the student's understanding and skills associated with the hand-drawing techniques used in the practice of architecture. Exercises provide exposure to the variety of representational techniques available to architects for the visual communication of design ideas and design documentation.

Visual Communications I is organized as an interactive studio environment which combines lectures and demonstrations with individual instruction. The basic concepts and theories of documenting, representing, and presenting architecture will be introduced through a series of lectures, seminars, and examples. In studio, skills will be developed through project workshops. Instruction includes working sessions, individual desk reviews, technique demonstrations and group discussions.

Students will learn the fundamentals of architectural drawing by hand, introductory-level descriptive geometry, orthographic projection, paraline and perspective drawings. These skills and principles are imparted primarily through studio-based assigned projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 122 Visual Communications II (2) Development of two-dimensional digital graphic communications skills and techniques required for the practice of architecture.

ARCH 122 Visual Communications II (2)

The course is designed to introduce students to two-dimensional digital tools used in the practice of architecture. Assignments will develop the student's understanding and skills associated with digital techniques and software. Exercises provide exposure to the digital tools available to architects for the visual communication of design ideas and design documentation. Skills developed in ARCH 121 (drawing and modeling techniques) will provide the foundation for work performed in this course.

ARCH 122 is organized as an interactive studio environment combining lectures and demonstrations with individual instruction. The basic concepts and theory of documenting, representing, and presenting architecture will be introduced through a series of lectures, seminars, and examples. In studio, skills will be developed through project workshops. Instruction includes working sessions, individual desk reviews, software and hardware demonstrations, and group discussions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ARCH 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 131S Basic Design Studio I (4) An introduction to the basic concepts, methods, and skills of architectural design in a project-based, active learning, studio environment.

ARCH 131S Basic Design Studio I (4)

This course is an introduction to the basic concepts, methods, and skills of architectural design. As a "studio," it is a project-based, active learning course where the development and evaluation of the work is driven by a critical dialogue with the instructor and one's classmates.

This course is the first in a series of design studios that serve as the central thread throughout the curricula of the Architecture program. In ARCH 131S, students gain knowledge about the discipline of design, develop skills of design and communication, and foster a capacity for judgment - the ability to make appropriate choices and decisions regarding design questions. As a laboratory, the design studio provides the opportunity to apply and explore the knowledge and experience gained in other courses.

ARCH 131S is an intensive course that encourages creativity and industry on the part of the students. Its design projects are open-ended; there are no single "right answers." It demands energy, creativity, the willingness to take risks, and introspection. each student is expected to be open to a diverse range of ideas, values and solutions. The student is invited to view the studio experience as an opportunity to explore, discover, and invent.

The studio is divided into separate sections, each led by one studio instructor. All sections are assigned a series of common projects and exercises; however, each section instructor will establish particular and unique assignments, and criteria for each project. This introduces students to the rich variety of possibilities in architectural communication and design.

The primary form of evaluation and grading for this class is the "review and critique" during which students present their work to the class and then receive comments and recommendations for improvement.

When assessing the student work, the instructors will consider the students performance in the following areas:
1. Conceptual Strength: The intentions and ideas that inspire the work.
2. Design Development: The energy, effort, and growth demonstrated throughout the course of the project.
3. Product: The tangible quality of the final product as a demonstration of the student's level of craftsmanship and mastery of the skills introduced in class.
4. Student Preparedness: At desk critiques, pin-ups, and reviews.
5. Student Participation: Students are expected to actively participate and be constructively engaged in class discussions, critiques, and reviews.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: or concurrentARCH 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 130A Basic Design and Research I (3-6) Multidimensional design and perceptual development. Formulation of abstracted concepts and logical visual models.

Basic Design and Research I (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: Architectural Engineering majors only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 132 Basic Design Studio II (4) Continuation of ARCH 131S which further explores basic concepts, methods, and skills of architectural design with an emphasis on craftsmanship.

ARCH 132 Basic Design Studio II (4)

This course is a continuation of ARCH 131S and shares the same goals, methods, and means of evaluation. However, it builds upon the foundation of fundamental knowledge and skills delivered in the previous course and demands that the students expand their ability to tackle more difficult and complex problems of architectural design. The focus of this course is on "craftsmanship" and the methods and techniques of "making and building." Students are expected to thoroughly consider the implications of materials, construction, and detailing as they relate to their overall design intentions.

ARCH 132 is an intensive course that encourages creativity and industry on the part of the students. Its design projects are open-ended; there are no single "right answers." It demands energy, creativity, the willingness to take risks, and introspection. Each student is expected to be open to a diverse range of ideas, values and solutions. The student is invited to view the studio experience as an opportunity to explore, discover, and invent.

The studio is divided into separate sections, each led by one studio instructor. Each section instructor will establish particular and unique assignments, and criteria for each project. This introduces students to the rich variety of possibilities in architectural communication and design.

When assessing the student work, the instructors will consider the students performance in the following areas:
1. Conceptual Strength: The intentions and ideas that inspire the work.
2. Design Development: The energy, effort, and growth demonstrated throughout the course of the project.
3. Product: The tangible quality of the final product as a demonstration of the student's level of craftsmanship and mastery of the skills introduced in class.
4. Student Preparedness: At desk critiques, pin-ups, and review.
5. Student Participation: Students are expected to actively participate and be constructively engaged in class discussions, critiques, and reviews.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ARCH 121, ARCH 131S . Prerequisite or concurrent:ARCH 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 195 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 198 Special Topics (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 199 (IL) Foreign Studies--Architecture (1-15) Individual or group instruction conducted in a foreign country.

Foreign Studies--Architecture (1-15)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 204 Materials and Building Construction II (3) This course will continue the presentations of ARCH 203, with a focus on concrete and masonry materials.

Materials and Building Construction II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: ARCH 203 fourth-semester standing in the Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 203 Materials and Building Construction I (3) Instruction in the design and construction of buildings utilizing wood and steel.

Materials and Building Construction I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: third-semester standing in the Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 210 (GA) Introduction to Architecture and Planning Theories (3) The course introduces architectural and urban theory by presenting and exploring key concepts through major texts from the Western tradition.

ARCH 210 Introduction to Architecture and Planning Theories (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The course introduces architectural and urban theory by presenting and exploring key concepts through major texts from the Western tradition. ARCH 210 covers a period ranging from ancient Greece and Rome to the present, with greatest emphasis on writings from the nineteenth and twentieth centuries. Recurring themes will include the ways in which architectural theory has defined the architect and the relationships between architectural and urban ideas, aesthetics, and the cultural contexts in which these ideas develop. Major topics will include ancient architectural theory, the role of the "architect" throughout history, architecture aesthetic principles, Judeo-Christian architectural theory, Renaissance classicism, the Baroque city, Neoclassicism and typology, the Beaux-Arts, tectonics and Gothic rationalism, organicism and functionalism, Le Corbusier's new architecture, the International Style, semiotics, and the neo-avant-garde.

Learning Objectives:
Students will acquire a basic familiarity with important ideas, authors, and texts that have shaped Western traditions in architecture and urbanism. These will introduce some of the ways in which theoretical writings have framed architecture's complex and changing relationship to human needs. Students are taught to approach these materials critically and will be required to conduct individual research on and analysis of one major theoretical work.

*Through the course students learn to utilize critical theories of the built environment. Students are taught to transform their personal observations into an analytical tool for criticizing and interpreting buildings.
* Students understand the key developments in architecture and urban theory and criticism from early Classicism to Post-Modernism.
* Students are introduced to architecture as a manifestation of ideology and cultural values.
* The students are introduced to ideas and encouraged to use key terms to discuss architecture and urbanism.
* Students are encouraged to recognize the importance of architecture and architecture writing as a tool for aesthetic interpretation.
* Theoretical concepts in architecture frequently are compared to similar ideas in other art disciplines, including design and the visual arts.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 211 (GA) Contemporary Design and Planning Theories II (3) Continuation of ARCH 210, with an in-depth analysis and study of significant and current environmental constructs and issues.

Contemporary Design and Planning Theories II (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1995
Prerequisite: ARCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 231 Architectural Design I (6) Design of limited environments within defined constraints.

ARCH 231 Architectural Design I (6)

The second-year design curriculum introduces the student to the complexity of the architectural whole. The curriculum bridges the abstract design principles taught in the first year and the ability to put together a large building, the focus in the third-year. The objectives are to create an understanding of architectural elements and develop a sensitivity and awareness required for valid interpretations as well as to develop a reflective and critical design process with emphasis on the individual ability to articulate ideas. The major means of accomplishing development is through the design of smaller buildings/environments. To introduce the pragmatic and expressive aspects of architectural design and integrate visual communication with the design process. The emphasis is on developing comprehensive architectural thought, on the foundations of skill and knowledge essential for designing more "complex" buildings in later years, and making the students aware of the multiplicity of factors involved in the design process and their civic responsibility in making informed choices Thus, the pervasive issue of meaning in architecture is given a high priority and is interwoven in all stages of design exploration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A&A 103 andA&A 104 second-year standing in architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 232 Architectural Design II (6) Design of limited environments within defined constraints.

ARCH 232 Architectural Design II (6)

The second-year design curriculum emphasis is on introducing the student to the complexity of the architectural whole. The curriculum bridges the abstract design principles taught in the first year and the ability to put together a large building, the focus in the third-year. The objectives are to create an understanding of architectural elements and develop a sensitivity and awareness required for valid interpretations as well as to develop a reflective and critical design process with emphasis on the individual ability to articulate ideas. The major means of accomplishing the design process is through the design of smaller buildings/environments. To introduce the pragmatic and expressive aspects of architectural design and integrate visual communication with the design process. The emphasis is on developing comprehensive architectural thought, on the foundations of skill and knowledge essential for designing more “complex” buildings in later years, and on making the students aware of the multiplicity of factors involved in the design process and their civic responsibility in making informed choices. Thus, the pervasive issue of meaning in architecture is given a high priority and is interwoven in all stages of design exploration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 231 second-year standing in Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 298 Special Topics (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 299 (IL) Foreign Studies--Architecture (1-15) Individual or group instruction conducted in a foreign country.

Foreign Studies--Architecture (1-15)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 311W Architectural and Planning Theories (3) Architectural theory course with a strong focus on the reading and writing of essays about architecture and related fields.

Architectural and Planning Theories (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: fifth-semester standing in the Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 311Z Architectural and Planning Theories (3) Architectural theory course with a strong focus on the reading and writing of essays about architecture and related fields.

Architectural and Planning Theories (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 316 (GA) Analysis of Human Settlements: Cities (3) Analysis of the interrelated factors which determined and shaped the various types of early cities through the nineteenth century.

Analysis of Human Settlements: Cities (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 312 Critical Postcolonial and Contemporary Perspectives in South Asian Architecture (3) This course will examine critical postcolonial and contemporary architectural issues in South Asia in the context of cultural globalization today.

ARCH 312 Critical Postcolonial and Contemporary Perspectives in South Asian Architecture (3)

This course will examine the evolution of the cultures and architectures of South Asia through their encounters with colonialism and the postcolonial analysis of architectural development in the region. It will provide an introduction to precolonial architecture and urbanism in South Asia using methodologies of cultural studies via an examination of Buddhist, Hindu, Islamic (Mughal), and Western influences. The course will introduce students to the significant variety of South Asia's architectural accomplishments and encourage them to discuss broader theoretical issues in the context of cultural globalization and their implications for contemporary architectural thought and practice. References to indigenous architecture and techniques will be an integral part of the course, as will be examples of colonial architecture, especially the works of Edwin Lutyens. In the context of globalization during the post-colonial period, three important planning and building design projects undertaken by Western architects in South Asia will become the means to segue into contemporary architectural issues and the impact of Modernist thinking on South Asian architecture: Le Corbusier's master plan and building designs for Chandigarh - the Kahn's design for the monumental second capital complex in Dhaka, Bangladesh, and the master plan for Islamabad, the capital of Pakistan, by Constantinos Doxiades. In addition, the works of such South Asian architects such as Charles Correa, Balkrishna Doshi, Raj Rewal, Geoggrey Bawa, Maxharul Islam, and Nyyar Dada, will be included in the lectures and discussions. The overall methodology will not be strictly chronological; rather, broad themes will be addressed during the course of the semester. This approach will enable a clear and substantive illustration of relationships between theory and practice in South Asia. It will also help students recognize the inevitable partiality and incompleteness of such theoretical descriptions - compelling as they may be - with regard to actual historical phenomena.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 317 Theory of Modern Japanese Architecture (3) Introduction to the development of modern Japanese architecture from the Meiji Restoration of 1868 to the present day.

ARCH 317 Theory of Modern Japanese Architecture (3)

ARCH 317 outlines a lineage of ideology in Japanese architectural discourse in order to examine reciprocal interactions between Japan and the West in the development of modern Japanese architecture from the Meiji Period (1868-1912), through the Metabolism of the 60's, to the present day. The concept of "tradition" itself is an invention of the Meiji (modern) era. Through this notion, the course will introduce students to crucial moments in the development of Japanese architecture, while making parallel references to the key developments in the West. Inversely, examples of traditional Japanese architecture will be introduced as counterpoint for the modern. Several topics such as the evolution of Japanese symbolic and spatial traditions in art, architecture, and landscape architecture (gardens) will be discussed. While discussing the evolution of Japanese culture, aesthetics and religions, the influences of China and Korea will be introduced, thus increasing students' familiarity to the East. A brief examination of Western architects paralleling the course content will also be presented. The key figures to be discussed during the class include Kenzo Tange, Kisho Kurokawa, Arata Izozaki, Fumihiko Maki, Tadao Ando, Shin Takamatsu, Toyo Ito, Kazuyo Sejima and Shigeru Ban. Key Western architects, including Bruno Taut, Walter Gropius, Frank Lloyd Wright, and Le Corbusier, will also be discussed. In addition, several broad themes such as geography, climate culture, and symbolic and spatial traditions in art will be introduced. Eastern values and ethics very incongruent from those of the West and their impact on architecture will be presented and discussed. Specific globalization, the resultant reciprocal and transformative cross-cultural interactions in the development of modern Japanese architecture, and the unique process of "Japanization", in which ideas from the West are adapted, refined, and absorbed into Japanese architecture through specific buildings and architects.

Students in this course will be expected to become more familiar with Eastern culture; comprehend basic principles behind Japanese architecture and gardens; understand relevant terminology associated with Japanese culture, art, gardens, and architecture; and become more aware of the reciprocal and transformative cross-cultural interactions in architecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 331 Architectural Design III (6) Development of the design process through organizational methodologies, based on physical, functional, and social-behavioral determinants.

ARCH 331 Architectural Design II (6)

Development of the design process through organizational methodologies, based on physical, functional, and social-behavioral determinants. Emphasis is placed on “The Building Thoroughly Considered.“ The third-year design studio course is a continuation of the rigorous development of the architectural process started in the second year studio. Students will strive to develop an architectural totality, search for thoughtful decisions and sound judgments. Students continue the process of integrating the abstraction of the basics with the pragmatics of the built world. The student at the completion of this year should understand what a building is and how it responds to human needs in terms of cultural meaning, physical reality, operational prerequisites and construction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 232 faculty review third-year standing in Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 332 Architectural Design IV (6) Development of the design process through organizational methodologies, based on physical, functional, and social-behavioral determinants.

ARCH 332 Architectural Design IV (6)

Development of the design process through organizational methodologies, based on physical, functional, and social-behavioral determinants. Emphasis is placed on “The Building Thoroughly Considered.“ The second semester of the third-year design studio course is a continuation of the rigorous development of the architectural process started in the third year, first semester studio. ARCH 332 extends and deepens the understanding of the “thoroughly considered” building begun in ARCH 331. Students will strive to develop an architectural totality, search for thoughtful decisions and sound judgments. Students continue the process of integrating the abstraction of the basics with the pragmatics of the built world. The student at the completion of this year should understand what a building is and how it responds to human needs in terms of cultural meaning, physical reality, operational prerequisites and construction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 331 third-year standing in Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 395 Architecture Work Study (6) Off-campus, non-group instruction under the direction of approved professionals in the field. Architecture majors only.

Architecture Work Study (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 398 Special Topics (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 417 The Language of Boundaries in Architecture and the Landscape (3) This course examines the development and significance of boundaries in the construction of human space and time. Students who have taken other courses from Architecture Visual Arts, Geography, or Philosophy that treat some aspect of spatial perception, conception, construction, or visualiation, or who have completed equivalent study independently, may enroll with the permission of the program.

ARCH 417 The Language of Boundaries in Architecture and the Landscape (3)

This course is composed of eight chronologically arranged units of study that examine the major developments in the human use of boundaries in the creation of architecture and landscapes — those actually constructed as well as those created through literature, myth, art, and film.

Human boundary behavior is complex. While we tend to describe space and time as ‘transitive' (rational), our actual experience of them is intransitive. Because descriptive systems tend to disregard the role of time, they favor a constructed descriptive objectivity over subjective accuracy. Conflicts between representations and experiences reflect psychological and cultural conflicts expressed as symptoms and dysfunctions.

Both the lectures and supplemental films are directed at helping students understand, reflect upon, and critically think about the trans-cultural and ubiquitous quality of boundary behavior.

The thrust of the course is historical and critical rather than professional, and the intent of the course is to provide students with a comprehensive overview of the issues that surround the human use of boundaries. Because boundary issues are the result of humans' mental apprehension of the world, psychology, philosophy, critical studies, literature, and other humanities are intrinsically involved. But, because boundaries are a part of a way of conceiving the world mathematically, ideas from topology, number theory, and circuit logic are also key.

Each unit of study will be accompanied by exemplary films that illustrate some aspect of boundary behavior. The course includes approximately 12 important films for required study.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: Students should have taken at least one of the following courses:ARCH 210, ARCH 130A, ARCH 131S, LARCH 060, LARCH 065, GEOG 020 orINART 003 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 431A (IL) Architectural Design V--Foreign Study (6) A studio offered in Rome, Italy, which emphasizes urban planning and architectural design in an urban context.

ARCH 431A Architectural Design V--Foreign Study (6) (IL)

This studio course focuses attention on the urban design components of architectural design. Using the city of Rome and its unique position in the history of human development, the design projects are selected for their actuality in the current situation of Rome, Italy. The building sites are actual or expected project sites based on the current planning directives of the city planning offices. Students are asked to produce designs that respond to multifaceted programs that will usually include institutional, residential, and commercial activity in the same building/site.

The project will usually last the full semester with all phases of design included. Beginning with site planning and site design issues, the project runs through design concept and design development phases. The last two weeks are often focused on elevation studies and material details. A complete presentation of site, building, and details design is expected at the final presentation.

Studio course meetings with the instructors are scheduled three times per week. Approximately every three weeks, thee are formal presentations often to invited guest critics. A mid-term presentation is made at the design development conclusion phase. The final presentation is organized with guest critics at the end of the term.

Learning Objectives:
To achieve a complete urban architecture project design and presentation.
To understand the implications for architectural design of the city of Rome and its unique history.
To apply an interpretation of history to contemporary design problems.
To apply contemporary needs and requirements for architecture to a traditional city site.
To learn how to adapt design to a non-American culture and tradition of building.

ARCH 431A is the required foreign study architecture design studio taught in Rome, Italy. This course is available to Architecture majors only.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ARCH 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 431 Architectural Design V (6) Continuation of ARCH 331 and 332, with design and research in program option areas.

ARCH 431 Architectural Design V (6)

The fourth-year architecture studio emphasizes the development of skills in research, documentation, analysis and presentation of project-related physical and cultural information. The studio will investigate the implications of a rigorous predesign process in the design of architecture. The studio curriculum seeks to investigate the role of the architect in urban design, especially the design relationship between individual buildings, groups of buildings, exterior spaces, streets and streetscapes. Students will explore the synthesis of individual landmark buildings, building groups, urban landscape and service systems.

The studio explores the difference between the roles and responsibilities of public and private clients. In particular the implications of establishing levels of control within the built environments, such as design guidelines, circulation systems and utility networks.

Emphasis will be placed on the development of the following design skills:
•Cooperation and collaboration in research and design.
•Understanding the implications of existing patterns on subsequent design.
•Understanding attitudes toward contexts: cultural, physical, economic, personal, political, organizational (bureaucratic).
•Integration of scale: Development of logics (orders) for the use of the site and continuity of logic across scales of building.
•Developing culturally meaningful relationships between the ordering of land-use and space throughout related buildings.
•Design of exterior space using architectural relationships between multiple buildings
•Investigation of the implications of design controls on the single building.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 332 fourth-year standing in Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 432 Architectural Design VI (6) A continuation of ARCH 431, this course explores in greater depth urban planning and archiectural design in an urban context.

ARCH 432 Architectural Design VI (6)

ARCH 432 is a continuation of ARCH 431 with a focus on architecture in urban environments and urban/community planning issues of greater complexity. The class will collaborate in the research and documentation of the existing conditions of an urban site and the forces that influence it. This will include the study of precedents. The class will prepare a pre-design presentation, individual architecture projects, base models, and a book of the semester's work.

Based on the pre-design information, small student groups will develop a master plan for a large program. This exercise will include the preparation of the plan, supported by concept diagrams and models, land use diagrams, open space diagrams, landscape plans, pedestrian and vehicular circulation/parking/servicing diagrams, written and graphic site and building design guidelines, and a utilities diagram.

The architectural component of the master plan will be selected for development as the studio architectural design project. Each student will prepare an architectural project based on the general logic and concepts of the group plan.

Major topics addressed in the course include working collaboratively in teams, understanding fundamental ordering principles of cities and towns, understanding urban contexts, urban plans, land-use controls, and economic plans, the design of urban spaces, and the design of a single building or complex of buildings in an urban environment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ARCH 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 432A (IL) Architectural Design VI--Foreign Study (6) A continuation of ARCH 431, this course explores urban planning and architectural design in an urban context in Rome, Italy.

ARCH 432A Architectural Design VI--Foreign Study (6) (IL)

A continuation of ARCH 431A, this course explores urban planning and architectural design in an urban context in Rome, Italy. The design studio takes full advantage of the city of Rome and its unique position in the history of human development. Students will build on the knowledge of urban situations gained in ARCH 431A and apply that background to projects which utilize building sites based on the current planning directives of the city planning offices.

Students are asked to produce designs that respond to multifaceted programs that will usually include institutional, residential, and commercial activity in the same building/site.

The project will usually last the full semester with all phases of design included. Beginning with site planning and site design issues, the project runs through design concept and design development phases. The last two weeks are often focused on elevation studies and material details. A complete presentation of site, building and detail design is expected at the final presentation.

Studio course meetings with the instructors are scheduled three times per week. Approximately every three weeks there are formal presentations often to invited guests critics. A mid-term presentation is made at the design development conclusion phase. The final presentation is organized with guest critics at the end of the term.

Learning Objectives:
To achieve a complete urban architecture project design and presentation.
To understand the implications for architectural design of the city of Rome and its unique history.
To apply an interpretation of history to contemporary design problems.
To apply contemporary needs and requirements for architecture to a traditional city site.
To learn how to adapt design to a non-American culture and tradition of building.

ARCH 432A is the required foreign study architecture design studio taught in Rome, Italy. This course is available to Architecture majors only.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ARCH 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 441 Architectural Design Analysis (3) Studies in principles and elements of design; planning for human use; the relationship of space to physical and social environment. Architectural Engineering majors only.

ARCH 441 Architectural Design Analysis (3)

Studies in principles and elements of design; planning for human use; the relationship of space to physical and social environment.

The objective of this course is to explore various approaches to architectural design and to reinforce the concept that there is no "right" or "wrong" answer to a design problem. "Design" is decision-making in itself -- the key to a successful project lies not only in the final product, but in the process leading up to it as well. In order to be successful, design solutions must respond to both formal ideas as well as human, environmental and technical realities. Thus, the interaction between art and technology becomes imperative.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ARCH 130A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 442 Architectural Design Analysis (3) Continuation of ARCH 441, with emphasis on functional relationship of space, form, structure, and building groups. Architectural Engineering majors only.

ARCH 442 Architectural Design Analysis (3)

Continuation of ARCH 441, with emphasis on functional relationship of space, form, structure, and building groups.

The objective of this course is to explore various approaches to architectural design and to reinforce the concept that there is no "right" or "wrong" answer to a design problem. "Design" is decision-making in itself -- the key to a successful project lies not only in the final product, but in the process leading up to it as well. In order to be successful, design solutions must respond to both formal ideas as well as human, environmental and technical realities. Thus, the interaction between art and technology becomes imperative.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ARCH 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 443 Architectural Design Analysis Inspection Trip (1) Faculty guided trip to metropolitan areas to investigate noteworthy architecture and building construction and to visit professional offices.

Architectural Design Analysis Inspection Trip (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: fourth-year architectural engineering majors first priority others by faculty approval

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 480 Technical Systems Integration (3) Presentations of buildings' analyses from a multiplicity of viewpoints: architectural, spacial, environmental, mechanical, construction assembly.

Technical Systems Integration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: fifth-year standing in the Architecture curriculum or approval by the instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 451 Architectural Professional Practice (3) A study of architectural practice in today's society: education, registration, office practice, codes, standards, construction industry, contracts, and legal documents.

Architectural Professional Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing in Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 481 Digital Design Media (3) Advanced course in digital modeling, rendering, animation and non-linear video for architectural investigations.

Digital Design Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: approval by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 482 MicroCAD (3) Introductory course in Computer-Aided-Drafting applications with an emphasis on architectural office practices and architectural drawings production.

MicroCAD (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 491 Architectural Design VII-Thesis (6) Problems in architectural planning and design; programming and/or implementation methodologies and applications for various environmental design scales.

ARCH 491 Architectural Design VII-Thesis (6)

It is the goal of this program that, upon completion of the fifth year, each student will have the ability to pursue an architectural idea in a rigorous, in-depth manner and be able to express the knowledge of and implication of that idea through the completion and presentation of a "thoroughly considered building design project." It is the intent of the fifth-year component of the Bachelor of Architecture program to foster the spirit of in-depth design inquiry and research, and to build upon and reiterate design awareness, skills, and methods introduced in previous years; and to introduce, discover and develop new ones. To these ends the primary educational vehicle is the use of a propositional thesis as a way of directing the study toward the linking of theory and building in a meaningful manner.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 431 orARCH 432, ARCH 499A faculty review fifth-year standing in the Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 492 Architectural Design VIII-Thesis (6) Continuation of ARCH 491 with concentration and specialization options.

ARCH 492 Architectural Design VIII-Thesis (6)

It is the goal of this program that, upon completion of the fifth year, each student will have the ability to pursue an architectural idea in a rigorous, in-depth manner and be able to express the knowledge of and implication of that idea through the completion and presentation of a “thoroughly considered building design project.” It is the intent of the fifth-year component of the Bachelor of Architecture program to foster the spirit of in-depth design inquiry and research, and to build upon and reiterate design awareness, skills, and methods introduced in previous years; and to introduce, discover, and develop new ones. To these ends the primary educational vehicle is the use of a propositional thesis as a way of directing the study toward the linking of theory and building in a meaningful manner.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 491 fifth-year standing in the Architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 497A Digital Fabrication (3) This course investigates both the conceptual and practical implications of digital fabrication in the process of design construction.

Digital Fabrication (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 498 Special Topics (1-15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 497B Green to Post-Green Environmental Thinking in the Twenty First Century (3) Focusing on the effects of the environmental movement in art, architecture, and landscape design since the 1960's.

Green to Post-Green Environmental Thinking in the Twenty First Century (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 499B (IL) Architectural Analysis (3) Comparative study of architectural elements and building types through on-site drawing, recording, measurement, sketching and decomposition activity.

ARCH 499B Architectural Analysis (3)
(IL)

Architecture is amplified and embodied in cities. Since most architecture is set in cities and the city is itself an architecture, it becomes necessary for us to evaluate the relationships that affect the making of buildings for cities and the organization of buildings into a meaningful whole. This course will explore the two meanings of the term "the architecture of cities." It will propose questions leading to an analytical de-composition of the situation of cities in general and Rome in particular.

The course is loosely divided into three sections. The first, Historical Overview, presents the evolution of early settlements focusing on the significance of built form. The second, Revolutions and Modernity, demonstrates the qualitative shift in emphasis that settlements undergo from the Enlightenment, through the Industrial Revolution, to the Information Revolution. The third section, the Current Debate, will present some contemporary issues and techniques proposed for the resolution of apparent problems of city architecture.

Since this course is given in a unique setting, it takes full advantage of Rome, its history and its problems, to highlight the universal design elements that are part of an analytical understanding, but also of a synthetic design understanding of cities.

This course is theory based and, as such, will provoke thinking, a taking apart mentally, more than a making of architecture. The studio design problem, also set in this city, is the operative dimension of thoughts generated here. In this class, students are expected to articulate thought and some clear graphic analysis concerning architecture. These thoughts, if manipulated with discipline and commitment, will become a source of illumination for design activity.

Learning Objectives:
* To learn the meaning of cities in Western culture
* To understand the significance of foundation and other rites concerning building the human environment.
* To understand the meaning of urban architecture
* To understand the reasons for the form of streets, buildings and open spaces in Western cities
* To achieve the analytical skills necessary to take apart the component systems and material elements of architecture

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ARCH 210
Concurrent: ARCH 499A ARCH 499C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 499A (IL) Foreign Study--Architectural Design VI (6) Individual or group instruction conducted in a foreign country.

ARCH 499A Foreign Study - Architectural Design VI (6)

The semester abroad design work will focus on the difficult problem of creating new construction in the presence of an historic structure. This is an inevitable problem in the city of Rome where one can hardly avoid confronting historic or monumental buildings. However, as every place is preceded by a history, either natural, political or material, these issues are important outside of this context, the course aims to help students define critical strategies that will serve them beyond their semester abroad.

Fifteen weeks is a short time to experience a place as complex and interesting as Rome, Italy. For many students, it may be a chance of a lifetime to live in and study a place as challenging and full of opportunity as this. Students are expected to approach the semester with even more seriousness then they would a semester at home. A semester in this program is not a mere travel experience but an academic exploration of a foreign and historic environment Every activity of this studio is designed to these ends. Therefore, we have selected a very direct and limited building program, a site in the historic center, and exercises that require students to spend time in the field as well as in the studio.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ARCH 332 fourth-year standing in the architecture curriculum

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Architecture (ARCH)

ARCH 499C (IL) Urban Studies Topics (3) A presentation of the history of Rome through the medium of its maps and walking tours of the city.

ARCH 499C Urban Special Topics (3)
(IL)

The course is a presentation of the history of Rome through the medium of its maps. The well documented cartographic history of the city is presented along with the morphological changes that are evident in the city today. The material of Rome's physical development is presented in two distinct ways. The first involves slide presentations of Roman maps and engraving images organized by specific routes (vie consolari and others) into and out of the city. The second is by on-site walks through the same routes with the instructor.

The approximately twelve routes involve a lecture presentation usually given on Tuesdays, followed by an on-site walk usually given on Thursday. Students are then assigned their own route map of the same study area to generate over the weekend. These are graded and discussed in the following sessions.

Framework:
* Introduction: The definition of the Urbs through maps
* 14th-15th century: Limbourg, Taddeo di Bartolo
* 16th century: Bufalini, Duperac
* Renaissance planning and the expanding city
* 17th century: Maggi, Falda
* 18th century: Nolli
* 19th century: Catasto Piano
* 20th century: Lanciani, Sanjust

Themes:
* 14th-15th century: Derivation of the iconic map from Mappaemundi and city images in art
* 16th century: Images of pre-Sistine in-city and extension planning vs. Sixtus V's city outside the city
* 17th century: Illustrating the Baroque point developments: Urban theater
* 18th century: The new orientation and precision measurement of the Age of Reason. Nolli and Piranesi: the contemporary vs. the archaeological city
*19th century: Stasis and expansion: Nolli retreads and the master Plans for the new Capital city
* 20th century: Recapitulation and expansion: Lanciani's new Forma Urbis and images of the boundless city

Learning Objectives:
* To learn the history of the development of one of the most important cities in the world.
* To learn the importance of mapping an way-finding in the understanding of architecture.
* To learn the reading of traces of the past morphological development of a city.
* To understand how cities are built, change, and grow over time.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ARCH 210
Concurrent: ARCH 499A ARCH 499B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 101 U.S. Army Organization and Functions (2) Introduction to U.S. Army and ROTC: their organization, missions and functions; customs and traditions; leadership laboratory.

U.S. Army Organization and Functions (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 102 The Military Profession: Leadership and Management Theory (2) Introduction to leadership techniques and basic management skills; leadership laboratory.

The Military Profession: Leadership and Management Theory (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 203 Army Operations: Tactics and the Principles of War (2) Organization and operation of Army units; fundamentals of unit tactics; leadership laboratory.

Army Operations: Tactics and the Principles of War (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 204 Land Navigation: Topographic Maps and Orienteering (2) Military and topographic maps; methods of orienteering and land navigation; leadership laboratory.

Land Navigation: Topographic Maps and Orienteering (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 301 Advanced Principles of Leadership and Management (3) Principles of military leadership; military skills development; land navigation; physical fitness; leadership laboratory.

Advanced Principles of Leadership and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 302 Advanced Principles of Military Leadership and Combat Operations (3) Leadership in the field; principles of offense, defense, and patrolling; physical fitness, leadership laboratory.

Advanced Principles of Military Leadership and Combat Operations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: ARMY 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 304 Advanced Camp (0) Six weeks of Army field training to prepare cadets for commissioning as second lieutenants.

Advanced Camp (0)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985
Prerequisite: ARMY 301, ARMY 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 401 Organizational Behaviors: Interrelationships of Directing Staffs and Staff Functions (3) Leadership; command and staff functions; ethics and professionalism; military writing; leadership laboratory.

Organizational Behaviors: Interrelationships of Directing Staffs and Staff Functions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: ARMY 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 496 Independent Studies (1-9) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Army (ARMY)

ARMY 402 Army Personnel Management and Logistics (3) Leadership; army personnel management; logistics system; personnel counseling; military justice; Soviet military; personal affairs; training management; army life; leadership laboratory.

Army Personnel Management and Logistics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: ARMY 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 001 (GA) Introduction to the Visual Arts (3) Introduction to the media, elements, function, making, and meaning of visual arts today and in diverse historical and cultural contexts.

ART 001 Introduction to the Visual Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 001 is an introduction to the visual arts and is designed to meet the General Education Arts requirement. The course is offered every semester at University Park, for example, with an enrollment of 330. There are no prerequisites, and students are assumed to have little or no background in studying or making art. As a result of taking the course, students are able to look more closely and find ways to say what they see in the visual arts. They become familiar with a broad range of subject matter, style and medium, with the principles of design that organize works of art, and with changing historical and cultural contexts in which the arts have been made and understood. They also experience the challenge of making art themselves, and develop a more informed critical point of view. Because of the large number of students that may enroll, ART 001 is primarily a lecture course with a text. But students actively participate in individual and collaborative activities during class, including, for example, drawing a hand, pairing to exchange observations on a work of art, and arriving at consensus in groups of five in response to the question "What is art?" and then reporting back to the whole class. With fewer students, the number of art projects and the opportunity for extended discussion and studio critiques increases. Evaluation is based on tests, assignments and inclass activities. Tests measure students' ability to identify keys works and the style and subject matter of unknown related works, to apply their knowledge of media and visual vocabulary by labeling their sketches based on images shown during the test, and to answer multiple choice questions on the principles of design, media, meanings, and historical and cultural contexts in the production and experience of the visual arts. Every class meeting includes question and answer sessions. To encourage collaborative learning, at University Park, the multiple choice portion of the test is given twice during the test period, to allow students the second time to work together with open books to answer the questions. The assignments range from sketching and writing about works during a museum visit, to surveying architecture and sculpture in the community, to making a collage. There will also be opportunities to earn extra credit, for example by making a collage judged to be among the best by a jury of their peers, by attending and writing brief responses to public lectures and exhibitions, and for identifying useful resource links for the course website. Students rely on the course website and email for all information and announcements, including resources specifically prepared to supplement the text, such as summaries of class discussion of what to ask when looking at a work of art, lists of key terms and concepts, sample quizzes, and links related to lecture topics.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 002 (GA) Interactive Learning and Web-Design (3) Introduce students to research on-line, preparing verbal, visual and other elements for presentation of outcomes and posting them to the Internet.

ART 002 Interactive Learning and Web-Design (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is constructed to introduce students to doing research on-line, preparing the verbal, visual and other elements for a presentation of their research and posting them to the Internet with special emphasis placed on the aesthetics of Web design and effective communication.

Both individual and group projects are included. It is intended to provide the skills to work collaboratively using computers and the Internet effectively, efficiently and with an awareness of the aesthetic qualities of that work. This final emphasis is particularly important since the quality of presentation is not included in most classes where Web sites are developed and they are crucial to the effective use of this medium. Aesthetic judgments by the students of their peers work is central to making comprehensive and complete evaluations of it. A central message of the course is that content and presentation cannot be separated and a primary skill to be learned is how to discover, create and refine images for use on the Web in conjunction with clear, well-organized and legible text.

The student's work will be evaluated on the basis of how well they grasped the problem, worked with others to solve it, when required, and the effectiveness of the final result.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 003 (GA) Visual Images on the Web (3) Introduce students to using visual images for communication on the World Wide Web.

ART 003 Visual Images on the Web (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is constructed to introduce students to doing art work on-line, preparing visual, verbal and other media for presentation on the Internet with special emphasis placed on the aesthetics of image making and good Web design.

Working both individually and in groups is included. Each student is assigned to a working group, which makes collaboration and communication possible.

All the projects emphasis art making of different kinds - still and animated, bit-map and vector - as well as different formats - HTML, Flash format and Portable Document format. The grasping of the different kinds of images each makes available, aesthetic qualities of each and they can be used in communication at the center of the course.

The student's work will be evaluated on the basis of how well they grasped the problem, worked with others, when required, to solve it and the effectiveness of the final result.

The students may do the work for the course on their personal computers or in the University labs on any of the available platforms - Windows, Mac or UNIX.

The course will be offered in the spring and the fall and have an enrollment of 200 students.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 010 (GA) Introduction to Visual Studies (3) Introduction to visual studies; pictorial space and the principles of visual organization.

ART 010 Introduction to Visual Studies (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 010 is intended as a general survey course for non-majors consisting of images, ideas, and processes used in art making. As a studio offering, emphasis is placed on hands-on activities, which promote literacy and sensitivity to both two-dimensional and three-dimensional conventions in the visual arts. Students will experience the contextual influences of art, the visual languages and organizational systems of art, and the various studio processes of art. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the visual arts function. As a general appreciation offering, emphasis is placed on active learning processes that involve students in basic studio materials and techniques.Students enrolled in this course will be required to participate in the following active learning components:

1. Studio Assignments:
a) Contextual influences of history and contemporary culture
b) Visual languages and organizational systems related to the visual arts
c) Studio processes with materials and techniques

2. Creating a social and historical context for sculpture making through slide presentations, studio visits and museum critiques:
a) Slide presentations: students will be asked to consider the concepts of their creative projects in relationship to works by historical and contemporary artists in order to understand the ways in which visual arts convey meaning.
b) Studio visits: Students will visit the personal studios of local artists to learn how professional artists develop best practices as related to the three kinds of studio-based assignments outlined above. Additionally, they will explore and discuss with these artists the concepts and meanings expressed in their creative works.
c) Museum critiques: Museum visits will enable students to learn how to engage and respond to actual works of art as compared with those that they experience as slide and printed representations. The role of museums and galleries in contemporary art practice will also be discussed.

Grading and evaluation:
Students' art projects will be evaluated according to the following criteria: 1) the uniqueness of the visual concepts developed in their studio assignments; 2) the strength of their visual compositions-their ability to communicate concepts clearly; 3) the quality of their craftsmanship-an effective use of materials and procedures and commitment to the studio assignments-the effort expended on each project; 4) Their willingness to participate in critique sessions-a thoughtful and informed interpretation of visual ideas in art works produced by them in class as well as those discussed during slide presentations, studio visits, and museum critiques. Since the School of Visual Arts now requires a portfolio review for Visual Arts majors to enroll in studio courses, ART 010 provides an opportunity for non-art majors to do studio work in conjunction with an exploration of art concepts.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 010S (GA) Introduction to Visual Studies (3) Introduction to visual studies; pictorial space and the principles of visual organization.

Introduction to Visual Studies (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 017 (GA) Introduction to Metal Arts (3) Introduction for non-art majors to fundamental jewelry making and small-scale metalsmithing processes including fabrication, surface treatment, and finishing of metalwork.

ART 017 Introduction to Metal Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 017 is intended as a general survey of metal arts for non-majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and a sensitivity to the various metal arts conventions. Students are given the opportunity to briefly explore many of the traditional materials and processes of metalsmithing including those that are used in cold joining, surface texture, and fabrication. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the metal arts function. As a general appreciation offering, emphasis is placed on active learning processes that involve students in basic studio materials and techniques. Since the School of Visual Arts now requires a portfolio review for visual arts majors to enroll in studio courses, ART 017 provides an opportunity for non-art majors to do studio work in conjunction with an exploration of art concepts.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 020 (GA) Introduction to Drawing (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.

ART 020 Introduction to Drawing (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 020 is intended as a general survey of the art of drawing for non-majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and on the various conventions used in drawing. Students will be given the opportunity to briefly explore many of the traditional materials of drawing, including pencil, charcoal, conte, ink and ink wash, pastel, as well as experimental tools. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which drawing functions. As a general appreciation offering, emphasis is placed on active learning processes that involve students in basic studio materials and techniques. Since the School of Visual Arts now requires a portfolio review for Visual Arts majors to enroll in studio courses, ART 020 provides an opportunity for non-art majors to do studio work in conjunction with an exploration of art concepts.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 020S (GA) Introduction to Drawing (3) Introductory experience in making of art through drawing media; designed for non-majors seeking general overview of studio practice.

Introduction to Drawing (3)

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 040 (GA) Introduction to Printmaking (3) Instruction and practice in elementary printmaking and papermaking processes.

ART 040 Introduction to Printmaking (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 040 is intended as a general survey of the art of printmaking for non-majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various printmaking conventions. Students are given the opportunity to briefly explore the various approaches to printmaking, which may utilize some or all of the following: screenprinting, relief, intaglio, lithography, and others. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the art of printmaking functions.

Students enrolled in this course will be required to participate in the following active learning components:

1. Studio Printmaking Assignments:
a) Screenprinting
b) Relief
c) Itaglio
d) Lithography
e) Others (collagraph, monotype, electrostatic, artists books)

2. Creating a social and historical context for printmaking through slide presentations, studio visits and museum critiques:
a) Slide presentations: students will be asked to consider the concepts of their creative projects in relationship to prints of historical and contemporary artists in order to understand the ways in which the two-dimensional aspects and various processes of printmaking convey meaning.
b) Studio visits: Students will visit the personal studios of local printmakers to learn how professional artists develop best practices as related to the basic approaches to printmaking outlined above. Additionally, they will explore and discuss with these artists the concepts expressed in their printed images.
c) Museum critiques: Museum visits will enable students to learn how to engage and respond to actual prints as compared with those that they experience as slide and book/journal reproductions. The role of museums and galleries in exhibiting prints will also be discussed

Grading and evaluation:
Students' printmaking projects will be evaluated according to the following criteria: 1) the uniqueness of the visual concepts developed in their studio assignments; 2) the strength of their visual compositions-their ability to communicate concepts clearly; 3) the quality of their craftsmanship-an effective use of materials and procedures and commitment to the studio assignments-the effort expended on each project; 4) Their willingness to participate in critique sessions-a thoughtful and informed interpretation of visual ideas in prints produced by them in class as well as those discussed during slide presentations, studio visits, and museum critiques.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 030 (GA) Introduction to Sculpture (3) Introduction to sculpture for non-art majors consisting of lectures/basic studio work coordinated to cover broad range of processes.

ART 030 Introduction to Sculpture (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 030 is intended as a general survey of the art of sculpture for non-majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various sculptural conventions. Students are given the opportunity to briefly explore many of the traditional materials of sculpture including those that are used in modeling and replication, subtractive processes, and fabrication. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the art of sculpture functions. Students enrolled in this course will be required to participate in the following active learning components:

1. Studio Assignments:
a) Modeling and Replication
b) Subtractive Processes
c) Fabrication Assignment

2. Creating a social and historical context for sculpture making through slide presentations, studio visits and museum critiques:
a) Slide presentations: students will be asked to consider the concepts of their creative projects in relationship to the sculptural works of historical and contemporary artists in order to understand the ways in which the three dimensional aspects of sculpture convey meaning.
b) Studio visits: Students will visit the personal studios of local artists to learn how professional artists develop best practices as related to the three basic approaches to rendering sculptural form outlined above. Additionally, they will explore and discuss with these artists the concepts expressed in their sculptural works.
c) Museum critiques: Museum visits will enable students to learn how to engage and respond to actual works of art as compared with those that they experience as slide and printed representations. The role of museums and galleries in contemporary art practice will also be discussed.

Grading and evaluation:
Students' sculptural projects will be evaluated according to the following criteria: 1) the uniqueness of the visual concepts developed in their studio assignments; 2) the strength of their visual compositions-their ability to communicate concepts clearly; 3) the quality of their craftsmanship-an effective use of materials and procedures and commitment to the studio assignments-the effort expended on each project; 4) Their willingness to participate in critique sessions-a thoughtful and informed interpretation of visual ideas in sculptural works produced by them in class as well as those discussed during slide presentations, studio visits, and museum critiques.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 050 (GA) Introduction to Painting (3) Introductory experience in making of art through painting media; designed for non-majors seeking a general overview of studio practice.

ART 050 Introduction to Painting (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 050 is intended as a general survey of the art of painting for non-majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various conventions used in the discipline of painting. Students are given the opportunity to briefly explore the various approaches to creating visual images by applying various painting materials, techniques, and concepts. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the art of painting functions.

Students enrolled in this course will be required to participate in the following active learning components:

1. Studio Painting Assignments:
a) Visual concept development: students will be introduced to the various ways that artists create meanings through painting. b) Materials development: through a process of exploration and experimentation, students will learn how to apply various painterly media and tools in creating visual images.
c) Technique development: through a process of exploration, experimentation, and skill development students will learn how to render and model painterly images that range between abstract and realistic representations.

2. Creating a social and historical context for painting through slide presentations, studio visits and museum critiques:
a) Slide presentations: students will be asked to consider the concepts of their creative projects in relationship to paintings by historical and contemporary artists in order to understand the ways in which the two-dimensional aspects and various processes of painting convey meaning.
b) Studio visits: Students will visit the personal studios of local painters to learn how professional artists develop best practices as related to the basic approaches to painting outlined above. Additionally, they will explore and discuss with these artists the concepts expressed in their painted images.
c) Museum critiques: Museum visits will enable students to learn how to engage and respond to actual paintings as compared with those that they experience as slide and book/journal reproductions. The role of museums and galleries in exhibiting paintings will also be discussed.

Grading and evaluation:
Students' painting projects will be evaluated according to the following criteria: 1) the uniqueness of the visual concepts developed in their studio assignments; 2) the strength of their visual compositions-their ability to communicate concepts clearly; 3) the quality of their craftsmanship-an effective use of materials and procedures and commitment to the studio assignments-the effort expended on each project; 4) Their willingness to participate in critique sessions-a thoughtful and informed interpretation of visual ideas in paintings produced by them in class as well as those discussed during slide presentations, studio visits, and museum critiques.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 080 (GA) Introduction to Ceramics (3) Introduction to the concepts and techniques fundamental to the making of pottery and ceramic sculpture.

ART 080 Introduction to Ceramics (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 080 is intended as a general survey of the art of ceramics for non-majors. As a studio offering, emphasis is placed on hands-on activities, which promote visual literacy and sensitivity to the various conventions in ceramics. Students are given the opportuity to briefly explore many of the traditional approaches to ceramics including those that are used in hand building, wheel throwing, glazing, and kiln firing. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the art of ceramics functions. As a general appreciation offering, emphasis is placed on active learning processes that involve students in basic studio materials and techniques. Since the School of Visual Arts now requires a portfolio review for visual arts majors to enroll in studio courses, ART 080 provides an opportunity for non-art majors to do studio work in conjunction with an exploration of art concepts.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 100 (GA) Concepts and Creation in the Visual Arts (3) A study of the personal and cultural foundations of artistic creation and practice of creative production in the art studio.

ART 100 Concepts and Creation in the Visual Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 100 is intended as an introduction to the concepts underpinning artistic creation. Through lectures and studio work, students will explore relationships between artistic processes and in daily life. The objective of the course is to develop in the student both an appreciation and understanding of contemporary art through an examination of art and contemporary social, cultural, and political issues surrounding artistic practice. Students will respond to the ideas presented in the lectures by completing a series of artworks intended to reflect the issues and concepts that have been presented. The intended, though not exclusive, audience for the course is non-art majors. While the focus of the course is a critical examination of both the artworks studied and the artworks created by the students, the critique will be derived from the various backgrounds and academic experiences of the students and not necessarily from their knowledge of art. In this manner, the course can become a relevant complement to all of their studies. In short, the goal of the course is to understand art as a means to critically engage and begin to understand our surroundings and not simply as an end product. Evaluation of student achievement will be done in both the classroom and studio portions of the course. Since it is not expected that students have a background in art, content knowledge assessment will primarily be based on the students' active participation in class discussions as well as objective tests in the form of written responses to the issues and concepts examined. In the studio, their work will be judged on how well students have responded to the concepts and issues explored as well as on their ability to articulate their own ideas in relation to those of other students and other aesthetic and cultural ideas to which they have been exposed. In the studio, this process will primarily be done in the form of individual conversation and group critique. Since the School of Visual Arts now requires a portfolio review for visual arts majors to enroll in studio courses, ART 050 provides an opportunity for non-art majors to do studio work in conjunction with an exploration of art concepts.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 101 (GA) Introduction to Web Design (3) A beginning level course in Web Design, with emphasis on designing with standards to assure accessibility and effective communication.

ART 101 Introduction to Web Design (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 101 is a beginning level web design course that is concerned with the designing and creating of web sites using XHTML and recommended government standards. This emphasis is central so that the work the students do will reach the broadest audience, including people with disabilities, through the use of a broad range of software and hardware.

This course will teach students how to meet the present government standards for accessibility by the disabled and the technical and accessibility standards recommended by the World Wide Web Consortium (W3C).

This course will also place an emphasis on the uses of art-images to present information along with the presentation of text and typography for communication and how these elements can make projects on the web more effective.

The course will introduce topics such as: clarity of art and design, ease of use (navigability), and in creating art and graphics for web delivery (optimization).

There will also be discussion on the dynamics of networked communications, along with issues pertaining to the authoring and publishing of content and media on the internet.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 110S Ideas as Visual Images (3) Introduction to the ideational relationships among subject, form, and content in visual images.

Ideas as Visual Images (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2002
Prerequisite: portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 111 Ideas as Objects (3) An introduction to the relationship between ideas and the creation of three-dimensional objects.

Ideas as Objects (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2002
Prerequisite: portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 120 Beginning Drawing (3) The study and practice of basic drawing as a way of understanding and communicating.

Beginning Drawing (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2002
Prerequisite: portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 165 Artistic Concepts of Space (3) A studio course that utilizes lecture and varied media experiences to investigate space as artistic expression.

ART 165 Artistic Concepts of Space (3)

ART 165 Artistic Concepts of Space is a hands-on studio course supplemented by lecture. It utilizes various media experiences to investigate notions of space in artistic expression. Explorations will include tradtional ways of depicting and constructing space as well as contemporary approaches. Both 2-D and 3-D studio investigations will be employed. A lecture component will provide a historical and cultural backdrop upon which students may better understand the role of special depiction in artistic expression.

Faculty Members Proposing Course: Mike Lucas and Rebecca Strzelec

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 122Y (US) Commentary on Art (3) An introduction to verbal commentary, both oral and written, about art. The development of critical and expressive skills given emphasis.

Commentary on Art (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 166 Artistic Concepts of Form (3) A studio course that utilizes lecture and varied media experiences to investigate form in artistic expression.

ART 166 Artistic Concepts of Form (3)

ART 166 Artistic Concepts of Form is a hands-on studio course supplemented by lecture. It utilizes various media experiences to investigate notions of form in artistic expression. Explorations will include traditional ways of depicting and constructing form as well as contemporary approaches. Both 2-D and 3-D studio investigations will be employed. A lecture component will provide a historical and cultural backdrop upon which students may better understand the role of special depiction in artistic expression.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 168 The Digital Medium (3) A studio course where the computer is introduced as an artistic media.

ART 168 The Digital Medium (3)

This course will provide a much needed introductory technological/digital component wherein computing will be discussed as a media, rather than a tool. Students will be engaged in the creation of artistic manifestations of individual interpretations surrounding themes and concepts introduced in class. Each unit of the course will build upon the next resulting in a knowledge base of the possibilities of what the digital medium includes. Students will be asked to demonstrate their knowledge of the medium with a culminating final project that uses at least four of the techniques demonstrated in class. The final project will be determined by the student, manifestations may include a web site, short film, installation, projects, or performance.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 201 Intro to Digital Arts: Computer Graphics (3) Art 201 is a course introducing digital art, design, and new media concepts using graphic applications on the computer.

ART 201 Intro to Digital Arts: Computer Graphics (3)

This is a course in which the students work with raster graphic, vector graphics and text layout programs. The purpose of the course is to give an introduction to how computer hardware and software can be used to produce works of art and design, which can be exhibited electronically, and also in print. It provides the first step for students interested in realizing their artwork using computers to develop and realize it.

Faculty Member Proposing Course: Carlos Rosas

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 199 (IL) Foreign Studies--Art (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies--Art (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 203 The Art of Web Design (3) This course will focus on utilizing graphic formats ideal for web-based work and designing with web standards.

ART 203**ART 203 The Art of Web Design (3)**

(BA) This course meets the Bachelor of Arts degree requirements.

ART 203 is a 200-level course for the New Media area of concentration in the School of Visual Arts, and will focus on working with different graphic formats, both bitmap and vector based, which work on the web and on designing with web standards to assure accessibility and effective communication of information in a variety of forms.

This course will teach how to meet the present government standards for accessibility by the disabled and the technical and accessibility standards recommended by the World Wide Web Consortium (W3C). The web as a global communication medium will be discussed, with special consideration given to the presentation of sites using languages other than English.

The course will also emphasize the various uses of images to present information in different ways, in a variety of formats - gif, jpg, png, swf and svg - to learn which is the most effective for the particular information being presented. The use of text and typography for communication and how these can make artwork on the web more effective will also be examined.

Clarity and flexibility of art and design, ease of use and creating web-optimized files that download quickly will be other subjects of concern.

There will also be examples and discussion of artists and designers currently using the web, how communication on the web can work well, how it can work badly and how it can be abused.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: ART 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 203 The Art of Web Design (3) This course will focus on utilizing graphic formats ideal for web-based work and designing with web standards.

ART 203**ART 203 The Art of Web Design (3)**

(BA) This course meets the Bachelor of Arts degree requirements.

ART 203 is a 200-level course for the New Media area of concentration in the School of Visual Arts, and will focus on working with different graphic formats, both bitmap and vector based, which work on the web and on designing with web standards to assure accessibility and effective communication of information in a variety of forms.

This course will teach how to meet the present government standards for accessibility by the disabled and the technical and accessibility standards recommended by the World Wide Web Consortium (W3C). The web as a global communication medium will be discussed, with special consideration given to the presentation of sites using languages other than English.

The course will also emphasize the various uses of images to present information in different ways, in a variety of formats - gif, jpg, png, swf and svg - to learn which is the most effective for the particular information being presented. The use of text and typography for communication and how these can make artwork on the web more effective will also be examined.

Clarity and flexibility of art and design, ease of use and creating web-optimized files that download quickly will be other subjects of concern.

There will also be examples and discussion of artists and designers currently using the web, how communication on the web can work well, how it can work badly and how it can be abused.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 211 (US) Introduction to Digital Art and Design Criticism (3) An introduction to the language, aesthetics and cultural impacts of digital art and design in contemporary society.

ART 211 Introduction to Digital Art and Design Criticism (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 211 examines 1) the conventions, language, practices, and aesthetics used by digital artists and designers and 2) the social and cultural implications that they and their works have for society with regard for the contexts of politics, philosophy, economics, race, gender, and technological development. Critical and creative thinking and expression are given primary emphasis in class activities and assignments. The course meets twice weekly and topics are explored through lectures, discussions, readings, presentations by visiting speakers, and out-of-class trips. Course assignments are writing and project based and require students to respond to ideas and concepts presented in class and to develop critiques of digital works through a variety of formats. Assignments include informal in-class projects, media reviews, a course journal, and a final project. Students build writing skills through analyzing assigned readings and developing research- and reflection-based projects about digital art and design. Speaking and listening skills are developed through discussions and collaborative activities.

Course topics explore the:
- social contexts of digital art/design;
- significance of the computer interface to digital art and design;
- practices used by digital artists and designers and their impact on audiences; and
- professional issues, concerns, and controversies affecting digital art/design, artists/designers, and their audiences

Students are required to have access to the Internet and to their University e-mail account.

ART 211 will enroll 25 students and will be offered spring semester.

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 211Y (US) Introduction to Digital Art and Design Criticism (3) An introduction to the language, aesthetics, and cultural impacts of digital art and design in contemporary society.

Introduction to Digital Art and Design Criticism (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 217 Metal Art/Technology I (3) Introduction to current and emerging metal art technologies and processes as medium for conceptual, aesthetic, and functional artworks.

ART 217 Metal Art/Technology I (3)

This course will introduce the student to current and emerging metal art technologies and processes as media for conceptual, aesthetic, and functional artworks. Through an introduction to a wide range of metal art technologies, the student will be able to create new artworks not otherwise possible. These artworks will use the presented technologies to address concepts, aesthetics, and functions directly relevant to the visual arts. Assigned projects will involve a wide variety of skills, techniques and processes including application of design principles, refined generation of components, hot and cold joining, surface texture, CNC (Computer Numerically Controlled) machining, and kinetic systems. The resultant artworks will utilize the presented material as means for design and creation not otherwise possible through other processes. This project-based learning will be reinforced through slide lectures, demonstrations, readings, reflective writings, and critiques. This labor-intensive studio relies upon cumulative learning experience through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and creative use and application of these technologies is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 220 Figure Drawing (3) Drawing from life. Emphasis on developing the ability to comprehend and record the human figure.

ART 220 Figure Drawing (3)

This course is intended to further investigate the art of figure drawing for art majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various conventions used in figure drawing. Students will be given the opportunity to explore many of the traditional materials of drawing, including pencil, charcoal, cont, ink and ink wash, pastel, as well as experimental tools. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which figure drawing functions. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 223 Drawing: Techniques, Materials, and Tools (3) Drawing with an emphasis on organization and the development of drawing skills through a variety of techniques, materials, and tools.

ART 223 Drawing: Techniques, Materials, and Tools (3)

This course is intended to further investigate the art of drawing for art majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various conventions used in drawing. Students will be given the opportunity to explore many of the traditional materials of drawing, including pencil, charcoal, cont, ink and ink wash, pastel, as well as experimental tools. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which drawing functions. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 230 Beginning Sculpture (3) An introduction to sculpture consisting of lectures, demonstrations, and basic studio work coordinated to cover a broad range of processes.

ART 230 Beginning Sculpture (3)

This course is intended to investigate the art of sculpture for art majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various conventions used in sculpture. Students will be given the opportunity to explore many of the traditional materials and processes of sculpture, including additive and subtractive processes, plaster-working, wood fabrication, metal fabrication, and mixed-media usage, as well as experimental tools and processes. Slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which sculpture functions. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 250 Beginning Oil Painting (3) The materials and techniques of painting in oil and their uses in creative painting on panels and canvas.

ART 250 Beginning Oil Painting (3)

This course is designed to teach beginning students the basic fundamentals of painting and introduce them to the visual arts as a vehicle for personal expression. It is divided into technical categories for organizational purposes. The unique process of each discipline structures the course and allows for individual expression from a diversity of students with different skills and interests. The basic skills are introduced and studied through the creative process, from conception of an idea, preliminary sketches, variations, and final painting. Emphasis is placed on understanding the goals for each student and focusing on his or her shortcomings and strengths. While a basic mastery of mimetic painting is aimed at, a diverse range of aesthetic styles is presented. Thus the purpose of this course is to increase the appreciation of the visual arts through studio processes and the development of meaningful critical facility. We hope to educate students who will understand the fundamentals of painting and who will become part of an educated audience for the arts. Hopefully, they will be more imaginative and creative people. The studio emphasis on individual growth allows for flexibility in course structure to accommodate the general education objectives as well as for future painting majors. Creative and visual thinking are innately part of all students and these basic studio courses encourage and nurture them.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 240 Beginning Printmaking (3) An introduction to printmaking consisting of lectures, demonstrations, and studio work to cover a broad range of processes.

ART 240 Beginning Printmaking (3)

This course will consist of lectures, demonstrations, and studio practice in a broad range of printmaking processes. Critiques will be directed toward technical, aesthetic, and historical issues in black and white and color print. Various print collections within the University will be employed to acquaint the students with the work of the professional in the field. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 251 Acrylic Painting (3) Introduction to the materials and techniques of creative painting with acrylic paints.

ART 251 Acrylic Painting (3)

This course is designed to teach beginning students the fundamentals of painting and introduce them to the visual arts as a vehicle for personal expression. It is divided into technical categories for organizational purposes. The unique process of each discipline structures the course and allows for individual expression from a diversity of students with different skills and interests. The basic skills are introduced and studied through the creative process, from conception of an idea, preliminary sketches, variations, and final painting. Emphasis is placed on understanding the goals for each student and focusing on his or her shortcomings and strengths. While a basic mastery of mimetic painting is aimed at, a diverse range of aesthetic styles is presented. Thus the purpose of this course is to increase the appreciation of the visual arts through studio processes and the development of meaningful critical facility. We hope to produce students who will understand the fundamentals of painting and who will become part of an educated audience for the arts. Hopefully, they will be more imaginative and creative people. The studio emphasis on individual growth allows for flexibility in course structure to accommodate the general studio objectives as well as for future painting majors. Creative and visual thinking are innately part of all students and these basic studio courses encourage and nurture them.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 260 Beginning Watercolor Painting (3) Transparent watercolor painting on various papers; knowledge of materials, development of skills and creativity.

ART 260 Beginning Watercolor Painting (3)

This course is designed to teach beginning students the basic fundamentals of watercolor painting and introduce them to the visual arts as a vehicle for personal expression. It is divided into technical categories for organizational purposes. The unique process of each discipline structures the course and allows for individual expression from a diversity of students with different skills and interests. The basic skills are introduced and studied through the creative process, from conception of an idea, preliminary sketches, variations, and final painting. Emphasis is placed on understanding the goals for each student and focusing on his or her shortcomings and strengths. While a basic mastery of mimetic painting is aimed at, a diverse range of aesthetic styles is presented. Thus the purpose of this course is to increase the appreciation of the visual arts through studio processes and the development of meaningful critical facility. We hope to produce students who will understand the fundamentals of painting and who will become part of an educated audience for the arts. Hopefully, they will be more imaginative and creative people. The studio emphasis on individual growth allows for flexibility in course structure to accommodate the general education objectives as well as for future painting majors. Creative and visual thinking are innately part of all students and these basic studio courses encourage and nurture them.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 265 Artistic Concepts of Color (3) A studio course that utilizes lecture and various media to investigate color as artistic expression.

ART 265 Artistic Concepts of Color (3)

ART 265 Artistic Concepts of Color is a hands-on studio course supplemented by lecture. It utilizes various media experiences to investigate notions of color in artistic expression. Explorations will include traditional ways of investigating and creating color as well as contemporary approaches. Both 2-D and 3-D studio investigations will be employed. A lecture component will provide a historical and cultural backdrop upon which students may better understand the role of special depiction in artistic expression.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 266 Artistic Concepts of Light (3) A studio course that utilizes lecture and varied media experiences to investigate light as artistic expression.

ART 266 Artistic Concepts of Light (3)

ART 266 Artistic Concepts of Light provides students with necessary concepts about light. Both 2-D and 3-D studio investigations will be employed. A lecture component will provide a historical and cultural backdrop upon which students may better understand the role of special depiction in artistic expression.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 269 Methods and Materials I (3 per semester/maximum of 9) A studio course that focuses on specific media or techniques reflecting varied faculty expertise.

ART 269 Methods and Materials I (3)

This course,provides students with the opportunity to experience particular areas of visual art in which faculty members have gained significant expertise. Topics will vary as faculty members rotate responsibility for offering the course. The course may be about a specific method, material or theme in which a faculty member is involved. The course is introductory in nature, and students may gain a basic understanding of a specific art form. Students are given the opportunity to explore several types of Art made by scheduling this course more than one semester. One of the goals of the course is to provide students with ways of visually communicating concepts and themes/issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 280 Beginning Ceramics (3) The fundamentals of ceramics, throwing, hand-building, and glazing; acquainting the student with ceramic materials, techniques, and philosophy.

ART 280 Beginning Ceramics (3)

This course is intended to further investigate the art of ceramics for art majors. As a studio offering, emphasis is placed on hands-on studio activities, which promote visual literacy and sensitivity to the various conventions used in ceramics. Students will be given the opportunity to explore many of the traditional materials of ceramics, including functional and nonfunctional applications, stoneware, and high fire glazes. As well, slide presentations, studio visits and museum critiques will augment studio exercises to facilitate a greater awareness of the cultural context in which the field of ceramics functions. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111 and enrollment in the School of Visual Arts or successful completion of an admissions portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 270 Beginning Graphic Design (3) A beginning graphic design studio/lecture course intended to introduce students to the practice of graphic design.

Beginning Graphic Design (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: ART 110S, ART 111, ART 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 290 Beginning Photography (3) Fundamental techniques and approaches to the art of photography utilizing digital photographic technologies; digital cameral required.

ART 290. Beginning Photography (3)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 290 is the first course for students who desire to pursue a concentration in photography. It will focus on the process of making photographs and the development of a critical understanding of photographic images and their evaluation.

In ART, 290 students will develop the habit of taking photographs on a regular basis. Each week, students will be expected to turn in 24 pictures on one of five assignments for review and critique by both instructors and members of the class. Each assignment will be covered over a three-week period.

The topics of the five assignments will vary, but each will focus on important aspects of photography. They may include: portraits, self-portraits, nature photographs, travel photographs, documentary series, experimental images, action assignments, etc. The final assignment will be a self-defined topic that allows the student to explore and work in an area of personal interest. Each topic will be selected to acquaint the student with important aesthetic principals in photography and at the same time advance their technical skill in the process of making photographic images.

As part of the five assignments in ART 290, students will also gain background on the history of photography and the critical evaluation of photographs. For each assignment there will be an accompanying gallery of work by other photographers (professionals, amateurs, and students) on the assigned topic area. Each photograph in the gallery will be accompanied by an "artist's statement" - a written critical statement where the photographer describes his or her work and methods.

Students will be required to complete each of the five assigned topics by submitting a final "gallery" of four photographs with a written "artist's statement" that speaks to the intent, process, and result of their work. Final submissions will help students develop skills in not only making photographs but critically evaluating their own work and articulating their personal means, methods, and objectives as photographers.

Grading will be based on (1) the completion of weekly submissions, (2) the quality of photographs in final submissions for each assignment, (3) attendance, and (4) participation in critiques.

A digital camera is required.

ART 290 will be offered fall and spring semesters.

Faculty member(s) proposing course: Ken Graves, Gerald Lang, and Keith Shapiro

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 297A Basic Photography (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Basic Photography (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 297A IDS Seminar (3) This course is an introductory interdisciplinary seminar for IDS students.

IDS Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 297B Basic Photography (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Basic Photography (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 299 (IL) Foreign Study--Art (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Art (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 302 Digital Portfolio Elements (3) The creation of more involved digital projects that may ultimately be included in the students' digital portfolio.

ART 302 Digital Portfolio Elements (3)

ART 302 DIGITAL PORTFOLIO ELEMENTS (3) This course utilizes relevant digital tools for the completion of more involved projects that may ultimately be included in the students’ digital portfolio. Through completion of the course, students will gain increased ability and independence in the application of relevant digital tools. The structure of the assignments and overall course will prepare and guide the students towards increased professionalism.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ART 201 orART 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 300 Studio Apprenticeship (1-4 per semester/maximum of 8) Direct involvement in the creative process of the artist-teacher in the studio environment.

Studio Apprenticeship (1-4 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1993
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 314 Computer 3-D: Modeling, Rendering, and Animation (4 per semester/maximum of 12) A studio course introducing 3-d computer generated artwork and content creation using modeling, rendering, and animation applications on the computer.

ART 314 Computer 3-D: Modeling, Rendering, and Animation (4 per semester/maximum of 12)

This is a studio course introducing 3-D computer generated artwork and content creation using modeling, rendering, and animation applications on the computer. This course will provide students with an in-depth understanding of 3-D techniques and production strategies for the visual and new media artist through technical exercises and creative exploration of the medium. The course will seek to introduce students to a wide range of digitally generated 3-D based creative work and concentrate on producing and integrating 3-D modeled, rendered, and/or animated work into new media and studio art practice.

This course will explore the nature and potential of digitally generated 3-D artworks through lectures, readings, demonstrations, studio practice, and critiques. Assignments will cover a range of applications used in 3-D studio production.

This course will culminate in the creation of a series of original 3-D generated artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ART 201 and enrollment in the ART BA ART BFA Art Education Interdisciplinary Digital Studio (IDS) or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 315 New Media Art: New Media Studio (4) A studio course concentrating on digital art and new media authoring practices.

ART 315 New Media Art: New Media Studio (4)

(BA) This course meets the Bachelor of Arts degree requirements.

This is a studio art class that focuses on creating, authoring, exhibiting, and critically evaluating interactive multimedia artworks. The course explores experimental uses of new media in the visual arts with emphasis on integrating digital media with current studio practices in two-, three-, and four-dimensional art. In addition to the actual creation of new media artworks, the course will engage students in research methods to advance their skills in new media and help them to develop an understanding of the critical evaluation and assessment of new media artworks.

This course will explore the nature and potential of digital art through lectures, readings, demonstrations, studio practice, and critiques. Assignments will cover a range of digital multimedia applications in sound, image, motion, interactivity, interface design, and media authoring.

The course will culminate in a final multimedia authored project for presentation on the Web, CD-ROM, DVD, or tape.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ART 201 and enrollment in the ART BA ART BFA Art Education Interdisciplinary Digital Studio (IDS) or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 316 Video Art and Time-Based Media (4 per semester/maximum of 8) A studio course concentrating on video art, new media, and experimental time based work.

ART 316 Video Art and Time-Based Media (4 per semester/maximum of 8)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 316 is a studio art class that focuses on creating, authoring, exhibiting, and critically evaluating video and time-based arts. This new media course explores experimental uses of video by visual artists with an emphasis on integrating digital video into current studio practice (i.e., new media digital arts, mixed media, installation, and performance). The course will engage students in research methods to advance their skills in time-based media and to help them develop an understanding of the critical evaluation and assessment of video and time-based artworks.

This course will explore the nature and potential of digital video art making through lectures, readings, demonstrations, studio practice, and critiques. Assignments will cover a range of digital video authoring applications central to video and time-based arts production.

The course will culminate in a video art screening/exhibition of student work.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ART 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 317 Metal Art/Technology II (4 per semester/maximum of 8) Further exploration of current and emerging metal art technologies and processes as medium for conceptual, aesthetic, and functional artworks.

ART 317 Metal Art/Technology II (4 per semester/maximum of 8)

This course will further explore metal art technologies at an intermediate level. Students will apply their knowledge and experience with the source material that they learned in ART 217 to explore further the current and emerging metal art technologies through their physical investigation, integration, and fabrication. Through further exploration of a wide range of metal art technologies, the student will be able to create new artworks not otherwise possible. These artworks will use the presented technologies to address concepts, aesthetics, and functions directly relevant to the visual arts. Assigned projects will involve a wide variety of skills, techniques and processes at an intermediate level that will build upon the application of design principles, fabrication skills, use of current and emerging technologies, and kinetic systems. This project-based learning will be reinforced through lectures, demonstrations, readings, reflective writings, and critiques. This labor-intensive studio relies upon cumulative learning through advanced projects. Competency expected in numerous new skills and techniques, and creative innovation in the use and application of these technologies is essential to the success of completed artworks. Projects and assignments will be based upon the further integration of concepts and ideas.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 217, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 318 New Media Art: Game Art (4 per semester/maximum of 8) A studio course concentrating on game art and new media authoring practices.

ART 318 New Media Art: Game Art (4 per semester/maximum of 8)

This course will concentrate on creating, authoring, exhibiting, and critically evaluating interactive games as creative vehicle for self-expression. This course will focus on creative work that is exploratory and experimental and engage students in research methods to advance their skills and critical competence in new media.

This course will explore the nature and potential of digital art through lectures, readings, demonstrations, studio practice, and critiques. Assignments will cover a range of digital multimedia applications in sound, image, motion, interactivity, interface design, and media authoring.

The course will culminate a final interactive game authored project for presentation on the Web, CD-ROM, or DVD.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: ART 314, ART 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 320 Advanced Drawing (4 per semester/maximum of 8) Drawing for art majors; emphasis on sustained individual approaches based on figurative and nonfigurative sources.

ART 320 Advanced Drawing (4 per semester/maximum of 8)

This course is for students who have a firm commitment in the arts, who have adequate background in the use of techniques and materials, and who have experimented with a variety of approaches to subject matter. This course is designed to focus and develop personal approaches to subject matter and to encourage a sustained interest in work. Portfolios will be graded and midterm and at the end of the semester. In addition to the portfolio requirements, each student will give a presentation on a contemporary artist whose work has in some way influenced your own current body of work. Critiques will be regularly scheduled. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

Faculty member Proposing Course: Robert Yarber

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 220, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 319 Physical Computing (4 per semester/maximum of 8) A studio course concentrating on interactive physical systems using software/sensors that can sense and respond to the analog world.

ART 319 Physical Computing (4 per semester/maximum of 8)

This is a course that looks at alternative techniques for engaging an audience with computer-based art, aside from the familiar monitor-mouse dialog. The course introduces students to haptic systems, interactive environments, dynamic control systems, procedural video/audio and the creation of work that is exploratory and experimental. Through readings, discussions, design of individual and collaborative projects, students are expected to develop an articulate, theoretical basis for conceptualizing and discussing works presented in class as well as their own creative projects. Assignments will cover both a technical introduction to basic electronics, analog circuit design, and microcontrollers as well as design concepts and philosophies for building interactive art objects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: ART 201 and enrollment in the ART BA ART BFA Art Education Interdisciplinary Digital Studio or Integrative Arts degree programs

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 330 Intermediate Sculpture: Metal Fabrication and Mixed-media (4 per semester/maximum of 8) Development of technical and conceptual skills through metal fabrication, weld ing, and mixed-media processes.

ART 330 Intermediate Sculpture: Metal Fabrication and Mixed-media (4 per semester/maximum of 8)

This course is for students who have a firm commitment in the arts, who have adequate background in the use of techniques and materials, and who have experimented with a variety of approaches to subject matter. This course is designed to focus and develop personal approaches to subject matter and to encourage a sustained interest in work. Readings, lectures, movies, and demonstrations will introduce students to the materials and techniques used in the various sculpture processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 230, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 331 Intermediate Sculpture: Metal Casting and Mold-Making (4 per semester/maximum of 8) Development of technical and conceptual skills through metal casting and mold- making processes.

ART 331 Intermediate Sculpture: Metal Casting and Mold-Making (4 per semester/maximum of 12)

This course is for students who have a firm commitment in the arts, who have adequate background in the use of techniques and materials, and who have experimented with a variety of approaches to subject matter. This course is designed to focus and develop personal approaches to subject matter and to encourage a sustained interest in work through the development of technical and conceptual skills through metal casting and mold-making. Students will learn both traditional and non-traditional ways of making sculptural objects that use these skills as primary means of artistic communication. Readings, lectures, movies, and demonstrations will introduce students to the materials and techniques used in the various sculpture processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 230, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 338 The Body: Issues and Objects (4 per semester/maximum of 8) Creating representations of the human body and related objects as a means of sculptural expression.

ART 338 The Body: Issues and Objects (4 per semester/maximum of 8)

This course is for students who have a firm commitment in the arts, who have adequate background in the use of techniques and materials, and who have experimented with a variety of approaches to subject matter. This course is designed to focus and develop personal approaches to subject matter and to encourage a sustained interest in work through the exploration of both historical and contemporary artmaking practice concerning the representation of the human body and objects related to the body. Students will learn both traditional and non-traditional ways of making sculptural objects that use the body as a primary means of artistic communication. Readings, lectures, movies, and demonstrations will introduce students to the materials and techniques used in the various sculpture processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 230, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 340 Printmaking (4 per semester/maximum of 8) Development of technical and expressive skills through selected problems in one or more of the print processes.

ART 340 Printmaking (4 per semester/maximum of 8)

This course is for students who have a firm commitment in the arts, who have adequate background in the use of techniques and materials, and who have experimented with a variety of approaches to subject matter. This course is designed to focus and develop personal approaches to subject matter and to encourage a sustained interest in work. Readings, lectures, movies, and demonstrations will introduce students to the materials and techniques used in the various printmaking processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 341 Intermediate Printmaking: Intaglio/Relief (4) Instruction and practice in the fundamentals of intaglio and relief printmaking processes in their relation to the fine arts.

ART 341 Intermediate Printmaking: Intaglio/Relief (4)

This course is designed for the student who is interested in expanding her/his image making vocabulary through intaglio and relief printmaking processes. It will expose students to the history and practice of these processes, and will prepare students to competently produce original works.

Readings, lectures, and demonstrations will introduce students to the materials and techniques used in the various intaglio and relief processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals.

This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of complete artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 342 Intermediate Printmaking: Lithography/Serigraphy (4) Instruction and practice in the fundamentals of the lithographic and serigraphic processes and their relationship to the meaning of the print.

ART 342 Intermediate Printmaking: Lithography/Serigraphy (4)

This course is designed for the student who is interested in expanding her/his image making vocabulary through lithographic and serigraphic printmaking processes. It will expose students to the history and practice of these processes, and will prepare students to competently produce original works.

Readings, lectures, and demonstrations will introduce students to the materials and techniques used in the various lithographic and serigraphic processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals.

This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 343 New Media Printmaking (4 per semester/maximum of 8) A studio course concentrating on the integration of new media and traditional printmaking processes.

ART 343 New Media Printmaking (4 per semester/maximum of 8)

ART 343 is a studio art class that focuses on creating and critically evaluating printed media. Problem solving with new and traditional print technologies will allow the student to use both the computer and the printing press as a means to a creative end. Students will acquire the skills to critically participate in our technology driven culture, while at the same time they will develop an appreciation for the aesthetics of the handmade. This course will explore the nature and potential of printed media through lectures, readings, demonstrations, studio practice, and critiques. Various conceptually driven assignments will cover a range of graphic computer programs (Adobe Photoshop and Adobe Illustrator) and specific print outputs (digital, photo litho, photo etching and serigraphy) These assignments will engage students in research methods to advance their skills in printed media and help them to develop an understanding of the critical evaluation and assessment of Art.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 201 orART 240, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 350 Intermediate Painting (4 per semester/maximum of 8) A variable offering in painting; course conditions defined on a rotating basis according to needs of individuals and groups.

ART 350 Intermediate Painting (4 per semester/maximum of 8)

This course is will further develop painting techniques, using the genres of landscape, still life, and painting from the model, collage, abstraction, and some digital applications. Examples from past and contemporary painting practice will be presented and discussed. Particular emphasis will be placed upon the development of a critical awareness concerning processes and content. Readings and discussions will focus on contemporary cultural and political issues. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experience through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their creative use and application is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 250, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 365 Themes and Issues I (3) An advanced studio course that emphasizes individual approach to theme oriented problem solving through traditional and non-traditional multi-media explorations.

ART 365 Themes and Issues I (3)

ART 365 contains a common course theme wherein students will be asked to build a series of three completed works in diverse materials and techniques. Students will work to build clear concepts that are communicated through objects and images. Beginning with a thorough investigation of how artists of all fields (music, architecture, design, writing, theatre etc.) have interpreted the theme students will be guided through research, brainstorming, and concept development activities. During this they will be asked to keep a journal which documents their process through written descriptions and comments but also image based resources, sketches, diagrams, and in progress photographs. Students will be urged to complete pieces that are conceptually linked so as to begin working in series. At the completion of each piece, students and faculty will conduct group critiques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 360 Water-Based Media (4 per semester/maximum of 8) Practice in traditional techniques of transparent watercolor and experiment with opaque water paints in both representational and abstract expressions.

ART 360 Water-Based Media (4 per semester/maximum of 8)

This course is will further develop water-based painting techniques, using the genres of landscape, still life, and painting from the model, collage, abstraction, and some digital applications. Examples from past and contemporary water-based painting practice will be presented and discussed. Particular emphasis will be placed upon the development of a critical awareness concerning processes and content. Readings and discussions will focus on contemporary artistic, cultural and political issues. Readings, lectures, movies, and demonstrations will introduce students to the materials and techniques used in the various water-based painting processes as well as maintain a focus on contemporary cultural and political issues. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 260, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 366 Themes and Issues II (3) An advanced studio course that emphasizes individual approach to theme oriented problem solving through traditional and non-traditional multi-media explorations.

ART 366 Themes and Issues II (3)

ART 366 contains a common course theme wherein students will be asked to build a series of three completed works in diverse materials and techniques. Students will work to build clear concepts that are communicated through objects and images. Beginning with a thorough investigation of how artists of all fields (music, architecture, design, writing, theatre etc.) have interpreted the theme students will be guided through research, brainstorming, and concept development activities. During this they will be asked to keep a journal which documents their process through written descriptions and comments but also image based resources, sketches, diagrams, and in progress photographs. Students will be urged to complete pieces that are conceptually linked so as to begin working in series. At the completion of each piece students and faculty will conduct group critiques and each student will mount a smale-scale individual exhibition at one of the many available areas for exhibition on campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266, ART 365

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 380 Intermediate Throwing (4 per semester, maximum of 12) Intermediate ceramics course with focus on using wheel and throwing skills leading to personal expression in form, glazing, and firing.

ART 380 Intermediate Throwing (4 per semester/maximum of 12)

The purpose of this course is to explore the use of the wheel. Various types of forms will be addressed such as bowls, covered jars, and vases. Technical skills will be learned with the goal to use them to create a personal means of expression via the wheel. Both traditional and nontraditional vessels will be created. Forming, trimming and glazing techniques will be covered. There will be both group and individual critiques along with slide presentations and demonstrations. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 280, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 381 Intermediate Handbuilding (4 per semester, maximum of 12) An intermediate ceramics course with a focus on handbuilding techniques, leading to personal expression in forming, glazing, and firing.

ART 381 Intermediate Handbuilding (4 per semester/maximum of 12)

The purpose of this course is to explore different means of expression with the techniques of handbuilding. Clay is unlike any other material in that it can be transformed into virtually anything. Some of the forming methods which be addressed are coil, slab, carving, modeling and slump/press molds. The course will have assignments that are technically challenging, but will call on creative and artistic abilities. Slide presentations and group and individual critiques will be part of the curriculum. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 280, ART H 111, ART H 112 and enrollment in the ART BA ART BFA ART Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 390 Introduction to Photochemical Photography (4) Introduction to the fundamentals of black and white photochemical photography.

ART 390 Introduction to Photochemical Photography (4)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 390 will explore the art and science of 35mm black and white photography. It will introduce students to chemically based photography as a process and continue to advance their skill and background as photographers.

In the course, students will learn about film cameras and their operation, basic film types, film developing and processing, and basic photochemical printing practices. Students will also develop skills through experience in making, developing, printing, and presenting photographs created through photochemical processes. Each student will be required to turn in 20 contact sheets (36 exposures each) during the semester on required weekly assignments and develop a final project containing 25 mounted 8 x 10 black and white prints.

40% of the semester grade will be based on the final project, 40% on weekly assignments, and 20% on quizzes.

A 35mm film camera with adjustable shutter speeds and aperture settings and a light meter (hand-held or built into the camera) is required. In addition, materials (film, photo paper, developing tanks, photo thermometer, etc.) will cost around $300 to $350.

ART 390 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2003
Prerequisite: ART 110S, ART 111, ART 120, ART 290 and successful portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 397A Digital Hand (4) Engineering, digital, and manual fabrication for artists.

Digital Hand (4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 399 (IL) Foreign Study--Art (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Art (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 402 Portfolio Design and Professional Practices (3) This course emphasizes the development of presentation skills for digital artists in audience/client interactions.

ART 402 Portfolio Design and Professional Practices (3)

ART 402 PORTFOLIO DESIGN AND PROFESSIONAL PRACTICES (3) is the concluding experience for all students enrolled in the Digital Arts Certificate (DAC) program. The course provides opportunities for students to learn about the practical application of professional practices and portfolio development tools specific to careers that require knowledge of digital art and design principles and culminates in the development of a professional-quality creative portfolio. The course prepares the DAC student with the skills, knowledge, and ability to 1) communicate a critical understanding of his/her work through the articulation of goals, critique, and self-assessment; 2) identify, assess, and evaluate tools and information necessary to maintaining current and effective techniques for written and visual self-presentation; and 3) prepare and present online a professional-quality creative portfolio of digital art/design works and appropriate supporting documentation.

The course is taught fully online and comprises coursework supported by online presentations and guest talks, assigned readings, and other resources and reference materials relevant to the professional development of digital artists and designers. Course topics include: 1) the role of the portfolio, 2) selecting portfolio ingredients and how to adapt them for different audiences, 3) selecting/composing supporting documentation for the creative portfolio, 4) developing a professional-level online presentation of the digital portfolio, 5) locating and evaluating resources for the digital arts/design professional and 6) identifying professional practices relevant for individuals working in digital art and design. Students engage in both individual and team-based projects and interactions via activities such as asynchronous group discussions and guest talks delivered by streaming media.

Assessment is based on the quality of the student’s work and participation in individual and team-based projects and activities that include online discussions, peer-reviews, collaborative research, and the development of an online presentation for the creative portfolio. Students receive regular individual and group feedback throughout the course in the form of instructor and peer reviews and critiques. Formal assessment occurs at regular intervals in a manner that evaluates both individual and group components of assigned tasks and activities. Students are expected to positively contribute to the course through active engagement in online discussions, team-based work and activities, and peer reviews. Course assignments include creative and written components and provide multiple ways for students to engage in various forms of professional development, self-evaluation, and critique.

Students are required to have access to the Internet.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ART 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 405 Advanced Studio Art (3 per semester/maximum of 9) Advanced work in drawing and painting, with an emphasis on individual development.

Advanced Studio Art (3 per semester/maximum of 9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 6 credits of ART or A ED or graduate level status or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 411 (US) Seminar in Contemporary Art (3 per semester/maximum of 6) Trends in contemporary art investigated within the framework of studio visitations, museum tours, and through other related avenues of encounter.

ART 411 Seminar in Contemporary Art (3)

This seminar on contemporary art exposes students to artistic practices and to the advanced-level critical discourses accompanying them. It is relevant to all students interested in expanding their knowledge of contemporary art and essential to BFA students who are encouraged to take the course more than once. The only prerequisite for this course is ART 122W. The seminar’s intimate format allows for discussions and a convivial examination of the pluralistic expressions of contemporary art while articulating it with theory and criticism.

From an international perspective, this seminar focuses on art since the 1960s. Besides more traditional artistic expressions such as painting, sculpture, photography, installation, performance and video, the course examines networked collaborations before and after the Internet, art and social activism, and a range of new media and new genre artistic practices. The conceptual issues these works raise include among others the dematerialization of the art object, issues of site-specificity and public art, and institutional critique. The course approaches these developments through artists’ writings and essays in contemporary theory and criticism. Works of art are presented through videos, power points, films, performances, gallery visits, field trips, and discussions of related essays. Critical "reading" includes an extensive introduction to the work’s historical contexts, readings from primary source materials, and the exploration of critical methods of analysis. From a cross-disciplinary perspective—including historical, esthetic and philosophical approaches—this course examines principles, assumptions, and tensions inherent in artist’s works as well as in our responses to them.

Student evaluation is based on short written papers such as an exhibition review or an interview, participation in class discussions, and a creative project (ranging from a web site to an installation, artist’s book, or a performance), which must reflect a general understanding of the issues addressed in the course. The course is offered at least once a year with the enrollment of 15 students.

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 122Y, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 409 (ART H 409) Museum Studies (3) An introduction to the professional activities that occur in art museums.

ART (ART H) 409 Museum Studies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces students to the broad field of art museum work, specifically museum administration, education, curatorial work, registration, and exhibition design. Readings by authors in each field provide current theoretical and philosophical frameworks for all areas, which are then followed by discussions and practical experiences with professional museum practitioners, including the staff of a museum, for example, the Palmer Museum of Art, and invited guests. Museum Studies is open to students who have complete six credits in art, art education, or art history. This course is especially beneficial for majors in art, art education, and art history who are considering a career in an art museum or who want to become more aware about how an art museum functions. In addition to providing an in-depth introduction to art museum work, the course encourages students to build the critical thinking and response skills that are crucial to success in the real-world environment of a museum. The readings provide a solid foundation for later reference or further study in the student's chosen field. Offered every spring, this course will have a maximum enrollment of 20 students. Grades are based on class participation, four out-of-class projects, and a final project. Extra credit is offered for an off-campus visit to a museum, among other options.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2004
Prerequisite: 6 credits of ART H ART and/or A ED

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 413 Performance Art (3) The development, production, and presentation of performance art works, and the study of performance art theory and history.

ART 413 Performance Art (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will consist of lectures, readings, demonstrations, critiques, and studio practices in performance art. The course will begin with introductory exercises aimed toward the use and understanding of objects, images, materials, and actions of the body as performance elements. Performance assignments will range from autobiographical works to those which will address political issues effecting art and the body today such as sexuality, ethnicity, health, ecology, the art market, government intervention, and others. Reading and discussion assignments will cover the theory and history of performance art in the twentieth-century.

Performance Art Paper: One week after the second performance project, students will be required to submit a paper that defines performance art. The paper should be typewritten, double-spaced, and three pages in length. In addition, it should contain a page for references that indicates at least five sources that have been used from the course reading list to support arguments.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2000
Prerequisite: 4 credits of 300-level art or graduate level status or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 416 Advanced Web and Net Art: Multimedia Publishing (4 per semester/maximum of 12) A studio course concentrating on multimedia online "net art" practice and Web publishing.

ART 416 Advanced Web and Net Art: Multimedia Publishing (4 per semester/maximum of 12)

(BA) This course meets the Bachelor of Arts degree requirements.

This is a studio art class that focuses on creating, authoring, exhibiting, and discussion online art practice. "Net Art" has become an important form of new media art creation and exhibition. The course explores experimental uses of new media in the visual arts with emphasis on integrating net art and design practice in cyberspace with current studio practices in two, three, and four (time based) dimensional art. In addition to the actual creation of new media artworks, the course will engage students in research methods to advance their skills in new media art and design and help them to develop an understanding of the critical evaluation and assessment of new media artworks created specifically for the web. The course will also explore various methods and strategies for exhibiting and publishing artworks on the web and creating online portfolios.

The course will examine and explore the potentials of net-based art through lectures, readings, demonstrations, creative practice in studio, critiques, and actual web-published exhibitions. Assignments will cover a range of digital multimedia applications in sound, image, motion, interactivity, interface design, and media authoring.

The course will culminate in an online exhibition and personal portfolio sites published on the web.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: ART 203, ART 315 and 8 credits of 300-level new media

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 415 Integrating Media: Convergence in Practice (4 per semester/maximum of 12) A studio course concentrating on the integration of new media technologies in contemporary art practice.

ART 415 Integrating Media: Convergence in Practice (4)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will concentrate on the integration of technologies into contemporary studio art practice. Emphasis will be placed on the convergence of digital, interactive, and time-based experiences within current studio practice. Assignments will cover a range of digital multimedia applications in sound, image, motion, interactivity, interface design, and media authoring. The course will culminate in a final large-scale collaborative media project, group show, installation, video screening, and/or class web presentation. This course will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 417 Metal Art/Technology III (4 per semester/maximum of 12) Advanced exploration of current and emerging metal art technologies and proces ses as medium for conceptual, aesthetic, and functional artworks.

ART 417 Metal Art/Technology III (4 per semester/maximum of 12)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will continue exploration of metal art technologies at an advanced level. This course will also cover technologies related to professional preparation, such as mass production options, presentation approaches, and interfacing with suppliers. The convergence of metal art technologies as source material (ART 217) and its further integration with emerging technologies (ART 317) will serve as the basis for students; creative works that intersect art, function, and technology. Through this advanced exploration of a wide range of metal art technologies, the student will be able to create new artworks not otherwise possible. These artworks will use the presented technologies to address concepts, aesthetics, and functions directly relevant to the visual arts.

Assigned projects will involve a wide variety of skills, techniques and processes at an advanced level that include the application of design principles, advanced metal forming techniques, research and construction of mechanical, kinetic, and electronic systems, and independently focused explorations. This project-based learning will be reinforced through slide lectures, demonstrations, readings, reflective writings, and critiques.

This labor-intensive studio relies upon cumulative learning experience through increasingly advanced projects. Competency is expected in numerous new skills and techniques, and creative innovation in the use and application of these technologies is essential to the success of completed artworks. Projects and assignments will be based upon the advanced integration of concepts and ideas.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2005
Prerequisite: ART 317

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 419 Advanced New Media: Capstone (4 per semester/maximum of 8) A new media and digital arts capstone course concentrating on the integration of art and technology in advanced thesis projects.

ART 419 Advanced New Media: Capstone (4 per semester/maximum of 8)

This is an advanced senior level capstone experience for new media. The course concentrates on advanced media theory and discourse, the integration of new media technologies into contemporary studio art and design practice, and on the creation and documenting of senior thesis projects. The course will focus on the final preparation of professional portfolios. The course will follow a studio/seminar model.

Student thesis projects may cover a range of digital multimedia applications in sound, image, motion, interactivity, interface design, 2D, 3D, 4D media authoring, etc. in relation to their focus in new media art and design practice.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: ART 315, ART 203 orART 416 and 12 credits of 300/400-level new media senior or graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 421 Drawing (4 per semester/maximum of 12) Drawing for advanced students, with total emphasis on sustained individual approaches.

Drawing (4 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: ART 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 422 Advanced Figure Drawing (4 per semester/maximum of 8) Concentrated work in recording and understanding the human figure.

Advanced Figure Drawing (4 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1998
Prerequisite: ART 220 8 credits of 300-level art courses

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 430 Advanced Sculpture (4 per semester/maximum of 12) Advanced work in sculpture, with an emphasis on individual development.

Advanced Sculpture (4 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: ART 330, ART 331 12 credits of 300-level sculpture

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 431 Installation Art (4) Study and production of original visual statements through installation work as an art form.

Installation Art (4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: 4 credits of 300-level art or graduate level status

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 440 Advanced Printmaking (4 per semester/maximum of 12) Individual projects in one or more of the printmaking processes. Emphasis is on developing a portfolio of prints.

Advanced Printmaking (4 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1998
Prerequisite: 4 credits of 300-level printmaking courses 8 credits total of 300-level art courses

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 445 Handmade Papermaking (4 per semester/maximum of 12) Papermaking will involve experimentation with methods of forming works of art with handmade paper and three-dimensional paper pulp pieces.

ART 445 Handmade Papermaking (4 per semester/maximum of 12)

This course will consist of lectures and demonstrations of the various pulp and papermaking processes with shop working sessions enabling students to work on projects using the various processes. Oral group critiques will be given periodically to judge the technical competence as well as the aesthetic and artistic qualities of the works completed. We also plan visits to working papermills and to professional artists paper shops to expose the students to the chemical aspects of pulp and papermaking and to the various professional methods of building handmade paper images. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 447 Photo Based Printmaking (4) Study and production of original visual statements through photographic based printmaking as an art form.

ART 447 Photo Based Printmaking (4)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will consist of lectures, demonstrations, and studio practice in production of graphically based art prints. Each student will produce original prints in each of the printing techniques presented.

Specific lectures, demonstrations, and projects will include photo based prints through: 1)Serigraphy, 2)Intaglio, 3)Gum Bichromate, 4)Cyanotype, 5)Van Dyke Brown, 6)Adobe Photoshop

A particular emphasis will be placed upon the use of the computer as a tool in the production of images. The digital negatives produced during the computer instruction in this course will be employed in all of the other printing processes.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2000
Prerequisite: ART 240 4 credits of 300-level Art courses or graduate level status

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 446 Artists Books (4) Study and production of original visual statements through the book as an art form.

ART 446 Artists Books (4)

This course will consist of lectures, demonstrations, and studio practice in production of artists books. Lectures and demonstrations will include hand papermaking, signature binding, book design, new and alternative book forms, and container construction. Each student will produce six either unique or editioned books during the semester; each book will have a mock up, title, colophon page, and will be signed. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: ART 110S, ART 111, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 450 Advanced Painting (4 per semester/maximum of 12) Development of the artist through a series of commitments; each semester serves as a contractual agreement along professional lines.

Advanced Painting (4 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: ART 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 455 Advanced Painting Critique (4 per semester/maximum of 8) The painter in relation to his peers and his profession.

Advanced Painting Critique (4 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: senior or graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 460 Advanced Water-Based Media (4 per semester/maximum of 8) Further practice in the use of watercolor and related media.

Advanced Water-Based Media (4 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: ART 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 465 Individual Approaches I (3) An advance studio where students are expected to explore personal themes and individual concepts in their art work.

ART 465 Individual Approaches I (3)

ART 465 is an advanced studio course concentrating on creating art within a series. Students will be asked to complete 4-6 pieces that stem from an individual idea. Medium is open and can be traditional or non-traditional. Students will be required to document and maintain a journal outlining the steps needed to complete each piece. Weekly formal and/or informal critiques will allow students constant feedback of their progress.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266, ART 365, ART 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 466W Individual Approaches II (6) An advance studio/lecture addressing the preparation for potential employment and/or entrance into graduate studies.

ART 466W Individual Approaches II (6)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 466W is the Visual Art Studies capstone experience where students are given the opportunity to experience the professional aspects of a practicing artist. In addition to completing the last 2-4 pieces toward their exit portfolio students will address vital activities surrounding applying for employment and graduate school. Students will create "packets" including resumes, cover letters, post cards, slides, and portfolio CDs that can be used directly out of school for various calls and job listings. In addition topics that will be addressed in depth are photo-documentation, and inventory of work through database maintenance. All of these issues will culminate with small group exhibitions which will be curated, installed, and promoted by the students.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2007
Prerequisite: ART 165, ART 166, ART 265, ART 266, ART 365, ART 366, ART 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 469 Methods and Materials II (3 per semester/maximum of 9) A studio course that focuses on specific media or techniques reflecting varied faculty expertise.

ART 469 Methods and Materials II (3)

This course provides students the opportunity to experience particular areas of visual art in which faculty members have gained significant expertise. Topics will vary as faculty members rotate responsibility for offering the course. The course may be about a specific method, material or theme in which a faculty member is involved. The course is in depth in nature, and students may gain an advanced understanding of a specific art form. Students are given the opportunity to explore several types of Art made by scheduling this course more than one semester. One of the goals of this course is to provide students with ways of visually communicating concepts and themes/issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 265, ART 269

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 468 The Intermediate Digital Medium (3) An advanced studio course using the computer as an artistic media.

ART 468 The Intermediate Digital Medium (3)

This course will provide the much needed advanced technological/digital component wherein computing will be discussed as a media, rather than a tool. Students will be engaged in the creation of graphic/moving/three-dimensional imagery and sound that explores themes and concepts introduced in class. While most of the course will center around the use of industry standard computers there will be some forays into hardware associated with production, sound, and projection of images.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ART 165, ART 166, ART 168

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 475 (US) (ART H 475) Contemporary Women Artists (3) An interdisciplinary course that investigates women artists who were integral to the production of contemporary art primarily in the Americas, Europe, and Asia.

Contemporary Women Artists (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: fifth-semester standingART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 476 (ART H 476) History and Theory of Digital Art (3) History and theories of contemporary digital art emphasizing humanistic approaches to technology.

ART (ART H) 476 History and Theory of Digital Art (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Approaches to Digital Art is a survey class that will offer the web designer, cyberspace architect, MUD traffic controller or enthusiastic surfer an opportunity to examine the humanistic aspects of contemporary digital art. Through readings and direct interaction with digital media and digital artists, the class will develop an appreciation of the ways in which the interface between human beings and technology has been historically constructed and is subject to critical investigation. The goal of the class is to prepare each student so that she or he may engage with digital media in a way that is every more historically and socially self aware.

Students will address the ways in which digital technologies transform artistic practices such as museum display, the writing of art criticism, the definition of works of art, changing role of the artist and the changing space of the art studio. More important, however, by engaging with digital works of art students will learn to think critically about technology and its engagement with culture at large. They will be encouraged to think about the political, economic and social impact of digital technologies. This humanistic approach to technology would make this course particularly useful to students of art history, philosophy, comparative literature, art education, and the visual/plastic arts. A significant portion of the course will be devoted to the ways in which art on the internet and digital art in general challenge the integrity of categories such as race and national identity. For example, students will have an opportunity to engage with African American artists such as Keith Obadike, whose on-line performances include an attempt to put his "blackness" up for sale on ebay.com in August of 2001. Students may also look at the ways in which net.art (Art made to be viewed on the internet) can critique commercial cooptation of global culture: etoy.com, for example, is an international and collaborative artist's group that satirizes global capital by camouflaging itself as a multinational corporation.

This class will depend largely upon written responses and class discussion, rather than upon tests. Thus, students will learn how to approach difficult theoretical sources that have been assigned to them, and they will learn how to ask the kinds of questions that will help them understand such sources. This course will emphasize critical thinking rather than memorization, so students will develop analytical skills that will be useful in many other contexts. Because students will be given weekly writing assignments, they will be able to improve their skills in composition.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2007
Prerequisite: ART H 100 orART H 112 orART H 307 orART H 325 orART H 326 orART 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 480 Advanced Ceramic Arts (4 per semester/maximum of 12) Individual exploration of ceramic materials and construction leading to graduate study or career development as a professional potter.

Advanced Ceramic Arts (4 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: ART 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 481 Ceramic Materials and Glaze Calculation (3) The study of raw materials and their use in formulating clays and glazes.

ART 481 Ceramic Materials and Glaze Calculation (3)

The purpose of this course is the study of raw materials and their use in formulating clays and glazes. Emphasis will be placed upon proper, safe handling of materials, accurate and effective combinations, and the correlation between chemical interactions and their aesthetic and functional outcomes. All explorations will be integrated into completed ceramic works of art comprising a new portfolio of work. Readings, lectures, movies, and demonstrations will introduce students to the materials and techniques used in the various ceramic materials and glaze calculation processes. Projects will be assigned throughout the semester and group critiques will be scheduled at regular intervals. This labor-intensive studio relies upon cumulative learning experiences through increasingly demanding projects. Competency is expected in numerous new skills and techniques, and their application in creating visually compelling concepts is essential to the success of completed artworks.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: ART 280, ART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 490 View Camera Photography (4) Experience with diverse camera formats and applications; particular emphasis on view camera.

ART 490 View Camera Photography (4)

(BA) This course meets the Bachelor of Arts degree requirements.

ART 490 will provide students with experience in diverse camera formats and application with particular emphasis on view camera and its creative applications.

The course will give students background in the history of large format photography and understanding of its application in specialized fields such as architectural photography, portraiture, and landscape photography. Students will gain experience in view camera operation and the creation of large format photographs in a variety of different applications.

Grading will be based on a minimum of five projects that will account for 80% of the semester grade. The remaining 20% of the semester grade will be based on participation in class critiques. The final course grade will be dropped one full grade for each absence or late submission beginning with the second late submission or absence.

ART 490 will be offered in the fall semester each year.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2002
Prerequisite: ART 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 497A Painting, Living and Healing in the Quantum Field (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Painting, Living and Healing in the Quantum Field (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 497A Digital Moldmaking (4) Moldmaking for ceramics using computer aided design and digital fabrication.

Digital Moldmaking (4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 497B Pattern and Decoration (4) Exploration of Pattern and Decoration as it relates to Abstraction and Function. Ceramic Materials and techniques will be used.

Pattern and Decoration (4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 497D Painting, Emotional Intelligence and Health (3) Course addresses the question "Why Make Art?" And the reason why art outlives empire.

Painting, Emotional Intelligence and Health (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 497C Art and Life: Where They Intersect (4) The connection between life and art will be explored with mixed media and seminar and studio practices.

Art and Life: Where They Intersect (4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art (ART)

ART 499 (IL) Foreign Studies--Art (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies--Art (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 101S Introduction to Art Education (3) This course introduces students to issues, concepts, and ideas in Art Education.

A ED 101S Introduction to Art Education (3)

The objective of the course is to introduce students to basic ideas, areas of inquiry, and experiences in art education. This will be a required course that serves as the first of a sequence of courses in the Art Education major and will provide a beginning point for the rest of the courses in the major. The Art Education Program has two emphases. The first leads to public school teacher certification and the second to an understanding of arts education in settings such as museums and community arts organizations. This introductory course will be broadly based and the content and will be applicable to students in both emphases. This course will be conducted in a seminar format. Evaluation methods for the course will include, for example, critical response papers to readings, observation reports of early field experiences, tests, and portfolio assessment.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 201W History and Philosophy of Art Education in Schools and Cultural Institutions (3) Introduction to historical, philosophical, and sociological foundations art education in schools and cultural institutions, museums, and community organizations.

A ED 201W History and Philosophy of Art Education in Schools and Cultural Institutions (3)

Art education is not an isolated phenomenon; art teaching and learning has always occurred in the context of broader cultural changes and a range of social factors, including technological developments and population diversity. This course examines the historical, philosophical, and sociological foundations of art education in the United States. Art education can be found in a variety of formal and informal settings, including schools, community arts organizations and museums. Students will examine questions such as, what was the purpose of teaching art in the past? Was art study a means to improving social status, to attaining technical literacy, or to vocational training? Did education in art promote a democratic way of life? Or did it help reproduce existing divisions of race, gender, class, and ethnicity in American society? This course examines past and present developments in art education, paying special attention to the relation of art teaching and learning in contexts of art worlds, schooling, cultural institutions, and changing demographics. While the course will focus on art education in the United States, art education in a global context will be addressed as appropriate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 211 (GA) Interpreting Art Experience: Social and Behavioral Perspectives (3) Examination of psychological, cultural, aesthetic, philosophical and educational perspectives on creation and response to art in children, adolescents and adults.

A ED 211 Interpreting Art Experience: Social and Behavioral Perspectives (3) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine the shared human experience of making and responding to visual images and artifacts from the broadest possible range of perspectives, encouraging students to develop an understanding of the role of art experience in their own lives and in the lives of others. How art is learned within specific cultures and subcultures, how understanding and appreciation of particular images and objects evolves, and how experience and learning interacts with fundamental processes of perception, cognition, and interpretation are central themes. Students will draw upon their own personal and cultural histories and consult accounts written by others to explore the role of visual art in contemporary life. Classic and contemporary studies of artistic development and aesthetic response will be reviewed through well-illustrated lectures and amplified through students' active involvement in small scale, collaborative research studies based upon methods commonly used to study the art experience of children, adolescents, and adults without professional expertise in the visual arts; these activities will include close observation, interviews, and the design of preference and drawing studies. As a final course project, each student will construct a case study of a child, adolescent, or adult which describes in detail one perspective on that individual's experience of art in the home, school, museum, and/or other cultural institutions and settings.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 225 (GA;US) Diversity, Pedagogy, and Visual Culture (3) Issues of diversity in art, education, visual culture, and pedagogy.

A ED 225 Diversity, Pedagogy, and Visual Culture (3)
(GA;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This interdisciplinary course will serve to introduce students to critical understandings of issues of diversity, as they arise in contexts such as the art world, cultural institutions (such as museums and community arts organizations), schools, visual culture, and the culture, educational texts (such as curricula), and history, while developing a theoretical base from educational and cultural theory. By the end of the course, students will understand diversity as broadly defined in relation to visual culture and be able to critically explore the complex dynamics of race, gender, sex, and class, and the pedagogical issues posed by diversity.

General Education: GA
Diversity: US
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 212 Interpreting Art Experience: Educational Implications (1) In-depth study of the educational implications of the information on art making and response introduced in A ED 211.

A ED 212 Interpreting Art Experience: Educational Implications (1)

A special discussion section attached to A ED 211 and required of students majoring in art education. A ED 212 focuses on the educational implications of the perspectives on art experience presented in A ED 211. This segment of the course will attend specifically to issues related to learners and learning in the visual arts, including characteristics of learners at various stages of development and the ways in which curriculum and instruction can and should be shaped by these considerations.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: A ED 101S, A ED 201W
Concurrent: A ED 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 303 The Visual Arts in the Elementary School (3) Basic concepts of current art education theory and practice for the elementary teacher.

The Visual Arts in the Elementary School (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 322 Visual Culture and Educational Technologies (3) The course provides a foundation for innovative integration of digital technologies in art making, viewing, and teaching.

A ED 322 Visual Culture and Educational Technologies (3)

The purpose of the course is to develop skills, questioning attitudes, and uses for technology in art and art education; and to engage in electronic mediated communication and new media artmaking. This course is for both undergraduate Art Education degree options: (1) Schools, and (2) Museums & Cultural Institutions. The focus is on students' constructing a critical understanding of technology as a cultural interface in contemporary art, visual culture, and art education. This course addresses issues, practices, and potentials of instructional technology for art education. Course participants explore the pedagogical implications of intertextual Webs, hypertext & hypermedia, blogs, simulations, virtual reality, threaded dialogue, WebQuests, online games, media communities, collaborations, adaptive and assistive technologies, and media-rich "student papers." This course emphasizes the importance of sharing perspectives in an educational context, and on how e-learning course tools, along with specific teaching strategies, can facilitate shared perspectives.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: A ED majors only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 323 Visual Culture and Art Education (3) The study and creation of contemporary art forms as visual culture critiques provide curricular and pedagogical approaches to art education.

A ED 323 Visual Culture and Art Education (3)

This course is for Art Education majors in the Schools option.

Students will:
* Read, critically examine, and discuss postmodern "texts" in relation to the ways in which the works and the critical writing that surrounds them participate in, among other issues, the construction of race and gender, and the creation of power and control.
* Reflect critically on contemporary writings that address the nature of art, visual culture, artmaking, exhibition, and interpretation as pedagogical processes for making meaning through art.
* Create installations, videos, and performances or any combination of the three forms, individually and/or in groups.

The purpose of this course is:
1. To assist students to insightfully interpret and create artworks through both writing and artistic media.
2. To provide students with the bases for understanding, interpreting, and critically analyzing contemporary visual culture, which can provide the content of curriculum outlines and unit and lesson plans that students develop in the course for use during internships, student teaching, and as art educators.
3. To provide students with opportunities to develop connections between artworks and their own lives, the lives of their prospective students, and the societies in which they will live.
4. To encourage students to consider race, class, sexual identity, age, and gender issues in art, art education, cultural production, exhibition venues, and career opportunities.

TEXTS include popular arts, film, television, video/computer games, music, theatre, fashion, museums, contemporary art, and newsmedia.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: A ED majors only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 440 Cultural Institutions (3) Role of the educator and educational programming in museums and other cultural institutions.

A ED 440 Cultural Institutions (3)

A ED 440 is the final course before an extended internship in the Museums and Cultural Institutions option of the BS in Art Education. It provides students with the opportunity to study the roles of educators and educational programming in various types of cultural institutions and agencies, from art museums and historic houses to community arts centers and arts councils. It enables students to learn about professional and vocational opportunities and to prepare for a career in the arts and cultural education.

Through reading, discussion, and field trips, the course explores the implications of past coursework for educational programming in cultural institutions. By preparing and presenting a case study, students understand and assess the effectiveness of educational programming in one institution. By preparing their own educational materials, program, or installation, they learn how to apply what they have learned to a specific setting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: ANTH 100 or 3 credits of Art History courses from department list;A ED 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 401 Curricula, Pedagogy, and Assessment in Art Education (3) Preparation of curricula, pedagogical, and assessment strategies for elementary/secondary school and museum art education programs.

Curricula, Pedagogy, and Assessment in Art Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: A ED 101S, A ED 201W, A ED 211, A ED 212, A ED 225, A ED 322, A ED 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 488 Cultural Institutions Practicum (1-3) Supervised field experience in a museum or other cultural institution, including planning, implementation, and evaluation of an educational project.

A ED 488 Cultural Institutions Practicum (1-3)

This course provides 1 to 3 credit hours of field experience for students enrolled in the Museums and Cultural Institutions Option of the BS major in Art Education. The course will provide students with a structured and supervised experience working with an educator in one of a variety of possible educational settings in museums and other cultural institutions in the local community and nearby region, including the Palmer Museum of Art. The field experience will allow students to apply what they have learned in coursework in a practical setting, plan and implement an educational project or program, and prepare for their extended 15-credit internship in A ED 495.

The nature of the field experience will vary depending upon the institutional setting, upon whether the student is working alone or as part of a team, upon the needs of the institution and the nature of the educational project, and upon the number of credit hours earned. In some cases, the course may be extended over two semesters. The course may be taken as an independent study, or structured around a group of students engaged in a joint project. Each student will be supervised by an educator in the setting in which the field experience takes place, as well as by an instructor from the Art Education program at the University.

Each student will become familiar with the role of education in the particular institutional setting and participate in providing educational experiences for the people served by the institution. As his or her primary assignment, each student will carry out an educational project in the setting, either individually or as part of a team. These projects may include, but not be limited to, an educational program, a set of educational materials, a marketing campaign, or educational installation. Each project will include preparing a written plan, conducting formative evaluation to field test the plan, implementing the project, evaluating its effectiveness, and preparing and presenting a final written report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: ANTH 100 or 3 credits of art history courses from department list;A ED 401
Concurrent: A ED 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 489 Advanced Practicum (3) Supervised observation, unit planning, and teaching in Saturday Morning Arts School: analysis of creative expressions and art programs for learners.

Advanced Practicum (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: A ED 401
Concurrent: A ED 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 490 Capstone Course in Art Education (3) Synthesis of preservice art education coursework; introduction to professional practices and standards; completion of teaching and learning portfolio.

A ED 490 Capstone Course in Art Education (2)

The capstone course has four major objectives for student learning:

- Each student will synthesize the experiences and understandings developed through prior courses in the undergraduate art education program.
- Students will become aware of emerging trends in art education and reflect on implications of those trends for their future teaching and learning.
- Each student will complete, and publicly present, a teaching and learning portfolio that includes evidence of professional preparation, biographical information, samples of artwork and writings on art/visual culture, and reflective statements explaining the selection and significance of specific items.
- Students will gain understanding of the importance of professional standards and practices in art education.

Student learning will be evaluated through assessment of the preprofessional teaching portfolio, and through a combination of written assignments, individual and small group oral presentations, and active participation in class discussions. Students will collaborate on a final installation, performance or exhibition demonstrating their readiness for the final internship. Since this is the final course in the major prior to student teaching or the internship, attendance is very important and will count toward part of the final grade. Students need access to a computer lab.

The capstone course in the art education major should be taken in the final semester before student teaching or a final internship. Since one goal of the course is helping students synthesize what they have learned in their prior courses, successful completion of all of the required courses in the major is prerequisite to enrollment in the capstone course. Students will have been introduced to the teaching and learning portfolio in their introductory art education course and should have developed pieces for their pre-professional teaching portifolios in most of their earlier art education courses. Much of the work of the capstone course will, therefore, focus on reflection, refinement, and synthesis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: admission to Teacher Preparation Program and successful completion of all required courses in the major except Student Teaching or final internship. Prerequisite or concurrent:A ED 488 for majors in the Museums and Cultural Institutions option
Concurrent: A ED 489 majors in the Schools option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 494 Schools and Museums (3) Museum education: issues, theories of aesthetic education and practices in schools, museums, and community art centers.

Schools and Museums (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: 12 credits in art education art art history or education

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 494H Schools and Museums (3) Museum education: issues, theories of aesthetic education and practices in schools, museums, and community art centers.

Schools and Museums (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 12 credits in art education art art history or education

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 495A Art Education Student Teaching Practicum (7) The elementary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.

A ED 495A Art Education Student Teaching Practicum (7)

The Pittsburgh-based elementary or middle-level field experience fulfills the student teaching requirement for Pennsylvania certification to teach art in elementary and secondary schools. It is offered each semester, and student teachers are placed through the School District University. Collaborative in Pittsburgh Public Schools. An on-site Art Education faculty Supervisor supervises students. Assignments, required seminars, and professional development activities meet the teaching prerequisites outlined by NCATE (National Council for Accreditation of Teacher Education) and the Standards for Pre-Service Teachers in Urban Education. Experiences and assignments provide evidence in each of the four domains for teacher preparation: Domain A - Planning and Preparing for Student Learning, Domain B - Teaching, Domain C - Analyzing Student Learning and Inquiring into Teaching, and Domain D - Fulfilling Professional Responsibilities. The work completed in this course (a digital and/or paper-based portfolio, and documented performance-based assessment of teaching as assessed by the university supervisor and mentor teachers/clinical instructors) will demonstrate fulfillment of the teaching/domain standards. The outcome of this work is to produce multiple experiences that support professional and personal development while preparing students for upcoming positions teaching art in multiple public and private contexts at both elementary and secondary levels. At the culmination of the student teaching semester, students will have both practical and theoretical understandings in addition to materials for application within the classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing
Concurrent: A ED 495B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 495 Internship in Art Experiences (15) Comprehensive instruction in craft, health, cultural, museum, studio, gallery or social agency. Students supervised by University personnel and arts personnel.

Internship in Art Experiences (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989
Prerequisite: A ED 440 ; seventh- or eighth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 495B Art Education Student Teaching Practicum (8) The secondary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.

A ED 495B Art Education Student Teaching Practicum (8)

The Pittsburgh-based middle-level or secondary field experience fulfills the student teaching requirement for Pennsylvania certification to teach art in elementary and secondary schools. It is offered each semester, and student teachers are placed through the School District University Collaborative in Pittsburgh Public Schools. An on-site Art Education faculty Supervisor supervises students. Assignments, required seminars, and professional development activities meet the teaching prerequisites outlined by NCATE (National Council for Accreditation of Teacher Education) and the Standards for Pre-Service Teachers in Urban Education. Experiences and assignments provide evidence in each of the four domains for teacher preparation: Domain A - Planning and Preparation for Student Learning, Domain B - Teaching, Domain C - Analyzing Student Learning and Inquiring into Teaching, and Domain D - Fulfilling Professional Responsibilities. The work complete in this course (a digital and/or paper-based portfolio, and documented performance-based assessment of teaching as assessed by the university supervisor and mentor teachers/clinical instructors) will demonstrate fulfillment of the teaching/domain standards. The outcome of this work is to produce multiple experiences that support professional and personal development while preparing students for upcoming positions teaching art in multiple public and private contexts at both elementary and secondary levels. At the culmination of the student teaching semester, students will have both practical and theoretical understandings in addition to materials for application within the classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing
Concurrent: A ED 495A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 495C Art Education Student Teaching Practicum (7) The elementary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.

A ED 495C Art Education Student Teaching Practicum (7)

The Centre Region-based elementary or middle-level field experience fulfills the student teaching requirement for Pennsylvania certification to teach art in elementary and secondary schools. It is offered each semester, and student teachers are placed through the School of Visual Arts at Penn State in cooperation with public schools in the Centre Region. An Art Education faculty Supervisor supervises students. Assignment, required seminars, and professional development activities meet the teaching prerequisites outlined by NCATE (National Council for Accreditation of Teacher Education) and the Standards for Pre-Service Teachers in Urban Education. Experiences and assignments provide evidence in each of the four domains for teacher preparation: Domain A - Planning and Preparing for Student Learning, Domain B - Teaching, Domain C - Analyzing Student Learning and Inquiring into Teaching, and Domain D - Fulfilling Professional Responsibilities. The work completed in this course (a digital and/or paper-based portfolio, and documented performance-based assessment of teaching as assessed by the university supervisor and mentor teachers/clinical instructors) will demonstrate fulfillment of the teaching/domain standards. The outcome of this work is to produce multiple experiences that support professional and personal development while preparing students for upcoming positions teaching art in multiple public and private contexts at both elementary and secondary levels. At the culmination of the student teaching semester, students will have both practical and theoretical understandings in addition to materials for application within the classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing;
Concurrent: A ED 495D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 495E Internship in Museums and Cultural Institutions (15) Twelve week, full time supervised internship in education in museums or other cultural institutions.

A ED 495E Internship in Museums and Cultural Institutions (15)

The internship at a museum or other cultural institution completes the requirements for the Museums and Cultural Institutions option for the BS in Art Education. It is generally scheduled full-time for a period of 12 consecutive weeks during a double summer session, although it may also be taken during the fall or spring semester. The internship enables interns to meet their own educational objectives through participation in a supervised experience that moves them out of the classroom into the workplace. Prospective interns are encouraged to select internship sites that offer educational experiences relevant to their professional goals and desired careers.

The internship incorporates guidelines consistent with the *Standards and Guidelines for Museum Internships* prepared by the New England Museum Association and published by the American Association of Museums (1993, 2000). A formal written internship agreement signed by the intern supervisor at the sponsoring museum or cultural institution, and by the prospective intern and university supervisor outlines the objectives of the internship, the intern's duties and responsibilities, the responsibilities of the museum and university supervisors, and the means by which the intern's work will be evaluated. Interns are integrated into the ongoing work and education programs of the museum and treated as staff members. They assume professional responsibilities and are expected to complete a project or some discrete portion of a major project that is being undertaken by the education department of the museum. Interns become acquainted with functions, programs and departments of the museum in addition to those to which they have been assigned in order to understand the relationship of their educational work to that of the museum, to the community, and to the museum field in general. Interns may participate in any workshops, lectures, professional courses, and staff training seminars that may occur at the museum during period of internship. They are also encouraged to seek professional employment after completion of the internship, and reasonable accommodation is made to allow them time to look for positions, prepare application materials, and attend interviews.

Interns submit a weekly journal of activities and reflections to the university supervisor, as well as a summary report at the end. The museum supervisor submits an evaluation documenting the intern's actual working/learning experiences and critically assessing these experiences. The final evaluation is based on this assessment, on the intern's weekly journal and final report, and on the university supervisors's onsite observations and interviews.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A ED 440 seventh- or eighth-semester standing.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 495D Art Education Student Teaching Practicum (8) The secondary student teaching practicum fulfills requirements for Pennsylvania certification to teach Art in both elementary and secondary schools.

A ED 495D Art Education Student Teaching Practicum (8)

The Centre Region-based middle-level or secondary field experience fulfills the student teaching requirement for Pennsylvania certification to teach art in elementary and secondary schools. It is offered each semester, and student teachers are placed through the School of Visual Arts at Penn State in cooperation with public schools in the Centre Region. An on-site Art Education faculty Supervisor supervises students. Assignments, required seminars, and professional development activities meet the teaching prerequisites outlined by NCATE (National Council for Accreditation of Teacher Education) and the Standards for Pre-Service Teachers in Urban Education. Experiences and assignments provide evidence in each of the four domains for teacher preparation: Domain A - Planning and Preparing for Student Learning, Domain B - Teaching, Domain C - Analyzing Student Learning and Inquiring into Teaching, and Domain D - Fulfilling Professional Responsibilities. The work complete in this course (a digital and/or paper-based portfolio, and documented performance-based assessment of teaching as assessed by the university supervisor and mentor teachers/clinical instructors) will demonstrate fulfillment of the teaching/domain standards. The outcome of this work is to produce multiple experiences that support professional and personal development while preparing students for upcoming positions teaching art in multiple public and private contexts at both elementary and secondary levels. At the culmination of the student teaching semester, students will have both practical and theoretical understandings in addition to materials for application within the classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A ED 489 ; eighth- or ninth-semester standing
Concurrent: A ED 495A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 497E (C I 497E, HIST 497E) Consuming Child (3) Explores linkage between new ideas about childhood and commercial/media culture since the Enlightenment through sponsored guest presentations and readings.

Consuming Child (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art Education (A ED)

A ED 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 001S (GA) First-Year Seminar (3) An introduction to the field of art history, through an examination of a selected issue in a seminar setting.

ART H 001S First-Year Seminar (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This First-Year Seminar is open to all majors and to those who have yet to decide upon a major. It is also a 3-credit General Education in the Arts course (GA). The course will introduce entering university students to the field of art history through a case study on a selected topic. Each semester the topic will be different, potentially covering such diverse subjects as the purpose and function of Ancient Egyptian architecture to the role of sculpture in Renaissance Florence to the development of abstract painting in the early 20th century. Some semesters, the seminar may also focus upon a single exhibition at the Palmer Museum of Art. Such a focus upon a single topic will allow the class to look at a particular issue in the field from many different perspectives. The course will not be a broad survey of the history of art, but it will introduce students to the breadth of methods and approaches of art history. The seminar approach of the course will emphasize how to tackle an issue in art history, how to critically read selected texts, how to discuss in a small group the various dimensions of a problem, how to do art historical research in the library and on the internet, and how to present your own research and perspectives through public speaking and writing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 100 (GA;IL) Introduction to Art (3) An approach to the understanding of art through a critical analysis of selected works of architecture, painting, and sculpture. Students who have passed ART H 110 may not schedule this course.

ART H 100 Introduction to Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 100 provides an introduction to the history of art from prehistory to the present, through selected topics, rather than a comprehensive survey. Areas covered usually include prehistoric art, art of the Near East and Egypt, ancient Greek and Roman art, medieval art culminating with the Gothic, Renaissance art both in Italy and northern Europe, Baroque and Rococo art, and modern developments often highlighting Romanticism, Impressionism, Cubism, Dada, Surrealism, Abstract Expressionism, Pop, Feminist, and contemporary art. The course also introduces selected artistic traditions in Africa, Asia and the Americas. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and to help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts, both historical and contemporary. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender and the incorporation of non-European art forms into the Western tradition. Requirements typically include examinations combining short answer and essay questions, and one paper based library research or intensive examination of an actual work of art. As a general education course in the arts, this course provides an introduction to selected themes in the broad history of art for students in any major. It has no prerequisite and presumes no prior exposure to fine art. This course is not a requirement of Art History major or minors, and is therefore directed essentially to students outside the field.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 111 (GA;IL) Ancient to Medieval Art (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.

ART H 111 Ancient to Medieval Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to Western art before the Renaissance, from ca. 25,000 BCE to AD 1423. The topics covered in this course include prehistoric art in Europe; art of the Near East and Egypt; Aegean art; Greek and Roman art; Early Christian, Jewish, Islamic and Byzantine art; and Medieval art including Romanesque and Gothic developments. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and to help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It nvestigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender and the incorporation of non-European art forms into the Western tradition. Typical requirements include exams and a paper. As a general education course in the arts, this course provides an introduction to Ancient through Medieval art to a student of any major. This course has no prerequisite and presumes no prior exposure to art history. As a course in the Art History major, it teaches students both the common vocabulary of the field and the outlines of the field that form the foundation for future study. Art History 111 serves as a companion course to Art History 112, which deals with art from the Renaissance to Modern Times. Art History 111 also complements Art History 201, "Ancient to Medieval Architecture."

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 111U (GA;IL) Ancient to Medieval Art (3) Survey of Ancient Egyptian, Greek, Roman, Byzantine, Early Medieval, Romanesque, and Gothic art, with an emphasis on sculpture and painting.

Ancient to Medieval Art (3)

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 112 (GA;IL) Renaissance to Modern Art (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.

ART H 112 Renaissance to Modern Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 112 provides an introduction to the history of art in the European tradition from the early Renaissance (ca. 1300) to the present. Areas covered include Early and High Renaissance Italian art; Northern Renaissance art; Baroque art of Italy, Spain, France and the Netherlands; and subsequent artistic movements emphasizing the Rococo, Neo-Classicism, Realism, Impressionism and Modernist movements from Fauvism through Abstract Expressionism to Contemporary. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and to help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts, both historical and contemporary. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender and the incorporation of non-European art forms into the Western tradition. Requirements typically include examinations combining short answer and essay questions, and at least one writing assignment. As a general education course in the arts, this course provides an introduction to Renaissance through modern art for a student in any major. It has no prerequisite and presumes no prior exposure to art history. It will teach students majoring in Art History both the common vocabulary of the field and the outlines of the field that form the foundation for future study. Art History 112 serves a companion course to Art History 111, which examines Western art from Antiquity through the Middle Ages. Art History 112 also complements Art History 202, "Renaissance to Modem Architecture."

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 112U (GA;IL) Renaissance to Modern Art (3) Survey of Renaissance, Baroque, Rococo, Romantic, Modern, and Contemporary art, with an emphasis on painting, sculpture, and graphic arts.

Renaissance to Modern Art (3)

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 120 (GA;IL) Asian Art and Architecture (3) A selective overview of the art and architecture of India, Southeast Asia, China, Korea, and Japan.

ART H 120 Asian Art and Architecture (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 120 provides an introduction to the art and architecture of Asia, with an emphasis upon south, southeast, and east Asia. Selected monuments from these regions will be considered within their original cultural and historical context. Particular emphasis will be placed on the art associated with Hinduism and Buddhism. The course begins with India, from the early Indus Valley Civilization up through the Taj Mahal. Angkor Wat and other developments in southeast Asia are examined. Selected themes in Chinese art and architecture are explored from the early Bronze Age up through the Forbidden City in Beijing. The unique contribution of Korean art is included. The course concludes with a discussion of Japanese art and architecture, from early Shinto shrines to Japanese prints, gardens, and the tea ceremony. The course is designed to meet two principal goals. The first is to develop skills of visual analysis and a critical vocabulary for discussing the media, technologies, styles, and iconographies of various Asian artistic traditions. The second is to foster an understanding of art--and visual culture in general-according to social, economic, political, and religious contexts. Key topics include: patronage, issues of reception and aesthetics, the function of visual imagery in religious practices, the ritual use of objects, the organization and use of sacred space, depictions of gender, and relationships between the art of various regions and cultures. Requirements include essay exams and a paper. As a general education course, this class provides an introduction to Asian art for students of any major. The course has no prerequisites, and presumes no prior exposure to art history. Art History majors will learn vocabulary, methodology, and theory that is not only basic to the field, but which will also broaden their knowledge of the discipline as a whole.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 130 (GA;US;IL) African, Oceanic, and Native American Art (3) A selective overview of the history of African, Oceanic, and Native American art.

ART H 130 African, Oceanic, and Native American Art (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 130 provides a selective introduction to major developments and issues in African, Oceanic and Native American art. The beginning of this course will concentrate upon the art and architecture of selected regions of Africa, during the pre-colonial, colonial, and post-colonial periods. This will be followed by a discussion of the traditional arts of Oceania in Polynesia, Micronesia, Melanesia, and Australia. The course will conclude with an introduction to the Pre-Columbian art and architecture of the Americas, and Native American art from the Eastern Woodlands, Great Plains, the Southwest and Pacific Northwest of North America. Art will be examined within its cultural and social contexts. Special attention will be given to the role that art serves in a culture's religion, rituals, ceremonies, political structure, gender roles, and ethnic identity. The impact of the West upon the art of these regions, both in colonial and post-colonial contexts, will be a reoccurring issue in this course. The actual time devoted to each topic and the sequence of topics will vary from instructor to instructor. The objective of the course is to introduce students to diversity in art. In so doing, negative stereotypes associated with traditional notions of the "primitive" will be challenged. Also, the course emphasizes visual analysis and critical thinking. The course requirements will consist of exams and a paper. As a general education course, this class provides an introduction to African, Oceanic and Native American art for students of any major. The course has no prerequisites, and presumes no prior exposure to art history. On the other hand, students majoring in Art History will learn vocabulary, methodology, and theory that is not only basic to the field, but which will also broaden their knowledge of the discipline as a whole.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 197A Introduction to Pre-Columbian Art and Architecture (3) Relying on a thematic organization, this course examines the art and architecture produced in Pre-Columbian Mesoamerica and South America.

Introduction to Pre-Columbian Art and Architecture (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 199 (IL) Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Art History (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 201 (GA;IL) Ancient to Medieval Architecture (3) A survey of Prehistoric, Ancient Near Eastern Egyptian, Greek, Roman, Early Christian, Byzantine, Early Medieval, Romanesque, and Gothic architecture.

ART H 201 Ancient to Medieval Architecture (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to Western architecture before the Renaissance, roughly before A.D. 1400. Some of the topics covered in this course include prehistoric architecture in Europe and the Mediterranean, architecture of the ancient Near East, Egyptian architecture, Minoan and Mycenean architecture, the classical architecture of ancient Greece, ancient Roman architecture throughout the empire, the Early Christian architecture of western Europe and Byzantium, early medieval architecture, Middle Byzantine architecture, Islamic architecture, and the Romanesque and Gothic architecture of Western Europe. Selected major individual buildings and architectural complexes will be emphasized and will include types of buildings/complexes such as the sanctuary, temple, tomb, forum, basilica, cathedral, monastery, and castle. Architecture will be analyzed with regard to materials' construction, engineering and design, and in the contexts of culture, society, and urban or rural setting. Political, economic, religious, ethnic and gender-related issues will be presented as they are part of the dynamics contributing to many of these structures.

The students' understanding and ability to articulate the conceptual themes of the course will be tested through essay examinations. There will also be a short paper.

This course will provide an introduction to ancient to medieval architecture to students of any major. The course has no prerequisite. This course also serves as an introductory foundation course for students in the arts, particularly architecture and landscape architecture. The companion course to Art History 201 is Art History 202, "Renaissance to Modem Architecture," which examines Western architecture after A.D. 1400. Art History 201 is a required course for the Major in Art History and the Interdisciplinary Minor in Architectural History.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 202 (GA;US;IL) Renaissance to Modern Architecture (3) A survey of Renaissance, Baroque, Rococo, Romantic, Victorian, Modern, Post-Modern, and Contemporary architecture in Europe and America.

ART H 202 Renaissance to Modern Architecture (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to Western architecture from approximately A.D. 1400 to the present. Some of the topics covered in this course include the Italian Renaissance, the rebuilding of St. Peter's in Rome, Mannerism, the villas of Palladio, Italian Baroque churches, Spanish Colonial architecture in the Americas, royal French architecture from Francis I to Louis XVI, Late Baroque and Rococo architecture from Bavaria to Russia, Elizabethan to Georgian architecture in England and America, the Industrial Revolution, Neoclassicism from Schinkel to Jefferson, Romanticism and the Gothic Revival, Ecole des Beaux-Arts, Second Empire Paris, Victorian architecture, the Arts & Crafts Movement, Richardsonian Romanesque, the Chicago School, Frank Lloyd Wright, the City Beautiful Movement, Art Nouveau to Futurism, Art Deco skyscrapers, the International Style, the Bauhaus, Le Corbusier, Louis 1. Kahn, PostModernism, Deconstructionsim, and contemporary architecture. . Selected major architects, theories, buildings, and urban developments will be emphasized. Architecture will be considered within the contexts of religion, politics, philosophy, culture, economics, race, gender, society, engineering, and landscape architecture.

The students' understanding of the basic factual information concerning selected buildings will be tested through quizzes. The students' understanding and ability to articulate the conceptual themes of the course will be tested through essay examinations. There will also be a short paper.

This course will provide an introduction to Renaissance to contemporary architecture to students of any major. The course has no prerequisite. This course also serves as an introductory foundation course for students in the arts, particularly architecture and landscape architecture. The companion course to Art History 202 is Art History 201, "Ancient to Medieval Architecture," which examines Western architecture before A.D. 1400. Art History 202 is a required course for the Major in Art History and the Interdisciplinary Minor in Architectural History.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 225 (GA;GH) (ENGL 225, WMNST 225) Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.

ENGL (ART H/WMNST) 225 Sexuality and Modern Visual Culture (3)
(GA;GH)

The terms "feminist" and "homosexual" were invented by the Victorians and reflect profound shifts in conceptions of identity. Another invention of the nineteenth century was the idea of the literary and artistic "avant-garde," a minority contingent with politically and/or aesthetically advanced views. These ideas of minority culture were deeply enmeshed with one another, and have exerted profound influence ever since. This course explores that history with the objective of developing a more sophisticated understanding of how the history of ideas affects our sense of who we are and how we read both texts and images. The course will be relevant to students of American and English studies, art, art history, and women's and sexuality studies.

General Education: GA;GH
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 250 (PHOTO 201) A Chronological Survey of Photography (3) A survey of photography's place and influence in a social, cultural, and historical context.

ART H 250 A Chronological Survey of Photography (3)

This course explores the role played by photography over time in providing understanding and insight in a social, cultural, and historical context of the impact of the development of the photographic medium and its effect on social, political, cultural and technological events. Emphasis will be given to understanding the context that surrounds the scientific and aesthetic development of photography. This is a survey of the chronology of events in western culture that transpires from the inception of photography until the year 2000. It includes the influences and outcomes of photographers and those associated with the medium on our culture. Emphasis will be placed on the influence of photography on the world around it, and significant events and individuals in the development of the medium as a vital art form. The structure of the course will consist of research and discussion of events and individuals that characterized years selected for examination. Each week one or two decades of western culture will be highlighted. Although the thrust of research will relate to photographic subject matter, the events studied will span the culture. We will explore the development of art, literature, music, and photography, as well as, historic landmarks, and the events that have shaped present society. Each week a selection of visual material will be presented highlighting selected events, students will read literature from the period of discussion, significant pieces of music will be introduced, and accounts of periodic events will be surveyed.

Each week, a group of students will be assigned to research at least one decade. Each student will gather information about a significant figure or event that occurred in the course of a given period. The student will be expected to prepare a short paper and give a five-minute oral presentation about his/her assigned year, historical figure or event. As each student presents, the chronology of events becomes clear and the multiple threads of history weaves a brilliant tapestry of our culture. For the final presentation the student will prepare a ten-page research paper about a historical figure or event.

Students will be graded on the quality of the weekly oral presentations and the demonstrated level of commitment to research. Another significant part of their grade will be derided from the length of committed scholarship given to the ten-page term paper. Students must exhibit a level of originality, clarity, and insight. The student must demonstrate the capacity for the assimilation of facts and events relative to their subject and demonstrate how their subject relates to other events that occurred around the same time of their event. Toward this end students will be encouraged to work together to illustrate the interconection of the chronology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 299 (IL) Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Art History (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 300H Honors Course in Art History (3-12) Readings, discussion, oral and written reports on selected topics in art history.

Honors Course in Art History (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: fifth-semester standing all-University and art history average of B and invitation by Department Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 301 (GA;IL) Egyptian and Mesopotamian Art (3) Art of the Ancient Near East, including Egypt, Mesopotamia, and neighboring civilizations.

ART H 301 Egyptian and Mesopotamian Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art history 301 provides an introduction to the arts of the Ancient Near East including those of Egypt and Mesopotamia. The class is dealt with chronologically. Works studied in class include papyri, seals, fabric, codices as well as sculpture, architecture, and painting. Additional readings of primary sources focused on mythology, and religion will form a key element in the structure of the class. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to Ancient Near Eastern and Egyptian art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 302 (GA;IL) Art of the Early Middle Ages (3) A survey of the art of Western Europe from the Early Christian era through the Ottonian Empire, c.300-1050 A.D.

ART H 302 Art of the Early Middle Ages (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 302 concentrates on the art of northern Europe between A.D. 600 and 1050, from the years which saw the art and culture of the migration period in Europe meet and merge with the Greco-Roman traditions of the Mediterranean, to the beginnings of Romanesque art. Works studied include architecture, manuscript painting, ivory carving and goldsmithwork, most of which were produced by or for members of the clergy, royalty or the lay aristocracy. The basic structure of the course is chronological. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to early Medieval art to a student of any major. This course has no prerequisite, and presumes no prior exposure to art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 303 (GA;IL) Italian Renaissance Art (3) The major arts in Italy from the thirteenth century A.D. through the Renaissance; emphasis on sculpture and painting.

ART H 303 Italian Renaissance Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 303 provides an introduction to the art of the early and "high" Renaissance in Italy, conceived in chronological terms as the period from c. 1300 to c. 1530, and embracing developments from the emergence of the Mendicant orders on the later 13' century to the rise of Mannerism in the 16' century. Monuments form all parts of the Italian peninsula will be considered, with emphasis on the major centers of Florence, Siena, Venice, Rome, Milan, and Naples, as well as Mantua, Ferrara and Urbino. The basic structure of the course is chronological , and is divided into three sections corresponding to the three centuries deirined by Giorgio Vasari in his Lives of the Artists. In each section, an attempt will be made to present the careers and major works of the most significant artists in relation to their historical and cultural context. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to Italian Renaissance art to a student of any major. This course has no prerequisite, and presumes no prior exposure to art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 304 (GA;IL) Southern Baroque Painting (3) Seventeenth-century painting in Italy, France, and Spain. Emphasis will be on Italy as the vanguard country.

ART H 304 Southern Baroque Painting (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 304 concentrates on the art of Italy, Spain, and the Spanish Colonial from 1600-1750. Discussion will concentrate on what constitutes the baroque and its interpretation in each geographic area as well as issues such as patronage, primary sources, iconography, and historical context. The class will begin with the indications of the new Baroque in Italy during the 1580's and proceed to Spain and the Spanish Colonial World. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of religious vision, court politics, and social status. Requirements include exams and at least one paper. As a general education course in the arts, this course provides an introduction to Baroque Art for a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 304 (GA;IL) Italian, Spanish, and Spanish Colonial Baroque Art and Architecture (3) A survey of painting, sculpture, and architecture in Italy, Spain, and the Spanish Americas from 1600-1750.

ART H 304 Southern Baroque Painting (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 304 concentrates on the art of Italy, Spain, and the Spanish Colonial from 1600-1750. Discussion will concentrate on what constitutes the baroque and its interpretation in each geographic area as well as issues such as patronage, primary sources, iconography, and historical context. The class will begin with the indications of the new Baroque in Italy during the 1580's and proceed to Spain and the Spanish Colonial World. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of religious vision, court politics, and social status. Requirements include exams and at least one paper. As a general education course in the arts, this course provides an introduction to Baroque Art for a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 305 (GA;IL) European Art from 1780-1860 (3) A survey of painting and sculpture in Europe 1780-1860, from the origins of Neoclassicism through Romanticism and Realism.

ART H 305 European Art from 1780-1860 (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 305 provides an introduction to the painting, sculpture, and graphic arts of Europe between ca. 1780 and 1860, with an emphasis on selected developments in France, Spain, England, and Germany. The course begins with the origins of Neoclassicism and the revolutionary art of Jacques Louis David. Art is examined within the context of the tumultuous history of this period, such as the decline of the French monarchy, the French Revolution and the rise and fall of Napoleon. The course will examine the rise of Romanticism, as seen in such diverse expressions as Goya's horrific images of inhumanity, Fuseli's dreams, Tumer's sublime landscapes, Friedrich's frozen visions of Gothic ruins, Delacroix's colorful battles of beasts. Realism emerges in the biting social conunentaries of Daumier, the meticulous detailed paintings of the English Pre-Raphaelites, and the raw reality of Courbet's paintings. The course ends with the extraordinary art of Manet. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to European art, 1780-1860, to a student of any major. This course has no prerequisite and presumes no prior exposure to fine art. Students majoring in Art History will learn both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 306 (GA;IL) English Art (3) An introduction to the history of art in England by examining selected themes and issues.

ART H 306 English Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 306 provides an introduction to the art of England by examining selected themes and issues. The focus of the course may vary from semester to semester. Possible topics that may be explored in this course are Anglo-Saxon Metalwork; Hibemo-Saxon illuminated manuscripts; English Romanesque and Gothic architecture; Tudor portraits; artists from the continent (i.e. Hans Holbein the Younger, Anthony van Dyck); the English country house; English gardens and parks; Inigo Jones and Sir Christopher Wren; the satire of Hogarth; Gainsborough, Reynolds, West, and the Royal Academy; Sir John Soane and Neo-classicism; the rise of English landscape painting Constable and Turner; British Colonialism; the Pre-Raphaelite Brotherhood; the Industrial Revolution; William Morris and the Arts & Crafts Movement: Sir Edwin Lutyens; Modern art in England; and contemporary art and architecture. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to English art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 311 (GA;IL) Greek and Roman Art (3) Greek and Roman art, with emphasis on painting and sculpture.

ART H 311 Greek and Roman Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 311 provides a survey of Greek and Roman art. Included are the Orientalizing, Archaic, Classical and Hellenistic periods of Greece and the Republican and Imperial Rome. Special attention is paid to politics, culture, and literature. The focus of this class is painting, sculpture and architecture; ceramics and other minor arts are also addressed. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to Ancient Greek and Roman art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 307 (GA;US) (AM ST 307) American Art (3) History of art in the English colonies and the United States from the seventeenth century to the present.

ART H (AM ST) 307 American Art (3)
(GA;US)

(BA) This course meets the Bachelor of Arts degree requirements.

American art, from the colonial period to the present, is examined through paintings, sculpture, buildings, prints and photographs, as well as exhibitions and national/world fairs. The class places special emphasis upon the predicament of national identity by examining the ways in which the very notion of the "American" has historically been highly contested. Special points of emphasis include: negotiations between indigenous, colonial and European artistic styles, representations of and by displaced populations (colonial subjects, Native Americans, African Americans), myths of the American landscape, the cult of domesticity and the gendering of American citizenry, later transatlantic experiences of expatriate artists, conflicts between urban and rural conceptualizations of the "typical" American experience, the role of the American avant-garde after World War II, and debates over federal funding for the arts. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to American art to a student of any major. This course has no prerequisite and presumes no prior exposure to fine art. Students majoring in Art History will learn both the common vocabulary of the field and the outlines of the field that form the foundation for the future study.

General Education: GA
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 312 (GA;IL) Romanesque and Gothic Art (3) Survey of the architecture, sculpture, and painting of the Christian church in western Europe from 1000 to 1500.

ART H 312 Romanesque and Gothic Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 312 concentrates on the art of northern Europe between A.D. 1000 and 1500, from Ottonian art to Romanesque art continuing to the beginnings of Gothic art. Works studied include architecture, manuscript painting, ivory carving and goldsmithwork, most of which were produced by or for members of the clergy, royalty or the lay aristocracy. The basic structure of the course is chronological. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to Romanesque and Gothic art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 314 (GA;IL) Art in the Age of Rembrandt (3) Dutch and Flemish painting in the seventeenth century.

ART H 314 Art in the Age of Rembrandt (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 314 explores the relationship of the visual arts to power structures, political events, and social and religious issues in the Netherlands and Flanders, c. 1585-1672. Topics include the function of art in constructing national and urban identities, social distinctions and gender roles, the contrasting needs burgher and court patrons, the effect of the open market on both the production of and the look of artwork, the impact of foreign investment and exploration on visual imagery, and the processes of artistic collaboration and competition. Particular attention is paid to the works and careers of Hendrick Goltzius, Frans Hals, Clara Peeters, Hendrik Terbrugghen, Rembrandt van Rijn, Peter Rubens and Jan Vermeer. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to the Age of Rembrandt to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 313 (GA;IL) Northern Renaissance Art (3) Art in northern Europe in the fifteenth and sixteenth centuries, emphasizing painters such as Van Eyck, Durer, and Bruegel.

ART H 313 Northern Renaissance Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 313 explores the relationship of the visual arts to power structures, political events, and social and religious issues in the Netherlands and Germany, c. 1380-1585. Topics include the forms and functions of religious art, the place of visual representation in the governing strategies of the cra's rulers, the rising status of the artist, the new technology of printing, the complex role of visual culture in bringing about the Protestant Reformation, and the wave of destruction and censorship known as the Great Iconoclasm of 1566. Particular attention is paid to the works and careers of Jan van Eyck, Hieronymus Bosch, Albrecht Diirer and Pieter Bruegel. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to Northern Renaissance art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 315 (GA;IL) (ASIA 315) Architecture and Art of South and Southeast Asia (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.

ART H (ASIA) 315 Architecture and Art of South and Southeast Asia (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course has a focus on the architecture and art of South Asia (India, Pakistan, and Bangladesh) and Southeast Asia (particularly Thailand, Cambodia, and Indonesia). Topics will span a time period that begins with Bronze age urbanization in South Asia and concludes with the emergence of globalized architecture in the context of modern nation states. The course will be an opportunity for students to engage with artistic traditions and patronage systems that have adapted to cross-cultural currents, including the more recent forces of colonialism and globalization.
Early Buddhist and Hindu architecture and sculpture, the medieval Hindu temple, the advent and adoption of Islam and its artistic forms, the emergence of an early modern empire under the Mughals and their patronage of architecture and painting, British colonial architecture and contemporary interpretations of Modernist architecture and art, are some of the topics that will be covered. Besides paying attention to the formal aspects of buildings, cities and objects, lectures will incorporate information on the emergence of Art History as a discipline in South and Southeast Asia. Lectures, exams and reading assignments will aid in providing students with an intensive introduction to the region’s cultural and artistic diversity.
General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 320 (GA;IL) Chinese Art (3) A general survey of the great periods of Chinese art from the Shang dynasty until the modern period.

ART H 320 Chinese Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 320 provides an introduction to the art of China from the Neolithic period through the twentieth century. Emphasis will be placed on the major dynastic periods (Shang, Zhou, Qin, Han, Tang, Song, Ming, Yuan, and Qing); however, regional developments throughout China are examined as well. Students are introduced to a variety of artistic traditions and media, including jades, bronzes, ceramics, sculpture, painting, and architecture. The course is designed to meet two principal goals. The first is to develop skills of visual analysis and a critical vocabulary for discussing the media, technologies, styles, compositions and iconographies of Chinese art. The second is to foster an understanding of art--and visual culture in general--according to social, economic, political, and religious contexts. Key topics include: the ritual use of objects, patronage, issues of reception and aesthetics, Buddhist art, the organization and use of sacred space, depictions of gender, and regional developments/interactions. Requirements include essay exams and at least one paper. As a general education course, this class provides an introduction to Chinese art for students of any major. This course has no prerequisites and presumes no prior exposure to art history or the history of China. Students majoring in Art History will learn vocabulary, methodology, and theory that is not only basic to the field, but which will also broaden their knowledge of the discipline as a whole. Because China (currently the world's most populous nation) has one of the longest recorded and continuous artistic traditions, the course also contributes to a broader understanding of important global issues.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 325 (GA;IL) Impressionism to Surrealism (3) A survey of European painting and sculpture from ca. 1850 to ca. 1940.

ART H 325 Impressionism to Surrealism (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 325 is a survey of European painting and sculpture from approximately 1860 to the Nazi occupation of Paris in 1940. This course will provide an introduction to Impressionism (Manet, Monet, Renoir, Morisot), Post-Impressionism (Seurat, Czanne, van Gogh, Gauguin), Symbolism, the Nabis, Edvard Munch, Rodin, Fauvism (Matisse), Cubism (Braque, Picasso), Italian Futurism (Boccioni), Expressionism (Kirchner, Kandinsky), Dada (Duchamp), De Stijl (Mondrian), Suprematism (Malevich), Russian Constructivism (Tatlin), the Bauhaus, Paul Klee, Marc Chagall, and Surrealism (Ernst, Miro, Dali). The course will close with the Nazi's "Degenerate Art" exhibition of 1937 and the Second World War. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper As a general education course in the arts, this course provides an introduction to European art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 324 (GA;IL) Rococo Art (3) Eighteenth-century art in western Europe, with emphasis on artists such as Watteau, Fragonard, Falconet, Le Gros, Tiepolo, Guardi, Neumann.

ART H 324 Rococo Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 324 is a study of art of the first three quarters of the eighteenth century, the Age of the Rococo (ca. 1690-1789) in France, England, Italy, Germany, Austria and Spain. Emphasis will be upon the medium of painting although sculpture, architecture, and the minor arts will be considered when exemplary. France, the vanguard country, will be of primary importance. The course is designed to meet two principal goals. The first is to increase students' powers of visual analysis and help them build a critical vocabulary for discussing an art object's medium, composition, style, and iconography. The second is to foster an understanding of the deep implication of the visual arts in their social and cultural contexts. The course therefore involves significant material relating to political, economic and religious issues. It investigates problems in patronage, function, reception and censorship. It considers such intra- and cross-cultural issues as representations of gender. Requirements include essay exams and at least one paper. As a general education course in the arts, this course provides an introduction to European art to a student of any major. This course has no prerequisite, and presumes no prior exposure to fine art. Students majoring in Art History will learn in it both the common vocabulary of the field and the outlines of the field that form the foundation for future study.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 330 (GA;IL) Islamic Architecture and Art (3) Survey of the art and architecture of Islamic lands from the late seventh century until the eighteenth century.

ART H 330 Islamic Architecture and Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 340 provides an introduction to the arts of Islam from its birth and early formation in the seventh-eighth centuries to the eighteenth century through the examination of architecture, painting and calligraphy, and the decorative arts (metalworking, ceramics, glassware, ivory carving). The focus is on the traditional Islamic areas including Spain, North Africa, the Middle East, and South Asia, although the spread of Islam to other regions (e.g., Southeast Asia and especially Indonesia, the world's most populous Islamic country) may also be included. Each of the major traditions of Islamic art will be examined in a generally chronological sequence; these include the Abbasids, the Ummayads of Spain, the Fatimads of Egypt, the Seljuqs, the Ilkhanids (Mongols), the Timurids, the Mamluks of Egypt, the Safavids of Persia, the Ottoman Turks, and the Mughals of India. The course will conclude with a discussion of "Orientalism" and more recent developments in Islamic art and architecture. The course is designed to meet two principal goals. The first is to develop skills of visual analysis and a critical vocabulary for discussing the media, technologies, styles, and composition of Islamic art. The second is to foster an understanding of art--and visual culture in general--according to social, economic, political, and religious contexts. Key topics include: patronage, issues of reception and aesthetics, the important link between art and text in the Islamic tradition, the organization and use of sacred space, gender issues, relationships between the art of various regions and cultures, and the western interpretation of Islam as part of the discourse on "Orientalism." Requirements include essay exams and at least one paper. As a general education course, this class provides an introduction to Islamic art and architecture for students of any major. It has no prerequisites, and presumes no prior exposure to art history. Students majoring in Art History will learn vocabulary, methodology, and theory that is not only basic to the field, but which will also broaden their knowledge of the discipline as a whole.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 335 (GA;IL) (AAA S 335) African Art (3) Introduction to the visual arts of Africa, including contemporary African art and the influence of African art outside Africa.

ART H (AAA S) 335 African Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course will examine the arts of various African peoples in historical, religious, sociological and geographic contexts, providing an introduction to the many visual art forms of Africa including masquerade, costume, and indigenous architecture. While the vast majority of documented art objects in this field of study are sculpture from West Africa, the course will also include materials from South and East Africa as well as Nubia. Contemporary African art, the influence of African art on European art and African-American art are important topics that will conclude this to course. In addition to the traditional format of a geographic organization of the material, students will explore thematic approaches. Literature, in the form of the novel, Arrow of God by Nigerian writer Chinua Achebe which includes a character who is a traditional sculptor, may also be used to provide a cultural backdrop for the mid-term examination. Each of the topic assignments requires completion of essays which draw upon the multiple course texts and readings. Museum visits to collections in New York or Washington DC may also be part of the requirements. Exams include slide identification and short essays. As ART H/AAA S 335 will be regularly offered as a Distance Education course, a packet of illustrations will substitute for slide presentations and the actual examination of pieces owned by the instructor.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 340 (GA;IL) Japanese Art (3) This course will examine the art and architecture of Japan, its relationship to Chinese art, and its influence on European art.

ART H 340 Japanese Art (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Art History 340 provides an introduction to the art of Japan from the Neolithic period to the present through the examination of architecture, paintings, sculpture, and ceramics. Monuments from all parts of Japan will be considered, with emphasis on the major periods including Asuka, Nara, Heian, Kamakura, Muromachi, Momoyama and Tokugawa. The course is designed to meet two principal goals. The first is to develop skills of visual analysis and a critical vocabulary for discussing the media, technologies, styles, and iconographies of Japanese art. The second is to foster an understanding of art-and visual culture in general-according to social, economic, political, and religious contexts. Key topics include: the art and architecture of Shinto and Buddhism, patronage, issues of reception and aesthetics, the ritual use of objects, the organization and use of sacred space, depictions of gender, and relationships between the art of various regions and cultures. Requirements include essay exams and at least one paper. As a general education course, this class provides an introduction to Japanese art for students of any major. It has no prerequisites, and presumes no prior exposure to art history. Students majoring in Art History will learn vocabulary, methodology, and theory that is not only basic to the field, but which will also broaden their knowledge of the discipline as a whole.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 350W Undergraduate Seminar in the History of Art (3-6) An introduction to original research, methodology, analysis, and writing on a scholarly level.

Undergraduate Seminar in the History of Art (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: fifth-semester standing 6 credits in art history at the 300 level or above

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 397A African American Art Since 1900 (3) Explores the sense of double consciousness and the construction of identity in 20th-century African American art.

African American Art Since 1900 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 397B Art Since 1940 (3) An international survey of avant-garde painting, sculpture, performance art, photography and video mde from 1940 to the present.

Art Since 1940 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 401 (IL) Greek Art and Architecture (3-9) Developments in Greek art and architecture, tenth century B.C. to first century B.C.; emphasis on the importance of Greek sanctuaries.

Greek Art and Architecture (3-9)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 399 (IL) Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Art History (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005
Prerequisite: ART H 100 orART H 110 orART H 111 orART H 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 402 (IL) The Illuminated Manuscript (3) Specific stylistic periods in manuscript painting from A.D. 500-1500 in Western Europe and Byzantium.

The Illuminated Manuscript (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 302 orART H 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 405 (US;IL) Pioneers of Modern Architecture (3 per semester/maximum of 6) Selected period or theme in the development of modern architecture during the nineteenth and/or early twentieth centuries.

Pioneers of Modern Architecture (3 per semester/maximum of 6)

General Education: None
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 307

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 404 (US) The Art of Colonial America (3) A survey of the visual arts in the North American colonies from the explorer artists to the American Revolution.

The Art of Colonial America (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 307

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 409 (ART 409) Museum Studies (3) An introduction to the professional activities that occur in art museums.

ART H (ART) 409 Museum Studies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces students to the broad field of art museum work, specifically museum administration, education, curatorial work, registration, and exhibition design. Readings by authors in each field provide current theoretical and philosophical frameworks for all areas, which are then followed by discussions and practical experiences with professional museum practitioners, including the staff of a museum, for example, the Palmer Museum of Art, and invited guests. Museum Studies is open to students who have complete six credits in art, art education, or art history. This course is especially beneficial for majors in art, art education, and art history who are considering a career in an art museum or who want to become more aware about how an art museum functions. In addition to providing an in-depth introduction to art museum work, the course encourages students to build the critical thinking and response skills that are crucial to success in the real-world environment of a museum. The readings provide a solid foundation for later reference or further study in the student's chosen field.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2004
Prerequisite: 6 credits of ART H ART and/or A ED

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 410 Taste and Criticism in Art (3) History and literature of art criticism demonstrating the varied philosophic, cultural, iconographic, technical, and visual approaches.

Taste and Criticism in Art (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999
Prerequisite: 6 credits of art history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 411 (IL) Roman Art (3-9) Roman sculpture and painting from Augustus to Constantine.

Roman Art (3-9)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 412 (IL) The Gothic Cathedral (3) Specific aspects of Romanesque and Gothic church architecture of western Europe, especially France and England, between 1000-1500.

The Gothic Cathedral (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201, ART H 302 orART H 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 414 (IL) Italian Baroque Painting (3) Survey of Italian Baroque painting from sixteenth-century proto-Baroque masters to painters of the late Baroque and Rococo periods.

Italian Baroque Painting (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 415 (US) The Skyscraper (3) Origin and evolution of the skyscraper as seen against the background of cultural conditions and technological factors.

The Skyscraper (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 307

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 416 (US) American Painting: 1876-1913 (3) Art in the United States between 1876 and 1913; emergence of an American art and transition to the modern styles.

American Painting: 1876-1913 (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 307

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 420 (IL) Russian Architecture (3) Russian architecture from the first Orthodox churches of the late tenth century to the end of the Soviet Union.

Russian Architecture (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 112, ART H 201 orART H 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 422 (IL) Studies in Medieval Sculpture (3-9) Specific studies of western European sculpture, 300-1500, with attention to sources, styles, type, and iconography.

Studies in Medieval Sculpture (3-9)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201, ART H 302 orART H 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 423 (IL) Studies in Italian Renaissance Art (3-9) Specific studies of Italian Renaissance art, including the work of artists such as Leonardo da Vinci, Michaelangelo, and Raphael.

Studies in Italian Renaissance Art (3-9)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 202 orART H 303

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 424 (IL) Masters of Northern Baroque Art (3) Seventeenth-century painters in Flanders and Holland, including the works of artists such as Rubens, Rembrandt, and Vermeer.

Masters of Northern Baroque Art (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 426 (US;IL) Iconoclasm: Powerful Images and their Destruction (3) Iconoclasm: exploring the political, religious, and social motivations behind the destruction of powerful imagery throughout history.

ART H 426 Iconoclasm: Powerful Images and their Destruction (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Images have been granted extraordinary powers in many human societies, and their purposeful destruction has been a recurrent feature of political, religious and social strife around the world. This course explores how and why humans have granted such power to images, and the subsequent reactions that have resulted in periodic outbreaks of iconoclasm. Topics include the historical specificity of image destruction, the role of art and its detractors in precipitating the Protestant Reformation, and the manipulation of iconoclasm in modern mass media. Victimized images covered may include the bronze bust of Sargon (3rd millennium BCE) and early Renaissance altarpieces through the statues of Saddam Hussein and beyond. We will read primary and secondary materials ranging from Biblical texts to letters to the editor in the New York Times. Through careful consideration of iconoclasms' historical contexts, we will explore art's ability to function as a societal lightning rod. This course has two major objectives: to introduce students to a subject matter that holds great relevance for our time, and to train them in the methods and ethics of scholarly research.

This course fulfils elective and 400-level requirements in Art History and General Education (US and IL), but it is intended also to complement concentrations in History, Visual Studies, Religion, and Communications. It would be offered every two to three years. Evaluative criteria include analytical reading and discussion, written components such as critical essays and a research projects, and analysis of relevant current events and their media coverage. Requires a classroom with digital audio-visual capability. Course may include museum visits or field trips where appropriate.

General Education: None
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Summer 2009
Prerequisite: 3 credits of Art History in any area

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 430 Goya and His Times (3) The art of Francisco de Goya from the Rococo eighteenth century to the beginnings of Romanticism.

Goya and His Times (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999
Prerequisite: ART H 100, ART H 112, ART H 305 orART H 324

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 429 (IL) Studies in Baroque Art (3) Selected topics in the painting, sculpture, and architecture of seventeenth-century Italy, France, Flanders, Holland, and Spain.

ART H 429 Studies in Baroque Art (3)
(IL)

This course addresses aspects of European art of the seventeenth century, a rich and complex period in which illusionism and powerful visual effects in the arts reached maturity. Baroque painters went beyond the realism of their Renaissance predecessors to explore both the sensuous aspects of the medium of oil painting and their own increasingly subjective vision. In all the visual arts Baroque masters explored space, mass, and form with a heretofore unheard of freedom and drama. Lectures and discussion in the course may focus on painting, sculpture and/or architecture, in Italy, Flanders, France, Holland, and/or Spain. The course may include selected artists such as Bernini, Borromini, Caravaggio, A. Gentileschi, Poussin, Rembrandt, Rubens, Velazquez, and/or Vermeer. The style and meaning of Baroque art may be studied within its political and cultural setting. For example, new approaches in the visual arts in Italy, and particularly in Rome, may be explored in relation to the rise of the counter reformation. The Spanish war in the Netherlands, and the Dutch struggle for freedom, may be connected with the art of Flanders and Holland. Attendant developments in other fields such as natural philosophy (science) and literature may be related to the visual arts. For example, the use of the camera obscura may be discussed with the art of Jan Vermeer and the poetry of Giambattista Marino may be related to the art of Nicolas Poussin. Aesthetic, critical, interpretive, and theoretical ideas of major artists and writers of the seventeenth century as well as of today's art and cultural historians may be considered. The emergence of new genres such as landscape and still-life may be examined, as well as the continuing themes of mythology, portraiture, and religion. Course objectives may include students' understanding of the national and regional development of styles and schools within seventeenth-century art, the particular approaches to style and meaning by major artists of the period, the analysis of symbolism and meaning within art works of the period; the interrelationship between the art of the period and other disciplines such as natural philosophy and literature, and particular ways in which seventeenth-century art relates to the politics of particular countries, regions, and patrons. This course may serve as an elective for undergraduate students interested in the visual arts and art history, and for graduate students seeking a deeper exposure to art history. Evaluation may be accomplished through a combination of exams, quizzes, term papers, special projects, and participation in class discussion. Special facilities include a darkened room with dimmable spot lighting, computer, computer projector, and a large projection screen.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 6 credits in art history (ART H)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 432 Problems in Iconology (3-9) The investigation of content and meaning in major monuments of the history of art.

Problems in Iconology (3-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999
Prerequisite: 6 credits of art history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 435 (IL) Studies in Modern Art (3-6) Lectures focusing on a selected movement of nineteenth- or twentieth-century art.

Studies in Modern Art (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 305, ART H 307 orART H 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 440 (IL) (ASIA 440) Monuments of Asia (3-9 per semester/maximum of 9) An exploration of major Asian sites and monuments through a focus on their historical and cultural significance.

ART H (ASIA) 440 Monuments of Asia
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, major Asian monuments are introduced in their physical, historical and cultural contexts. Students are also exposed to various theoretical approaches through which these monuments will be studied. Some of the themes around which the course is structured include patronage, religious practice, cultural meaning, political relevance and the shifting meanings of monuments over time. Students will learn to understand and discuss ways of defining monuments, their formal character and lineage, historical and cultural contexts and their representation across space and time.
Each semester monumental sites will be organized around a common theme such as, “Hindu and Buddhist Sites across Asia: Historical Significance and Contemporary Relevance,” “Patronage and Religion,” “Islam across Asia: Global Ideas and Local Contexts,” “Political and Symbolic Centers in Asia: Between Early Modernity and the Nation State” or “Early Modern Asia: Empire and the Built Environment.” Alternately, these topics will be incorporated within a multi-themed structure. The objective of the course is to expose students to the histories and cultures of Asia in a globalizing world. Another objective is to equip students with the methodological tools of art history as a discipline, even as they learn about specific monuments. The course will build on the foundation laid by survey courses in Art History, Architectural History and Asian Studies. Weekly readings will be assigned and discussed in class. The development of analytical and writing skills will be stressed, and grades will be based partly on essay exams and short response papers. In addition, students will write a research paper, to be completed by the end of semester.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2010
Prerequisite: ART H 100 orART H 120 orART H 315 orART H 320 orART H 330 orART H 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 442 (IL) Late Antique and Early Christian Art (3) Survey of the architecture, painting, and minor arts of Christian society from the beginning to the mid-sixth century.

Late Antique and Early Christian Art (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 452 (IL) Byzantine Art (3) Monumental and minor arts of Byzantium and related areas from the reign of Justinian to the Turkish conquest of Constantinople.

Byzantine Art (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 111, ART H 201 orART H 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 450 (US;IL) The History of Photography (3) The history of photography from 1839, with particular emphasis on the relationship with the plastic arts.

The History of Photography (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 305, ART H 307 orART H 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 454 (IL) Spanish Baroque Art (3) Survey of seventeenth-century Spanish painting and sculpture, with an emphasis on Velasquez, Murillo, Ribera, and Zurbaran.

Spanish Baroque Art (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 456 Gian Lorenzo Bernini and the Architecture of the Full Baroque in Rome (3) In-depth investigation into the architectural works and conceptual practices of Bernini and his contemporaries, with accentuation of specific monuments.

Gian Lorenzo Bernini and the Architecture of the Full Baroque in Rome (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999 Ending: Fall 2010
Prerequisite: ART H 100, ART H 112 orART H 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 458 (IL) Baroque Capitals of Europe (3) This course examines the architecture and urbanism of European capital cities from 1600-1800.

ART H 458 Roman Rococo Architecture and the Dawn of Neoclassicism (3)

Most scholars agree that the modern European capital was created in the seventeenth and eighteenth centuries. This course will examine what transformed the cities into centers of power, culture, and learning. We will look at new building types, the creation of civic institutions, and changes in the urban plan. The course will therefore provide an overview of the architecture and urbanism of the period and also explore the political and social contexts that made them possible. Topics include capitals of great political importance such as Paris and London as well as smaller centers like Turin and Nancy that underwent major urban and architectural transformations. The social function of buildings that mark these capitals, from poor houses to opera houses, will also be explored. Units covered may include Rome of Alexander VII, London Before and After the Great Fire, Convents and Capitals, and the City Destroyed and Rebuilt. Primary and secondary reading, ranging from Pepy's Diary to Habermas' examination of the public sphere will offer period accounts as well as conceptual frameworks for understanding the capital. The objective is to challenge students to think deeply about our urban environment and its debts to this earlier era. This course fulfills elective and 400-level requirements in Art History and General Education (IL), but it is also designed to complement concentrations in History, Music, and Architecture. It would be offered every two to three years. Students will be evaluated based on class participation, four exams, group presentations, and critical essays.

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2010
Prerequisite: ART H 100 orART H 112 orART H 202 orART H 304 orART H 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 456 (IL) Renaissance and Baroque Palaces (3) This course examines palace architecture and decoration in Italy, France, England, and Germany from 1450-1700.

Renaissance and Baroque Palaces (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ART H 100 orART H 112 orART H 202 orART H 303 orART H 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 464 (IL) French Baroque Painting (3) Examination of seventeenth-century French painting, including Italian influences; the provincial, Classical, and official styles in France.

French Baroque Painting (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112 orART H 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 470 (US) American Painting and Sculpture Since 1940 (3) Painting and sculpture in the United States from the origins of Abstract Expressionism through the present.

American Painting and Sculpture Since 1940 (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: ART H 100, ART H 112, ART H 307 orART H 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 475 (US) (ART 475) Contemporary Women Artists (3) An interdisciplinary course that investigates women artists who are integral to the production of contemporary art primarily in the Americas, Europe, and Asia.

Contemporary Women Artists (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: Fifth semester standingART H 111, ART H 112 and enrollment in the ART BA ART BFA Art Education or Integrative Arts degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 476 (ART 476) History and Theory of Digital Art (3) History and theories of contemporary digital art emphasizing humanistic approaches to technology.

ART H (ART) 476 History and Theory of Digital Art (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Approaches to Digital Art is a survey class that will offer the web designer, cyberspace architect, MUD traffic controller or enthusiastic surfer an opportunity to examine the humanistic aspects of contemporary digital art. Through readings and direct interaction with digital media and digital artists, the class will develop an appreciation of the ways in which the interface between human beings and technology has been historically constructed and is subject to critical investigation. The goal of the class is to prepare each student so that she or he may engage with digital media in a way that is every more historically and socially self aware.

Students will address the ways in which digital technologies transform artistic practices such as museum display, the writing of art criticism, the definition of works of art, changing role of the artist and the changing space of the art studio. More important, however, by engaging with digital works of art students will learn to think critically about technology and its engagement with culture at large. They will be encouraged to think about the political, economic and social impact of digital technologies. This humanistic approach to technology would make this course particularly useful to students of art history, philosophy, comparative literature, art education, and the visual/plastic arts. A significant portion of the course will be devoted to the ways in which art on the internet and digital art in general challenge the integrity of categories such as race and national identity. For example, students will have an opportunity to engage with African American artists such as Keith Obadike, whose on-line performances include an attempt to put his "blackness" up for sale on ebay.com in August of 2001. Students may also look at the ways in which net.art (Art made to be viewed on the internet) can critique commercial cooptation of global culture: etoy.com, for example, is an international and collaborative artist's group that satirizes global capital by camouflaging itself as a multinational corporation.

This class will depend largely upon written responses and class discussion, rather than upon tests. Thus, students will learn how to approach difficult theoretical sources that have been assigned to them, and they will learn how to ask the kinds of questions that will help them understand such sources. This course will emphasize critical thinking rather than memorization, so students will develop analytical skills that will be useful in many other contexts. Because students will be given weekly writing assignments, they will be able to improve their skills in composition.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2007
Prerequisite: ART H 100 orART H 112 orART H 307 orART H 325 orART H 326 orART 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 497A (IL) Ancient Egyptian Art and Architecture (3) An examination of selected monuments of Ancient Egyptian art and architecture.

Ancient Egyptian Art and Architecture (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ART H 100 orART H 111 orART H 201 orART H 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 497A Oceanic Art (3) Survey of the sculpture, textile, architecture and other traditional artforms of Oceania, covering the areas of Melanesia, Micronesia and Polynesia.

Oceanic Art (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 497B (US;IL) The Shock of the New: Provocation and Challenge in European Art 1400-1650 (3) A team-taught, interdisciplinary exploration of provocative challenges to tradition in the visual arts, music and literature, 1400-1650.

The Shock of the New: Provocation and Challenge in European Art 1400-1650 (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ART H 100 orART H 112 orART H 202 orART H 303 orART H 304 orART H 313 orART H 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 497B Rome: A City on Film-History, Fantasy, and Realism from 1896-2010 (3) Viewing and critical analysis of films from the silent era to the present; examines the representation of Rome.

Rome: A City on Film-History, Fantasy, and Realism from 1896-2010 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 497C Art and Empire: Aztec, Inca, Spanish (3) An analysis of the Aztec, Inca and Spanish empires' use of visual culture as an imperial strategy, 1400-1600.

Art and Empire: Aztec, Inca, Spanish (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Art History (ART H)

ART H 499 (IL) Foreign Study--Art History (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Art History (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 100 (GA;IL) Introduction to International Arts (3) An interdisciplinary, multicultural introduction to the arts of the world.

A&A 100 Introduction to International Arts (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The arts of the world can be simultaneously universal and unique. By conveying qualities of the human condition (mortality, love, lust, virtues, vices, etc.) the arts can be universal. However, the arts communicating these qualities can be as unique as the cultures that produced them. Consequently, the arts are representative of the commonality and diversity of the peoples of the world.

A&A 100 will use the arts to consider similarities and differences among cultures. The primary objective of this course is to develop each student's ability to appreciate the arts from a variety of cultures. By equipping students with the skills to analyze works of art from other countries, the course will make them more receptive to the unfamiliar.

The scope of this course will be open to all arts from all cultures but it cannot be comprehensive given how large a field of study this represents. The course will concentrate on but will not be limited to the visual arts, architecture, designed environments, theatre and music. It will not include all arts from all countries. Instead, case studies will be used to provide students with in depth examination of specific examples. Individual case studies will be selected based on qualities indicative of the culture of origin. Care will be given to selecting case studies representative of a wide variety of cultures. Effort will be made to include examples from Asia, Africa, Australia, South America and Europe.

Case studies will be presented by guest lecturers and chosen from other resources on campus. Members of the College of Arts and Architecture faculty, international graduate students and visiting scholars will be invited to present examples from their expertise. Objects in the Palmer Museum Of Art, events at the Center for the Performing Arts and audio/visual/internet resources will also be used as sources for other case studies. Because the arts are central to this course, visual and audio experiences will be a major component.

A&A 100 is the foundations course required by the International Arts Minor, but will also be available to other students not pursuing the minor as a General Education Arts (GA) and United States Cultures and International Cultures (US;IL) course.

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 101 Art and Design Theory I (3) Provides arts and design students an interdisciplinary introduction to critica critical, theoretical, and historical understandings of the arts and design.

A&A 101 Art and Design Theory I (3)

A&A 101: Art and Design Theory I is one of four required core courses for students in the arts and design disciplines of the College of Arts and Architecture. It must be taken concurrently with A&A 102S: Art and Design Studio I. Students in A&A 101 will introduce students to basic ideas, areas of inquiry, and experiences in the arts and design disciplines. The course will be thematically linked to A&A 102. One instructor, who will draw upon the varied expertise of the entire faculty in the arts and design disciplines of the College, will teach this course. In parallel to the major topics of A&A 102, the major topics of the course are visual languages, visual organization, and visual transformation. Within these topics students will be introduced to a basic understanding of historical and theoretical understandings, issues, and questions in the arts and design disciplines, ethical issues in history, theory, and criticism, intentionality and subjectivity, appropriation and influence, and interdisciplinary understandings. This course will foster more interdisciplinary awareness across the college and provide students with a common language (or several common languages) with which they can communicate with other students in the arts and design disciplines. This course address ways of learning about the arts and design through projects and assignments that integrate particular methodologies and approaches rather than through discipline-specific subject matter.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture
Concurrent: A&A 102S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 102S Art and Design Studio I (3) Provides students with an interdisciplinary introduction to studio work in the arts and design.

A&A 102S Art and Design Studio I (3)

A&A 102S: Art and Design Studio I is one of four required core courses for students in the arts and design disciplines of the College of Arts and Architecture. It must be taken concurrently with A&A 101. Students in A&A 102S will create studio work that investigates, from various disciplinary understandings, basic issues and problems in the arts and design. The course will be thematically linked to A&A 101 and will be team-taught to provide an interdisciplinary structure that draws on the expertise of the faculty teaching the course. Throughout the course students make visual propositions by synthesizing themes presented lectures and reading. The course projects are organized around the primary themes. The major topics of the course include visual languages, visual organization, visual transformation, media, visual research, critical thinking, ethics, visual images and contextual relationships, visual communication, collaboration, critical evaluation, and interdisciplinary understandings. Work is presented and discussed in individual sections at frequent intervals through both informal, individual desk critiques, and formal group critiques. This course will foster more interdisciplinary awareness across the college and provide students with a common language (or several common languages) with which they can communicate with other students in the arts and design disciplines. This course addresses ways of learning about the arts and design through projects and assignments that integrate particular methodologies and approaches rather than through discipline-specific subject matter.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture.
Concurrent: A&A 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 103 Art and Design Theory II (3) Provides arts and design students an interdisciplinary introduction to critica critical, theoretical, and historical understandings of the arts and design.

A&A 103 Art and Design Theory II (3)

A&A 103: Art and Design Theory II is one of four required core courses for students in the arts and design disciplines of the College of Arts and Architecture. It must be taken concurrently with A&A 104: Art and Design Studio II. Students in A&A 103 will engage in interdisciplinary study of historical, theoretical and analytical perspectives on basic issues and problems in the arts and design disciplines. The course will be thematically linked to A&A 104. One instructor, who will draw upon the varied expertise of the entire faculty in the arts and design disciplines of the College, will teach this course. In parallel to the major topics of A&A 104, the major topics of the course are visual languages, visual organization, and visual transformation. Within these topics students will be introduced to a basic understanding of historical and theoretical understandings, issues, and questions in the arts and design disciplines, discussions of the similarities and differences among the arts, issues related to making, technology and the cultural meaning of materials, the importance of context when interpreting works of art and design, the social dimension of art and design, and interdisciplinary understandings. This course will foster interdisciplinary awareness across the college and provide students with a common language (or several common languages) with which they can communicate with other students in the arts and design disciplines. The course will integrate particular methodologies and approaches rather than discipline-specific subject matter and be especially significant to such areas as learning to think critically, learning to engage in critical dialogue, and development of research skills. It will provide an introduction to, and discussion of, the processes of historical thinking and methodology as they pertain to the work and experience of living artists. Material would be presented in an engaging and meaningful manner through active learning with activities such as the exploration of a series of case studies, rather than an overarching historical narrative of the sort that is traditionally presented in Art History survey classes. These cases will be drawn from a wide range of places, periods or media, from Paleolithic cave painting to contemporary cinema.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture.
Concurrent: A&A 104

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 104 Art and Design Studio II (3) Provides students with an interdisciplinary introduction to studio work in the arts and design.

A&A 104 Art and Design Studio II (3)

A&A 104: Art and Design Studio II is one of four required core courses for students in the arts and design disciplines of the College of Arts and Architecture. It must be taken concurrently with A&A 103: Art and Design Theory II. The Art & Design Studio is the fundamental model for education within the art and design disciplines in the University. Students in A&A 104 will create studio work that investigates, from various disciplinary understandings, basic issues and problems in the arts and design. The course will be thematically linked to A&A 103 and will be team-taught to provide an interdisciplinary structure that draws on the expertise of the faculty teaching the course. Throughout the course students make visual propositions by synthesizing themes presented through lectures and reading. The course projects are organized around the primary themes. The major topics of the course include visual languages, visual organization, visual transformation, media, visual research, critical thinking, ethics, visual images and contextual relationships, visual communication, collaboration, critical evaluation, and interdisciplinary understandings. Work is presented and discussed in individual sections at frequent intervals through both informal, individual desk critiques, and formal group critiques. This course will foster more interdisciplinary awareness across the college and provide students with a common language (or several common languages) with which they can communicate with other students in the arts and design disciplines. This course addresses ways of learning about the arts and design through projects and assignments that integrate particular methodologies and approaches rather than through discipline-specific subject matter.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: admission into the College of Arts and Architecture.
Concurrent: A&A 103

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 110 Interdisciplinary Digital Media Studio I (3) Provides arts and design students an interdisciplinary studio-based exploration of critical, theoretical, and historical understandings of digital media.

A&A 110 Interdisciplinary Digital Media Studio I (3)

This course is the first of a series of required courses for the Interdisciplinary Digital Studio (IDS) degree. Students in A&A 110 will gain an interdisciplinary and collaborative foundation through the studio-based exploration of digital media arts and design processes. This course will foster interdisciplinary awareness and diverse perspectives and provide students with a common language with which they can communicate and collaborate with other students in the arts and design disciplines. The course will integrate a variety of methodologies and approaches rather than discipline-specific subject matter and be especially significant to such areas as learning to think critically, learning to engage in critical dialogue, and development of research skills. It will provide an introduction to, and discussion of, the processes of historical thinking and methodology as these pertain to the work and experience of historical and living digital media artists and designers.

Through the completion of studio-based projects encompassing a wide range of digital media, including image production and manipulation, basic interactivity/hypermedia, interface design, 3D modeling, animation, digital fabrication, audio, and video, students will create a portfolio of work that will enable them to make informed and guided choices as to the further focusing of their studies in the digital arts and design. Students will be introduced to various collaborative situations and approaches to be utilized as necessary based on the needs of the project. In the following year, students will build upon the explorations of this course through more focused and rigorous studio work in A&A 210 as well as other relevant courses to the degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: Prerequisite or concurrent:A&A 101, A&A 102S
Concurrent: or A&A 103 A&A 104

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 210 Focused Realization Studio (3) Provides students the opportunity for the realization of more focused interdisciplinary studio explorations in the digital arts and design disciplines.

A&A 210 Focused Realization Studio (3)

Building upon the material introduced in A&A 110: Interdisciplinary Digital Media Studio I as well as other relevant courses, such as ART 211W, students in A&A 210 will create team-based and individual studio work that investigates, from a variety of disciplinary understandings, more advanced issues and problems in the digital arts and design disciplines. This rigorous and focused exploration will result in a portfolio of completed and fully realized studio-based projects. This final portfolio will be made available online by the student, both to reach as broad an audience as possible as well as encourage the growth of a critically focused community of similarly interested practitioners in the digital arts and design disciplines. The primary purpose of the course is to bring together students engaged in a wide range of studio explorations and create a synergistic group dynamic that will inform and advance the work of all participants; hence, personal initiative and strong self-learning skills are a given expectation.

The studio format is the fundamental model for education within the arts and design disciplines in the University. Ways of learning about the arts and design through projects and assignments that incorporate various technologies will be included in the course. This course also will give students knowledge of the digital arts and design disciplines, develop skills of art, design and communication, and foster a capacity for judgment. There will be an emphasis on both product and process necessitating a high level of self-motivation and initiative. Each student will be encouraged to be open to a diverse range of ideas, values and solutions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: A&A 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 210 Focused Realization Studio (3) Provides students the opportunity for the realization of more focused interdisciplinary studio explorations in the digital arts and design disciplines.

A&A 210 Focused Realization Studio (3)

Building upon the material introduced in A&A 110: Interdisciplinary Digital Media Studio I as well as other relevant courses, such as ART 211W, students in A&A 210 will create team-based and individual studio work that investigates, from a variety of disciplinary understandings, more advanced issues and problems in the digital arts and design disciplines. This rigorous and focused exploration will result in a portfolio of completed and fully realized studio-based projects. This final portfolio will be made available online by the student, both to reach as broad an audience as possible as well as encourage the growth of a critically focused community of similarly interested practitioners in the digital arts and design disciplines. The primary purpose of the course is to bring together students engaged in a wide range of studio explorations and create a synergistic group dynamic that will inform and advance the work of all participants; hence, personal initiative and strong self-learning skills are a given expectation.

The studio format is the fundamental model for education within the arts and design disciplines in the University. Ways of learning about the arts and design through projects and assignments that incorporate various technologies will be included in the course. This course also will give students knowledge of the digital arts and design disciplines, develop skills of art, design and communication, and foster a capacity for judgment. There will be an emphasis on both product and process necessitating a high level of self-motivation and initiative. Each student will be encouraged to be open to a diverse range of ideas, values and solutions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: A&A 101, A&A 102S, A&A 103, A&A 104, A&A 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 310 Creative Collaboration Studio (3) Provides students with an advanced studio exploration of interdisciplinary collaborative projects in the digital arts and design disciplines.

A&A 310 Creative Collaboration Studio (3)

This course is the third required studio course for students in the Interdisciplinary Digital Studio (IDS) degree program. Students in A&A 310 will create advanced studio work that investigates, from a variety of disciplinary understandings, increasingly complex issues and problems in the arts and design disciplines. The course will emphasize collaborative and team-based projects, exploring the creative potential within the group dynamic as well as in relation to a client.

This rigorous and focused exploration will result in a portfolio of completed and fully realized studio-based projects. This final portfolio will be made available online by the student, both to reach as broad an audience as possible as well as encourage the growth of a critically focused community of similarly interested practitioners in the digital arts and design disciplines. The primary purpose of the course is to bring together students engaged in a wide range of studio explorations and create a synergistic group dynamic that will inform and advance the work of all participants; hence, personal initiative and strong self-learning skills are a given expectation.

The studio format is the fundamental model for education within the arts and design disciplines in the University. Ways of learning about the arts and design through projects and assignments that incorporate various technologies will be included in the course. This course also will give students knowledge of the digital arts and design disciplines, develop skills of art, design and communication, and foster a capacity for judgment. There will be an emphasis on both product and process necessitating high level of self-motivation and initiative. Each student will be encouraged to be open to a diverse range of ideas, values and solutions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A&A 210, ART 211W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 401 International Arts Minor Final Project (1-3) The final project required for the International Arts Minor.

A&A 401 International Arts Minor Final Project (1-3)

The requirements for the International Arts Minor specify that the course applied toward the minor reflect a coherent course of study constructed around a geographic, chronological, or thematic concentration. Also required for the minor is a culminating project that relates to the chosen concentration. The final project is intended to capitalize on the knowledge and experience gained from the prerequisite components of the minor.

The topic of the project will be chosen by the student in consultation with the person in charge of the minor. Work toward completion of the project will be overseen by the person in charge of the minor with advice or assistance from other member(s) of the faculty as appropriate.

For the purpose of the minor, the arts are very broadly defined to include topics such as the visual arts, architecture, design environments, theatre, music, and literature so most any creative endeavor may be considered for the subject of the final project. The project may result in formats such as a written paper, a work of art, an exhibition, a recital, or a musical composition as long as it conforms to the intent of the requirement for the minor. It is anticipated that the subject of most projects will be cross-cultural or multicultural in nature. For example, a research paper might be thematic such as an intercultural comparison of adaptations of a Greek myth. A studio project might be technical, such as the wood firing techniques employed by Japanese ceramicists.

The requirements for the International Arts Minor specifies a project of at least one (1) credit. A7A 401 International Arts Minor Final Project will be offered for one (1) to three (3) credits to accommodate students who may been more than one (1) credit to complete the minor and for those who may propose a project worth more than one (1) credit. A&A 401 may not be repeated.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2004
Prerequisite: A&A 100 and completion of at least 12 credits toward the International Arts Minor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 410 Interdisciplinary Digital Studio Capstone I (4) Provides arts and design students an opportunity to conceptualize a digital arts and design undergraduate thesis.

A&A 410 Interdisciplinary Digital Studio Capstone I (4)

This course is the first part of a two-course undergraduate digital arts and design thesis. The course will integrate particular methodologies and approaches rather than discipline-specific subject matter. Each student will have the opportunity to identify the primary issue of theoretical concern based on his/her personal interest, and pursue research in a rigorous, in-depth manner. The preparation and initiation of the digital arts and design undergraduate thesis will occur within a collaborative team-based studio environment.

Students in A&A 410 will begin to research and synthesize interdisciplinary understandings through the exploration of critical, theoretical, and historical perspectives of digital media. This understanding will foster the spirit of in-depth arts and design inquiry and research, and will build upon arts and design awareness, skills, and methods introduced in previous courses. These explorations are supported by the advanced theoretical topics and ideas being presented in ART H/ART 476: History and Theory of Digital Art, which students will have already completed or will be taking concurrently. The student will integrate studio and theory while creating a significant work of digital art or design. The student will work with a faculty adviser in addition to the instructor of record for the course. The adviser will participate in the public critiques of the student's work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A&A 310 Prerequisite or concurrent:ART H 476

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 411 Interdisciplinary Digital Studio Capstone II (4) Provides arts and design students an opportunity to implement a digital art and design undergraduate thesis.

A&A 411 Interdisciplinary Digital Studio Capstone II (4)

This course is the second part of a two-course undergraduate digital arts and design thesis and the culmination of the digital studio sequence of A&A 110, 210, 310. The course will integrate particular methodologies and approaches rather than discipline-specific subject matter. Each student will have the opportunity to further explore the primary issue of theoretical concern based on his/her personal interest, and complete research in a rigorous, in-depth manner. The creation and implementation of the digital arts and design undergraduate thesis will occur within a collaborative team-based studio environment.

Students in A&A 411 will build upon the preliminary research and studio investigations undertaken in A&A 410. The thesis will synthesize the student's arts and design awareness, skills, and methods introduced in previous courses. The student will integrate studio and theory while creating a significant work of digital art or design, which demands a high degree of responsibility, self-motivation, and personal commitment. The student will work with a faculty adviser in addition to the instructor of record for the course. The adviser will participate in the public critiques of the student's work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A&A 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Arts and Architecture (A&A)

A&A 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian American Studi (AAS)

AAS 100 (GH;US) Introduction to Asian American Studies (3) An introduction to the history, literature, and culture of Asian America.

Introduction to Asian American Studies (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian American Studi (AAS)

AAS 428 (US) (ENGL 428) Asian American Literatures (3 per semester/maximum of 6) A seminar on the literatures and cultures of Asian America, with attention to forms of geographic, historical, and ethnic diversity.

Asian American Literatures (3 per semester/maximum of 6)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 083S Asian Studies First Year Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Asian Studies First Year Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 004 (GH;IL) (CMLIT 004) Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.

Introduction to Asian Literatures (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 100 (GH;IL) What is Asia? (3-6 per semester/maximum of 6) An introduction to the history, literatures, politics, and cultures of Asia.

What is Asia? (3-6 per semester/maximum of 6)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 300H Honors Thesis (3) Individual projects involving research, reading, and writing; preparation of a thesis in Asian Studies.

Honors Thesis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: Participation in the Schreyer Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 315 (GA;IL) (ART H 315) Architecture and Art of South and Southeast Asia (3) Survey of the architecture/art of South/Southeast Asia (emphasis on India) from the Bronze Age to a globalizing present.

Architecture and Art of South and Southeast Asia (3)

General Education: GA
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 401 East Asian Studies (3-6) An interdisciplinary, variable content, lecture-discussion course on the history, culture, politics, and international relations of China, Japan, and Korea.

East Asian Studies (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: 6 credits from courses in the East Asian Studies program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 405Y (IL) Seminar in Asian Studies (3-6 per semester/maximum of 6) An advanced, writing-focused seminar in Asian Studies.

Seminar in Asian Studies (3-6 per semester/maximum of 6)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2009
Prerequisite: ASIA 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 404 (IL) (CMLIT 404) Topics in Asian Literature (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.

Topics in Asian Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 3 credits in literature or related field appropriate to this course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 440 (IL) (ART H 440) Monuments of Asia (3-9 per semester/maximum of 9) An exploration of major Asian sites and monuments through a focus on their historical and cultural significance.

Monuments of Asia (3-9 per semester/maximum of 9)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2010
Prerequisite: ART H 100 orART H 120 orART H 315 orART H 320 orART H 330 orART H 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Asian Studies (ASIA)

ASIA 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 001 (GN) Astronomical Universe (3) The development of modern understanding of the astronomical universe from planets and stars to galaxies and cosmology. Student who have passed ASTRO 005, ASTRO 006, or ASTRO 010 may not take this course for credit.

ASTRO 001 Astronomical Universe (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

ASTRO 001 is an introductory course for non-science majors. It provides a broad introduction to Astronomy including the historical development of the subject, basic physics of gravity, light, and atoms; telescopes; planets, moons, and other objects in our solar system; exosolar planets; the Sun and other stars; the evolution of stars; the Milky Way galaxy and other galaxies; distant quasars and other active galaxies; the expanding universe; cosmology based on the Big Bang theory; and life in the universe. The goal of this course is to cover most of the areas of modern astronomy at a level which requires only basic mathematics.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 005 (GN) The Sky and Planets (3) The development of our modern understanding of the visible sky and planetary systems. Students who have passed ASTRO 001 or ASTRO 010 may not take this course for credit.

ASTRO 005 The Sky and Planets (3) (GN)

ASTRO 005 will introduce students to the wonders of the universe and help them to understand how the universe works through the laws of physics. During the semester, they will learn about the different observed motions of objects in our sky, how astronomical objects influence our concepts of time, the nature of light and spectra, how planetary systems are formed and comparative details about our solar system and other planetary systems. Many colorful images and movies of the solar system have been collected by un-manned satellite missions like Voyagers I & II, the Magellan mission to Venus, the Mars Rovers and Pathfinders, the Galileo mission to Jupiter, the Cassini and Huygens missions to Saturn, and the New Horizons mission which is now on its way to study Pluto. These images will be used to convey the excitement of discovery to our students.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: Students who have passed ASTRO 001 or ASTRO 010 may not take this course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 001H (GN) Astronomical Universe (3) The development of modern understanding of the astronomical universe from planets and stars to galaxies and cosmology. Students who have passed ASTRO 005, ASTRO 006, or ASTRO 010 may not take this course for credit.

ASTRO 001H Astronomical Universe (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

ASTRO 001H is an introductory course for non-science majors. It provides a broad introduction to Astronomy including the historical development of the subject, basic physics of gravity, light, and atoms; telescopes; planets, moons, and other objects in our solar system; exosolar planets; the Sun and other stars; the evolution of stars; the Milky Way galaxy and other galaxies; distant quasars and other active galaxies; the expanding universe; cosmology based on the Big Bang theory; and life in the universe. The goal of this course is to cover most of the areas of modern astronomy at a level which requires only basic mathematics.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 006 (GN) Stars, Galaxies, and the Universe (3) The development of our modern understanding of stars, galaxies, and the astronomical universe. Students who have passed ASTRO 001 or ASTRO 010 may not take this course for credit.

ASTRO 006 Stars, Galaxies, and the Universe (3)
(GN)

ASTRO 006 will introduce students to the laws of nature as they apply to the study of stars, galaxies and the universe. During the semester, they will learn about gravitational forces, the nature of light and spectra, the different telescopes and instruments used to study the universe, new discoveries about our Sun and other stars, the births and deaths of stars, the structure of our own Milky Way galaxy, types of galaxies, how other nearby galaxies affect the Milky Way, the origin of our universe and the techniques that we have used to learn about our universe. These topics will be enhanced by numerous images and movies of our Sun and other astronomical objects that were collected with telescopes like the Hubble Space Telescope, the Swift gamma ray burst explorer, the Chandra X-ray telescope, the Solar and Heliospheric Observatory (SOHO), as well as other state-of-the-art instruments.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: Students who have passed ASTRO 001 and ASTRO 010 may not take this course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 010 (GN) Elementary Astronomy (2) Introductory survey of modern astronomy from planets and stars to galaxies and the universe. Students who have passed ASTRO 001, ASTRO 005, or ASTRO 006 may not take this course for credit. Students may not receive General Education credit for ASTRO 010 unless they also take ASTRO 011.

ASTRO 010 Elementary Astronomy (2)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

ASRTO 010 provides the 2 credit lecture component of a one-semester overview of modern astronomy. The class covers a wide range of topics in planetary, stellar, galactic, and extragalactic astronomy and cosmology. The level is appropriate for students with no university-level science background. The instructor makes frequent use of dramatic images of astronomical objects, demonstrations, and computer simulations. Profound themes underlie the content of the course: how the physical structure and evolution of the universe appears to be ruled by deterministic mathematical laws; how our understanding of the universe progresses by the intricate interplay between theory and observations; how we, as living organisms on a well-placed planet, appear to be both an intimate part of yet an unusual occurrence within the universe. The student will gain perspective on his or her place in a vast and stunningly beautiful universe.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 011 (GN) Elementary Astronomy Laboratory (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.

ASTRO 011 Elementary Astronomy Laboratory (1) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

ASTRO 011 is the 1 credit laboratory component of this overview of astronomy. It covers material similar to the lecture component, but the selected topics are covered in more depth and are focussed on active learning components. Weekly two-hour labs include discussion of the search for extraterrestrial intelligence, an activity to illustrate the phases of the moon, analysis of the colorful spectra of different chemical elements, and exploration of the deepest image of space ever obtained. In addition, students will complete a semester nighttime observing project that typically involves learning some constellations, tracing phases of the moon, and sketching images seen through our well-equipped rooftop student observatory. While most laboratory sections meet in the evening, daytime sections concentrate on classroom, computer-based and solar observing activities.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004
Prerequisite: or concurrent:ASTRO 001 orASTRO 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 011S (GN) Elementary Astronomy Laboratory (1) Selected experiments and explorations to illustrate major astronomical principles and techniques. Telescopes observations of planets, stars and nebulae.

Elementary Astronomy Laboratory (1)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:ASTRO 001 orASTRO 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 020S First-Year Astronomy Seminar (2) Introduction to the study of modern astronomy through discussions, activities, and writing.

First-Year Astronomy Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 120 (GN) The Big Bang Universe (3) Exploration of cosmology, birth, and ultimate fate of the universe; origin of galaxies, quasars, and dark matter. For non-science majors.

ASTRO 120 The Big Bang Universe (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Astronomical observations made during the last 70 years, combined with mathematical physical theory (Einstein's General Relativity), has led to a dramatic new view of the history of the Universe. Ten to twenty billion years ago, all the material that is now contained in stars, planets, and galaxies was then compressed into a region, smaller than a pinhead, and so hot that atoms could not survive. This fiery cauldron cooled and expanded, forming hydrogen and helium, and eventually all the materials and structures that we know today. This course will discuss the evidence, theories and controversies of this new scientific cosmology, commonly known as 'the Big Bang'.

This class is designed for the non-science students who, after learning the fundamentals of astronomy in Astro 1 (GN) or 10 (GN), want to pursue further the questions of cosmology. The great success of the Big Bang theory in explaining the expansion of the Universe, the synthesis of the chemical elements, and the relic radiation leftover from the first moments are reviewed. Some of the questions discussed are still debated in the scientific community. For example: Why do some galaxies have stunning spiral structures, while others are relatively featureless ellipticals? What is the "dark matter" that may have emerged from the Big Bang, and seems to make a larger contribution to the mass of the universe than all of the material we are familiar with? What can the most distant and oldest objects we know of, the quasars, tell us about how galaxies formed? In presenting the development of this subject, the empirical and conceptual methods of modern physical science are conveyed. Students are assigned problems that exercise the use of elementary mathematics and physics to address real issues, and will confront discussions of interpretation and meaning in essays. A final project allows them to explore individual interests.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002
Prerequisite: ASTRO 001 orASTRO 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 130 (GN) Black Holes in the Universe (3) The predicted properties of black holes and the astronomical evidence for their existence are investigated in the context of modern ideas about space, time, and gravity.

ASTRO 130 Black Holes in the Universe (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Black Holes in the Universe introduces students to the predicted properties of black holes and the astronomical evidence for their existence. Modern ideas about the nature of space, time, and gravity are also covered. The key topics discussed in the course include Newton's and Einstein's theories of gravity, predicted properties of black holes, stars and their fates, how to detect a black hole, gamma-ray bursts, supermassive black holes in galactic nuclei, active galaxies, black hole spin, gravitational waves, Hawking radiation, singularities, and black hole child universes. The course is intended to be an attractive choice for students who are interested in enriching and broadening their understanding of modern physical science.

The course is intended for students who have completed and enjoyed the one-semester survey of modern astronomy, ASTRO 001 or 010. It has an interdisciplinary flavor, combining basic physical concepts, astronomical observations, and philosophical ideas to present a complete picture of the current understanding of black holes. Students use mathematics at the level of high school algebra.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2004
Prerequisite: ASTRO 001 orASTRO 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 140 (GN) Life in the Universe (3) The problem of the existence of life beyond Earth is investigated, drawing from recent research in astronomy and other fields. For non-science majors.

ASTRO 140 Life in the Universe (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The possibility of life beyond Earth is one of the great unsolved puzzles of human thought and has been debated for millenia. An answer would fundamentally change the relationship between the human race to the rest of the Universe. Advances in modern physics and astrophysics have dramatically changed and enriched the understanding of our cosmic surroundings, but have not yet produced an unambiguous evidence concerning the extraterrestrial life. Yet, significant progress has been made on certain aspects of the problem. Recent observations of protoplanetary disks around young stars, planets around solar-type stars and a rapidly spinning pulsar (a Penn State discovery), and pervasive organic molecules throughout the Galaxy give tantalizing albeit indirect, hints in favor of the existence of nonterrestrial life.

"Life in the Universe" is envisioned to be an attractive choice for students who are interested in enriching and broadening their understanding of modern science. The course is highly interdisciplinary, combining evidence from several fields of science to describe our chances to encounter life beyond Earth and the Solar System. Selecting this course would be a logical choice for students who completed and enjoyed ASTRO 1/10 (GN). The students are expected to reach the following goals from this course:
- learn to appreciate limitations of human experience and a role of the interdisciplinary approach in solving scientific problems
- gain understanding of a relationship between the physical Earth, its biosphere, and the rest of the observable Universe
- examine in some detail a contemporary problem of scientific investigation: the astrophysical evidence for planets around stars other than the Sun
- assess the scientific significance of searches for extraterrestrial life including technological civilizations

The course material is conveyed, analyzed and discussed through lectures, invited talks, reading, essay writing, homework assignments and oral presentations. Lectures systematically cover the topics listed in the course outline at a level appropriate for non-science students, although Science and Engineering majors do take the course and perform at a higher technical level. While general understanding of astronomy from the prerequisite course is expected, the necessary physical and astrophysical concepts are reintroduced to assure a logical and coherent flow of information throughout the course. Videos are used to illustrate a number of topics, such as the search for extraterrestrial intelligence, physical conditions on planets of the Solar System, the detection of planets around a neutron star, and to evaluate the scientific content of science fiction movies. Invited talks by faculty from other departments enrich the course material with in-depth presentations of subjects such as habitable zones around stars, the basics and perspectives of space flight and the foundations of biological evolution.

There has been some experimentation with activity and assessment strategies for the course. In some offerings, the students answered weekly 10-minute in-class short- answer quizzes (45%), a substantial group end-of-term paper (30%) and associated class presentation (15%), and class discussion (10%) based on number of contributions). In other offerings, the student takes a multiple-choice mid-term and final exam (45%), writes an end-of-term paper (25%), prepares a group presentation (20%), and solves short-answer questions via email (10%). Some of the work involves quantitative analysis while other work requires qualitative synthesis of classroom experience with readings. Group presentations give students a chance to study selected, often controversial topics and present them to the class in a disciplined, scientific manner.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002
Prerequisite: ASTRO 001 orASTRO 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 291 (GN) Astronomical Methods and the Solar System (3) Physical processes and observational techniques in astronomical systems, characteristics of the sun, planets, and moons.

ASTRO 291 Astronomical Methods and the Solar System (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

ASTRO 291/292 is a two-semester overview of our current knowledge of astronomy. They are designed for students with a solid grounding in math and physics who wish to obtain a more quantitative understanding of the universe than that presented in ASTRO 001 or the 100-level ASTRO series. These courses are required for students majoring in astronomy, generally taken in the sophomore year.

ASTRO 291 starts with the appearance of the sky to the naked eye and the historical development of European astronomy. It then turns to an introduction to physical processes relevant to the interpretation of astronomical findings: Newtonian gravity and its applications in celestial mechanics, electromagnetic radiation, and a simplified understanding of atoms. The principal tools of astronomy telescopes are then described. The course proceeds with the survey of astronomy with the constituents of the solar system: sun, planets, natural satellites, planetary rings, asteroids, and comets. Physical processes are integrated with empirical findings to provide a profound and quantitative understanding of the phenomena; e.g. the role of angular momentum and tidal forces in establishing the orbits and spins of solar system bodies. The class then tackles the challenging development of models of the formation and evolution of the solar system.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002
Prerequisite: PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 292 (GN) Astronomy of the Distant Universe (3) Observed properties and astrophysical understanding of stars, stellar evolution, galaxies, the large-scale universe, and cosmology.

ASTRO 292 Astronomy of the Distant Universe (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

ASTRO 291/292 is a two-semester overview of our current knowledge of astronomy. They are designed for students with a solid grounding in math and physics who wish to obtain a more quantitative understanding of the universe than that presented in ASTRO 001 or the 100-level ASTRO series. These courses are required for students majoring in astronomy, generally taken in the sophomore year.

ASTRO 292 continues the survey started in ASTRO 291. The first half of the course is devoted to stellar astronomy and astrophysics. The class follows the successful application of physics to astronomical data in the 19th -20th centuries to understand distances, masses and energy sources of stars. The formation, structure and evolution of stars is treated in the context of physical processes developed in ASTRO 291. The class studies the death of stars, including spectacular phenomena such as supernova explosions, pulsars and black holes, solutions to difficult problem of establishing distance scales (stellar, galactic, intergalactic) are presented. In the second half of the course, the students examine the Universe on progressive larger scales: our Milky Way galaxy, other galaxies, and massive black holes in galactic cores (e.g. quasars). Exotic phenomena such as gravitational lenses, gamma-ray bursts and cosmic rays are investigated. Finally, the class delves into the remarkable findings of modern cosmology: Hubble's discovery of the expansion of the Universe, the discovery of the cosmic microwave background and consequent dominance of Big Bang cosmology in the context of Newtonian and Einsteinian theories of gravity. Cosmological evolution is studied; e.g. formation of light elements during the first few minutes, and the growth of large-scale structure that continues to the present. Unsolved problems faced by today's scientists are emphasized.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002
Prerequisite: ASTRO 291

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 320 (GN) Observational Astronomy Laboratory (2) Basic observational astronomy techniques introduced through observational exercises, lab experiments, and lectures on relevant statistical techniques.

ASTRO 320 Observational Astronomy Laboratory (2) (GN)

ASTRO 320 will provide students with practical experience in basic observational and laboratory aspects of astronomical data collection and analysis, including an introduction to associated statistical concepts. Observational techniques will be introduced through an observing project using a telescope with a CCS imaging camera. Lectures will introduce fundamental principles including Poisson and Gaussian statistics, measurement precision, propagation of errors, and systematic uncertainties. These principles will be put into practice in the observing project and with laboratory experiments investigating the properties of light and cosmic rays. Experiments include: a cosmic ray telescope; a Michelson interferometer; a photodiode and monochromator; laser interference, diffraction and refraction; fluorescent gases; and a diffraction grating spectrometer.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:ASTRO 291

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 400H Honors Seminar (1 per semester, maximum of 2) Presentations of various branches and modes of modern astrophysical research, based on lectures, visits to telescopes and facilities, and discussions.

Honors Seminar (1 per semester, maximum of 2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: ASTRO 292

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 410 Computational Astrophysics (3) Applications of numerical methods and computer programming to astrophysics, including stellar physics and cosmology.

Computational Astrophysics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 121;PHYS 212, PHYS 213 andPHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 420W Planets and Planetary System Formation (3) Solar system properties, star formation, protoplanetary disks and planet formation, solar system model, extrasolar planets, and astrobiology.

ASTRO 420W Planets and Planetary System Formation (3)

The course explores the wide variety of physical and chemical processes that govern the motions and properties of planets. Observations of the planets, moons, asteroids, comets and planetary rings in our Solar System are described. The properties of extrasolar planets are also emphasized. The process of planetary formation is discussed in the context of the solar system and in the context of extrasolar planets. The prospects of life and the effect of life on such planets will also be discussed.

It will be taken by roughly half of the juniors and seniors majoring in Astronomy and Astrophysics (about 10 people). The course will include writing papers on current issues of debate in the areas of solar system and extrasolar planets and will satisfy the "Writing Across the Curriculum" requirement.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: ASTRO 292

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 414 Stellar Structure and Evolution (3) Theory of Stellar structure and evolution including energy generation and transport and an examination of stellar models.

ASTRO 414 Stellar Structure and Evolution (3)

ASTRO 414 covers the theory of stellar structure and evolution at an introductory level. It includes the basic physical processes that influence the structure of a star, such as energy generation in stellar cores, the transport of energy to the surface via photon diffusion and convection, equilibrium conditions, etc. It examines realistic stellar models as they apply to stars of different masses, for example, polytropes and other approximations. The treatment of stellar evolution includes gravitational collapse, stable stellar configurations on the main sequence, and the fast-paced late stages of evolution, leading up to the formation of compact objects. Realistic stellar models will be employed to illustrate the structures of different types of stars and the influence of various physical processes on these models.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ASTRO 292, MATH 230, PHYS 212, PHYS 213, PHYS 214, PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 440 Introduction to Astrophysics (3) Theoretical investigation of physical processes in astronomical objects and systems; modern physical interpretation of astronomical phenomena.

Introduction to Astrophysics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: MATH 230, PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 451 Astronomical Techniques (3) Practical methods of modern observational astronomy, detectors, filters, instrumentation for both ground-based and space observations, and data analysis.

ASTRO 451 Astronomical Techniques (3)

ASTRO 451 will introduce students to the techniques and technologies for modern observational astronomy, emphasizing the development of practical skills as well as understanding through computer-based investigations integrated with traditional lecture content. Beginning with a summary of probability theory, the students will be introduced to standard techniques of statistical analysis including hypothesis testing and the characterization of uncertainties. Subsequent lectures and computer exercises will discuss the physics and design of astronomical detectors, the principles of telescope and spectroscope design, and the data analysis methods used in processing astronomical datasets. Significant emphasis will be placed on estimation of signal-to-noise ratios for various observing scenarios. The effects of the Earth's atmosphere, interstellar matter, and the expanding Universe on the propagation of astronomical signals will also be discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: PHYS 212, PHYS 213, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 475W Stars and Galaxies (3) Astronomical studies concerning the distribution and evolution of stars and gas in our and other galaxies.

Stars and Galaxies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: ASTRO 292

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 480 Nebulae, Galaxies, and Cosmology (3) Emission-line spectroscopy, structure and evolution of galaxies, physics of galactic nuclei and quasars, observational cosmology.

Nebulae, Galaxies, and Cosmology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: ASTRO 292, PHYS 212, PHYS 213, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 485 Introduction to High-Energy Astronomy (3) The study of black holes, neutron stars, white dwarfs, supernova remnants, and extragalactic objects through x-ray and gamma ray observations.

Introduction to High-Energy Astronomy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Astronomy and Astrophysics (ASTRO)

ASTRO 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 302 Perspectives in Psychology (3) Study of issues and concepts in psychology intended for non-majors; behavior, development, perception, personality, conflict, and learning.

Perspectives in Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 376 Introduction to Human Service Organizations (3) A course designed to acquaint the student with the role of various social agencies.

Introduction to Human Service Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 370 Community Psychology (3) Introduction to concepts and terminology of community psychology with discussion of historical development. Community mental health issues will be analyzed.

Community Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 395 Behavioral Science Internship (3-12) Internship in human service organizations providing for application of academic knowledge, reading, and discussion.

Behavioral Science Internship (3-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: 90 credits with at least 16 credits in the major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 407 Small Groups Counseling (3) Intensive survey of research and theory on behavior in small groups, with emphasis on interdependence, cooperation, and attitude change.

Small Groups Counseling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 408 Group Facilitation and Leadership Skills (3) Skill training in group facilitation and leadership based on analyses of roles and interpersonal dynamics plus differences among impact population.

Group Facilitation and Leadership Skills (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 410 Human Relations (3) Analysis and theoretical principles of semantics and complex human relations in the family, industry, and informal organizations.

Human Relations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 461 Theories and Models of Counseling (3) A survey of the various methods of counseling as well as the theories behind them.

Theories and Models of Counseling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 459 BASIC COUNSELING SKILLS (3) Behavioral, cognitive, and expressive methods of assessing and enhancing life-coping skills.

BASIC COUNSELING SKILLS (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 464 (US) (WMNST 464) Feminine/Masculine (3) Study of sex role learning; investigating feminine/masculine labeling; implications for contemporary society.

BE SC (WMNST) 464 Feminine and Masculine (3)
(US)

This course provides a critical examination of the concepts of masculinity and femininity through a consideration of how these have shifted and changed historically and cross-culturally. It considers a variety of theories of gender difference. It investigates how gender is socially constructed and practiced. Thus, it examines how gender is enacted in interpersonal relationships and defined, reinforced, and challenged through processes of socialization as well as through the various institutional spheres of social life. The course addresses the diversity of masculinities and femininities within a single society. Thus, attention is given to race and class-based differences as well as to trans-genderism and homosexuality.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: general psychology or general sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 468 Industrial Psychology: Significant Issues (3) A survey of major sociopsychological issues involved in the study of worker behavior and the industrial organization.

Industrial Psychology: Significant Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: general psychology general sociology or general behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 494H Senior Thesis (3-9) Problem formulation, literature search, research design, data collection, analysis of results, and final write-up of a substantial research project.

Senior Thesis (3-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 494 Senior Thesis (3-9) Problem formulation, literature search, research design, data collection, analysis of results, and final write-up of a substantial research project.

Senior Thesis (3-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Behavioral Sciences (BE SC)

BE SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Berks-Lehigh Valley (BKLV)

BKLV 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 019S Health and Disease (1) Essentials of communicable and chronic disease control.

Health and Disease (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 019 Health and Disease (1) Essentials of communicable and chronic disease control.

Health and Disease (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 043 Drugs in Society (1) An exploration of the health-related aspects of drug use and abuse.

Drugs in Society (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 045 Alcohol Awareness Education (1) A course designed to raise awareness relative to the use and abuse of beverage alcohol.

Alcohol Awareness Education (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 046 Introduction to Health Aspects of Human Sexuality (1) An examination of health concerns related to sexuality and sexual behavior.

Introduction to Health Aspects of Human Sexuality (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 046S Introduction to Health Aspects of Human Sexuality (1) An examination of health concerns related to sexuality and sexual behavior.

Introduction to Health Aspects of Human Sexuality (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 048 (GHA) Values and Health Behavior (1.5) Examination of issues that impact the social, emotional, and physical well-being of college students through a values and decision-making process.

BB H 048 Values and Health Behavior (1)
(GHA)

This is a 1credit course designed for non-BB H majors who want a greater understanding of concepts related to health and health promotion and who want to learn practical skills related to optimizing health and improving lifestyle behaviors. General health topics that are relevant to students as they adjust to the transition into--and through--college are introduced through a values and decision-making approach to learning. The course is designed to give students a broader understanding of both short-term and long-term wellness and how it is affected by behavior. Concepts regarding personal health and development are introduced using individual and group activities. To impact behavior, a model for decision-making that includes facts, risks, and consequences is utilized within an experiential learning approach. Students will work individually to perform self-assessment of health-related activities (e.g., nutrition, alcohol and drug-related knowledge and risk behaviors) and in small groups to further assess and describe the effects of health behaviors on short-term and long-term wellness. The course will be evaluated through completion of several short reaction papers to reading assignments and internet research, a group project on health promotion, completion of a health-related journal, and completion of a personal behavior change plan.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 101H (GHA) Introduction to Biobehavioral Health (3) Introduction to interdisciplinary study of health, examining the interaction of biological processes and behavior on health.

Introduction to Biobehavioral Health (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 101 (GHA) Introduction to Biobehavioral Health (3) Introduction to an interdisciplinary study of health, examining the interaction of biological processes and behavior on health.

Introduction to Biobehavioral Health (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 119 (GHA) Behavior, Health, and Disease (3) Principles of health promotion, disease prevention, and treatment of acute and chronic illness. This course is designed for non-BB H majors.

BB H 119 Behavior, Health, and Disease (3)
(GHA)

This course is designed for non-BB H majors who want a fundamental understanding of disease processes, disease states, and principles of disease prevention and health promotion. This course should help students in the biological and behavioral sciences better understand practical applications of theoretical approaches to health issues.

The course will provide a broad understanding of the major human diseases underlying morbidity and mortality in America. The course will cover most major diseases using a variety of organizational schema including: (1) diseases according to organ systems, (2) diseases according to developmental and age-related processes, and (3) diseases according to causal factors including behavioral (lifestyle), environmental, and genetic factors. The course content is organized to encourage promotion of a healthy lifestyle, prevention of disease and understanding the causes and management of acute and chronic illness. The course includes information and assignments to allow the student to appropriately assess one's own health, estimate health trajectories, access and use the health care systems on campus and in their home communities, and develop a long-term health promotion plan. The student will also learn specific skills to find and evaluate traditional and non-traditional treatment processes when they or family members become sick with an acute illness or chronic disease, and to better engage with health care professionals and the health care system for management of illnesses that they or their family may have or develop. Students will also learn practical skills in being able to access a variety of sources to update knowledge about disease causality and treatment and to critically appraise these sources. Students intending to major in Biobehavioral Health should take BB H 101--Introduction to Biobehavioral Health.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 143 (GHA) Drugs, Behavior, and Health (3) Health aspects of use and abuse of licit and illicit drugs; related social problems and prevention. Designed for non-BB H majors.

BB H 143 Drugs, Behavior, and Health (3)
(GHA)

This course is designed for non-BB H majors who want a fundamental understanding of health and social issues relating to drug and alcohol use and abuse. This course should help students in the biological and behavioral sciences better understand practical applications of theoretical knowledge relating to drug physiology, drug-related health effects, health promotion and disease prevention, issues related to social and psychological effects of drug use and abuse, and drug control policies. The course will cover a broad array of drugs including licit drugs (e.g., therapeutic drugs, tobacco, caffeine, alcohol, etc.), and illicit drugs (amphetamines, marijuana, hallucinogens, etc.) with additional focus on drugs liable for addiction and the progression from occasional use to addiction. The course will cover the basics of drug pharmacology, including pharmacokinetics and pharmacodynamics. Special attention will be given to toxicology and addiction physiology. The course is broad in scope, covering subjects such as alcohol and drug use and misuse in specific populations (youth college students, etc.), toxicity and threats to children and adults posed by common therapeutic drugs (aspirin, prescription drugs, etc.), and prevention and treatment strategies for overdoses (e.g., emergency treatment, use of poison control centers, etc.). The course will involve student and faculty discussion of laws concerning the manufacture, distribution and use of drugs, including alcohol and tobacco, and drug development. Students will engage in activities to learn the most efficacious strategies for prevention, intervention and treatment for drug-misuse-related disorders, including community-based programs to pharmacological intervention, and detoxification. Students will engage in a number of activities that involve self-assessment of personal drug use and potential health trajectories. A significant portion of the course will involve accessing drug-related websites to complete specified exercises in data gathering, synthesis, and critical evaluation of issues relating to drug use and abuse and drug control. These exercises will involve both written reports and oral discussions and applications to contemporary society and community. Students will learn practical skills in being able to access a variety of sources to update knowledge about causality and treatment of addictions and to critically appraise these sources. Students intending to major in Biobehavioral Health should take BB H 451--Pharmacological Influences on Health.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 145 Peer Alcohol Educator Training (2) Study of alcohol physiology and issues related to alcohol use on campus. Skill for peer alcohol educators will be covered.

Peer Alcohol Educator Training (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 146 (GHA) Introduction to Health and Human Sexuality (3) An examination of human sexuality as it relates to health.

Introduction to Health and Human Sexuality (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 148S Coping with College: A First Year Transition Seminar (2) Exploration of effective learning strategies, university resources, academic requirements and planning, career development issues in discussion-centered environment.

Coping with College: A First Year Transition Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 203 (PSYCH 260) Neurological Bases of Human Behavior (3) An introduction to biopsychology, emphasizing the structure and function of the human brain.

BB H (PSYCH 260) 203 Neurological Bases of Human Behavior (3)

The nervous system provides the biological underpinning of behavior, and several scientific fields are concerned with the relationship between the nervous system and behavior. The goal of this course is to introduce the principle methods, findings, and theories of these scientific fields. Topics include (a) the anatomy and physiology of the nervous system, (b) how the nervous system gives rise to perception, action, language, memory, emotion and reproductive behavior, and (c) how drugs and mental illnesses affect the nervous system and alter normalperceptual, cognitive, and emotional behavior. The course prepares students for a number of more advanced courses in Psychology and Biobehavioral Health that address specialized topics in neuroscience, and may satisfy a requirement of these majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 251 (US) Straight Talks I: Advanced Sexual Orientation/Gender Identity Peer Education (3) Exploration of social justice issues, diversity leadership, and group facilitation skills related to lesbian, gay, bisexual, transgender, and ally issues.

BB H 251 Straight Talks I: Advanced Sexual Orientation/Gender Identity Peer Education (3) (US)

Straight Talks I provides students an opportunity to explore various lesbian, gay, bisexual, transgender and allies (LGBTA) issues from an educational perspective. Students will be exposed to theories, terminology, and various speakers who will approach topics such as LGBTA history and multicultural issues. The course projects are designed to enhance both written and oral skills, and provide students an opportunity to work together. Finally, the course challenges students to think critically about the social, economic, and political cultures around them and how these cultures affect sexual and gender orientation issues.

Course Objectives:
Philosophical
1. To think critically about your spiritual, social, economic, political and cultural existences and their relationship to your understanding of sexual and gender orientation issues.

2. To develop a critical consciousness that will bring awareness of the ways custom, ritual and tradition helped shape and continue to shape our daily lives.

3. To develop a fuller understanding of the way gender and sexual orientation are conceived of by other people and the ways in which these conceptions link with other elements of identity including ethnicity, class, gender, ability etc.

4. To challenge you to *consider* the following questions:
a) What does it mean to provide educational programming?
b) What does it mean to be a peer educator?
c) How do I influence others by my involvement in this program?
d) How do I what to influence others by my involvement in this program?
e) How do I change the world so that it is a better place when I leave it?

Praxis
1. Develop facilitation and presentation skills
2. Obtain knowledge about LGBTA history and current issues and concerns.
3. Conceive of and articulate what it means to 'come out'.
4. Acquire information on sexual orientation, identity development and queer history.
5. Refine your ability to provide programming activities in the form of facilitation, discussion, skits, and exercises.
6. Develop a sense of community and rapport with other panelists through class discussions and projects.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 297A Straight Talks II (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Straight Talks II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 297C Strategies for Addressing the Obesity/Diabetes Epidemic (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Strategies for Addressing the Obesity/Diabetes Epidemic (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 301H Values and Ethics in Human Development Professions (3) Examines bases for choices among values in personal and professional relations in human development processes and supporting services.

Values and Ethics in Human Development Professions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 301 Values and Ethics in Human Development Professions (3) Examines bases for choices among values in personal and professional relations in human development processes and supporting services.

Values and Ethics in Human Development Professions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 302 (US) (AAA S 302) Diversity and Health (3) Examine the relationship of diverse personal and sociocultural factors to health, like socioeconomic class, race-ethnicity, gender, age, and sexual orientation.

BB H (AAA S) 302 Diversity and Health (3) (US)

BB H 302 is an introduction to an interdisciplinary study of the impact of diversity on health in America and across nations. The course is designed to provide an understanding of the complex interaction between concepts of diversity including but not limited to race, ethnicity, culture, gender, age, socioeconomic status, and sexual orientation. The course will also consider and critique the methods used in the study of these concepts and issues related to the measurement of health among diverse groups. The ultimate goal of this examination is to assist students in developing an appreciation of the current diversity and the impact diversity has on assessments and study of health, health status, and health promotion in America and other nations. The course is also designed to integrate different sources of information about diversity by utilizing critical thinking skills for the consumption of health information.

The educational objectives will be to enable students to: 1) Consider the implications of race, ethnicity, gender, age, socioeconomic status and sexual orientation on health/social policies in light of research findings, 2) Understand the legacies and historical events that have impacted our view, the status, and treatment of diverse populations, 3) Appreciate the importance of understanding the origins of different health behaviors that impact biological processes, as well as the impact of biological processes in the context of social, environmental, and cultural influences when examining health issues.

To achieve these objectives, the course will involve open class discussions, small break-out group discussions, written assignments, and a presentation (e.g., poster or other media presentation) requiring the acquisition and utilization of information/research from library and internet resources.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 305 (IL) Introduction to Global Health Issues (3) Course will develop awareness of contemporary issues in global health.

BB H 305 Introduction to Global Health Issues (3) (IL)

This course is an introduction to health and related issues in the global context. It is intended to be an overview of fundamental perspectives about the historical, current, and future public health challenges facing developing and industrialized countries. The course will explore the interrelationships among social structure, culture, demography, health promotion/disease prevention, biology, ecology and health policy of various countries and international health organizations. This course will 1. present key issues related to the history, conceptual frameworks, economic conditions, and policy affecting public health in the global context, 2. examine reports and studies pertaining to major global health issues and comparative research, 3. discuss the role of social structure, culture, gender roles, government policies, and the increasing numbers of the elderly in preventive health behaviors and health promotion in the global context, and 4. critique theories and models used to inform health and development programs in non-Western nations.

Attendance is required. Competency of writing skills is required. Students will be expected to participate actively by critically reviewing readings and by engaging in class discussions, exercises and group projects/presentations. Grading is based on attendance, writing assignments, participation in discussions, exams, a research paper, and a group project/presentation.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: BB H 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 310 Research Strategies for Studying Biobehavioral Health (3) Surveys the various research methodologies used in biomedical research, including case, epidemiological, quasiexperimental and experimental approaches.

Research Strategies for Studying Biobehavioral Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BB H 101, STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 310W Research Strategies for Studying Biobehavioral Health (3) Surveys the various research methodologies used in biomedical research, including case, epidemiological, quasiexperimental and experimental approaches.

Research Strategies for Studying Biobehavioral Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994 Ending: Summer 2010
Prerequisite: BB H 101, STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 311 Interdisciplinary Integration in Biobehavioral Health (3) A review of literature relevant to the concepts and findings of different scientific domains as they apply to biobehavioral health.

Interdisciplinary Integration in Biobehavioral Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BB H 101, BIOL 110, PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 316 Foundations and Principles of Health Promotion (3) Basic exposure and skills development in theory and practice in health promotion.

BB H 316 Foundations and Principles of Health Promotion (3)

BB H 316, Foundations and Principles of Health Promotion, is a 3-credit course required of all BB H majors and available to other students interested in developing a basic knowledge in health promotion interventions. The course is designed to provide students with the conceptual foundation necessary to develop health promotion programs and interventions. It will involve information on both theory and practice. The educational objectives are that students will be able to: 1) define the concepts and levels of health, health promotion, and prevention; 2) describe the variety of settings in which health promotion and preventive services exist 3) identify levels of intervention in planning health education and health promotion programs; 4) describe a rationale for health promotion programs; 5) address the role of culture, environment, and policy in health behavior; 6) explain why different levels of health promotion interventions should be planned using theoretical frameworks. Students fulfill the educational requirement of the course by attending class, completing reading and class assignments and small group project, viewing video tapes, and participating in class discussions.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: BB H 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 315 (US) Gender and Biobehavioral Health (3) Interdisciplinary study of gender, examining the interaction of biological, behavioral, and sociocultural factors on health differentials throughout the lifespan.

BB H 315 Gender and Biobehavioral Health (3) (US)

BB H 315 is an interdisciplinary study of the impact of gender differences (and similarities) in health in the United States and the world, examining the interaction of biological, behavioral, and sociocultural factors on health, morbidity, and mortality. The course will also consider and critique the methods used in the study of gender and concepts and issues related to the measurement of health in men and women. The ultimate goal of this course is to assist students in developing an appreciation of the diversity concept of gender, and the impact of this concept on assessments and study of health, health status, and health promotion in America and other nations. The course is also designed to integrate different sources of information about gender by utilizing critical thinking skills for the consumption of health information. The educational objectives will be to enable students to: 1) define the concepts of sex, gender, gender roles, and gender identity and how they contribute to differentials in morbidity and mortality at various life stages, based on epidemiological data and other research, in the United States and other countries; 2) describe biological (e.g., genetic and hormonal) factors that contribute to gender differences and similarities in health at different life stages; 3) describe behavioral factors, such as acquired risks, self-protective behavior, and stress, that contribute to gender differences and similarities in health at various life stages; 4) describe sociocultural factors, such as gender roles, class, race/ethnicity, and educational level that contribute to gender differences and similarities in health at various life stages; 5) describe and design gender-sensitive strategies for health research and health promotion; 6) examine gender differences in a specific illness, disease, or health issue experienced by women and/or men in this country and others, and the contributing factors (e.g., sociocultural) to the differences that may exist; and 7) critique gender research on particular health issues. To achieve these objectives, the course will involve open class discussions, small break-out group discussions with written assignments, short quizzes, a paper requiring the acquisition, utilization, and critical analysis of information/research from library and internet resources, and a group presentation that requires collaborative work.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: BB H 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 324 HealthWorks Peer Education Training (3) Designed to train new HealthWorks peer educators, this course addresses behavior theories, promotion strategies, and college health issues.

BB H 324 HealthWorks Peer Education Training (3)

HealthWorks is a peer education/outreach group that aims to promote health among Penn State students. The mission of HealthWorks is to:
-increase awareness and knowledge of health issues, such as sexual health, nutrition and fitness, wellness, alcohol, tobacco and other drugs, and body image and eating disorders,
-promote healthy lifestyle choices,
-provide health education programs, information, and materials to students, and
-advocate for a healthy Penn State community.

BB H 324 is designed to train students who have been accepted into University Health Services' HealthWorks program every fall semester. The course will address the topics of health behavior theories, health promotion strategies, and health issues relevant to college populations (i.e., alcohol, nutrition, physical activity, sexual health, sleep, stress, and tobacco).

To ensure that new HealthWorks members are trained to effectively promote health, students will gain both knowledge and practical experience in this course. Students will learn about health behavior theories, health promotion strategies, and health topics relevant to college students through formal classroom lectures and examinations. Classroom technology will be utilized to examine campus and national health campaigns and messages, illustrating the theories and strategies discussed in class. To garner practical experience and application-based learning, students will assist with current HealthWorks programming. Members of this class will additionally apply and integrate their new understanding of class topics through a semester project. The small-group project will ask students to propose a future HealthWorks program focused on one or more health topics that is built upon at least one health behavior theory and utilizes evidence-based strategies. By the conclusion of this course, HealthWorks members will possess the knowledge and skills to effectively provide health-related outreach, advocacy, community development, and education opportunities to students on the Penn State campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 368 Neuroanatomy, Behavior, and Health (3) The neuroanatomical bases of behavior, health, and disease.

BB H 368 Neuroanatomy, Behavior and Health (3)

BB H 368 will examine, in detail and in depth, the relationships between the multitudinous structures of the human nervous system and their roles in monitoring and controlling all functions of the body, in behavior and in health and disease. Because of the complexity of the anatomy of the nervous system, of necessity there will be an emphasis on each student developing a three-dimensional understanding of the brain's structures and their geographic relationships to each other. Each class period will include both a lecture and a practical exercise. During each practical exercise, students will work together in assigned groups of 6 students per group to find, identify and trace the structures covered in the lecture using the study materials provided by the instructor along with the textbook and atlas. For students majoring in BBH, this course provides a foundation and preparation for BB H 469 and 470, the two semester Neurobiology/Integrative Neuroscience course sequence, which assumes that the student has a basic, but detailed knowledge of the nervous system. This course will count toward fulfilling the BB H major requirement, "Take 15 credits in Biobehavioral Health." It will also count toward fulfilling the requirement of 9 credits of additional courses in the Neuroscience Minor. This course will be offered every spring semester. The enrollment is limited to 36.

Upon successful completion of the course, the student should be able to:
a) Identify on gross specimens and in slides of sections of the human nervous system the important nuclei, tracts and supporting structures.
b) Describe the important pathways and circuits between the different components and nuclei of the human nervous system.
c) Describe the role of each nucleus, tract, and circuit in controlling functions and behavior.
d) Describe the expected deficits in function and behavior resulting from injury or disruption of each nucleus and tract.

Final course grade will be based on the average of the 4 highest scores on 5 written/practical exams. 25% of the questions on each exam will require the student to correctly identify a structure or region of the nervous system that is pointed to or labeled in a slide or a gross specimen.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BB H 101;BI SC 004, BIOL 141 orPSYCH 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 346 Peer Sexual Health Promotion (3) Provides information, process, and program presentation skills to peer/ sexuality educators for promotion of sexual health among diverse groups.

Peer Sexual Health Promotion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 390 Global Health Fieldwork Experience (3) Designed to help students prepare for and complete fieldwork experience in global health setting.

BB H 390 Global Health Fieldwork Experience (3)

The purpose of this course is to help the students admitted to the Global Health Minor to plan, prepare for, carry out, and reflect on the Global Health Minor required fieldwork experience in a global health setting. Students will have the opportunity to meet professionals in the global health field and to obtain practical knowledge that cannot be gained in a classroom setting. The first part of the course includes an examination of issues related to identifying, applying for, and successfully completing an appropriate fieldwork placement. Class lectures, readings, discussion and assignments will help students gain an awareness of the cultural, economic, and political context of various kinds of health professional settings, and to be sensitive to the constraints under which health professionals work in different parts of the world. To broaden their understanding of the range of fieldwork possibilities, students will have opportunities to meet with individuals who have health work experience in a variety of field settings. The second part of the course is the fieldwork experience itself. Students will spend six weeks in the summer working half-time in one of several pre-approved international (or under served domestic) health care or public health settings under professional supervision. Penn State does not provide insurance coverage for students during the fieldwork experience. However, students are strongly encouraged to obtain medical and liability insurance coverage for this experience.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: BB H 305 andBB H 440 with grades of C or better

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 402 (IL) African Health & Development (3) Course will address African health and development strategies in the context of health promotion programs.

BB H 402 African Health & Development (3)
(IL)

This course is designed to address African health and development strategies in the context of health promotion programs. Students will analyze the cultural, educational, social, economic, political and environmental impact of health and development in Africa. Emphasis will be on development of health promotion strategies that locate program implementation and evaluation within their cultural contexts.

The objectives are to prepare students to:
1. discuss and debate the roles of culture, social contexts, gender, and political economic impact on health behaviors in Africa;
2. critique some of the theory and models used to inform public health programs in Africa;
3. examine the role of historical, spiritual, linguistic, and political impacts on health projects in different countries in Africa; and
4. analyze health priorities in Africa and their impacts on such global initiatives as the Millennium Development Goals;
5. discuss issues related to human rights, population identities in the world and examine their impact on health in Africa.

Attendance is required. Students will be expected to participate actively by critically reviewing assigned readings, engaging in class discussions, and preparing and delivering in-class presentations. Grading is based on attendance, participation, presentations, exams and a final research paper.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: BB H 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 407 (IL) Global Health Equity (3) Health, social disparities, and equity in the global environment.

BB H 407 Global Health Equity (3)
(IL)

This course focuses on issues related to health, social disparities, and equity in the global environment. It examines the theories of health disparities and equity from the vantage point of Western and non-Western countries. It explores epidemiologic data and the relationships between social structure, culture, demography, health promotion/disease prevention, and health policy of various countries and international health organizations.

The course objectives are to: 1. discuss and critique the history, conceptual frameworks, and policy implications of global health disparities and equity; 2. examine epidemiologic data and studies pertaining to major global health issues and cross-national and comparative research; 3. discuss the role of social structure, culture, gender roles, and government policies in preventive health behaviors and health promotion in the global context; 4. critique theories and models used to inform health and development programs in non-Western nations.

Evaluation of students will include class participation, group assignments and presentations, two class exams, and a term paper on a topic related to global health.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 410 Developmental and Health Genetics (3) Discussion of genetic influences on development and the interrelationships between genetics and health.

Developmental and Health Genetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 133 orBIOL 222;STAT 200, STAT 220 orSTAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 411 Research and Applications in Biobehavioral Health (3) Research methods, multi-level analyses, and applications in biobehavioral health.

Research and Applications in Biobehavioral Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Fall 2010
Prerequisite: BB H 101, BB H 310W, STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 411W Research and Applications in Biobehavioral Health (3) Research methods, multi-level analyses, and applications in biobehavioral health.

BB H 411W Research and Applications in Biobehavioral Health (3)

This is an upper-division course on research and applications in Biobehavioral Health and is the designated writing intensive (W) course for the major. The primary goals of this course are to provide the student the ability to effectively: 1) find, organize, integrate, and critique existing knowledge and research in biobehavioral health; 2) generate and analyze new data related to a specific domain though the conduct of original research; 3) interpret, evaluate, and communicate—-to both scientific and lay audiences--the results of the original research; and 4) integrate these findings--with due concern for strengths and limitations of the research--back into the body of knowledge on the biobehavioral health topic.

In this course the instructor will first introduce the student into a body of knowledge related to a domain involving health and health-related behaviors. Example domains may include areas such as, stress and health, drug/alcohol addictions and health, hormonal impacts on health, smoking cessation programs, obesity and health, sexual behaviors and health, etc. Students will go through the steps involved in original research (e.g., Introduction, Methods and Procedures, Results, Discussion, Summary, Abstract, Bibliography) and written assignments will be involved for each step. Depending on the instructor, the original research may involve laboratory work, collection of survey data, analyses of publically available data, or existing data sets based on faculty's research program. Students will learn how to use available tools to descriptively summarize and analyze data using computer-assisted software.

This is a required course in the Biobehavioral Health major. The course is designed to give skills to acquire, integrate, and critique health-related information and to communicate to professional and non-professional audiences. The course is appropriate for students intending to obtain positions in health promotion and disease prevention and to students seeking to advance to post-baccalaureate graduate and professional programs in medicine, public health, health policy and planning, and other health-related careers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BB H 101, BB H 310, STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 416 Health Promotion II: Planning, Implementation, and Evaluation (3) Planning, implementation, and evaluation of health promotion, prevention, and intervention programs; emphasizing evaluation.

Health Promotion II: Planning, Implementation, and Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BB H 310, BB H 316

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 416 Health Promotion II: Planning, Implementation, and Evaluation (3) Planning, implementation, and evaluation of health promotion, prevention, and intervention programs; emphasizing evaluation.

Health Promotion II: Planning, Implementation, and Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Summer 2010
Prerequisite: BB H 310W, BB H 316

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 417 Advanced Applications in Health Promotion (3) Advanced learning experience in health promotion applications in which students will actively participate in planning, implementing, evaluating health programs.

Advanced Applications in Health Promotion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BB H 416

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 420 Developing Stress Management Programs (3) Planning, developing, and implementing strategies for stress management programs for health education professionals in school, community, and corporate settings.

Developing Stress Management Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 422 Safety Education (3) Principles and practices of accident prevention; home, school, highway, work, and public places.

Safety Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: HL ED 060 3 credits in psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 432 Biobehavioral Aspects of Stress (3) Comprehensive discussion on the mechanisms of stress-induced diseases.

Biobehavioral Aspects of Stress (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: BB H 101, BIOL 141, BB H 310W or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 432 Biobehavioral Aspects of Stress (3) Comprehensive discussion on the mechanisms of stress-induced diseases.

Biobehavioral Aspects of Stress (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BB H 101, BIOL 141, BB H 310 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 444 Health Issues in Employee Assistance Programs (3) An introduction to health promotion strategies in employee assistance programs.

Health Issues in Employee Assistance Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: KINES 060, KINES 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 440 (US;IL) (H P A 440) Principles of Epidemiology (3) Theory of epidemiology and significant case studies; potential applications to health care.

BB H (H P A) 440 Principles of Epidemiology (3)
(US;IL)

This course is designed to provide students with a basic understanding of the principles of Epidemiology and to familiarize students with the methods and applications of epidemiology to understanding the bases for heterogeneity of disease and health among populations.

The goals of the course are: 1) recognize and use basic principles, concepts, terminology, and techniques in Epidemiology as applied to the study of infectious disease, chronic diseases, and other health-related problems; 2) examine and understand measures of risk and burden of illness on populations defined in terms of age, race, gender, class, time, and other relevant socio-cultural and demographic factors; 3) be able to interpret and critique epidemiological research reports on the identification of risk factors and casual factors for diseases in populations; 4) assess the health status and burden of diseases and health problems of populations at multiple levels of analysis for the purpose of planning health promotion activities and health care services; 5) have a basic understanding of the epidemiology tools for disease screening and other methods for primary and secondary prevention of disease and health problems; 6) examine the validity and applicability of various health interventions used to improve health status and the barriers for successful interventions; and 7) have a basic understanding of the epidemiology of the major causes of morbidity and mortality in the U.S. and for other selected regions and nations of the world.

This is a required course in the Biobehavioral Health major and an elective course in the Health Policy and Administration major. The course is also appropriate for students intending to advance to post-baccalaureate graduate and professional programs in medicine, public health, health policy and planning, and other health-related careers.

Students will be evaluated based on their performance on a combination of written assignments, a term paper or project, and exams.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BB H 101 orBIOL 110 orH P A 310;STAT 200 orSTAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 446 Human Sexuality as a Health Concern (3) Examination of human sexuality as a integral part of basic health education and health care for persons of all ages.

Human Sexuality as a Health Concern (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: BB H 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 451 Pharmacological Influences on Health (3) Biological and behavioral aspects of therapeutic and recreational drug use and misuse, and their relationships to health.

Pharmacological Influences on Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: BB H 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 453 Orientation to the Health Education Practicum (1) Orientation to and preparation for the health field experience.

Orientation to the Health Education Practicum (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 452 (NURS 452, WMNST 452) Women's Health Issues (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.

Women's Health Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BB H 101, BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 458 (WMNST 458) Critical Issues in Reproduction (3) Examination and analysis of the new reproductive technologies from the standpoint of medical ethics, feminism, and sociocultural influences.

Critical Issues in Reproduction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOL 141 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 469 (BIOL 469) Neurobiology (3) Comprehensive examination of neuroanatomy and physiology designed to integrate the principles of neurochemistry, neuroendocrinology and molecular biology.

Neurobiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 468 Neuroanatomical Bases for Disorders of Behavior and Health (3) An examination of the anatomical/cellular/molecular bases for human central nervous system disorders and their impacts on victims/families/caregivers.

BB H 468 Neuroanatomical Bases for Disorders of Behavior and Health (3)

This course will examine in detail and in depth the neuroanatomical and cellular/molecular/genetic bases for selected disorders of the human central nervous system (e.g. Parkinson's, Alzheimer's, stroke, etc.) and their impacts on the victim, his/her daily life and his/her family and care givers. Damage to, or malfunctions of, any part of the central nervous system causes specific and characteristic disruptions of normal processes, which manifest as abnormal and/or absent behaviors. Current research on the anatomical, cellular, molecular, and genetic bases for the disorders and the current/future trends in prevention/treatment of the disorders will be studied. Upon successful completion of the course, the student should be able to: a) describe the physical signs, symptoms, causes, effects on the patient and his/her family & care givers, prognoses, treatments, and support systems available to these patients, of the neurological disorders covered in this course; b) describe the neuroanatomical, cellular, and molecular bases for these conditions; c) describe the current research on these disorders and the new prevention/treatment approaches being developed. The evaluation of students' performances in the course will be typically based on multiple choice examinations and a library research paper. This course will count toward fulfilling the BB H major requirement, "Take 15 credits in Biobehavioral Health."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BB H 368, BB H 469 orPSYCH 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 470 (BIOL 470) Functional and Integrative Neuroscience (3) Neurobiological function in motivated behaviors, motor and sensory function, learning and memory, development, sexual differentiation, and pathology.

Functional and Integrative Neuroscience (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: BIOL 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 494H Senior Honors Thesis (1-6) Independent study related to a student's interests directed by a faculty supervisor and culminating in the production of a thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: approval of honors thesis advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 497B Health Works (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Health Works (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 497A Clinic Volunteer Training (2-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Clinic Volunteer Training (2-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biobehavioral Health (BB H)

BB H 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 001 (GN) Understanding the Bases of Human Disease (3) A broad survey of the molecular and cellular factors that contribute to an understanding of selected human diseases.

B M B 001 Understanding the Bases of Human Disease (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

B M B 001, Understanding the Bases of Human Disease, is a survey of the most common diseases of humans. In addition to discussing various diseases, symptoms, outcomes, prevention and treatment options, we also study disease processes by describing events at the cellular or DNA level. We will come to appreciate that various cellular, metabolic or genetic problems can give rise to disorders that carry a common name -anemia, for example. One form, Sickle Cell anemia, also provides a good example of another theme of the course: how a small genetically-based problem in one function of one cell type can lead to a cascade of malfunctions with ramifications system wide. How medicines work and how they are metabolized by the body will be discussed. Treatment of the growing problem of drug/drug, drug/food, and drug/"supplement' interactions will also be included.

Any study of infectious disease must be prefaced by a discussion of the proper functioning of the immune system and how its various components work together to fight an infection. The proper function or malfunction of the immune system is also studied for relationships to noninfectious diseases such as cancer and certain genetic disorders. As with any system of the body, the immune system also has its own unique set of disorders: allergy, hypersensitivity, autoimmunity and immune deficiency - congenital and acquired.

In our exploration of infectious diseases, we will look at various mechanisms of infection used by different types of organisms and at strategies the offending organisms might have to fool the immune system, hide from the immune system, or fight against it. A prime example is the ability of HIV to hide from the immune system. Knowing disease mechanisms and the life cycle of the infectious agent can suggest strategies for treatment of the disease. Another focus of this unit will include discussion of emerging and re-emerging diseases.

Human genetic traits and susceptibilities are discussed throughout the course, but we will also address the major genetic disorders, patterns of inheritance, chromosomal disorders and new treatments available for a growing number of such disorders. Included under this topic is the problem of cancer in all of its various forms today. The course addresses issues of normal cell/cancer cell characteristics and the concept of cancer as a "genetic disease". Using the information gleaned from units on cell function, genetics and the immune system, we will explore new treatment options evolving today.

No course on treatment of disease is complete without the study of the two major "lifestyle" diseases: coronary vascular disease and diabetes. We will explore the environmental factors as well as the genetic and infection- related factors often associated with these diseases.

The course is independent of all other B M B courses and does not serve as a prerequisite for any other course.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 001S (GN) Understanding the Bases of Human Disease (3) A broad survey of the molecular and cellular factors that provide an explanation for an understanding of human disease.

B M B 001S Understanding the Bases of Human Disease (3)
(GN;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

B M B 001, Understanding the Bases of Human Disease, is a survey of the most common diseases of humans. In addition to discussing various diseases, symptoms, outcomes, prevention and treatment options, we also study disease processes by describing events at the cellular or DNA level. We will come to appreciate that various cellular, metabolic or genetic problems can give rise to disorders that carry a common name -anemia, for example. One form, Sickle Cell anemia, also provides a good example of another theme of the course: how a small genetically-based problem in one function of one cell type can lead to a cascade of malfunctions with ramifications system wide. How medicines work and how they are metabolized by the body will be discussed. Treatment of the growing problem of drug/drug, drug/food, and drug/"supplement' interactions will also be included.

Any study of infectious disease must be prefaced by a discussion of the proper functioning of the immune system and how its various components work together to fight an infection. The proper function or malfunction of the immune system is also studied for relationships to noninfectious diseases such as cancer and certain genetic disorders. As with any system of the body, the immune system also has its own unique set of disorders: allergy, hypersensitivity, autoimmunity and immune deficiency - congenital and acquired.

In our exploration of infectious diseases, we will look at various mechanisms of infection used by different types of organisms and at strategies the offending organisms might have to fool the immune system, hide from the immune system, or fight against it. A prime example is the ability of HIV to hide from the immune system. Knowing disease mechanisms and the life cycle of the infectious agent can suggest strategies for treatment of the disease. Another focus of this unit will include discussion of emerging and re-emerging diseases.

Human genetic traits and susceptibilities are discussed throughout the course, but we will also address the major genetic disorders, patterns of inheritance, chromosomal disorders and new treatments available for a growing number of such disorders. Included under this topic is the problem of cancer in all of its various forms today. The course addresses issues of normal cell/cancer cell characteristics and the concept of cancer as a "genetic disease". Using the information gleaned from units on cell function, genetics and the immune system, we will explore new treatment options evolving today.

No course on treatment of disease is complete without the study of the two major "lifestyle" diseases: coronary vascular disease and diabetes. We will explore the environmental factors as well as the genetic and infection- related factors often associated with these diseases.

The course is independent of all other B M B courses and does not serve as a prerequisite for any other course.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 211 Elementary Biochemistry (3) An overview of biochemistry that includes properties of biomolecules, bioenergetics, metabolism, nutrition, genetics, and molecular biology.

B M B 211 Elementary Biochemistry (3)

B M B 211 is an overview of biochemistry that includes: basic properties and biosynthesis of proteins and nucleic acids, chemistry, and metabolism of major carbohydrate, lipid, and amino acid classes, energy production pathways including photosynthesis, biological transport, and principles of enzyme action. The course provides the student with a sufficient knowledge of biochemical processes, cellular molecules and their metabolism to serve as a basis for advanced study of nutrition, genetics, biotechnology, agricultural sciences, or related biological areas that depend on a biochemical foundation. Achievement of course objectives is assessed through multiple written examinations designed to evaluate understanding of biochemical concepts and their applications to biological problems.

B M B 211 is related to and a prerequisite for the companion laboratory course B M B 212 (1 credit). B M B 211 also serves as the prerequisite for B M B 221, an exploration of the application of biochemical principles to specific problems in medicine, agriculture, and biotechnology.

This course requires some proficiency in organic chemistry and general chemistry; thus, CHEM 012, and 034 or 038 are prerequisites. B M B 211 is part of one of the two series of biochemistry courses that students in the Biotechnology major (either General or Clinical Laboratory Science Options) are required to take for the baccalaureate degree. B M B 211 is required by a number of different majors in the colleges of Agricultural Sciences and Health and Human Development.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110;CHEM 202 orCHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 212 Elementary Biochemistry Laboratory (1) Selected experiments to illustrate major biochemical principles and techniques.

B M B 212 Elementary Biochemistry Laboratory (1)

B M B 212 exposes students to techniques typically used in industrial and academic laboratories to isolate proteins, perform enzyme kinetics, characterize carbohydrates and lipids, and study molecular biology. Data interpretation and conceptual understanding are emphasized.

Specifically, students determine a weak acid's buffer range with a pH meter; quantify protein concentrations using a spectrophotometer; partially purify acid phosphatase from wheat germ, using ammonium sulfate precipitation, centrifugation and dialysis; characterize acid phosphatase kinetics; subject glycogen to acid and salivary amylase hydrolysis, then compare products using thin layer chromatography; isolate plasmid DNA from E.coli, then digest the plasmid DNA with restriction enzymes and analyze the products using agarose gel electrophoresis; make soap from commercial oils and fats; and lastly, identify fatty acids using a gas chromatograph.

Students write laboratory reports to present their findings and correlate theory with actual experimental results. Written quizzes assess conceptual understanding of experiments. Teaching assistant evaluations judge the student's level of laboratory skill achievement, preparation, and ability to work with others in a professional manner.

A solid chemistry knowledge base (CHEM 012 and either CHEM 034 or 038), previous laboratory experience, and the ability to work with mathematical word problems are expected of all students enrolled in the course. Biochemistry focuses on the chemistry of living organisms. This course provides basic biochemistry laboratory skills and exposure to widely-used methodology to develop a fundamental understanding of biochemistry needed for advanced courses in the student's major and compatible with the student's career interests. Outside resources for the student include reserved books and a course web site: www.bmb.psu.edu/courses/daniel/BMB212/default.htm.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: or concurrent:B M B 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 221 Applied Biochemistry (2) Application and correlation of biochemical events to physiological-nutritional processes in specialized cells, fluids, and whole animals. Students may not receive credit for both B M B 221 and 401.

B M B 221 Applied Biochemistry (2)

In B M B 221, students will build on their knowledge from Elementary Biochemistry (B M B 211). Emphasis is on the application of biochemical principles to specific problems in medicine, agriculture, pharmaceuticals and biotechnology. Students review fundamental principles and learn how biochemical methods, techniques and theory are applied. Class presentations are computer based in some cases. The course may also include class discussions. Evaluation and grading varies with the instructor, but possible methods of evaluation include multiple choice examinations, essay-short answer questions, and in-class contributions.

Students will have completed at least three semesters of chemistry before B M B 221, because Elementary Biochemistry (B M B 211) is a prerequisite, and inorganic (CHEM 012) and organic chemistry (CHEM 034 or CHEM 038) are prerequisites for B M B 211. Knowledge of organic chemistry and basic biochemistry is essential so that the course can focus on applications rather than introductory material.

B M B 221 is a requirement for those Biotechnology majors who choose not to take the 400-level series of introductory biochemistry courses. It is also required of students enrolled in the science option of the Dairy and Animal Science major. It serves as an elective for all other majors. It is not approved as a general education course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: B M B 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 251 (MICRB 251) Molecular and Cell Biology I (3) Biomolecules, genetic mechanisms, organization of cells and their organelles, DNA replication, protein synthesis, membranes, the cell nucleus, energy conversion.

B M B 251 Molecular and Cell Biology I (3)

This course is an introduction to the fundamental principles of molecular and cellular biology, with a primary focus on eukaryotic cells. Topics covered will include elementary biochemistry; structure and function of biological macromolecules, the cell and its organelles; the role of biological membranes in bioenergetics and sub-cellular compartments. There will be a particular emphasis on the molecular mechanism of heredity; the organization and expression of genetic information; experimental methods used in the analysis of gene expression and the relationship between gene/protein structure and function.

A key feature of the Honors section is the use of review papers and peer-reviewed journal articles as integral components of the course. The objectives of this component of the Honors section are to: 1) introduce students to the scientific method (the formulation of hypotheses based on observation and the processes underpinning the rigorous test of such hypotheses); and 2) provide the intellectual framework for a critical evaluation of the literature.

Students are expected to engage in classroom discussion and will be evaluated by a combination of classroom presentations, multiple choice and short essay exams. Students are expected to develop a "big picture" view of how the various cellular processes are related to each other and also attain a thorough understanding of the molecular details of the individual processes (e.g. the order and molecular details of events leading from transcription to protein localization within a cell). This course is a prerequisite for B M B 252H.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 251H Molecular and Cell Biology I (3) Biomolecules, genetic mechanisms, organization of cells and their organelles, DNA replication, protein synthesis, membranes, the cell nucleus, energy conversion.

B M B 251H Molecular and Cell Biology I (3)

This course is an introduction to the fundamental principles of molecular and cellular biology, with a primary focus on eukaryotic cells. Topics covered will include elementary biochemistry; structure and function of biological macromolecules, the cell and its organelles; the role of biological membranes in bioenergetics and sub-cellular compartments. There will be a particular emphasis on the molecular mechanism of heredity; the organization and expression of genetic information; experimental methods used in the analysis of gene expression and the relationship between gene/protein structure and function.

A key feature of the Honors section is the use of review papers and peer-reviewed journal articles as integral components of the course. The objectives of this component of the Honors section are to: 1) introduce students to the scientific method (the formulation of hypotheses based on observation and the processes underpinning the rigorous test of such hypotheses); and 2) provide the intellectual framework for a critical evaluation of the literature.

Students are expected to engage in classroom discussion and will be evaluated by a combination of classroom presentations, multiple choice and short essay exams. Students are expected to develop a "big picture" view of how the various cellular processes are related to each other and also attain a thorough understanding of the molecular details of the individual processes (e.g. the order and molecular details of events leading from transcription to protein localization within a cell). This course is a prerequisite for B M B 252H.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 252 (MICRB 252) Molecular and Cell Biology II (3) Continuation of B M B/MICRB 251; cytoskeleton, cell growth, division, adhesion, signalling, germ cells, differentiation, immune system, nervous system, plant cells.

B M B 252 Molecular and Cell Biology II (3)

This section focuses on the internal organization on eukaryotic cells and their organization in multi-cellular organisms. Topics covered include cell communication, the cytoskeleton, cell cycle, fertilization and development of multi-cellular organisms, genesis of tissues, and the molecular mechanisms of cancer and immunity.

A key feature of the Honors section will be the use of review papers and peer-reviewed journal articles as integral components of the course. The objectives of this component of the Honors section are to: 1) introduce students to the scientific method (the formulation of hypotheses based on observation and the processes underpinning the rigorous test of such hypotheses); and 2) provide the intellectual framework for a critical evaluation of the literature.

Students are expected to engage in classroom discussion and will be evaluated by a combination of classroom presentations, multiple choice and short essay exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: B M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 252H Molecular and Cell Biology II (3) Continuation of B M B 251H; cytoskeleton, cell growth, division, adhesion, signaling, germ cells, differentiation, immune system, nervous system, plant cells.

B M B 252H Molecular and Cell Biology II (3)

This course is the second part of B M B 251H. This section focuses on the internal organization on eukaryotic cells and their organization in multi-cellular organisms. Topics covered include cell communication, the cytoskeleton, cell cycle, fertilization and development of multi-cellular organisms, genesis of tissues, and the molecular mechanisms of cancer and immunity. There will be a particular emphasis on how the basic principles and experimental approaches presented in 251H are employed to address questions related to the topics that will be covered in 252H.

As in 251H, a key feature of the Honors section will be the use of review papers and peer-reviewed journal articles as integral components of the course. The objectives of this component of the Honors section are to: 1) introduce students to the scientific method (the formulation of hypotheses based on observation and the processes underpinning the rigorous test of such hypotheses); and 2) provide the intellectual framework for a critical evaluation of the literature.

Students are expected to engage in classroom discussion and will be evaluated by a combination of classroom presentations, multiple choice and short essay exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: B M B 251H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 400 Molecular Biology of the Gene (2-3) Biochemistry of genetic phenomena, including the structure, replication and dynamics of genes and chromosomes, their expression and regulation.

B M B 400 Molecular Biology of the Gene (2-3)

Molecular Biology of the Gene examines the flow of information in living things at the molecular level. Topics such as the following are included: 1) DNA replication, repair and recombination, 2) RNA transcription and modification, and 3) protein translation, folding and modification. This class is designed as a one-semester course having the objectives of understanding concepts in molecular biology and gene regulation, and exploring research materials and methods used in the laboratory. Course materials are prepared not only from the textbook but also from the primary literature. Therefore, students who want to take this course should have some familiarity with reading research articles.

B M B 400 is for advanced undergraduates who have already taken introductory molecular biology and biochemistry. Knowledge of molecular biology is essential background for pursuit of a career in the life sciences, including academia, medicine, industry, forensic science and science policy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BIOL 222 orBIOL 322;BIOL 230W orB M B 251;CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 401 General Biochemistry (3) Principles of the structure and function of biological molecules, including carbohydrates, lipids, membranes, proteins, and enzymes. Students may not receive credit for both CHEM 476 and B M B 401.

B M B 401 General Biochemistry (3)

BM B 401 is the first course of the honors general biochemistry series, a sequence designed to prepare students for careers and graduate study in the life sciences. Overall, biochemistry describes, in chemical and molecular terms, the structures, mechanisms, and chemical processes at work in all living things, and abstracts organizing principles that underlie life in all its diverse forms. Building upon concepts introduced in molecular and cellular biology and in organic chemistry, students in B M B 401 synthesize and apply this knowledge toward understanding the structure and function of the major classes of cellular constituents: water, and the various macromolecules -- amino acids and proteins, sugars, and polysaccharides, nucleotides and nucleic acids, fatty acids and lipids, and membranes and various membrane proteins. These molecules interact to comprise the next level of multi-and mixed molecular structures and organelles that enable a cell to carry out its many metabolic functions. Students also learn about the technologies used to study cellular components and processes, and current advances in biotechnology that have accelerated the pace of discovery in the field. Having gained familiarity with the molecules found in a cell, students are well-equipped to take on more advanced topics in the exciting, rapidly-evolving fields of the life sciences.

An overriding theme in biochemistry is that polymers of living systems, though structurally large and functionally complex, are highly ordered chemical entities, with specific sequences of monomeric subunits giving rise to discrete structures and functions. The course begins with an introduction to proteomics, covering the structural basis of protein functions and then moves on to enzyme kinetics and mechanisms. Next, students explore simple and complex carbohydrates and topics in glycobiology that include energy storage, framework skeleton, and specific molecular recognition. Various classes of lipids, including phospholipids, complex lipids, membrane biology and transport systems, are covered next. Following is an analysis of the biochemical basis of signal transduction describing how specific signals regulate biomolecular activity-within a cell, and between cells-to keep an organism in homeostasis. Lastly, as a transition to intermediary metabolism in B M B 402H, an introduction to bioenergetic principles is included to provide a framework for understanding pathways of carbon and nitrogen metabolism, using glycolytic reactions as an example.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 212;B M B 251 orBIOL 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 401H General Biochemistry (3) Principles of the structure and function of biological molecules, including carbohydrates, lipids, membranes, proteins, and enzymes. Students may not receive credit for both CHEM 476 and B M B 401H.

B M B 401H General Biochemistry (3)

BM B 401H is the first course of the honors general biochemistry series, a sequence designed to prepare students for careers and graduate study in the life sciences. Overall, biochemistry describes, in chemical and molecular terms, the structures, mechanisms, and chemical processes at work in all living things, and abstracts organizing principles that underlie life in all its diverse forms. Building upon concepts introduced in molecular and cellular biology and in organic chemistry, students in B M B 401 synthesize and apply this knowledge toward understanding the structure and function of the major classes of cellular constituents: water, and the various macromolecules -- amino acids and proteins, sugars, and polysaccharides, nucleotides and nucleic acids, fatty acids and lipids, and membranes and various membrane proteins. These molecules interact to comprise the next level of multi-and mixed molecular structures and organelles that enable a cell to carry out its many metabolic functions. Students also learn about the technologies used to study cellular components and processes, and current advances in biotechnology that have accelerated the pace of discovery in the field. Having gained familiarity with the molecules found in a cell, students are well-equipped to take on more advanced topics in the exciting, rapidly-evolving fields of the life sciences.

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General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 212;B M B 251 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 402H General Biochemistry (3) Comprehensive survey of the pathways and regulation of intermediary metabolism.

B M B 402H General Biochemistry (3)

Because it has a limited enrollment, B M B 402H provides a more intimate and interactive class environment than does B M B 402. Most, if not all, of the students taking B M B 402H intend to pursue a Ph.D., M.D. or M.D./Ph.D. degree after graduation. Since biochemistry is an important discipline for advanced studies in life and medical sciences, a major goal of B M B 402H is to prepare students well for their future challenges in graduate or medical school. The textbook used is more advanced than that used in B M B 402, and it is what is typically used in biochemistry courses taught at premier medical schools and graduate schools. The class is conducted at a challenging level to provide students with the opportunity to treat topics in greater depth and to explore current development more fully than is possible in B M B 402.

The major topics covered include glycolysis, TCA cycle, metabolism of fatty acids, lipids (phospholipids, cholesterol and sphingolipids), amino acids and nucleotides, signal transduction, and human genetic diseases. Since biochemistry is a very rapidly progressing discipline, any new developments not covered by the textbook are introduced in the lectures or via discussion of current scientific papers at an appropriate level. B M B 402H exams consist of entirely essay and problem-solving type questions, whereas B M B 402 exams typically contain all multiple-choice questions. B M B 402H exams require that students understand all aspects of a particular metabolic pathway under study, including the sequential steps of the pathway, chemical structures of all intermediates, the mechanisms of all key reactions, regulation of the pathway, and the relationships with other pathways. In addition, students must be able to integrate information learned from different but related material. These exams typically take students three hours to complete.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: B M B 401H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 402 General Biochemistry (3) Comprehensive survey of the pathways and regulation of intermediary metabolism.

B M B 402 General Biochemistry (3)

Most, if not all, of the students taking B M B 402 intend to pursue a Ph.D., M.D. or M.D./Ph.D. degree after graduation. Since biochemistry is an important discipline for advanced studies in life and medical sciences, a major goal of B M B 402 is to prepare students well for their future challenges in graduate or medical school. The textbook used is more advanced than that used in B M B 402, and it is what is typically used in biochemistry courses taught at premier medical schools and graduate schools.

The major topics covered include glycolysis, TCA cycle, metabolism of fatty acids, lipids (phospholipids, cholesterol and sphingolipids), amino acids and nucleotides, signal transduction, and human genetic diseases. Since biochemistry is a very rapidly progressing discipline, any new developments not covered by the textbook are introduced in the lectures or via discussion of current scientific papers at an appropriate level. In addition, students must be able to integrate information learned from different but related material. These exams typically take students three hours to complete.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: B M B 401 orCHEM 476

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 403 Biochemistry Laboratory (1) An introduction to techniques of experimental biochemistry, illustrating principles covered in B M B 402.

Biochemistry Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: or concurrent:B M B 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 408 Laboratory Instructional Practice (1-2) Participation in the instruction of undergraduate laboratory courses, including classroom preparation; discussion of principles and objectives of each exercise.

Laboratory Instructional Practice (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: 10 credits in biochemistry and molecular biology and permission of the department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 406 Molecular Biology (3) A discussion of current aspects of cell molecular biology with a laboratory emphasizing current biotechnology techniques.

Molecular Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 222 orBIOL 322;BIOL 230W orB M B 251;CHEM 039

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 411 Survey of Biochemistry and Molecular Biology Literature (1) An introduction to readings and oral presentations in biochemistry and molecular biology.

Survey of Biochemistry and Molecular Biology Literature (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: B M B 401;B M B 400 orB M B 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 428 Physical Chemistry with Biological Applications (3) Chemical thermodynamics and kinetics with applications to biological problems.

Physical Chemistry with Biological Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 203 orCHEM 212;PHYS 203 orPHYS 251 ; 3 credits in cell biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 430 (BIOL 430, ENT 430) Developmental Biology (3) Molecular and genetic analyses of mechanisms involved in differentiation and determination in biological systems.

Developmental Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: BIOL 222;B M B 252 orBIOL 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 432 (MICRB 432, VB SC 432) Advanced Immunology: Signaling in the Immune System (3) The study of signaling pathways that regulate the immune response.

B M B (MICRB/V SC) 432 Advanced Immunology: Signaling in the Immune System (3)

This course will use the immune system as a model in which to study how cells communicate in order to coordinate an immune response. We will focus on signaling mechanisms that regulate such immune responses as T cell activation, Thl/Th2 differentiation, macrophage activation, and migration of immune cells to sites of inflammation. All lectures are based on recent reviews by key investigators in each field, as well as primary articles to present students with the most recent advances, techniques, and approaches used. The goal of the course will be to convey a basis understanding of intracellular signaling mechanisms that will pertain to all areas of biology, an appreciation for current questions and future directions in the field, and an in depth understanding of the signals that govern immune responses. The material presented will build on the basic concepts learned in B M B 400 and MICRB 410, and will lay the foundation for more advanced courses at the graduate level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: B M B 400, MICRB 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 433 (VB SC 433) Molecular and Cellular Toxicology (3) In-depth coverage of processes by which drugs/chemicals interact with biological systems and the experimental approaches used to study these interactions.

Molecular and Cellular Toxicology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 437 Physiological Biochemistry (2) Physiological aspects of biochemistry, with emphasis on mammalian metabolism, specialized tissue and fluid functions, detoxification mechanisms, energetics, and physiological interrelationships.

Physiological Biochemistry (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: B M B 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 435 (MICRB 435, VB SC 435) Viral Pathogensis (2) A study of the molecular, immunological and pathological aspects of viral diseases as well as laboratory methods of diagnosis.

B M B (MICRB/V SC) 435 Viral Pathogenesis (2)

In Viral Pathogenesis, a multifaceted approach that includes lectures, in-class discussion, and outside assignments is used to introduce students to molecular mechanisms of viral pathogenesis. Emphasis is placed on human viruses. In some instances, traditional animal virus model systems are also discussed to address important concepts in detail. The course is divided into three parts: (1) general concepts in virology (20%); (2) general concepts in viral pathogenesis (40%); and (3) specific examples of viral pathogenesis (40%). Students are typically evaluated on in-class participation, outside assignments, quizzes and exams. Exams emphasize students' knowledge of concepts more than specific, factual information and are comprised of a combination of multiple-choice, short-answer and/or essay questions. To fully understand concepts/mechanisms of viral pathogenesis, a working knowledge of viruses, molecular biology, cell biology and immunology is beneficial. Hence, Micrb 201 is a prerequisite for this course as is the combination of either BIOL 110/230 or B M B(MICRB) 251/252. While MICRB 415 is not a prerequisite for the course, some material covered in MICRB 415 is addressed, albeit rapidly, during the initial lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MICRB 201;B M B 251 andB M B 252 orBIOL 110 andBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 442 (MICRB 442) Laboratory in Proteins, Nucleic Acids, and Molecular Cloning (3) Laboratory in enzyme purifications and assay techniques; nucleic acid isolation and characterization, including plasmid preparation.

B M B (MICRB) 442 Laboratory in Proteins, Nucleic Acids, and Molecular Cloning (3)

The DNA portion of B M B/MICRB 442 serves as an introduction to fundamental techniques of recombinant DNA technology and as a reinforcement of principles of Molecular Genetics from lecture courses. The central experiment entails all basic procedures necessary to clone a gene, i.e. to make a recombinant molecule comprised of DNA from two sources. Students use restriction enzymes to cut two distinct DNA molecules into smaller fragments. The fragments are mixed and treated with the enzyme Ligase, which randomly combines small fragments into large recombinant DNA molecules in new combinations different in composition from either original molecule. The recombinant molecules, which include genes that confer drug resistance, are transformed intoE. coli cells that initially have no drug resistance. Cells that acquire recombinant DNA molecules are identified by selective plating on growth media containing drugs. From the transformed cells, recombinant DNA is isolated and analyzed by agarose gel electrophoresis, completing the array of basic gene cloning techniques. In addition to this central, multi-session experiment, students also do PCR and an investigation of the lac operon, a classic molecular genetic model system.

The proteins portion of B M B/MICRB 442 is designed to introduce students to protein biochemistry topics and laboratory techniques typically encountered in academic and commercial settings. Students will learn about buffers, spectroscopy, enzyme purification and characterization methods. Specifically, the experiments include preparation of buffers and performing kinetic studies to determine Km and Vmax values. Separation of a mixture of phycobiliproteins using ion-exchange column chromatography is a major experiment that the students will perform to learn protein purification methods. In this experiment they will learn how to pour a column, apply sample, elute it with salt gradient and collect fractions using automated fraction collector. Ammonium sulfate precipitation and dialysis will be part of protein purification procedures. Characterization of the separated proteins will be performed by determining the absorption spectra with a Genesys-5 spectrophotometer and by determining the molecular weights of the subunits of the phycobiliproteins by SDS-polyacrylamide gel electrophoresis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 251, BIOL 230W orMICRB 201;CHEM 202 orCHEM 210 . Prerequisite or concurrent:B M B 211 orB M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 443W Laboratory in Protein Purification and Enzymology (3) Laboratory in protein isolation methodology, enzyme kinetics, and physico- chemical properties of proteins.

Laboratory in Protein Purification and Enzymology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 442, B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 445W Laboratory in Molecular Genetics I (2) Laboratory in molecular techniques in gene analysis and microbial genetics, emphasizing in vitro methodologies.

B M B 445W Laboratory in Molecular Genetics I (2)

The objectives of B M B 445W are to provide advanced Biochemistry and Microbiology students with instruction in (1) techniques commonly used in modern research and clinical laboratories in this field, (2) evaluation of the quality of experimental data, including appropriate analysis, and (3) presentation of results of laboratory work in written form. Experiments are focused on key techniques and procedures such as DNA isolation, polymerase chain reaction, Southern hybridization analysis, and DNA sequencing. Students are evaluated via (1) written lab reports organized in the format found in most primary research journals in the field and (2) written examinations that assess the understanding of principles and methodology. B M B 445W is an extension of the nucleic acid section of B M B 342, which is a prerequisite for B M B 445W. The in vitro techniques presented in B M B 445W complement the in vivo techniques in B M B 446, though neither course is prerequisite for the other. B M B 445W is a requirement for the B M B major, and is an elective for other students, most notably Microbiology majors and graduate students in other areas of the life sciences. B M B 445W is taught in a standard biochemistry teaching laboratory facility that houses the required equipment necessary for analysis of DNA (electrophoresis units, centrifuges, thermocyclers, cold room, spectrophotometers).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 442, B M B 400, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 444 Laboratory in Carbohydrates and Lipids (1) Laboratory in the isolation, quantification, and characterization of carbohydrates and lipids.

Laboratory in Carbohydrates and Lipids (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 442, B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 446 Laboratory in Molecular Genetics II (1) Laboratory in gene analysis and microbial genetics, emphasizing in vivo methodologies.

B M B 446 Laboratory in Molecular Genetics II (1)

The primary educational objective of B M B 446 (1 credit) is to provide in-depth treatment of principles and techniques applicable to the in vivo genetic analysis of microorganisms. Topics include bacterial conjugation, transduction by bacteriophages, and the use of transposons for strain construction, genetic mapping, and gene cloning. Techniques include use of special media for selection of desired bacterial genotypes in genetic experiments, performing bacterial conjugations, preparation and use of lysates of bacteriophages, transferring genes via transduction, conducting mutagenesis via transposition, and in vivo cloning with mini-Mu plasmid replicons.

Students are evaluated on 1) the quality of their techniques, 2) their understanding of methodology and interpretation of data as demonstrated through preparation of laboratory reports, and 3) written examinations. The course is related to B M B 445W, which covers the principles and techniques of in vitro genetic analyses. Nonetheless, BMB 446 may be scheduled before, after, or concurrent with B M B 445W. B M B 446 is a requirement in the B M B major and may serve as an elective in other majors, most notably, the Microbiology major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 442, B M B 400, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 450 (MICRB 450) Microbial/Molecular Genetics (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.

Microbial/Molecular Genetics (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BIOL 222 orBIOL 322, MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 450 (MICRB 450) Microbial/Molecular Genetics (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.

Microbial/Molecular Genetics (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: BIOL 222, MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 460 (MICRB 460) Cell Growth and Differentiation (3) Mechanisms and regulation of protein trafficking, organelle biosynthesis, cell development, signaling and cell cycle control. Emphasizes experimental design and analysis.

B M B (MICRB) 460 Cell Growth and Differentiation (3)

Cell Growth and Differentiation is a unique course that uses the primary literature to teach significant content in advanced cell biology while simultaneously exposing students to the scientific craft of experimental design and analysis. In addition to exploring historical and current cell biology research articles, students will develop two vital scientific skills; critical thinking as applied to experimental data and creative thinking about solving unresolved questions in cell biology.

There is no course textbook. As an alternative, we read from journals to explore questions about cell biology and how cell biologists decipher cell functions. Instead of a general survey of cell biology, we delve into specific issues, often looking at "classic" papers describing how a specific phenomenon was first investigated to place current questions in context before progressing to the latest publications exploring how innovative techniques have been applied to deciphering cell function.

The course is divided into four units, each of which emphasizes content in a different area. Actual content may vary from year to year as the course is updated to reflect progress in a field of research. We have previously explored the general areas of cell membrane dynamics, intracellular protein trafficking, cell cycle regulation, cell signaling pathways and cancer cell biology. Finally, the course ends with a unit on stem cells and therapeutic cloning technology. A portion of the final unit is also devoted to discussing the ethical implications of stem cell research with an emphasis on how to make personal decisions about how our society should approach these issues.

Reading guides are provided for each assignment to help students find and understand important points in reading assignments. Class periods are devoted to explanations and instructor-led discussions about the readings with an emphasis on understanding the questions, the methods used to approach the questions, the experimental results and the interpretations of the results. Furthermore, periodic class periods are dedicated to experimental approach exercises where students work in groups to practice posing new questions as suggested by our readings and proposing experiments to answer these questions. These skills are vital part of what cell biologists do daily, and these exercises provide practice in thinking like a scientist. Students have previously reported that by taking this course they acquired the ability to read and understand the primary literature and have gained an in-depth understanding about how to use various experimental techniques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: B M B 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 464 Molecular Medicine (3) An exploration of the impact of advances in molecular biology on understanding disease mechanisms, medical diagnosis, and therapeutics.

Molecular Medicine (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: B M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 465 Protein Structure and Function (3) A study of the relationship between structure and function of proteins; internet analysis to predict structure and function is included.

Protein Structure and Function (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 474 Analytical Biochemistry (3) Physical/chemical theory and techniques that emphasize purification and characterization of biological macromolecules, including proteins, lipids and nucleic acids.

B M B 474 Analytical Biochemistry (3)

This three-credit course deals with acquiring knowledge of laboratory skills required for success in experimental biochemistry and molecular biology. It is particularly suited for students intending a career as a research scientist in the areas of biochemistry, biotechnology, bioengineering, microbiology, or molecular biology. Course content focuses on the detection, purification and identification of biological macromolecules such as practice of separation science with emphasis on diffusion, gel permeation chromatography, ion-exchange chromatography, affinity chromatography, sedimentation velocity ultracentrifugation, sedimentation equilibrium ultracentrifugation, density gradient ultracentrifugation, agarose gel electrophoresis, SDS gel electrophoresis, isoelectrofocusing, membrane filtration and dialysis (including Donan equilibrium), ligand binding, high performance gas chromatography, high performance liquid chromatography, mass spectrometry, and immunological methods of macromolecules. The second unit includes the theory and practice of biological spectroscopy with emphasis on visible, infrared, circular dichroism, optical rotary dispersion, Raman, resonance Raman, nuclear magnetic resonance, electron paramagnetic resonance, Mossbauer, surface plasmon resonance, electron-nuclear double resonance, and electron spin echo spectroscopy of macromolecules. The lectures are designed to introduce a particular topic, to derive relevant equations, to supplement reading material with practical examples, and to clarify points in assigned problem sets. Two guest lectures by experts in the field will provide up-to-date information on mass spectroscopy and Mossbauer spectroscopy, and two site-visits, one to the mass spectrometry core facility and the other to the magnetic resonance core facility, will provide hands-on experience. Problem sets are not collected or graded; rather, answers are handed out in the following class period. This method provides the ability to collaborate with others on solving problems and to self-check work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: Prerequisite or concurrent:B M B 428 orCHEM 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 480 (MICRB 480) Tumor Viruses and Oncogenes (3) Oncogenes, DNA and RNA tumor viruses, and relevant experimental techniques with emphasis on molecular basis of carcinogenesis and gene regulation.

Tumor Viruses and Oncogenes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent:MICRB 415, MICRB 435 orMICRB 460

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 497A Practical Applications of Enzymology (1) Focus on understanding enzymes and enzyme activity well enough to deal with their use in real-world situations.

Practical Applications of Enzymology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 497C Metals in Biology (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Metals in Biology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 497B Comparative Genomics: Illuminating the Dark Matter of Genomes (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Comparative Genomics: Illuminating the Dark Matter of Genomes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 498A (MICRB 498A) Antibiotics: Development and Resistance (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Antibiotics: Development and Resistance (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 498B Cell Biology Methods (1) Advanced laboratory in the visualization and analysis of organelles, genetic mechanisms, and metabolic processes in eukaryotes.

Cell Biology Methods (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MICRB 202, MICRB 252, MICRB 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 498A (MICRB 498A) Antibiotics: Development and Resistance (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Antibiotics: Development and Resistance (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biochemistry and Molecular Biology (B M B)

B M B 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 100S Bioengineering Seminar (1) First-year seminar to introduce the role of engineering in biomedical research and in instrument development for the medical device industry.

BIOE 100S Bioengineering Seminar (1)
(FYS)

BIOE 1OOS is a first-year seminar aimed at students interested in pursuing a career in Bioengineering. Through a series of lectures, demonstrations and problem solving sessions, the multifaceted world of bioengineering will be explored. Two general classes of problems will be studied: one is the application of engineering to decipher the mysteries of how the human body works in health and disease, and the other is the design and development of medical devices. Overviews of engineering analyses of physiological function at the tissue, cellular and molecular level will be given. For example, diverse problems such as neural transmission and signaling, how cells move, transport of substances by the blood stream, and movement of molecules between bodily compartments and within cells will be considered. The analysis of medical devices used in the diagnosis of a disease state or used to treat a pathological disorder will be reviewed. For example, diagnostic tools such as the electrocardiogram, ultrasound imaging and nuclear magnetic resonance imaging will be explored. The design of artificial organs and prosthetic devices will also be examined, such as the artificial kidney, heart and lungs, and orthopedic devices.

The general educational approach of the seminar series will be that of problem based learning. Students will be given assignments to be performed either individually or in groups. Assignments will be designed to expose students to the breadth of engineering applications in medicine and biology, the vocabulary of the life sciences, specific engineering tools, and library and Internet resources. Emphasis will be placed on developing an appreciation for the range of skills and specialized knowledge needed to solve biomedical engineering problems and enhancement of communication skills through class discussions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 199 Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 201 Cell and Molecular Bioengineering (3) An analytical study of molecular and cellular phenomena including functional and metabolic interactions.

BIOE 201 Analysis of Molecules and Cells (3)

Introduction to cells, cellular molecules, and relevant experimental and analytical techniques, leading to an understanding of cell structure and function. This is a lecture course, graded by means of quizzes and a final exam. A general knowledge of physiology and chemistry are prerequisites; the analytical approach of the course will also require an ability to work with mathematical equations and models.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: BIOL 141, CHEM 112, MATH 141 . Prerequisite or concurrent:PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 299 Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 301 Analysis of Physiological Systems (3) Linear systems analysis applied to electrical networks and lumped parameter models of physiological control systems.

BIOE 301 Analysis of Physiological Systems (3)

An introduction to concepts of circuit signal and lumped-parameter systems analysis in the context of physiological models, and physiological measurement systems. This is a lecture course, with weekly homework, graded by means of homework, quizzes, and a final exam. A general knowledge of human physiology, a course covering the physics of electrical devices and elementary circuits, and a working knowledge of differential equations are required prerequisites. The course provides background for upper-level work in signal systems and image analysis, and introduces circuit and lumped-parameter fluid models in common use for physiological analysis. This course is required for the BS in Bioengineering and is available as an elective in the Bioengineering Undergraduate Minor. BIOE 302 is normally taken at the same time as BIOE 301, and provides many examples of die material developed in this class.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOL 141, PHYS 212, MATH 250 orMATH 251
Concurrent: BIOE 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 302 Physiological Simulation Laboratory (1) Computer laboratory designed to illustrate applications of control systems theory to physiological systems.

BIOE 302 Physiological Simulation Lab (1)

Computer simulation laboratory illustrating applications of linear and nonlinear systems concepts to that of the relationships between physiological signals. This course will group students into ms working on simulation of signals and systems using a high-level simulation language (Matlab/Simulink) and require students to compare results to analytic predictions. The emphasis is on understanding the physiological implications of system descriptions, and on developing an appreciation for the limits of computer modeling techniques. Team lab reports will be graded. This course should be scheduled concurrently with BIOE 301, if possible.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: or concurrent:BIOE 301;CMPSC 200 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 303 Bio-continuum Mechanics (3) Mechanical properties of fluids and solids with applications to tissue mechanics and vascular system.

BIOE 303 Bio-continuum Mechanics (3)

The course serves as an introduction for students of science and engineering who are beginning a series of courses in mechanics. Students should have had some courses in calculus, physics, strength of materials, vector analysis, and elementary differential equations. A course in continuum mechanics then provides a foundation for studies in fluid and solid mechanics, material sciences, and other branches of science and engineering.

T'his course is required for the BS in Bioengineering, and is available as an elective in the Bioengineering Undergraduate Minor. It will provide an introduction to concepts of solid and fluid mechanics, analysis in the context of mechanical properties of biological tissues, physiological models and measurement systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOL 141, E MCH 210, MATH 230, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 313 Bioengineering Thermodynamics (3) Chemical processes, including material and energy balances and phase equilibria, with emphasis on biological applications.

BIOE 313 Bioengineering Thermodynamics (3)

The course provides and introduction to thermodynamics, including the fundamentals of material and energy balances with specific emphasis placed on physiological applications. This course will cover equations of state, the first and second laws of thermodynamics in both open and closed systems, Maxwell Relations and chemical and phase equilibrium. Specific biological applications considered are the application of thermodynamic analyses to understanding thermoregulation, muscle movement cycles, respiratory gas exchange, cell potentials and to osmosis. This course also covers heat transfer including Fourier's law of conduction, convective and radiative heat transfer. Specific biological examples discussed include applications to bioinstrumentation, thermoregulation and tissue heating by radiation for cancer therapy. This is a lecture course, graded by means of weekly homework, quizzes, and a final exam. A general knowledge of physiology and chemistry are prerequisites; the analytical approach of the course will also require an ability to work with basic differential and multivariable calculus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 112, MATH 230, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 399 Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 401 Introduction to Bioengineering Research and Design (3) Challenges and constraints of bioengineering research and design. Emphasis on immunoresponse, tissue mechanics, biological transport phenomena, and biomaterials.

BIOE 401 Introduction to Bioengineering Research and Design (3)

In this course, students explore how engineering principles can be used to advance healthcare, develop cutting-edge bioengineering technologies, and develop a fundamental understanding of biology. Representative design problems include the application of bio-continuum mechanics, biology-surface interactions, bioelectrical phenomena, and bio-transport to the design of novel implantable blood vessels. Students will use analytical and computational techniques to explore these topics, and to develop their own design interests. Educational outcomes will include an understanding of the process of integrating biology and engineering to improve research and design, and an appreciation of the societal and ethical implications of new directions in bioengineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOE 201, BIOE 303
Concurrent: BIOE 404

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 402 Biomedical Instrumentation and Measurements (3) Biomedical measurements, including consideration of techniques, equipment, and safety.

BIOE 402 Biomedical Instrumentation and Measurements (3)

This course is designed to introduce students to the principles, applications, and design of instruments used in biomedical research and applications. The emphasis is on engineering design and analysis with supplemental discussion of relevant physiological principles. Students will learn to analyze and design systems through in-class examples, homework problems, and active participation. Grading is based on homework problems, quizzes and a final exam. Topics covered include: sensors, biopotential signal origin, filtering, amplifiers, electrodes and signal processing; pressure and flow measurement in the cardiovascular and respiratory systems, and medical imaging modalities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 250 orMATH 251;BIOE 301 orE E 210 orE E 212 orPHYS 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 404 Data Analysis and Experiment Design (1) Statistical measures of data, and selection of experiment sample size to meet criteria.

BIOE 404 Data Analysis and Experiment Data (1)

Upon completion of this course students will be able to determine confidence limits and establish hypothesis tests for the difference in means of data sets using normal and t-test measures. Students will understand the application of single and multivariable analysis of variance (ANOVA) procedures, and hypothesis tests based on these procedures. Students will know how to select the number of subjects to test for a given specified accuracy of a statistical measure.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: BIOE 302
Concurrent: BIOE 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 403 Biomedical Instrumentation Laboratory (1) Biomedical measurements laboratory including measurement of bioptentials, experiments in medical imaging techniques, and use of cardiovascular and pulmonary system instrumentation.

BIOE 403 Biomedical Instrumentation Laboratory (1)

Laboratory course to accompany BIOE 402, Medical Instrumentation. The class is comprised of studies in medical circuits and transducers for static and dynamic biological inputs, and includes measurement of actual biomedical signals. For preparation for industry or research, proper laboratory documentation techniques are taught along with basic skills for presenting data as a scientific journal paper. Students work together in teams to perform the experiments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:BIOE 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 406 Medical Imaging (3) Physical principles and clinical applications of medical imaging methods.

BIOE 406 Medical Imaging (3)

The course covers all four major diagnostic medical imaging modalities including x-ray, ultrasound, radioisotope imaging, and magnetic resonance imaging. Physical principles, instrumentation, diagnostic procedures, and biological effects of these modalities will be discussed. It requires background in physics and electrical circuits. It is a lecture course and graded by homework, a mid-term and a final exam. The prerequisite is Physics 212.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 409 Biofluid Mechanics (3) The fundamental relations in fluid mechanics and their application to biofluids including steady/unsteady flows, diseased states, devices and biorheology.

BIOE 409 Biofluid Mechanics (3)

This course is a first course in fluid mechanics, with application to biomedical problems. This course incorporates understanding of fluid properties of biological materials and applies the fundamental laws (mass, momentum, and energy) that govern fluid mechanics to solve biofluid applications such as those in the cardiovascular system, including diseased states. The course will enable students to use approximation methods and constraints in fluid mechanics to help model and solve biofluid examples. Biorheology and cardiovascular prosthetics in the context of fluid mechanics will be discussed. The students will be able to understand and apply problem solving techniques to steady and unsteady biological flows and be exposed to wave propagation theory and oscillatory flow. Students will be exposed to biofluid devices and flow measurement techniques used to assess these devices. This course is required for students in the Bioengineering BS program for completion of either the mechanical engineering or the chemical engineering option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MATH 230, MATH 251, BIOE 303

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 410 Biomedical Applications of Microfluidics (3) Study of fluid mechanics at small length scales. Low Reynolds number flow, electrokinetic flows, bioseparations in microfluidic devices.

BIOE 410 Biomedical Applications of Microfluidics (3)

Microfluidics is the study of flow phenomena at small length scales with characteristics channel dimensions typically less than the diameter of human hair. Small length scale effects become important as surface forces such as viscous drag and surface tension govern flow behavior rather than body forces (inertia) as seen in macroscale fluid mechanics. Miniaturization of fluid handling systems also allows the development of micro Total Analysis Systems (microTAS) or so called "lab on a chip" which combines biological sample preparation, separation and analysis in a single device. Topics explored in this class include: fundamental understanding and derivation of constitutive balances in fluid mechanics (e.g., Navier Stokes equation), exploration of electrokinetic flow phenomena for electrophoresis, fabrication techniques for microfluidics, overview of (microTAS) systems especially capillary electrophoresis and miniaturized polymerase chain reaction for biochips, and exploration of integrated microfluidics for personalized medicine and drug delivery.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOE 303 orM E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 413 Bioengineering Transport Phenomena (3) An integrated study of the fundamentals of mass transport processes with emphasis on the analysis of physiological systems.

BIOE 413 Bioengineering Transport Phenomena (3)

This course provides an introduction to mass transport phenomena in biological systems. The course builds upon thermodynamic concepts of phase and chemical equilibrium to analyze ion transport and cell membrane potentials including Nernst potentials, Gibbs-Donnan equilibrium and osmotic pressure. In particular, the course provides fundamental understanding of the diffusion of gases, electrolytes and non-electrolytes in biological applications. Furthermore, the principles of oxygen transport in tissues are specifically described and analyzed using the Krogh Cylinder Modes and hemoglobin-oxygen binding relationships. The transport of substances across biological membranes is discussed and analyzed for various biological transport mechanisms including: passive diffusion, active transport and facilitated transport. Convective transport through porous media is introduced using Darcy's Law and the Brinkman Equation. Finally, fundamental concepts of pharmacokinetic modeling are introduced and utilized for the analysis of drug transport and distribution within tissues. This is a lecture course, graded by means of quizzes and a final exam. A general knowledge of physiology and knowledge of continuum-mechanics, and thermodynamics is prerequisite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOE 303, BIOE 313 orCHEM 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 419 Artificial Organs and Prosthetic Devices (3) Analysis of function and consideration of design concerns for biomedical implants, including prosthetic joints, electrical stimulators, and cardiovascular pumps.

Artificial Organs and Prosthetic Devices (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MATH 250 orMATH 251 . Prerequisite or concurrent:BIOL 141 orBIOL 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 440 Clinical Corelations (1) Engineering analysis applied to common disease states and therapies.

BIOE 440 Clinical Corelations (1)

This course applies analysis of physiologic systems and processes covered in other Bioengineering courses to the understanding of common diseases and their treatments. Each topic will include a basic description of the disease from a medical physiology perspective, identification of the applicable engineering principles, and application of those principles to understanding the disease process or therapy. Sample topics include heart failure, kidney failure and dialysis, diabetes, and surgical correction of vision.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: BIOE 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 423 Reaction Kinetics of Biological Systems (3) Chemical kinetics and reaction equilibria with applications to the analysis of physiological function and the design of synthetic organs.

BIOE 423 Reaction Kinetics of Biological Systems (3)

Chemical reactions are the underlying mechanism for numerous biological processes such as energy metabolism, biosynthesis pathways, mass transport, and detoxification. This course will introduce the basic concepts in chemical equilibrium and reaction kinetics. The course will then apply these chemical kinetics and analytical approaches to understand the underlying mechanisms of selected biological and physiological processes, which will include metabolic engineering, catalysis, bioreactors, and drug discoveries. Due to the analytical nature of this course, basic knowledge of thermodynamics, mathematics, differential equations are required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOL 141, BIOE 313 orCH E 210 . Prerequisite or concurrent:BIOE 413 orCH E 302 andCH E 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 443 (MATSE 403) Biomedical Materials (3) Describe properties of materials and composites and their in vivo interactions.

BIOE 443 (MATSE 403) Biomedical Materials (3)

Metals, polymers, and ceramics, and their composites, which are capable of emulating the functions of hard and soft tissues, are the subjects of this course.‘The subject matter shall be confined to implanted materials; external appliances, such as casts, braces, etc are not considered The topical content of this course will be grouped into four areas. A general introduction to selected aspects of physiology will be presented. This will provide the background necessary to appreciate the factors which govern the selection of biomedical materials. Specific emphases will be placed on polymerization of biopolymers (polypeptides and polysaccharides) and the general relationships between conformation and biological function, the biochemistry of blood and blood surface interactions, the formation of teeth and bone and the relationships between microstructure, composition and function, the immune responses to implanted materials, the resorption of bone (osteoporosis) and the development of caries. The perspective placed on these topics will be that of materials science. ‘The selection of ceramics for hard tissue prosthesis will be discussed. Orthopaedic and dental applications for ceramics will be discussed. Specific ceramic materials to be treated include dental porcelain, alumina- and zirconia-based ceramics, and bioglasses and pyrolytic carbons. Various classes of inorganic cements, gypsum, zinc phosphates, zinc carboxylates, silicates, and glassionomer cements will also be considered as ceramics. Hydroxyapatite, Hap-based composites and Hap-metal interactions will be discussed in particular Relationships among physical properties, mechanical properties, and chemical interactions with biological fluids will be described. Dental and orthopedic applications of metals will be described. The fracture toughness of metals, their electrochemical responses in vivo, and the nature of the interfacial interactions with hard tissues will be treated Dental amalgams and the noble metals for dental applications will be considered. Metals and alloys, such as Ti, Co-Cr, and vitallium, used in prosthetic applications, will be described and their properties and limitations discussed The phenomenon of stress shielding and the immune responses associated with the accumulation of metallic and polymeric particular debris in the vicinity of an implant will be discussed in particular Polymeric materials are important in a broad range of biomedical applications. Among these are soft tissue prostheses, hemostatic agents, dental restoratives, bone replacement materials, and surgical adhesives. In some applications it is desirable that a polymeric material biodegrade while in others property retention is desirable.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATSE 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 450W Bioengineering Senior Design (3) Application of engineering and physiological principles to design of artificial organs and life supportive devices.

BIOE 450W Bioengineering Senior Design (3)

For preparation for the transition to industry, the course prepares students to work together as a team and effectively communicate scientific information. This course utilizes the student's knowledge in physiology and engineering which the student has accumulated to this point. Students develop teamwork, communication and leadership skills. The course begins with the students identifying a medical device or procedure which can be improved utilizing their engineering skills. A proposal is prepared and presented for design review. Students meet with the instructor on a regular basis for progress assessment. Notebooks are carefully maintained and critiqued. At the end of the semester, students demonstrate their project in a formal presentation and prepare a written report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: BIOE 403, BIOE 440, ENGL 202C senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 444 (IL) (MATSE 404) Surfaces and the Biological Response to Materials (3) Focus is on special properties of surface as an important causative and mediating agent in the biological response to materials.

BIOE 444 (MATSE 404) Surfaces and the Biological Response to Materials (3)

This course factors the classical picture of the biological response to materials into spatial and temporal components, identifying the special properties of surfaces as an important causative and mediating agent. Biophysical mechanisms are emphasized that lead to formulation of structure property relationships and the biological response to materials. Contact activation of the blood plasma coagulation cascade, bioadhesion, and protein adsorption are used as example biological responses to material surfaces to illustrate concepts and principles. Leading theories attempting to correlate both kind and intensity of biological responses to surface and interfacial energetics will be compared and contrasted through a process that will quantify important surface thermodynamic properties of materials. The hydrophobic effect and related phenomena, especially as this pertains to water solvent effects in biology, receives special emphasis. Course materials are drawn from a selection of relevant library reserve texts.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 111, CHEM 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 490 Colloquium (1) Technical presentations related to research and industry concerns, and by students doing senior projects.

BIOE 490 Colloquium (1)

This is a 1-credit course, providing an overview of major Bioengineering current topics by faculty and other invited speakers and providing students or student teams with an opportunity to present an oral senior projects or other appropriate talks. All students are expected to do an oral presentation. Topics include medical instrumentation developments, physiology experiments and medical products industry issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: or concurrent:BIOE 450W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 494H Honors Thesis (1-3) Independent study research and design, leading towards honors thesis.

BIOE 494H Honors Thesis (1-3)

Independent study for students who are completing honors thesis in Bioengineering. Course is taken during last two semesters before graduation. Student must have a faculty advisor for the thesis project. This advisor is in charge of supervising the independent study and grading. At the end of the first semester, students write a proposal in NIH format documenting the aims, background, preliminary results, and plan for ongoing research. At the end of the second semester, student submits Honors thesis. The final grade is determined by quality of proposal or thesis and quality of laboratory work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: Permission of program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 497G Tissue Engineering: Concepts, Calculations, and Applications (3) Introduction to interdisciplinary tissue engineering concepts, associated biochemical and biomechanical engineering calculations, and cardiovascular, musculoskeletal, and other tissue application examples.

Tissue Engineering: Concepts, Calculations, and Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 497K Bioengineering Mechanics and Techniques Laboratory (3) Experimental laboratory that includes measurements related to biomechanical phenomena (e.g. tissue viscoelasticity and blood flow) and cellular growth.

Bioengineering Mechanics and Techniques Laboratory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: BIOE 201 andBIOE 303

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioengineering (BIOE)

BIOE 499 Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioethics & Med Huma (BMH)

BMH 490 Bioethics and Medical Humanities Capstone Course (3) Students will integrate knowledge from their BMH minor through discussion and writing a paper on some aspect of medical humanities.

Bioethics and Medical Humanities Capstone Course (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PHIL 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Bioinformatics (BIIFM)

BIIFM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 001S Growing Your Future--First-Year Seminar (1) Introduce students to University life, the agricultural/biological/engineering program and profession; prepare them to succeed in academic life at Penn State.

B E 001S Growing Your Future (1)

This First Year Seminar course for the College of Engineering is offered to introduce students to "University Life" in general and more specifically to familiarize students with the discipline of Biological Engineering. In preparation for their careers at Penn State, individual learning styles and the concept that engineers utilize both research and design methodologies in their learning and professional careers are discussed. A tour and assignment acquaints them early with the University library system as a tool for their academic endeavors. Through the departmental student computer lab, students are introduced to e-mail, PowerPoint, and other software resources. Resume writing prepares students early for seeking internships and co-op opportunities throughout their undergraduate years. Acquaintance with the diverse areas of specialization in Biological Engineering is gained through presentations by respective faculty. In response, student teams make PowerPoint presentations in class that explore each area in great depth. Departmental engineering (B E) and technology (ASM) curricula are introduced and discussed. Students are also acquainted with germane professional organizations and to the unique Land Grant charter of the University. Students are evaluated through weekly assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: first-year status

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 300 Biological Systems (3) Structure, function, and energy transformation of biological systems that affect solutions to engineering problems. Effects of engineering activities on ecosystems.

B E 300 Biological Systems (3)

The three factors that determine the productivity of a given plant or animal are nutrition, disease, and environment. To fully achieve the genetic potential of plants and animals, one must provide a non-stressing environment for the biological systems in addition to meeting their nutrition and health requirements. This course focuses upon first understanding the nature of biological systems. The systems to be covered most extensively are animals, plants, and harvested produce. For each biological system considered, emphasis will be placed on the physiological responses by the system in a non-stressing environment and in a stressing environment. Techniques to characterize combinations of environmental stressors will be covered. The requirements of engineering systems to alleviate environmental stresses will be determined. Students are evaluated based on two examinations, weekly homework assignments, participation in classroom discussions, and a final examination.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: CHEM 110 andPHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 302 Transport Processes for Biological Systems (3) Engineering applications of the fundamentals of fluid mechanics, heat transfer, and diffusion, to biological systems at scales ranging from microbial to ecological.

B E 302 Transport Processes for Biological Production and Processing (2)

Learning Objective. At the end of this course students will be able to:
1. Use and convert units and dimensions applicable to food processing
2. Apply laws of conservation of mass and energy
3. Calculate friction losses and pumping requirements for both Newtonian and Non-Newtonian fluids for both laminar and turbulent flow
4. Calculate the rate of heat transfer in both steady and non-steady state cases
5. Use the psychrometric chart in relation to drying processes
6. Apply concepts of cellular transport processes to practical applications for biological production and processing

Engineering applications of the fundamentals of fluid mechanics, heat transfer, and diffusion to biological production and processing of biological materials. This course will build on and apply the basic principles learned in the prerequisite modeling, fluid mechanics, and thermal sciences courses. Applications will include biological production in bioreactors, buildings, and/or outdoor environments. Other applications will include added-value processing of biological materials. Examples will involve aeration, heating, cooling, pumping, ventilation, drying, and/or filtration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 300, B E 301, M E 300, C E 360 orM E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 301 Mathematical Modeling of Biological and Physical Systems (3) Modeling tools, quantification of processes, linear and non-linear systems of equations, numerical methods, matrix operations, applied to biological and physical systems.

B E 301 Modeling Methods for Biological Systems (3)

The ability to quantify relationships into mathematical models, and implement the models into the computer to finds solutions, is essential for engineering analysis and design. This course provides the student with tools for modeling biological and physical systems. Upon completion of this course, the student will be able to: identify a process/system and represent that process/system mathematically; solve the mathematically-represented system using two computer-based modeling tools, Excel and MATLAB; describe the emphasis areas offered in the Agricultural and Biological Engineering major; and be able to develop a systems model related to each area. The course includes engineering economics, matrix operations, curve fitting, numerical integration and differentiation, and applications of these methods to biological and agricultural systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: or concurrent:MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 303 Structural Systems in Agriculture (2) Engineering analysis and design of structural systems in agriculture; topics: loads, connectors, analysis and design of structural members and systems.

B E 303 Structural Systems in Agriculture (3)

The objective of this course is to provide the student with the essential skills necessary to engage in practical agricultural structure analysis and design. Topics include a review of shear, moment and deflection concepts; loading in agricultural structures including earth loads, grain loads and livestock loads; methods for the analysis of determinate and indeterminate beams, trusses and frames; the material properties of wood including impact of species, grain orientation, degree of hydration, etc., on member adequacy. The nano and molecular structure of wood is also discussed and how it impacts material properties. A lecture is also presented including ethics in the workplace including issues related to new materials technologies. Lectures are focused on the practical application of basic engineering principles with examples. The lab period contains a substantial design analysis project where a 2-person student team analyses an industrially designed structure (typically a post-frame building containing a truss roof system), which has been designed for a specific area. The team then redesigns the structure for a different location with different snow and wind loadings as well as intended usage, and optimizes the structure for efficient design of the structural members. The design and analysis uses VisualAnalysis, a common industrial software package. There is also a field trip to a truss manufacturer near the end of the class to tie everything together. The course will serve as a prerequisite for senior-level structural design courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: B E 301, E MCH 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 303 Structural Systems in Agriculture (3) Engineering analysis and design of structural systems in agriculture; topics: loads, connectors, analysis and design of structural members and systems.

B E 303 Structural Systems in Agriculture (3)

The objective of this course is to provide the student with the essential skills necessary to engage in practical agricultural structure analysis and design. Topics include a review of shear, moment and deflection concepts; loading in agricultural structures including earth loads, grain loads and livestock loads; methods for the analysis of determinate and indeterminate beams, trusses and frames; the material properties of wood including impact of species, grain orientation, degree of hydration, etc., on member adequacy. The nano and molecular structure of wood is also discussed and how it impacts material properties. A lecture is also presented including ethics in the workplace including issues related to new materials technologies. Lectures are focused on the practical application of basic engineering principles with examples. The lab period contains a substantial design analysis project where a 2-person student team analyses an industrially designed structure (typically a post-frame building containing a truss roof system), which has been designed for a specific area. The team then redesigns the structure for a different location with different snow and wind loadings as well as intended usage, and optimizes the structure for efficient design of the structural members. The design and analysis uses VisualAnalysis, a common industrial software package. There is also a field trip to a truss manufacturer near the end of the class to tie everything together. The course will serve as a prerequisite for senior-level structural design courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B E 301, E MCH 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 305 Agricultural Measurements and Control Systems (3) Principles of measurements, instruments, controls, and data acquisition systems, with emphasis on agricultural applications.

B E 305 Agricultural Measurements and Control Systems (3)

Engineers and scientists are routinely required to measure or control parameters of physical systems. Frequently, these parameters are quantified electronically. This course prepares the student to solve fundamental engineering instrumentation and control problems with emphasis on agricultural and biological systems. Upon completion of this course, the student will be able to: select and apply electronic devices to solve basic engineering measurement and control problems; apply interference (noise) reduction techniques using sound engineering principles; demonstrate correct use of common electronic measurement tools including multimeters, oscilloscopes and others; demonstrate electrical construction techniques including cable preparation, soldering, crimping, circuit board fabrication, and others; explain simple measurement and control circuits represented by schematics or ladder diagrams; demonstrate the application of dataloggers, microcontrollers, programmable logic controllers, and computer software to collect data and/or control basic processes; explain the function of common circuit components such as resistors, capacitors, inductors, diodes, transistors, op-amps, and transformers in simple circuits. Students are evaluated on homework and lab worksheets, quizzes, an oral presentation, and a final project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 304 Engineering Properties of Food and Biological Materials (3) Composition, structure, and properties relationships. Measurement of mechanical thermal, chemical and biological properties, their variability, and use in engineering calculations.

B E 304 Engineering Properties of Food and Biological Materials (3)

Engineering properties play a crucial role during the analysis, design, and synthesis phases of problem solving. The accurate knowledge of properties is essential to the precise determination of the overall system and component responses. Due to the time-dependent and environmentally-sensitive nature of properties of the agricultural, food, and biological materials, the theory and measurement systems are different from those used for conventional engineering materials and their systems. Therefore, the focus of this course is to provide the students with sound bases of the theory and measurement methods that are used to quantify physical, mechanical, thermal, biological, and chemical properties of products and their systems. In addition, the significance and importance of the inherent variation in the property values of agricultural, food, and biological materials is emphasized. Students are evaluated based on homework and lab assignments, and three exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: E MCH 213 . Prerequisite or concurrent:B E 300;C E 360 orM E 320;MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 306 Engineering Principles of Agricultural Machines (2) Application of engines, motors, and power transmission systems to agricultural production and processing machinery. Functional design and analysis of equipment.

B E 306 Machines for Agricultural and Biological Processing (3)

This course is designed to provide a broad foundation for understanding machine system design for biological engineering students. In addition, this course serves as a foundation for those wishing to develop a more focused understanding of agricultural and general machine systems, and is a prerequisite for B E 400 level courses. Machine systems are an integral part of many agricultural operations from field production to post-harvest processing, storage, transportation, and bio-based processing. Biomass feedstock logistics and bioenergy production systems are heavily relying on machine systems. Biological engineers will likely encounter a wide range of powered and automated equipment in their careers. This course consists of lectures, labs, and open-ended design projects. The lab activities will focus on testing and evaluating of machine performance using prototype machines and instruments. Lab activities and design projects will be completed in the format of small groups. This course equips the students to: (1) describe operating characteristics of engines and motors and properly select models for different applications; (2) design machine elements and mechanical power transmission systems to accomplish a machine task; (3) apply basic physics and engineering principles in a variety of machine-product interaction situations; and (4) practice technical report writing and oral presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: B E 301, E MCH 212, E MCH 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 307 Principles of Soil and Water Engineering (2) Utilization and engineering of soil-water resources; including rainfall-runoff, soil-water movement, erosion/sediment transport and flow processes.

B E 307 Principles of Soil and Water Engineering (3)

The two 50-minute class periods will focus on exploration of the underlying principles, equations, and importance of each of the topics to be covered. The two-period lab sessions will be used to explore each topic in a practical and experiential mode, with class participants sharing in discussions, lab activities, and explanations/presentations of project items. Weekly quizzes and periodic exams (somewhat evenly distributed during the semester) will be given during the lab period at appropriate stages of the course (likely after each major topic). The lab activities will focus on using representative soil profiles, cropping-management systems, and watershed-scale settings common to the immediate Centre County region as the basis for the experiential learning. Lab activities will sequentially build from one lab period to the next, showing how each stage of soil and water engineering is used to develop a more complete watershed-type project. Labs will involve in-class activities and field trips including map use, problem formulation, team problem solving, discussions, and reports/presentations by class participants. Participants will be expected to gather information and conduct some analyses outside of the class meeting times so as to complete the required lab projects. As appropriate, field trips will be scheduled so as to show course participants the practical settings in which basic soil and water engineering principles can be applied. The course will serve as a course preceding the senior-level soil and water engineering design courses in the Natural Resources Engineering Option of the Biological Engineering (B E) major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: C E 360 orM E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 306 Machines for Agricultural and Biological Processing (3) Application of machine systems to agricultural production and biological processing machinery. Functional design and analysis of equipment.

B E 306 Machines for Agricultural and Biological Processing (3)

This course is designed to provide a broad foundation for understanding machine system design for biological engineering students. In addition, this course serves as a foundation for those wishing to develop a more focused understanding of agricultural and general machine systems, and is a prerequisite for B E 400 level courses. Machine systems are an integral part of many agricultural operations from field production to post-harvest processing, storage, transportation, and bio-based processing. Biomass feedstock logistics and bioenergy production systems are heavily relying on machine systems. Biological engineers will likely encounter a wide range of powered and automated equipment in their careers. This course consists of lectures, labs, and open-ended design projects. The lab activities will focus on testing and evaluating of machine performance using prototype machines and instruments. Lab activities and design projects will be completed in the format of small groups. This course equips the students to: (1) describe operating characteristics of engines and motors and properly select models for different applications; (2) design machine elements and mechanical power transmission systems to accomplish a machine task; (3) apply basic physics and engineering principles in a variety of machine-product interaction situations; and (4) practice technical report writing and oral presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B E 301, E MCH 212, E MCH 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 307 Principles of Soil and Water Engineering (3) Utilization and engineering of soil-water resources; including rainfall-runoff, soil-water movement, erosion/sediment transport and flow processes.

B E 307 Principles of Soil and Water Engineering (3)

The two 50-minute class periods will focus on exploration of the underlying principles, equations, and importance of each of the topics to be covered. The two-period lab sessions will be used to explore each topic in a practical and experiential mode, with class participants sharing in discussions, lab activities, and explanations/presentations of project items. Weekly quizzes and periodic exams (somewhat evenly distributed during the semester) will be given during the lab period at appropriate stages of the course (likely after each major topic). The lab activities will focus on using representative soil profiles, cropping-management systems, and watershed-scale settings common to the immediate Centre County region as the basis for the experiential learning. Lab activities will sequentially build from one lab period to the next, showing how each stage of soil and water engineering is used to develop a more complete watershed-type project. Labs will involve in-class activities and field trips including map use, problem formulation, team problem solving, discussions, and reports/presentations by class participants. Participants will be expected to gather information and conduct some analyses outside of the class meeting times so as to complete the required lab projects. As appropriate, field trips will be scheduled so as to show course participants the practical settings in which basic soil and water engineering principles can be applied. The course will serve as a course preceding the senior-level soil and water engineering design courses in the Natural Resources Engineering Option of the Biological Engineering (B E) major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: C E 360 orM E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 308 Engineering Elements of Biochemistry and Microbiology (3) Introduction to basic biochemistry and microbiology as well as industrial and environmental applications.

B E 308 Engineering Elements of Biochemistry and Microbiology (3)

A B E 408 provides an introduction to microbiology, biochemistry, and major organic compounds found in living systems such as carbohydrates, lipids, proteins, and vitamins, as a package to engineering students. Energy calculations in microbial bioenergetics will be covered. Examples of industrial and environmental applications that build on the basic principles will be presented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 391 (GWS) (A S M 391) Contextual Integration of Communication Skills for the Technical Workplace (2) To develop corporate communication skills in technically focused students in a contextual manner.

B E (A S M) 391 Contextual Integration of Communication Skills for the Technical Workplace (2)

A B E/A S M 391 is the first half of a two-semester capstone experience in corporate focused leadership and communication skills training. The sequence is formatted into two 2-credit courses (second semester Junior for A B E/A S M 391 and first semester senior for the companion A B E/A S M 392 course). A key facet of this training is the contextual approach taken. All course modules are focused around the needs of industry and corresponding technical course content — a complete contextual approach. To meet the needs of the student, the course will reflect clear understanding of leadership and communication but also appreciate critical aspects of the technical content of student's work and of the industries within which the students will ultimately work. The primary focus for 391 is communication skills (oral and written) with a secondary focus on leadership and career skills. The course provides the student with interaction with individuals from industry (company visitors, industry trips, and recruiting opportunities). Students will be evaluated through writing and speaking projects, professional presentations, written worksheets in class and out, creation of portfolios and reports, in class group and individual exercises, computer graphics presentation assignments, library assignments, interaction with industry executives (reports), and leadership journals.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: Junior level standing in B E or A S M

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 392 (GWS) (A S M 392) Contextual Integration of Leadership Skills for the Technical Workplace (2) To develop corporate leadership skills in technically focused students in a contextual manner.

B E (A S M) 392 Contextual Integration of Leadership Skills for the Technical Workplace (2)

A B E/A S M 392 is the second half of a two-semester experience in corporate-focused leadership and communication skills training. The sequence is formatted into two 2- credit courses (second semester Junior for A B E/A S M 391 and first semester senior for the A B E/A S M 392 course). A key facet of this training is the contextual approach taken. All course modules focus on leadership and communication needs of industry within its corresponding technical content — thereby representing a complete contextual approach. To meet the needs of the student, the course will reflect clear understanding of leadership and communication but also appreciate critical aspects of the technical content of student’s work and of the industries within which the students will ultimately work. The primary focus of A B E/A S M 392 is on leadership, with communication and career issues the secondary focus. The course provides students with interactions with individuals from industry (company visitors, industry trips, and recruiting opportunities). Topics developed for A B E/A S M 392 include personal development, ethical decision-making, corporate social responsibility, strategic group management, facilitation, and diversity.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 391 junior level standing in B E or A S M

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 461 Design of Fluid Power Systems (3) Hydraulic systems, hydrostatic transmissions, electro-hydraulic systems in application to agricultural production and processing systems.

B E 461 Design of Fluid Power Systems (3)

This course is designed to provide a solid foundation for understanding hydraulic and pneumatic systems for power transmission and motion control. Applications include mobile and stationary equipment. Biological Systems Engineers (and other engineers as well) will likely encounter a wide range of powered and automated equipment in their careers. This course equips the students to: (1) understand the key operating characteristics of most fluid power system components including compressors, pumps, valves, cylinders, and motors, (2) design fluid power circuits, (3) mathematically model the steady state operation of fluid power systems, and (4) have sufficient knowledge to obtain the Hydraulic Specialist Certification offered by the Fluid Power Society. The course includes a hands-on laboratory offering the chance for students to construct circuits, see component cutaways, experience component and system performance demonstrations, and work with electronic control of hydraulic systems. Prerequisite knowledge includes fluid mechanics and familiarity with mechanical power transmission systems. The course grade is based on homework assignments, laboratory reports, a design project, and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 306 orM E 360;C E 360 orM E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 462 Design of Wood Structures (3) Structural properties of wood; design of wood structural elements; design of wood structural systems; design of post-frame buildings.

B E 462 Design of Wood Structures (3)

This course begins by defining the structural loads applicable to wood framed building systems. The course then introduces students to the unique physical and structural characteristics of solid lumber and other wood products, such as plywood and other panel products and structural composite lumber, including laminated veneer lumber, parallel strand lumber and composite wood I-joists. The engineering principles and specifications for designing wood structural members, including tension members, beams, columns, and beam-columns are presented in detail using the National Design Specification for Wood Design. Design specifications for designing wood structural connections using dowels, such as nails, bolts and lag-screws, are presented. Design procedures for designing selected wood-frame systems, such as floors, trusses, structural diaphragms and shear walls, are also presented. Students are introduced to a computer program which is an invaluable aid for analyzing and designing wood framed structural systems. At the conclusion of the course students will be able to specify structural loads for wood framing systems and analyze and design wood beams, columns, beam-columns, typical wood diaphragms and shear walls, simple wood structural systems, and a range of wood structural connections. The course builds on engineering students' prior knowledge from strength of materials and elementary structural analysis. Students are evaluated based on homework assignments, exams and a semester project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 303, A E 308 orC E 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 465 Food and Biological Process Engineering (3) Reactor design, kinetics, fluid flow, thermal processes, and other topics applied to the design of systems for the food and biological process industry.

B E 465 Food and Biological Process Engineering (3)

Learning objectives. At the end of this course students will be able to:
1. Use and convert units and dimensions applicable to food processing
2. Apply laws of conservation of mass and energy
3. Evaluate time and temperature profiles for food pasteurization and sterilization
4. Design an aseptic processing system
5. Describe operation of mechanical refrigeration systems
6. Calculate freezing times
7. Compute the energy requirements in single and multiple effect evaporators
8. Use the psychrometric chart in relation to drying processes

Engineering principles of reactors, fluid flow, thermal processes and other topics will be applied to the design of systems for the food and biological process industry. The examples used will be applicable to bioreactor production, food processing, pharmaceutical manufacture, etc.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 467 Design of Stormwater and Erosion Control Facilities (3) Design of best management practices for stormwater management, erosion and sediment control as applied to the agriculture-urban interface.

B E 467 Design of Stormwater and Erosion Control Facilities (3)

This course equips seniors agricultural and biological engineers with the ability to design sediment and stormwater impoundments and erosion control structures used in agriculture and the development of the agricultural-urban interface. Predictive hydrology is presented along with an introduction to several hydrology-based models used in the land-development industry. Basins are presented as fundamental structures used to attenuate stormwater peaks as well as holding ponds to facilitate gravitational sediment removal from stormwater runoff. Various sediment traps are also included. Flood routing is developed so students understand and can design for flood peak attenuation. Low Impact Development (LID) practices such as green roofs, bioretention areas and vegetated filter strips are presented as infiltration-based alternatives to traditional stormwater management. Open channel design procedures including maximum permissible velocity and tractive force are reviewed. The Revised Universal Soil Loss Equation (RUSLE) is introduced and the latest version of the RUSLE software package is available for student use. Stream corridor restoration procedures, especially many of the structural practices, are introduced. The course includes a major design project executed in groups of 3 to 5 students. Students are assigned a land parcel and the proposed development. Students are expected to develop a Stormwater Management Plan, including several LIDs, and an Erosion and Sedimentation Control Plan, including a sediment basin. Students must present their final designs in oral and written format to their peers and a lay audience. This project makes up about 30% of their course grade. The remainder of the grade is from two take-home exams and daily homework. The majority of those taking this course are A B E seniors or graduate students. Civil and Environmental Engineers often elect this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 307 orC E 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 466W Biological Engineering Design (3) This course focuses on a industry sponsored design project offered in conjunction with the College of Engineering Learning Factory.

B E 466W Biological Engineering Design (3)

This course will provide students with the opportunity to learn the “design” process while being immersed in a project that demands they produce a finished product. The industry representative will provide the technical guidance for the project, a clear expectation of exactly what the sponsoring company wishes to have developed, and the financial support to cover needed materials and supplies. The Learning Factory and Agricultural Engineering Building will provide a location where the design groups can work together to develop the design and prototype. The Departmental faculty member will administer the course, including reading, evaluating, and grading the final project report, provide lectures on topics including on project management, product design, product manufacturing, intellectual property, societal/professional issues, and related topics, and organize invited technical lectures related to industry projects. In accordance with standard Learning Factory procedures, specific projects will be selected for this course which align with the Biological Engineering curriculum.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: B E 391 ; senior level standing in B E

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 468 Microbiological Engineering (3) Application of basic engineering principles and designs in biochemical and biological processes.

B E 468 Microbiological Engineering (4)

Microbial engineering is a combination of biochemistry and microbiology applied to engineering. The purpose of this course is to provide an understanding of conversions of raw agricultural materials into value-added products via microbial fermentation. This course presents all steps in this type of bioprocessing such as mutagenesis, genetic modification for microbial manipulation, microbial kinetics, aeration, agitation for bioreactor design, and various recovery methods for downstream processing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 308 orB M B 211 andMICRB 201;PHYS 211 orPHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 475 Food Engineering Equipment Design (3) Engineering analysis and operation of pilot-plant equipment, i.e., spray, freeze and deep bed dryers, evaporators, freezing tunnels, distillation columns.

Food Engineering Equipment Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 469W Optimization of Biological Production and Processing Systems (3) Engineering and biological principles combined with economics and mathematical techniques to evaluate and optimize biological production and processing systems.

B E 469W Optimization of Biological Production and Processing Systems (3)

This course investigates techniques to optimize the design of systems related to biological systems production and processing. Optimization techniques learned include linear programming, calculus methods, and incremental search techniques. The course includes the development of a design project, which is then optimized through the use of these techniques. Engineering ethics is integrated into the course content. At the end of this course, each student should be able to: 1) distinguish the difference between workable and optimal solutions; 2) identify measures of optimality; 3) use various techniques for finding optimal solutions; 4) demonstrate improved writing skills; 5) assess and make recommendations on a situation from an ethical perspective; 6) develop and optimize a semester design model. Students are evaluated on homework assignments, exams, and semester project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 302 and one B E 460 level course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 477 Land-Based Waste Disposal (3) Analysis, design, and management of land-based systems for recycling and disposal of municipal, industrial, and agricultural wastes.

B E 477 Land-Based Waste Disposal (3)

The course focuses on exploration of the fundamental principles and processes that determine the fate of nutrients and pollutants in liquid and semi-solid wastes that are applied to the soil for recycling and disposal. These principles then serve as the basis for design of systems for application of livestock manures, biosolids, septage, wastewater effluents, and other residual materials. Relevant state and federal regulations will be covered to illustrate the impact of regulations and policies on engineering practice. The course culminates in a project for which students design a system to dispose of municipal, agricultural, or industrial byproduct or wastewater. Principles will be reinforced with several homework sets. Field trips will expose students to land-based waste disposal processes and systems. The course will serve as a senior-level engineering science/design course in Agricultural and Biological Engineering (A B E).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: B E 307 orC E 370 orA S M 327

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 487 Watershed Modeling for Water Quality Design (3) Application of common watershed models used to investigate design alternatives for flow and quality effects.

B E 487 Watershed Modeling for Water Quality Design (3)

This course will explore the use of several commonly-available watershed simulation models for investigating water quality (WQ) and water quantity issues. The models will serve as a base from which students can investigate the effects of different management design scenarios on watershed system responses. Spring Creek Watershed in Centre County, and subwatersheds within Spring Creek, will serve as case study watersheds to be investigated for all modeling applications. The ArcView Generalized Watershed Loading Function (AVGWLF) model will be used as an initial exploration of modeling for the entire watershed and to show the hydrologic and WQ responses for various subwatersheds (agriculturally dominated vs. urban dominated). The StormWater Management Model (SWMM) model will be used to explore more in-depth modeling for an urban watershed, with the Fox Hollow Watershed serving as the primary case study. Extensive flow and WQ monitoring data are available and will serve to assist in parameterizing and calibrating the model. The Soil Water Assessment Tool (SWAT) model will be used to explore flow and constituent response from a more agriculturally-dominated Cedar Run watershed, also located within Spring Creek. The potential impact of urban low impact design (LID) practices and agricultural best management practices (BMPs) will be investigated for urban and rural watersheds, respectively.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: B E 307 orC E 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 490W Agricultural and Biological Engineering Colloquium (1) Identification and analysis of the opportunities for professional development in the agricultural and biological engineering profession.

Agricultural and Biological Engineering Colloquium (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: sixth-semester or higher standing in Agricultural and Biological Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 494 Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 494H Senior Honors Thesis (1-6) Senior honors thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: junior or senior status in the University Scholar's program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 495 Agricultural Engineering Internship (1-6) Independent study and supervised cooperative education experience related to the student's career objective.

Agricultural Engineering Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 497A Biological Engineering Design Project (3) Engineering design groups with industry representative to conceptualize, design, build and demonstrate a solution to a posed problem.

Biological Engineering Design Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 497B Biomass Energy Systems (3) Discuss fundamental theories, applied technologies used in production and conservation of biomass into fuels, power, heat and other valued products.

Biomass Energy Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Engineering (B E)

B E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Science (BI SC)

BI SC 001 (GN) Structure and Function of Organisms (3) An exploration of how cellular structures and processes contribute to life and how life displays unity even in its diversity. Students who have passed BIOL 027, 110, or 141 may not schedule this course.

Structure and Function of Organisms (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Science (BI SC)

BI SC 002 (GN) Genetics, Ecology, and Evolution (3) The study of how living organisms inherit their traits, how plants and animals evolved, and how they now interact. Students who have passed BIOL 033, 110, 220W, or 222 may not schedule this course.

Genetics, Ecology, and Evolution (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Science (BI SC)

BI SC 003 (GN) Environmental Science (3) Kinds of environments; past and present uses and abuses of natural resources; disposal of human wastes; prospects for the future. Students who have passed BIOL 220 or any other upper-level ecology course in biology may not schedule this course.

BI SC 003 Environmental Science (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

BI SC 003 will help the student to prepare for living in current and future society's mixture of technology and mythology by presenting ideas and concepts about living systems and their environments. Policy makers and citizens are urgently needed who can act with an understanding of ecological principles when exercising community responsibilities to handle the environmental problems of our times, such as water use, solid waste management, global warming, energy use, conservation of irreplaceable natural resources, overpopulation, and the preservation of biodiversity. An understanding of biological and ecological principles and their application towards environmental challenges should give the student the confidence to be a trustworthy and active citizen, a conscientious steward of nature, and an agent of change for making a healthy, sustainable community and society. Regardless of the students' field of study, as a citizen of both local and global communities some environmental issues will impact their lives. The course objectives are to enable students to:
* Develop a basic understanding of how ecosystems and biological systems work, learn how economic systems depend on natural capital, biological/chemical processes, and the function of ecosystems
* Develop a fundamental understanding of sustainability
* Understand the scientific basis of specific environmental problems
* Understand the significance of environmental legislation and the impact of increased citizen awareness on improving the quality of life we enjoy today
* Further develop the ability to evaluate their contributions to shared environmental problems, identify ways to minimize their impact on the environment, and contribute to the development and maintenance of a sustainable future.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biological Science (BI SC)

BI SC 004 (GN) Human Body: Form and Function (3) A general survey of structure and function--from conception, through growth and reproduction, to death. Students who have passed BIOL 129 and 141 may not schedule this course.

BI SC 004 Human Body: Form and Function (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces students to biological principles fundamental to understanding human life. Cell structure, biochemistry and metabolism, the structure and function of major organ systems, and human genetics are explored in the course. Special emphasis on the relationship of the functioning of the human body to human disease is also stressed.

Students will be able to describe the basic biochemical, structural and functional characteristics of cells. They will learn the roles of carbohydrates, lipids, proteins and nucleic acids in cells and in the body as a whole. They will understand how these molecules are used in building cell and body structures, in energy-releasing metabolism and in the copying and use of genetic information.

Students will also be able to explain how different organ systems enable the body to meet the need for support structures, oxygen, nutrients, waste elimination, internal communication, defense against infectious disease and cancer, coordination of internal activity, and reproduction. This will be accomplished through the study of the skeletal and muscular systems, the circulatory, respiratory, digestive and nervous systems as well as the endocrine and reproductive systems.

The course provides support for majors such as Nursing, Psychology, Nutrition and others that touch on various aspects of human biology. However, students from any major will benefit from this course for the obvious reason that everyone should understand how their lives depend on a properly developed and functioning body.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOBD)

BIOBD 250 Pre-Med Seminar (1) Presentation and discussion of requirements, approaches, and expectations for a career in medicine.

Pre-Med Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 011 (GN) Introductory Biology I (3) An introduction to fundamental biological topics (including cells, energy transduction, genetics, evolution, organismal structure/function, ecology) for non-majors biology-related fields.

BIOL 011 Introductory Biology I (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The twelve primary topic areas within Biology 11 are: An introduction to major themes within the course, defining life, and how natural selection operates through differential reproduction. All organisms are composed of matter and must obey the laws of chemistry - a review of basic chemical principles, the study of water and carbon-based macromolecules, the building blocks of organisms. The cell is the fundamental unit of life - a detailed study of the structure and function of eukaryotic cells. Organisms require energy to maintain organization - an exploration of the processes of photosynthesis, the conversion of light energy into chemical bond energy, and cellular respiration, the production of ATP. All cells arise from previously existing cells - a discussion of mitosis and meiosis. Genes carry information between generations - an examination of the principles of Mendelian genetics and their application to human disorders. The structure of DNA, how it codes for information in proteins, and the effect of mutations are explored. This history of life on earth, a discussion of the role of natural selection in populations and speciation. Plants are the only multicellular eukaryotes that photosynthesize - an inquiry into their evolution, function, structure, reproduction and response to the environment. Animals are multicellular eukaryotes that must acquire their energy/nutrients from other organisms - an exploration of the basics of the animal body plan and two human organ systems. Organisms must interact with their environment - a discussion of energy flows and nutrient cycling in ecosystems, as well as ecosystem distributions. Interactions among communities of species can be complex and these relationships will be investigated. Humans have an increasing impact on the environment, affecting all aspects of the world in which we live - an examination of human activities and solutions to environmental damage we have caused. The target audience is students who are majoring in biology-related fields, such as some of Agriculture (not biology majors). This serves as a foundation course for students who require a solid grounding in the fundamentals of biology before taking more advanced courses in their major. The course will serve as breadth course in biology for non-science majors, fulfilling a three-credit GN requirement. Evaluation of course performance is done through five in-class tests, in-class ALE activities (10 required during the semester), and an ecological footprint.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 003 Peer Learning in Biology (1) Group and learning skills to facilitate the understanding of complex biological processes.

BIOL 003 Peer Learning in Biology (1)

The study of Biology is complicated by the myriad pathways and processes that must be mastered in a way that interrelationship become apparent. A major stumbling block in a student's progress is learning how best to organize one's study so that both the details of these processes can be learned, along with how these processes fit together (i.e. integration). The second hurdle is learning how to use this information in a way that can solve real life problems and to communicate this process to others. This course is designed for students who would like to improve their ability to organize their learning strategies in order to maximize their understanding of the complexities of life's process.

The course will be organized using peer learning groups which are posited on the assertion that every student can improve their performance with the proper environment and direction. Group leaders (enrolled in BIOL 251) will play an integral role in the program in that they are the connection between participant and course instructors. The group leaders will learn how to pass their skills on to other students in such a way as to encourage ownership of their education. Through regular meetings, the students enrolled in BIOL 003 will learn about time management and study skills, test taking strategies, exam writing, working with others that have divergent learning styles, and how to be multiculturally competent such that they are able to work with a diverse population.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: Concurrent enrollment in biology or life science course and permission of program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 012 (GN) Introductory Biology II (1) Laboratory exercises demonstrating principles of biology.

Introductory Biology II (1)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1992
Prerequisite: or concurrent:BIOL 011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 110 (GN) Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology.

BIOL 110 Biology: Basic Concepts and Biodiversity (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This is the first biology course taken by students who intend to major in biology. It provides a foundation for the basic concepts that govern life. In addition, these concepts are used to explain the processes of evolution which contribute to the biodiversity that we observe today. The course objectives have remained unchanged and seek to provide students with a fundamental understanding of: 1) features of life; 2) how basic genetic processes provide continuity between generations; 3) how genetic variation arises and contributes to evolutionary processes; 4) how structure relates to function; 5) how the diversity life is studied and explained by evolution. Current evaluation methods in the lecture part of the course include three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more lab reports on experiments or data analysis conducted in lab sessions. Points earned on lecture exams typically comprise 70% of the total points, whereas points earned in lab typical comprise 30% of the total points earned in the course. However, we have developed an extensive set of web-based interactive tutorials for this course (see http://www.bio.psu.edu/biol110mellon/index.jsp) that contain an instructor reporting feature and in future years student on-line performance may comprise 10% of the grade (with a proportional reduction in exam points). Biol 110 is offered twice each year in the Fall and Summer. This course is currently enrolls approximately 1100 students at the UP campus and about the same numbers at the Commonwealth Campuses. The online tutorials may allow us, in the future, to be more flexible in how and when the course is offered. Given the large enrollment at UP, Biol 110 requires significant facilities and equipment. Lecture presentations typically use overhead projectors, video equipment, Apple computers and PCs, and in some cases digital document and video cameras. Such equipment is available in technology classrooms. Lab equipment needed in this course includes: compound microscopes, dissecting microscopes, overhead projectors, video projectors and labtop computers. The online tutorials are computationally intensive and require a robust web server. Most students use their own computers to access the tutorials, but these can be accessed from any computer lab on campus.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 110H (GN) Honors Biology: Basic Concepts and Biodiversity (4) Honors study of the evolution of the major groups of organisms including the fundamental concepts of biology.

BIOL 110H Honors Biology: Basic Concepts and Biodiversity (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This is the first biology course taken by students who intend to major in biology. It provides a foundation for the basic concepts that govern life. In addition, these concepts are used to explain the processes of evolution that contribute to the biodiversity that we observe today.

The course objectives have remained unchanged and seek to provide students with a fundamental understanding of: 1) features of life; 2) how basic genetic processes provide continuity between generations; 3) how genetic variation arises and contributes to evolutionary processes; 4) how structure relates to function; 5) how the diversity life is studied and explained by evolution.

Current evaluation methods in the lecture part of the course include three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more lab reports on experiments or data analysis conducted in lab sessions. Points earned on lecture exams typically comprise 70% of the total points, whereas points earned in lab typical comprise 30% of the total points earned in the course. However, we have developed an extensive set of web-based interactive tutorials for this course (see http://www.bio.psu.edu/bio110mellon/index.jsp) that contain an instructor reporting feature and in future years student on-lone performance may comprise 10% of the grade (with a proportional reduction in exam points).

The Honor's version of the course will differ in a number of ways from the parent BIOL 110 course. First, there are more opportunities to discuss current applications of the information. In addition, a unique project (either in lab and/or lecture) will allow students to explore a specific area of the course in more detail (e.g., a biodiversity project in which student groups present detailed information about a given taxon). Where appropriate, students will be exposed to current research in specific areas. The evaluation for the course will be modified from that of the parent course in accordance with the changes in assignments.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 110L (GN) Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology.

BIOL 110L Biology: Basic Concepts and Biodiversity (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This is the first biology course taken by students who intend to major in biology. It provides a foundation for the basic concepts that govern life. In addition, these concepts are used to explain the processes of evolution which contribute to the biodiversity that we observe today. The course objectives have remained unchanged and seek to provide students with a fundamental understanding of: 1) features of life; 2) how basic genetic processes provide continuity between generations; 3) how genetic variation arises and contributes to evolutionary processes; 4) how structure relates to function; 5) how the diversity life is studied and explained by evolution. Current evaluation methods in the lecture part of the course include three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more lab reports on experiments or data analysis conducted in lab sessions. Points earned on lecture exams typically comprise 70% of the total points, whereas points earned in lab typical comprise 30% of the total points earned in the course. However, we have developed an extensive set of web-based interactive tutorials for this course (see http://www.bio.psu.edu/biol110mellon/index.jsp) that contain an instructor reporting feature and in future years student on-line performance may comprise 10% of the grade (with a proportional reduction in exam points). Biol 110 is offered twice each year in the Fall and Summer. This course is currently enrolls approximately 1100 students at the UP campus and about the same numbers at the Commonwealth Campuses. The online tutorials may allow us, in the future, to be more flexible in how and when the course is offered. Given the large enrollment at UP, Biol 110 requires significant facilities and equipment. Lecture presentations typically use overhead projectors, video equipment, Apple computers and PCs, and in some cases digital document and video cameras. Such equipment is available in technology classrooms. Lab equipment needed in this course includes: compound microscopes, dissecting microscopes, overhead projectors, video projectors and labtop computers. The online tutorials are computationally intensive and require a robust web server. Most students use their own computers to access the tutorials, but these can be accessed from any computer lab on campus.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 110P (GN) Biology: Basic Concepts and Biodiversity A study of the evolution of the major groups of organisms including the fundamental concepts of biology.

BIOL 110P Biology: Basic Concepts and Biodiversity (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This is the first biology course taken by students who intend to major in biology. It provides a foundation for the basic concepts that govern life. In addition, these concepts are used to explain the processes of evolution which contribute to the biodiversity that we observe today. The course objectives have remained unchanged and seek to provide students with a fundamental understanding of: 1) features of life; 2) how basic genetic processes provide continuity between generations; 3) how genetic variation arises and contributes to evolutionary processes; 4) how structure relates to function; 5) how the diversity life is studied and explained by evolution. Current evaluation methods in the lecture part of the course include three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more lab reports on experiments or data analysis conducted in lab sessions. Points earned on lecture exams typically comprise 70% of the total points, whereas points earned in lab typical comprise 30% of the total points earned in the course. However, we have developed an extensive set of web-based interactive tutorials for this course (see http://www.bio.psu.edu/biol110mellon/index.jsp) that contain an instructor reporting feature and in future years student on-line performance may comprise 10% of the grade (with a proportional reduction in exam points). Biol 110 is offered twice each year in the Fall and Summer. This course is currently enrolls approximately 1100 students at the UP campus and about the same numbers at the Commonwealth Campuses. The online tutorials may allow us, in the future, to be more flexible in how and when the course is offered. Given the large enrollment at UP, Biol 110 requires significant facilities and equipment. Lecture presentations typically use overhead projectors, video equipment, Apple computers and PCs, and in some cases digital document and video cameras. Such equipment is available in technology classrooms. Lab equipment needed in this course includes: compound microscopes, dissecting microscopes, overhead projectors, video projectors and labtop computers. The online tutorials are computationally intensive and require a robust web server. Most students use their own computers to access the tutorials, but these can be accessed from any computer lab on campus.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 110T (GN) Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.

Biology: Basic Concepts and Biodiversity (4)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 110S (GN) Biology: Basic Concepts and Biodiversity (4) A study of the evolution of the major groups of organisms including the fundamental concepts of biology. This course also fulfills the First-Year Seminar requirements.

BIOL 110S Biology: Basic Concepts and Biodiversity (3)
(GN;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

This is the first biology course taken by students who intend to major in biology. It provides a foundation for the basic concepts that govern life. In addition, these concepts are used to explain the processes of evolution which contribute to the biodiversity that we observe today. The course objectives have remained unchanged and seek to provide students with a fundamental understanding of: 1) features of life; 2) how basic genetic processes provide continuity between generations; 3) how genetic variation arises and contributes to evolutionary processes; 4) how structure relates to function; 5) how the diversity life is studied and explained by evolution. Current evaluation methods in the lecture part of the course include three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more lab reports on experiments or data analysis conducted in lab sessions. Points earned on lecture exams typically comprise 70% of the total points, whereas points earned in lab typical comprise 30% of the total points earned in the course. However, we have developed an extensive set of web-based interactive tutorials for this course (see http://www.bio.psu.edu/biol110mellon/index.jsp) that contain an instructor reporting feature and in future years student on-line performance may comprise 10% of the grade (with a proportional reduction in exam points). Biol 110 is offered twice each year in the Fall and Summer. This course is currently enrolls approximately 1100 students at the UP campus and about the same numbers at the Commonwealth Campuses. The online tutorials may allow us, in the future, to be more flexible in how and when the course is offered. Given the large enrollment at UP, Biol 110 requires significant facilities and equipment. Lecture presentations typically use overhead projectors, video equipment, Apple computers and PCs, and in some cases digital document and video cameras. Such equipment is available in technology classrooms. Lab equipment needed in this course includes: compound microscopes, dissecting microscopes, overhead projectors, video projectors and labtop computers. The online tutorials are computationally intensive and require a robust web server. Most students use their own computers to access the tutorials, but these can be accessed from any computer lab on campus.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 120A (GN;US;IL) Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.

Plants, Places, and People (3)

General Education: GN
Diversity: US;IL
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 120B (GN;US) Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.

Plants, Places, and People (3)

General Education: GN
Diversity: US
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 120C (GN;IL) Plants, Places, and People (3) Useful and dangerous plants; historical (archaeological), cultural (ethnological), and economic (anthropocentric) aspects, including structural and chemical characteristics of botanical importance. Students who have passed BIOL (PPATH;S T S) 424 may not schedule this course.

Plants, Places, and People (3)

General Education: GN
Diversity: IL
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 127 (GN) Introduction to Plant Biology (3) Cellular structure and organization; physiological processes; classification; reproduction and development; relationship of plant groups. Students who have passed BIOL 240W may not schedule this course.

Introduction to Plant Biology (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 129L (GN) Mammalian Anatomy (4) Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.

BIOL 129L Mammalian Anatomy (4)
(GN)

Biology 129 is a 4 credit lecture and laboratory course specifically designed to cover the fundamentals of mammalian anatomy, with emphasis on human systems, for students in a variety of life science related majors including Nursing, Kinesiology, Athletic Training, and Science. Successful completion of this course will give the student working knowledge of mammalian anatomy body plan, systems, and nomenclature with the intent on applying this information to future clinical situations they may encounter in nursing, physical therapy, athletic training, dentistry, and medical settings. The course utilizes lecture descriptions and discussions, along with laboratory specimen dissection, identification and nomenclature to give a thorough overview of anatomy. Small group collaboration is emphasized in laboratory.

Course Objectives: The principle objective of the course is for every student to obtain a working knowledge and understanding of basic mammalian anatomy, emphasizing a body system approach, and where possible, relate this to the human anatomical body plan. The lecture portion of the course will stress the construction, function, and relationships between anatomical systems. The laboratory portion of the course will emphasize structure identification and nomenclature of anatomical systems and will utilize human skeletal samples, cat specimen dissections, and anatomical models. Where possible, anatomical relationships that are important in clinical situations and common medical conditions will be emphasized. The end point of both objectives is to obtain a practical understanding of anatomy that demonstrates the relationships between anatomical form and function. Students will leave the course being able to relate this knowledge and nomenclature to future clinical or personal health situations.

Relationship to Courses and Programs of Study: This majority of students enrolled in this course are from the College of Health and Human Development in Nursing, Biobehavioral Health, Kinesiology, and Nutrition majors, although some students are from other colleges including the Eberly College of Science, Liberal Arts, and Agriculture. Because the majority of these students will utilize course information in future clinical settings, anatomy and its nomenclature as it relates to humans is emphasized and important clinical considerations are discussed. Frequency of Offering: This course is routinely offered Fall and Spring semesters. The enrollment is approximately 130+ students during fall and 170 + students during spring semesters.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 129 (GN) Mammalian Anatomy (4) Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.

BIOL 129 Mammalian Anatomy (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Biology 129 is a 4 credit lecture and laboratory course specifically designed to cover the fundamentals of mammalian anatomy, with emphasis on human systems, for students in a variety of life science related majors including Nursing, Kinesiology, Athletic Training, and Science. Successful completion of this course will give the student working knowledge of mammalian anatomy body plan, systems, and nomenclature with the intent on applying this information to future clinical situations they may encounter in nursing, physical therapy, athletic training, dentistry, and medical settings. The course utilizes lecture descriptions and discussions, along with laboratory specimen dissection, identification and nomenclature to give a thorough overview of anatomy. Small group collaboration is emphasized in laboratory.

Course Objectives: The principle objective of the course is for every student to obtain a working knowledge and understanding of basic mammalian anatomy, emphasizing a body system approach, and where possible, relate this to the human anatomical body plan. The lecture portion of the course will stress the construction, function, and relationships between anatomical systems. The laboratory portion of the course will emphasize structure identification and nomenclature of anatomical systems and will utilize human skeletal samples, cat specimen dissections, and anatomical models. Where possible, anatomical relationships that are important in clinical situations and common medical conditions will be emphasized. The end point of both objectives is to obtain a practical understanding of anatomy that demonstrates the relationships between anatomical form and function. Students will leave the course being able to relate this knowledge and nomenclature to future clinical or personal health situations.

Relationship to Courses and Programs of Study: This majority of students enrolled in this course are from the College of Health and Human Development in Nursing, Biobehavioral Health, Kinesiology, and Nutrition majors, although some students are from other colleges including the Eberly College of Science, Liberal Arts, and Agriculture. Because the majority of these students will utilize course information in future clinical settings, anatomy and its nomenclature as it relates to humans is emphasized and important clinical considerations are discussed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 129P (GN) Mammalian Anatomy Anatomy of a mammal, with special reference to that of man. Students who have passed BIOL 421 may not schedule this course.

BIOL 129P Mammalian Anatomy (4) (GN)

Biology 129 is a 4 credit lecture and laboratory course specifically designed to cover the fundamentals of mammalian anatomy, with emphasis on human systems, for students in a variety of life science related majors including Nursing, Kinesiology, Athletic Training, and Science. Successful completion of this course will give the student working knowledge of mammalian anatomy body plan, systems, and nomenclature with the intent on applying this information to future clinical situations they may encounter in nursing, physical therapy, athletic training, dentistry, and medical settings. The course utilizes lecture descriptions and discussions, along with laboratory specimen dissection, identification and nomenclature to give a thorough overview of anatomy. Small group collaboration is emphasized in laboratory.

Course Objectives: The principle objective of the course is for every student to obtain a working knowledge and understanding of basic mammalian anatomy, emphasizing a body system approach, and where possible, relate this to the human anatomical body plan. The lecture portion of the course will stress the construction, function, and relationships between anatomical systems. The laboratory portion of the course will emphasize structure identification and nomenclature of anatomical systems and will utilize human skeletal samples, cat specimen dissections, and anatomical models. Where possible, anatomical relationships that are important in clinical situations and common medical conditions will be emphasized. The end point of both objectives is to obtain a practical understanding of anatomy that demonstrates the relationships between anatomical form and function. Students will leave the course being able to relate this knowledge and nomenclature to future clinical or personal health situations.

Relationship to Courses and Programs of Study: This majority of students enrolled in this course are from the College of Health and Human Development in Nursing, Biobehavioral Health, Kinesiology, and Nutrition majors, although some students are from other colleges including the Eberly College of Science, Liberal Arts, and Agriculture. Because the majority of these students will utilize course information in future clinical settings, anatomy and its nomenclature as it relates to humans is emphasized and important clinical considerations are discussed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 133 (GN) Genetics and Evolution of the Human Species (3) Human heredity and evolution, individual and social implications. The course is for non-majors; students who have passed BIOL 222, 230W, B M B 251 or any upper-division biology course may not schedule this course.

BIOL 133 Genetics and Evolution of the Human Species (3) (GN)

BIOL 133 is a 3 credit non-majors course designed as an overview of our current knowledge of human genetics and genetic issues, with special attention to issues that are relevant to non-scientists. We discuss background information that is necessary for understanding these issues, including the structure and function of DNA and chromosomes, Mendelian inheritance, gene expression, gene mutations and chromosomal aberrations, population genetics, evolution, cancer, and genetic and reproductive technologies. This course includes multimedia presentations, textbook readings, classroom activities and problem solving. The goal for this course is to provide students with sufficient scientific knowledge to make informed decisions about genetic issues and the ability to discuss these issues intelligently.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 141 (GN) Introductory Physiology (3) Explanation of the normal structure and function of the animal body, with special emphasis on human body systems. Students who have passed BIOL 472 may not schedule this course.

BIOL 141 Introductory Physiology (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

General Description: Biology 141 is a 3 credit lecture course specifically designed to cover the fundamentals of human physiology for students in a variety of life science related majors including Nursing, Kinesiology, Athletic Training, and Science. Successful completion of this course will give the student working knowledge of human physiology with the intent on applying this information to future clinical situations they may encounter in nursing, physical therapy, athletic training, dentistry, and medical settings. The course utilizes both descriptive and problem solving techniques and as a result, may require some review of basic science and math principles developed in previous high school and college biology, chemistry, and math courses. Course Objectives: The course has two primary objectives. The first is for every student to obtain a working knowledge and understanding of basic human physiology. The second is to apply these physiological principles to problem solving situations as observed in medical situations, including cardiac problems, hypertension, renal failure, acid-base balance disturbances, and endocrine imbalances. The end point of both objectives is to obtain a practical understanding of physiology which students can build upon and use in future clinical settings. Relationship to Courses and Programs of Study: This majority of students enrolled in this course are from the College of Health and Human Development in Nursing, Biobehavioral Health, Kinesiology, and Nutrition majors, although some students are from other colleges including the Eberly College of Science, Liberal Arts, and Agriculture. Because the majority of these students will utilize course information in future clinical settings, human physiology as it relates to clinical problems is emphasized. Many students will take Biology 141 along with our partnered 1 credit laboratory course, Biology 142, Physiology Laboratory. Additionally, many students enrolled in Biology 141 will also take our related course in anatomy, Biology 129, as a result of course program prerequisites within their major.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 142 Physiology Laboratory (1) Experiments demonstrating basic physiological principles, with special reference to man.

Physiology Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: or concurrent:BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 155 (GN) Introduction to the Biology of Aging (3) Examination of human aging from a biological perspective. Population demographics, physiological and pathological changes, and healthy lifestyles are discussed. Students who have passed BIOL 409 may not schedule this course.

Introduction to the Biology of Aging (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 177 (GN) Biology of Sex (3) Basic structure and function of the human reproductive system. Physiology of gametogenesis, fertilization, contraception, gestation, parturition, lactation, and sexual behavior.

BIOL 177 Biology of Sex (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This course presents a thorough background on the basic structure and function of the human reproductive system, to provide the student with sufficient scientific knowledge to understand and discuss sex-related topics and make informed personal decisions. Through lecture format presentations, multimedia presentations, small group activities, and guest presentation, students will be exposed to information that will clarify their understanding of the ways that their own body functions in sexual behavior and reproduction. In-class demonstrations and activities will be used to illustrate practical aspects of anatomical, health and contraception issues.

Large class discussions, facilitated small group activities, and written assignments will encourage students to think critically and practically about the application of biological information to personal decision-making and to reducing their own risk of disease. Importantly, students will examine the roles of reproductive physiology and sexuality in a historical, cultural and social context, with particular emphasis on cultural and gender differences in anatomical forms, sexual expression, and disease susceptibility. Guest presentations from community groups will present current information about local reproductive and sex-related concerns and services. The course will present ongoing research on human sex and reproduction, and explore the biology behind current issues in human sexuality and medicine. Student evaluation is based on participation in activities, written assignments, and performance on four examinations.

The course is divided into four units: Reproductive Anatomy and Physiology provides students with a thorough background in human reproductive anatomy and function. This unit sets the tone for the course, providing students with correct terminology and creating a nonjudgmental atmosphere that encourages active exploration of topics.

Cross-cultural and gender comparisons are incorporated, and anatomical models provide clear, 3-dimensional interactive illustrations. Reproduction explains the biological issues surrounding fertilization, pregnancy, childbirth, and abortion. Following these topics are several class sessions focused on contraception, using anatomical models. Small-group activities and guest presentations to allow students to practice appropriate communication skills. Sexual Identity addresses issues of variations in anatomy, sexual identity, and sexual orientation both within and between cultures. The biological causes and physiological consequences of various physical and lifestyle manifestations are explored. Sexual Behavior examines the physiological basis of sexual response, and explores the variations and problems that are associated with human sexual behavior. Sexually transmissible infections are discussed, emphasizing their mode of transmission, identification, and treatment. Students are encouraged to apply the knowledge and skills they acquired through the semester to their decision-making and communication needs.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 200 Introduction to Pharmacological Concepts (3) Presents basic concepts of pharmacology; includes major drug classifications, pharmaceutical preparations, and biological implications relevant to these therapeutic agents.

Introduction to Pharmacological Concepts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 220M (GN) Honors Biology: Populations and Communities (4) Honors study of the major physical, chemical, and biological factors constituting environment and their dynamic interaction with organisms forming ecosystems.

BIOL 220M Honors Biology: Populations and Communities (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

BIOL 220M is an introductory course in ecology. It introduces students to the fundamental ecological principles, concepts, patterns, and processes regarding populations, communities, and ecosystems. This course provides students with a foundation of ecological science, as well demonstrating linkages between ecology, population genetics, and evolution.

The course objectives are the same as those described in the parent course proposal and are to provide students with a fundamental understanding of: 1) genetic processes within populations of living things; 2) evolutionary processes involved in speciation; 3) dynamic interactions of organisms within and among populations, especially pertaining to energy cycles, various biogeochemical cycles, predator-prey interactions, and the like, and; 4) distribution patterns of living organisms and the need to conserve the resources of the earth.

Evaluation methods in the lecture part of the course include two to three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more formal lab reports on experiments or data analysis conducted in lab sessions, and short write-ups of existing data sets or relevant ecological issues. Points earned on lecture exams comprise between 65-75% of the total points, whereas points earned in lab comprise about 25-35% of the total points earned in the course.

The Honor's version of the course will differ in a number of ways from the parent BIOL 220W course. First, there are more opportunities to discuss current applications of the information. In addition, a unique project (either in lab and/or lecture) will allow students to explore a specific area of the course in more detail (e.g., students can select a species or specific habitat and develop a plan for its restoration). Where appropriate, students will be exposed to current research in specific areas. The evaluation for the course will be modified from that of the parent course in accordance with the changes in assignments.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2005
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 220X (GN) Biology: Populations and Communities (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)

Biology: Populations and Communities (4)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 220W (GN) Biology: Populations and Communities (4) A study of the structures and functions of organismic interactions from simple populations to complex ecosystems. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)

BIOL 220W Biology: Populations and Communities (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Biol 22OW is an introductory course in ecology. It introduces students to the fundamental ecological principles, concepts, patterns, and processes regarding populations, communities, and ecosystems. This course provides students with a foundation of ecological science, as well demonstrating linkages between ecology, population genetics, and evolution.

The course objectives are the same as those described in the original course proposal and are to provide students with a fundamental understanding of: "l) genetic processes within populations of living things, 2) evolutionary processes involved in speciation, 3) dynamic interactions of organisms within and among populations, especially pertaining to energy cycles, various biogeochemical cycles, predator-prey interactions, and the like, and 4) distribution patterns of living organisms and the need to conserve the resources of the earth."

Evaluation methods in the lecture part of the course include two to three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more formal lab reports on experiments or data analysis conducted in lab sessions, and short write-ups of existing data sets or relevant ecological issues. Points earned on lecture exams comprise between 65 - 75% of the total points, whereas points earned in lab comprise about 25 - 35% of the total points earned in the course.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 222 Genetics (3) Variation and heredity in plants and animals, including man; relationships of genetical knowledge to evolution and breeding practices.

Genetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: 3 credits in biological sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 230M (GN) Honors Biology: Molecules and Cells (4) Honors study of cellular phenomena including molecular genetics and metabolic interactions.

BIOL 230M Honors Biology: Molecules and Cells (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Biology 230M is a four credit course with lecture and laboratory components. The goal of this course is to provide an understanding of the major unifying principles of life as they apply to the study of the molecular mechanisms underpinning the function of living organisms. Through the lab, students are expected to become proficient in the interpretation and presentation of experimental results through written and oral reports.

Taken together with the other honors core courses in the biology curriculum (BIOL 110H, BIOL 220M, BIOL 240M), BIOL 230M will help students to integrate concepts ranging from molecular and cellular events through principles governing entire populations and ecosystems. Further, BIOL 230M provides the foundation on which students further their study of molecular genetics - a discipline integral to a number of the biological sciences. Through this class, and the other core course, students will develop a number of the skills outlined in the General Education mission.

BIOL 230M serves from a number of majors and colleges. The laboratory portion of the course requires a fully equipped laboratory room, as well as a classroom for recitation meetings.

The Honor's version of the course will differ in a number of ways from the parent BIOL 230W course. First, there are more opportunities to discuss current applications of the information. In addition, a unique project (either in lab and/or in lecture) will allow students to explore a specific area of the course in more detail (e.g., take a paper from the primary literature and present the data, and its significance, to the class). Where appropriate, students will be exposed to current research in specific areas. In addition, the laboratory component will have opportunities for students to do more in depth exercises where, to some degree, they could pose their own questions. The evaluation for the course will be modified from that of the parent course in accordance with the changes in assignments.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 223 Laboratory in Genetics (1) Principles of genetics illustrated with Drosophila breeding experiments and with demonstrations of plant and animal materials.

Laboratory in Genetics (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 133 orBIOL 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 230W (GN) Biology: Molecules and Cells (4) A study of cellular phenomena including molecular genetics and metabolic interactions. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)

BIOL 230W Biology: Molecules and Cells (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Biology 23OW is a four credit course with lecture and laboratory components. The goal of this course is to provide an understanding of the major unifying principles of life as they apply to the study of the molecular mechanisms underpinning the function of living organisms. Through the lab, students are expected to become proficient in the interpretation and presentation of experimental results through written and oral reports. Taken together with the other core courses in the biology curriculum (Biology 110, Biology 22OW, Biology 24OW), Biology 23OW will help students to integrate concepts ranging from molecular and cellular events through principles governing entire populations and ecosystems. Further, Biology 23OW provides the foundation on which students further their study of molecular genetics - a discipline integral to a number of the biological sciences. Through this class, and the other core course, students will develop a number of the skills outlined in the General Education mission. Offered every fall, Biology 23OW serves from a number of majors and colleges and typically enrolls ca. 500 students at University Park and an equal number at campuses throughout the Penn State system. Given the large size of the class, the facilities requirements are substantial. Currently room 100 Thomas is used for lectures, and provides an excellent opportunity to incorporate multimedia presentations in a relatively intimate format. The laboratory portion of the course requires several fully equipped laboratory rooms, as well as classrooms for recitation meetings. For this purpose, two wet lab rooms in Muller Lab (105 and 108) are designated and are shared with another currently offered core course (Biology 110). Finally, a designated preparatory facility (room 107 Mueller) is used exclusively in each of the core courses.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 240M (GN) Honors Biology: Function and Development of Organisms (4) Honors study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)

BIOL 240M Honors Biology: Function and Development of Organisms (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an understanding of the major unifying principles as they apply to the study of the development and physiological mechanisms utilized by organisms from both animals and plants. In lecture a comparative approach will be taken in the examination of reproduction, development, and physiology primarily at the organismal level. In laboratory, experimental investigations of both animal and plant systems will reinforce the concepts covered in lecture. Through the lab, students are expected to become proficient in the interpretation and presentation of experimental results through written and oral reports.

Taken together with the other core courses in the biology curriculum (BIOL 110, BIOL 220, BIOL 230), BIOL 240M will help students to integrate concepts ranging from molecular and cellular events through principles governing entire populations and ecosystems. Further, BIOL 240M provides the foundation on which students further their study of animal physiology and development - two of the largest options in the biology majors curriculum. Through this class, and the other core course, students will develop skills integral to the General Education mission.

Evaluation methods in the lecture part of the course include two to three "mid-term" exams and a comprehensive final exam. Evaluation methods in the lab portion of the course include in-class quizzes, one or more formal lab reports on experiments or data analysis conducted in lab sessions, and short write-ups of existing data sets or relevant ecological issues. Points earned on lecture exams comprise between 65-75% of the total points, whereas points earned in lab comprise about 25-35% of the total points earned in the course.

BIOL 240M serves from a number of majors and colleges. The Honor's version of the course will differ in a number of ways from the parent BIOL 240W course. First, there are more opportunities to discuss current applications of the information. In addition, a unique project (either in lab and/or in lecture) will allow students to explore a specific area of the course in more detail (e.g., students choose a topic in the current literature and present a paper along with its significance to the class). Where appropriate, students will be exposed to current research in specific areas. The evaluation for the course will be modified from that of the parent course in accordance with the changes in assignments.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 240W (GN) Biology: Function and Development of Organisms (4) A study of development and physiological processes at the organismic level. (BIOL 220W, 230W, and 240W each carry only 1 credit of "writing"; all three courses must be taken to meet the writing requirement.)

BIOL 240W Biology: Function and Development of Organisms (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an understanding of the major unifying principles as they apply to the study of the development and physiological mechanisms utilized by organisms from both animals and plants. In lecture a comparative approach will be taken in the examination of reproduction, development, and physiology primarily at the organismal level. In laboratory, experimental, investigations of both animal and plant systems will reinforce the concepts covered in lecture. Through the lab, students are expected to become proficient in the interpretation and presentation of experimental results through written and oral reports. Taken together with the other core courses in the biology curriculum (Biology 110, Biology 22OW, Biology 23OW), Biology 24OW will help students to integrate concepts ranging from molecular and cellular events through principles governing entire populations and ecosystems. Further, Biology 24OW provides the foundation on which students further their study of animal physiology and development - two of the largest options in the biology majors curriculum. Through this class, and the other core course, students will develop skills integral to the General Education mission. Biology 24OW serves from a number of majors and colleges and typically enrolls ca. 500 students at University Park and an equal number at campuses throughout the Penn State system. Given the large size of the class, the facilities requirements are substantial. Currently room 100 Thomas is used for lectures, and provides an excellent opportunity to incorporate multimedia presentations in a relatively intimate format. The laboratory portion of the course requires several fully equipped laboratory rooms, as well as classrooms for recitation meetings. For this purpose, two wet lab rooms in Muller Lab (105 and 108) are designated and are shared with another core course offered currently. Finally, a designated preparatory facility (room 107 Mueller) is used exclusively in the core courses.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 251 Peer Leadership in Biology (1) Leadership training in guiding others to learn, communicate, and apply biological principles.

BIOL 251 Peer Leadership in Biology (1)

The study of Biology is complicated by the myriad pathways and processes that must be mastered in a way that interrelationship become apparent. A major stumbling block in a student's progress is learning how best to organize one's study so that both the details of these processes can be learned, along with how these processes fit together (i.e. integration). The second hurdle is learning how to use this information in a way that can solve real life problems and to communicate this process to others. This course is designed for students who have already mastered basic concepts in biology and who want to learn how to communicate their understanding to others who are learning these first principles.

This course is unusual in that it has divergent goals. The students enrolled in this course will be trained to be more effective communicators. In the 21st century, it is critical that we train our students to be better at relating to the general population by using effective communication skills. In addition, the course will train the students to act as effective group leaders in peer learning programs so they become competent, comfortable, and confident in working with students of diverse background, learning styles and skill levels. The philosophy behind peer learning programs is that every student can improve their performance and with the help of a group leader, this goal can be realized. The group leaders play an integral role in the program that in that they are the connection between participant and course instructors. The group leaders will learn how to pass their skills on to other students in such a way as to encourage ownership of their education. Through workshops and biweekly meetings, the group leaders will learn about time management and study skills, test taking strategies, exam writing, working with students with divergent learning styles, and how to be multiculturally competent such that they are able to work with a diverse student population. They will facilitate learning through group activities and practice their leadership skills in a small group setting. Group leaders will be monitored through review of their weekly journals as well as observation of their groups by supervising faculty. The student developed exercises will be implemented and reviewed for effectiveness.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: 8 credits in biology or life science courses and permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 297B Pathophysiology (3) Covers the alteration of basic physiological processes associated with the disease state.

Pathophysiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 297C Pharmacology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Pharmacology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 297D Integrated Pharmacology (3) Review basic concepts of pharmacology and relate them to pathophysiological changes associated with the disease.

Integrated Pharmacology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 322 Genetic Analysis (3) A discussion of the mechanisms of heredity in prokaryotes and eukaryotes with emphasis on analysis and modes of inference.

Genetic Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: at least two of the following courses:BIOL 220W, BIOL 230W, BIOL 240W orMICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 401 Genetic Analysis of Model Systems (3) Survey of tools and techniques available for genetic analysis with bacteria, Neurospora, yeast, Drosophila, C. elegans, Arabidopsis, maize, mice, and humans.

Genetic Analysis of Model Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 230W andB M B 400 orB M B 401 ; or concurrent:B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 400 Teaching in Biology (1-3) This course will train biology teaching assistants to teach in the laboratory/ recitation setting with emphasis on critical thinking skills. Enrollment will be limited to students of at least fifth semester standing that have been accepted as teaching assistants for biology.

BIOL 400 Teaching in Biology (1-3)

This course provides teaching assistants with the fundamentals they will need to be effective in the laboratory and/or recitation classroom. Students will learn the fundamental skills needed to; design lesson plans; facilitate class discussions; write effective quizzes; communicate learning expectations; grade fairly; and in the case of the laboratory setting, maintain a safe learning environment. Students enrolled in this course will also be serving as teaching assistants and consequently faculty who serve as course instructors and/or lab coordinators in the relevant course will provide the instruction. Through regular meetings the course instructors will help teaching assistants adjust to their duties and solve common problems that arise in the laboratory/recitation environment. Emphasis will be placed on how teaching assistants can facilitate active learning and help their students develop sound study skills. Students enrolled in this course will be evaluated on regular attendance, organization in and preparation for their teaching, and clarity in how they communicate with their students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: Enrollment will be limited to students of at lease fifth semester standing who are or have been accepted as teaching assistants in a life science course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 402W Biological Experimental Design (3) Discussion of experimental design, analysis and presentation, with a practicum providing for student design, analysis and presentation of biological experiments. Students may not take this course if they have taken BIOBD 350W.

BIOL 402W Biological Experimental Design (3)

This course emphasizes written and oral communication of scientific ideas. Students discuss papers from the literature, preparing written critiques of two. Critiques are reviewed in writing by the instructor and peers and may be revised twice. Peer reviews are graded in writing and may be revised once. Written proposals for biological research are required. Students must build arguments for methodological rationales, justify statistical approaches, and place their proposed research into a larger societal context. Proposals are reviewed by the instructor and three peer reviewers. Peer reviewers must prepare written critiques and present proposals to the class during an "NSF"-style panel review. Prior to the presentation, the instructor provides written and oral feedback to the author and the peer reviewer in a meeting at which strategies for presenting the proposal are discussed. Subsequent to the presentation, peer reviewers write summaries of the discussion and provide explicit guidance to authors. Proposals may be revised twice. Peer reviews and summaries are graded in writing and may be revised once. Thus, each student writes 2 critiques, 1 proposal, 2 peer reviews of critiques, 1 peer review of a proposal, and 1 summary of the panel discussion. Each assignment is graded in writing and is subject to revision. Students also are graded on their proposal presentations and on participation in panel discussions. These activities constitute 75% of the final grade.

Students must demonstrate competence in the use of SAS, a statistics package. Students must choose and apply appropriate statistical techniques to biological data. In addition to the program and its output, students write interpretations of the results. This activity constitutes 25% of the final grade.

Lectures are used to review statistics and "how tos" (e.g., proposal preparation). Case histories are used to address ethics, statistical decision-making, and design. Students are expected to challenge what they learn, and the notion that scientists must acknowledge and guard against bias in their work is emphasized. Intellectual honesty and the ability to give and receive constructive criticism are demanded.

This course is required in two of the six options in biology (ecology and general), and it can be taken by students in the other options. The course is required of students who have not fulfilled the WAC requirement at the 200-level (transfer students).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: at least two of the following three courses:BIOL 220W, BIOL 230W, BIOL 240W;STAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 403 Laboratory Methods for Genetic Analysis (2) Survey of tools and techniques available for genetic analysis with bacteria, Neurospora, yeast, Drosophila, C. elegans, Arabidopsis, maize, mice, and humans.

Laboratory Methods for Genetic Analysis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: BIOL 230W
Concurrent: B M B 400 or B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 405 Molecular Evolution (3) Introduction to concepts and techniques of analysis of molecular sequence data from an evolutionary point of view.

Molecular Evolution (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 222 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 404 Cellular Mechanisms in Vertebrate Physiology (3) This course considers cellular mechanisms governing physiological aspects of vertebrate cell signaling and their adaptation to particular organismal functions.

Cellular Mechanisms in Vertebrate Physiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B M B 251 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 406 Symbiosis (3) This course covers a variety of different types of symbiotic relationships between unicellular symbionts and plants, fungi, or animals.

Symbiosis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: BIOL 110;BIOL 220W, BIOL 230W orBIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 407 Plant Developmental Anatomy (3) This course will examine the development of basic vascular plant anatomical structures including leaves, stems, roots, and flowers.

BIOL 407 Plant Developmental Anatomy (3)

The course will provide students with an understanding of the developmental anatomy of plant organs and tissues. More specifically, the course will focus on the structure and function of plant organs throughout their lifecycle, including embryogenesis, organ initiation, and the structures of leaves, roots, stems, and flowers in vascular plants. When appropriate, the course will discuss genes involved in the formation and function of these organs to provide illustrations of current scientific investigations in the field of plant developmental anatomy. Upon completing the class, students will have gained an appreciation of the structure/function relationships of plant tissues and organs in regards to their development and physiological roles.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 408 Contributions of Women to the Biological Sciences: Past and Present (3) A study of the contributions that women scientists have made and continue to make in the biological sciences.

Contributions of Women to the Biological Sciences: Past and Present (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: BIOL 220W, BIOL 230W orBIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 409 Biology of Aging (3) Mechanisms of the aging process, with special reference to man. Unfavorable progressive changes in molecules, cells, systems, and organisms.

Biology of Aging (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984
Prerequisite: 6 credits in biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 410 Molecular Basis of Plant Development (3) A discussion of how genetic engineering is applied to understanding and modifying plant development.

Molecular Basis of Plant Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: BIOL 222, BIOL 240W;B M B 211 orB M B 400, B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 412 Ecology of Infectious Diseases (3) This course examines how ecological processes impact upon the epidemiology of infectious diseases.

BIOL 412 Ecology of Infectious Diseases (3)

The course will examine the population dynamics of disease and takes an ecological perspective on how pathogens and parasites flow through host populations to identify possible means of predicting and controlling pathogens.

The approach is one of population dynamics, examining changes in disease patterns in time and space. We construct mathematical models to capture the patterns observed, make predictions and identify the means of reducing disease spread. This is an ecological approach, applying the techniques of population biology to an understanding of Parasitology to develop a different prespective on epidemiology. At the same time, the course brings aspects of evolutionary biology into the course and will examine some of the current issues in disease biology including disease emergence, bioterrorism, agro-terrorism and the role of humans as disease reservoirs for wildlife etc.
Upon completion of this course, students will obtain insight into the dynamics of disease spread. They will understand how to construct models and how to apply generic models to specific disease systems and make predictions about controlling disease. They will grasp some major concepts in Parasitology and population dynamics including the role of the disease basic reproductive number (RO), when diseases show a density dependent patterns of transmission or a frequency dependent pattern, non-linear dynamics and the processes that generate heterogeneities in exposure and susceptibility. The course will provide an excellent course for pre-Med students, biologists and students interested in ecology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: BIOL 220W orH P A 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 411 Medical Embryology (3) Develops an understanding of human reproductive physiology, embryological processes, their time frames, and the development of major human body systems. The course emphasizes clinical correlations and the medical consequences of developmental abnormalities.

Medical Embryology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: 6 credits of biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 413 Cell Signaling and Regulation (3) Introduction to the themes of cellular signaling and regulation through critical review of primary literature.

Cell Signaling and Regulation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 415 Ecotoxicology (3) Major concepts and controversies in the interdisciplinary field of ecological toxicology; toxicity analysis, remediation, and case studies of environmental pollution.

Ecotoxicology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 110, BIOL 220W;FOR 308 orW F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 414 Taxonomy of Seed Plants (3) Basic principles and procedures in the practice of angiosperm systematics.

Taxonomy of Seed Plants (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 416 Biology of Cancer (3) This course intends to illustrate biological basis of cancer development, and discusses aspects on prevention, detection, and treatment of cancer.

Biology of Cancer (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: BIOL 222 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 419 Ecological and Environmental Problem Solving (3) Overview of processes involved in solving environmental problems. Provides students with toolkit for understanding ecological and environmental problems.

BIOL 419 Ecological and Environmental Problem Solving (3)

The course will provide a general overview of the process involved in studying a variety of ecological and environmental problems. It will provide a toolbox of techniques for understanding ecological and environmental problems, and discuss how they can be used to address questions and generate testable predictions. It will examine connections between individuals and populations and communities as well as between theory and data. The focus will be on theoretical and computer modeling approaches, while maintaining a strong link to data and real systems.

After an introduction to modeling, students will learn to develop and use simple and stochastic optimization models for individual organisms, as well as applying basic game theory to interactions between individuals. Many of the class meetings will be held in computer laboratories where they will be actively engaged in working on applying these models. They will explore a sequence of population demographic models of increasing complexity, ranging from unlimited, unstructured population growth to density-dependent, structured population growth, in non-spatial and spatial contexts, culminating in individual-based models for population dynamics. The students will then apply these models to interacting species, learning about mutualistic, competitive and host-natural enemy interactions. Finally, we will explore theory for communities of species in space and time. Applied problems will be drawn from all areas of conservation, harvesting, pest control and epidemiology. This course will be one of several ecology courses that are available to students in the ecology and general option in the biology program along with the biology minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 417 Invertebrate Zoology (4) Function and form of major invertebrate phyla.

Invertebrate Zoology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 420 (GEOSC 420) Paleobotany (3) Classification, morphology, phylogeny, and stratigraphic occurrence of fossil plants; practicum includes field trips and study of paleobotanical techniques and specimens.

BIOL (GEOSC) 420 Paleobotany (3)

Land plants provide the oxygen, food, and forest structure that make our lives on land possible. They are sensitive indicators of global change in the past as well as today. This course will examine the history of green plants on the dynamic Earth from their beginnings in the Proterozoic oceans to today, with emphasis on central topics such as the colonization of land, the histories and relationships of major plant groups, the evolution of seeds and flowers, the evolution of plant-animal interactions, extinction and diversification, paleoclimates, and the origins of modern biomes such as rainforests and grasslands.

This course is strongly recommended to graduate students and advanced undergraduates with interests in paleobiology and/or plant biology. Specimen observation and field trips will be important course components. Exams, assignments, and class participation will be the primary bases of evaluation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: any 3 credit introductory course in historical geology or plant biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 421 (VB SC 421) Comparative Anatomy of Vertebrates (4) The comparative anatomy of representative vertebrate animals discussed from a descriptive and an evolutionary viewpoint.

BIOL (VB SC) 421 Comparative Anatomy of Vertebrates (4)

Upon completion of this course, students will understand the fundamentals of vertebrate anatomy and be able to employ comparisons between phylogenetically distinct vertebrate species to illustrate evolutionary adaptations and the relationship between structure and function. Unique adaptations such as those of ruminants and birds will be explored in addition to the more common fish, amphibians and mono-gastric mammals typically used to illustrate these principles. Laboratory activities utilizing specimens representative of higher and lower vertebrate species will emphasize structure identification and functional adaptations. Students will be evaluated by means of laboratory examinations which will focus on structure identification. Attendance in laboratory is mandatory and laboratory exercises to be completed at each laboratory period will be graded. Students that miss laboratory session due to an excused absence should arrange a make up assignment with the instructor. Unannounced quizzes will be presented in either lecture or laboratory sessions. Three lecture examinations and a comprehensive final examination will be given.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 422 Advanced Genetics (3) Chromosomal mechanism of heredity; cytoplasmic and polygenic inheritance, chemical genetics, genomics, and experimental evolution.

BIOL 422 Advanced Genetics (3)

This course will examine the genetics of chromosomes and how changes in gene arrangements shape the structure and function of genes in genomes. This will include an examination of how chromosomes organize genetic information, how chromosomes are transmitted, how the evolutionary process shapes genetic variation in the genome of populations of organisms and between different species.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: one genetics or genetic based course includingBIOL 133, BIOL 222, BIOL 322 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 422W Advanced Genetics (3) Chromosomal mechanism of heredity; cytoplasmic and polygenic inheritance, chemical genetics, and experimental evolution.

Advanced Genetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: BIOL 133 orBIOL 222 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 423 Introductory Palynology (4) Morphology, taxonomy, stratigraphy, and paleoecology of fossil palynomorphs; practicum--study of modern pollen and spores and analysis of sedimentary rocks.

Introductory Palynology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: any 3-credit introductory course in historical geology or plant biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 424 Seeds of Change: The Uses of Plants (3) Interdisciplinary approach to the biology, chemistry, history, and culture of the interactions between plants and people.

Seeds of Change: The Uses of Plants (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: BIOL 110;BIOL 220W, BIOL 230W orBIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 425 (PPATH 425) Biology of Fungi (4) A survey of the biological diversity of fungi, stressing evolution, ecololgy, disease, morphology, life histories, and importance to human affairs.

BIOL (PPATH) 425 Biology of Fungi (4)

This course is a hands-on survey of fungal diversity, covering a wide variety of topics in fungal biology: phylogenetics, morphology, ecology, evolution, population biology, fungi as food, fungi as sources of toxins, ethnomycology, fungi as agents of plant and animal disease, fungi as sources of pharmaceuticals, and industrial uses. All fungi will be discussed, from mushrooms and other fleshy fungi to molds to slime molds. The laboratory portion of the course will center mostly around handling and manipulating freshly collected and living fungi, and microscopic analysis of their major features. Field trips will include an all-day Saturday trip to a forest to collect and observe fungi, a similar afternoon field trip, and a demonstration trip to Penn State's mushroom production facility. Participation in a weekend field trip coordinated with other universities (e.g., SUNY ESF's Peck Foray) will be optional. Students will come out of the course with a broad base of knowledge about fungi and their diversity and the ability to handle them in the laboratory and observe them using the microscope. Grades will be based on six biweekly assignments (600 out of 1400 total points), three exams (600 out of 1400 total points) and a semester-long project (200 out of 1400 points). The course is designed for any junior, senior, or graduate student majoring in the basic (e.g., organismal, ecological, evolutionary, molecular) or applied (agricultural, medical) biological sciences after having completed at least six credits in one of these areas.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: fifth-semester or graduate standing in a biological sciences major with six credits completed in the major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 426 Developmental Neurobiology (3) Overview of basic developmental processes as they apply to the central nervous system.

BIOL 426 Developmental Neurobiology (3)

This course will provide a general overview of developmental processes as they apply to the central nervous systems. From initial differentiation of neuronal tissue to the aging of human brain, this course will expose students to many hot topics in the current neuroscience research field, including synaptogenesis, axon guidance, neural stem cells, apoptosis, learning and memory, and Alzheimer's disease. Although one textbook will be assigned as the major reference book, many current research results will be integrated into the lectures so that students can grasp the most recent advancement related to each topic.

The course will be divided into four parts. Part I introduces the induction of neural tissue, the polarity and regionalization of the neural tissue, and the generation and function of neural stem cells. Cutting-edge research on neural stem cells will be discussed. Part II deals with various interactions within neuronal system, including neuron-glial interaction, cell adhesion and migration, axon growth and guidance, and target selection. Part III teaches synapse formation and maturation, neurotrophic factors and their distinct functions, and neuronal cell death. Part IV talks about learning and memory from developmental view, and also the memory disease -Alzheimer's disease. Current research on Alzheimer's disease will be discussed.

The lectures will be given in PowerPoint presentations. Classical models and front line research will be integrated to stimulate students' imaginative thinking. Students will be encouraged to read some current research paper and offer their own view on some particular subject, such as neural stem cells and learning and memory.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 141 orBIOL 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 427 Evolution (3) Selected topics on the evolution of life.

Evolution (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 220W, BIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 429 Animal Behavior (3) Physiological mechanisms, ecological relevance, and adaptive significance of animal behavior.

Animal Behavior (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: BIOL 110, BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 428 Population Genetics (3) Mathematical formulation of evolution by natural selection, genetic equilibrium under selection, mutation, migration, random drift.

Population Genetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 220W, STAT 250;MATH 111 orMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 430 (B M B 430, ENT 430) Developmental Biology (3) Molecular and genetic analyses of mechanisms involved in differentiation and determination in biological systems.

Developmental Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: B M B 252 ; orBIOL 222, BIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 431 Comparative Plant Morphology (4) Origin, structure, development, reproduction, and evolutionary relationships of plants and fungi.

Comparative Plant Morphology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 432 Developmental Genetics (3) An advanced course in developmental biology, focusing on the use of genetics techniques to study fundamental questions of animal development.

Developmental Genetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 435 Ecology of Lakes and Streams (3) Physical, chemical, and biological characteristics of freshwater environments, with special emphasis on factors regulating productivity in freshwater ecosystems.

Ecology of Lakes and Streams (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 436 Population Ecology and Global Climate Change (3) Ecological responses of individuals, populations, and communities to environmental variation, with emphasis on climate change.

BIOL 436 Population Ecology and Global Climate Change (3)

In this course, students will be presented with a close look at the factors shaping the characteristics of populations and their dynamics in time and space, with emphasis on the responses of populations to climatic fluctuation and global climate change. The course begins with an introduction to the basic concepts necessary for understanding the responses of individuals, populations, and communities to climate change in the recent past (the past 2 centuries), present, and future. These concepts include: the science of climate change, how temperature trends are estimated, the data used in assessment reports by the Intergovernmental Panel on Climate Change, large-scale climate systems such as the North Atlantic Oscillation and the El Nio Southern Oscillation, the basic characteristics of populations, how population densities are estimated, and the types of population data used in studies of population responses to climate change. In this first section of the course, students are also introduced to natural selection and the concepts of adaptation and vulnerability, which sets the stage for distinguishing between adaptive ecological responses to climate change vs. susceptibilities to climate change.

After presenting these basic concepts, the course then moves on to examine single-species population dynamics. This section of the course teaches students about the different types of population growth, including unlimited growth, density-dependent population dynamics, and density-independent population dynamics. Here, we take a close look at case studies documenting population responses to large-scale climatic fluctuation, and case studies that demonstrate interactions between the opposing influences of density dependence and climate on population dynamics. This section of the course also introduces students to some of the analytical difficulties inherent in quantifying the contribution of climatic fluctuation to local population dynamics. This section finishes with lectures on the phenomenon of spatial synchrony in population dynamics and the implications of global climate change for widespread population decline and extinction risk.

The final section of the course focuses on multi-species dynamics. Lectures in this section introduce students to inter-specific competition through examination of case studies involving desert rodents and ants; then move on to predation, with case studies of wolf predation illustrating the different types of functional and numerical responses, predator-prey cycles, and cascading effects of predators on population dynamics at lower trophic levels including herbivores and plants; and parasite-host dynamics, including discussion of the role of parasites as specialized predators in host population dynamics. This section also includes discBIOL 436 Population Ecology and Global Climate Change (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 437 Histology (4) Microscopic structure of the tissue of the animal body.

Histology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 438 Theoretical Population Ecology (3) Theoretical discussions of demographics, population and metapopulation growth models, life histories, and species interactions such as competition, predation, host-parasitoid relationships.

BIOL 438 Theoretical Population Ecology (3)

At the present time our program has no theoretical and quantitative upper level ecology course. This course is designed to be a highly-quantitative second ecology course. It emphasizes mathematical and theoretical approaches to ecological questions and reinforces the theory with practical, hands-on field and laboratory exercises in which students are required to erect and test hypothesis using appropriate experimental and statistical techniques. The course builds on concepts from introductory ecology and requires students to use tools acquired in biostatistics and calculus to solve ecological problems. It can act as an introduction to or as an extension of experimental design. Although it is not a writing intensive course, students will be required to use standard technical writing and public speaking skills throughout the course. The course covers topics that are relevant to, but not addressed in, evolution and evolutionary genetics. In addition, it offers an opportunity for mathematics students interested in applications of mathematics to biological problems to apply models covered in mathematical modeling to real situations.

Throughout the semester analytical and theoretical thinking will be emphasized, starting with simple descriptions of population phenomena and ending with development of mathematical models and the critical experiments needed to test those models. The emphasis lies on empirical tests of ecological theory and applications of ecological theory to real-world problems. Students will be evaluated by means of essay exams covering theory, mathematical models, and the design of hypothetical experiments, in-class presentations of the primary ecological literature and applications of ecological theory to current environmental problems, and laboratory reports in which data collected during laboratory exercises will be analyzed and interpreted. Field exercises will be conducted on the campus of Penn State Erie and will take advantage of the rich natural environment on campus including numerous wetlands, streams, forests, and old fields.

This course will be available to all biology majors as elective credit at the 400 level. It also will be a core course requirement for any biology major taking the Ecology Option. It may function as a course for students seeking a minor in biology, particularly for mathematics majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 220W, MATH 140, STAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 439 Practical Bioinformatics (3) Practical aspects of retrieving and analyzing biological information residing in common databases.

BIOL 439 Practical Bioinformatics (3)

This course focuses on practical aspects of biological databases and analyses of molecular data. Students will learn about vast resources available, how to access them, and retrieve only the desired information. Sequence comparison and alignment methods will be presented. We will discuss practical aspects of such algorithms as dot matrix plots, dynamic programming, BLAST, and FASTA. Different strategies of multiple alignments will be discussed as well. We will cover computational genomics and computational analysis of gene expression. Students will learn how to assemble short sequences into long contigs and how to infer biological information from raw sequence data. They will learn how to analyze protein sequences including secondary structure prediction, protein function prediction (based on motifs and functional domains), and structural modeling. The whole course will be well balanced between theoretical description of computational biology methods and practical aspects of bioinformatics (some sessions will meet in computer classrooms)

Upon completion of this course, students will have sufficient knowledge to retrieve a desired information from biological databases based on both text and sequence data. They will learn what public resources are available in term of databases and a software. They will know how to interpret results in biological context and how to adjust different parameters in the software to get exact desired results.

This course will be one of several courses that are available to students in the genetics and developmental biology and general options in the biology program along with the biology minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 230 orB M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 440 Embryology (4) Origin and development of the various tissues and organs of the animal body.

Embryology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 441 Plant Physiology (3) Classical and current concepts in plant constituents, mineral nutrition, water relations, respiration, photosynthesis, photoperiodism, plant hormones, growth, and development.

Plant Physiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 230W, BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 442 Plant Physiology (3) Techniques and fundamentals of classical and current experimental plant physiology, with emphasis in those areas studied in BIOL 441. Laboratory.

Plant Physiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: BIOL 240W, BIOL 407 orBIOL 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 443 Evo-devo: Evolution of Developmental Mechanisms (3) How evolution of animals and plants can be traced to changes in the regulation and/or interactions of genes controlling development.

BIOL 443 Evo-devo: Evolution of Developmental Mechanisms (3)

"Evo-devo" is a new, exciting and interdisciplinary field in biology that encompasses knowledge from developmental biology, comparative genomics, gene regulation and evolutionary theory. The key concept in "evo-devo" is that the evolution and diversification of animals and plants can be traced to changes in the regulation and/or interactions of genes controlling development. The first few weeks of the course will bring students up to date on what they need to know about evolution, development and molecular genetics to appreciate the interdisciplinary field of "evo-devo". As this is such a new field, subsequent classes will give students a taste of the excitement of current research through the use of case studies. There will be ten case studies, seven examples from animals and three examples from plants, covering a range of morphological novelties and concepts. Each case study will involve one or more lectures of background information given by the instructor and one discussion class in which students will read, present and discuss reviews and/or primary research articles. Students will be given enough background information in the fields of evolution, development and molecular biology to enable them to understand and discuss primary literature in evo-devo. For many students this will be the first time they have read reviews and articles from the literature and this course will give them the capacity to move beyond textbook knowledge to knowledge of how science really works.

This course will be one of several courses that are available to students in the genetics and development, and general options in the biology program along with the biology minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 446 Physiological Ecology (3) The physiological abilities of plants and animals to adapt to their abiotic environment.

Physiological Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 220W, BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 444 Field Ecology (3) This field course will explore the flora and fauna of the mid-Atlantic area.

BIOL 444 Field Ecology of the Central Appalachian Highlands (3)

This course is designed to take advantage of the teaching opportunities presented by the West Virginia highlands. The main advantage of using this area as an outdoor classroom derives from the fact that there are large changes in elevation and soils, and a tremendous variety of community types located in a small geographic area, In this area, students can observe ecological communities ranging from river, bottom forests at 1500 to 2000 feet in elevation to dry ridge slope forests at 3000 feet to the unique acid soil heath barrens community of the Dolly Sods Wilderness at 4000 feet. Since almost all of this area was extensively logged in the past, students will have the opportunity to observe the results of succession, and how the process of succession is affected by variation in topography, soil type and local climate. There are also several types of aquatic communities available for study, including large rivers, small high elevation streams and acidic wetlands. The course will use an integrated natural history approach to study the various ecological communities. This will include discussion of the effects of human activity and the topography and geology of the area in addition to study of terrestrial and aquatic flora and fauna. At terrestrial site, we will, in part, follow the example of the US Forest Service's Forests of the Central Appalachians Projects (http://www.spies.com/~gus/forests/) which uses forest walk inventories to document biodiversity. Therefore, the course would have a significant plant identification and taxonomy component. Each community can be studied as a separate unit and then compared to the aqjacent communities at different elevations. By the end of the course, students should understand the relationship of geology, topography and soil type to the distribution of plant communities. They should also understand the relationship of plant communities and water chemistry to the distribution of aquatic insect and vertebrate and be able to use aquatic insects as water quality indicators. This course will be one of several field courses that are available to students in the ecology and general option in the biology program along with the biology minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 448 Ecology of Plant Reproduction (3) Analysis of the ecology, evolution, and natural history of angiosperm reproduction, including pollination, fruit-set, dispersal, and relevant plant- animal interactions.

Ecology of Plant Reproduction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 450W Experimental Field Biology (3-5) A practical introduction to modern experimental techniques for ecological study of terrestrial, marine, and fresh water habitats.

Experimental Field Biology (3-5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 220W, BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 454 Herpetology (2) The biology of reptiles and amphibians.

Herpetology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 459 (BIOTC 459, HORT 459) Plant Tissue Culture and Biotechnology (3) Principles and techniques for the in vitro culture, propagation, and genetic manipulations of plant cells.

Plant Tissue Culture and Biotechnology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 460 (ANTH 460) Human Genetics (3) The human genome, its variation, origins, and relation to disease and other traits.

BIOL (ANTH) 460 Human Genetics (3)

The course considers many examples derived from the study of the genetics of human disease, and includes most general areas of interest, including simple Mendelian disorders, and complex chronic diseases such as cancer and cardiovascular disease, and variable special topics including immunogenetics and the genetics of imprinting or other processes. The course usually also touches briefly on the nature of forensic genetics and the problem of making inferences from individual genotypes. Finally, the course considers the bioethical and societal issues involving contemporary human genetics. The study of disease genetics is important for students preparing for graduate work in medicine and other health professions as well as for graduate studies in molecular and evolutionary genetics and related areas, including biological anthropology and bioethics. This course is relevant to requirements or appropriate electives for life science majors and graduate students (check with your academic advisor). OVer the years, it has been proven to be excellent preparation for subsequent graduate and professional work in these areas. The course is offered most years, in the fall semester. Depending on enrollment and other factors, the course may include graded homework or other components, but evaluation is predominantly based on exams during the semester and a comprehensive final. This course is cross-listed as ANTH 460 and BIOL 460, but there is only one course, at the same time and place, for all students no matter how they register. In some years, a 4-credit Honors version is offered (ANTH 460H/BIOL 460H), that is identical to 460 but with an additional class period each week involving additional written and presentational assignments and term projects, along with the regular 460 exams, that combine to determine the final grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 230W or 3 credits in genetics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 460H (ANTH 460H) Human Genetics (4) Gene mapping in humans; molecular basis of genetic disease; gnomic structure; immunogenetics; and genetic evidence for human evolutionary history.

BIOL (ANTH) 460H Human Genetics (4)

Students will explore interesting normal or pathological variation to understand first its biological nature, then its epidemiological distribution, genes and genetic mechanisms associated with the trait, phylogenetic origins or comparison, and the nature of relevant genotype-phenotype relationships. Alternatively, students may explore methods for identifying and characterizing gene action or structure, or historical subjects related to human variation and evolution. Ethical and societal aspects of these issues will be considered as well. Time will be taken for faculty or students to read and present current important papers appearing in the literature, relevant to the current course topics. As an Honors course, we will have the time, and the students the dedication, to pursue the chosen topic(s) in much greater and more rigorous detail than is possible in the usual lecture or even seminar course format of Human Genetics 460 which, while presenting material at a sophisticated level, will not have time to explore the more subtle, problematic, or challenging aspects. The students who enroll for this course will be given a description of the approach and the intended general topic, on a course web page or by email when the instructor learns they have registered. The nature of the course will be described including semester-specific themes or focus that will apply (if any). Requisite background reading will be identified so students will know what will be expected of them. Some prior reading will be assigned, so that we can begin the semester with a common basis in background. Students will be evaluated on the quality of their project work, including writing ability, presentation ability, and depth of thought. Several written assignments will be given and graded for content and expression quality. Although students will take regular Human Genetics 460 lectures, they may be given separate exams (corresponding to those given in the regular course) that will allow more freedom of expression than multiple-choice exams or homework assignments. Depending on the workload in any semester, there may be a separate written take home synthetic essay final exam. The Honors session each week will be highly interactive rather than passive, and students will be graded on attendance, participation and whether they have done assigned work in advance of the class. Students will be expected to have the stipulated background knowledge of biological anthropology, evolutionary biology, statistics and genetics. This course should count as 4 credits toward additional courses in biological anthropology required for the Anthropology major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: 3 credits in genetics orANTH 021 orBIOL 222 orBIOL 230W ; and 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 461 Contemporary Issues in Science and Medicine (3) Current/classical issues relating to health, research, agriculture, environment, and biotechnology. Active exploration of the impact of science on society.

BIOL 461 Contemporary Issues in Science and Medicine (3)

The aim of this course is to provide students of the biological and biomedical sciences with a framework to recognize, examine, and resolve conflicts which may affect their professional conduct. Current and classical issues relating to human health, scientific and medical research, agriculture, the environment, and biotechnology will be explored. The history, controversies, and current issues related to each topic will be presented by the instructor through lecture, guest presentations, and multimedia presentations. Each topic will be explored by students through a variety of activities, including role playing, case studies (real and hypothetical), mock trials, small- and large-group discussions, writing exercises, and student research projects presented in oral and poster format. Some activities and discussions will involve the entire class simultaneously, while other activities will be structured for very small groups (2-3 students), small groups (5-6 students), or large groups (10-15 students). This course is especially relevant to any student majoring in Biology, as it allows and encourages them to relate information they have learned in other Biology courses to their own professional conduct. Although the course was specifically designed to cover issues that are relevant to students majoring in each of the Biology concentration areas (Genetics and Developmental Biology, Ecology, Plant Biology, and Vertebrate Physiology), it is also relevant to students in colleges other than Science, who may be enrolled in majors with some biological content or applications. This course is designed to be rigorous and very interactive.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: A 400-level Biology course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 463 General Ecology (3) Illustrates science of ecology, from individual, population, and community- level perspectives, discusses applications of this science to issues of conservation of biodiversity.

General Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: BIOL 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 465 General Cytology (3) Structure and function of organelles of plant and animal cells, mitosis, meiosis, cytological techniques.

General Cytology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988
Prerequisite: 12 credits in biology and/or molecular and cell biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 464 (ANTH 464) Sociobiology (3) The study of the adaptive function of social behavior, the comparative analysis of social organization, and the ecology of sociality.

Sociobiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1987
Prerequisite: 6 credits in biology or anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 466 Laboratory in Cytology (1) Laboratory exercises concerning aspects of cell structure and function and cytological equipment and techniques discussed in BIOL 465.

Laboratory in Cytology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2000
Prerequisite: or concurrent:BIOL 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 469 (BB H 469) Neurobiology (3) Comprehensive examination of neuroanatomy and physiology designed to integrate the principles of neurochemistry, neuroendocrinology, and molecular biology.

Neurobiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 470 (BB H 470) Functional and Integrative Neurosciences (3) Neurobiological function in motivated behaviors, motor and sensory functions, learning and memory development, sexual differentiation, and pathology.

Functional and Integrative Neurosciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: BIOL 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 471 Molecular Neurobiology/Cell Biology Laboratory (3) Introduction to modern molecular and cellular methodologies. The course is designed to integrate the principles of molecular cell biology with neurochemistry and neuroendocrinology.

Molecular Neurobiology/Cell Biology Laboratory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: BIOL 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 472 Mammalian Physiology (3) Mechanisms concerned with normal animal function, with special emphasis on humans.

Mammalian Physiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 240W, CHEM 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 474 (GEOSC 474) Astrobiology (3) In depth treatment of principles/concepts of biochemical evolution, the origin/evolution of life; evaluation of distribution of life in the universe.

BIOL (GEOSC) 474 Astrobiology (3)

Astrobiology is the study of life in the universe. Astrobiology has become a major focus of scientific research in the United States and a topic often discussed in popular science literature. The recent interest in astrobiology has resulted in the formation of an Astrobiology Institute at Penn State University. This advanced undergraduate course in astrobiology will cover many topics in the field including, biochemical evolution, the origin and evolution of life on Earth, microbial diversity, protein evolution, and the distribution of life in the universe. This course is intended to provide students of the natural sciences with the opportunity to prepare for a research career in the rapidly expanding field of astrobiology. The course will also present astrobiology as a cross-disciplinary framework that ties together the diverse courses the students have already taken. The students will learn new concepts while having, to draw on their previous knowledge of chemistry, biology, and the geosciences. In summary, this course has the following objectives: (1) to develop the student's literacy in astrobiology so that they can critically evaluate claims that they encounter well after the course has ended; (2) to present a scientific question that requires the sum of the student's previous education to solve; (3) to provide a deep background to some of the astrobiological concepts that are often only briefly mentioned in other classes or in the media; (4) to develop research and communication skills required for a young scientist through a class term paper and short oral presentation; and (5) to prepare the students for graduate research in astrobiology by giving them a broad background of the field and by demonstrating many of the outstanding problems yet to be solved.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 473 Laboratory in Mammalian Physiology (2) Laboratory experiments demonstrating fundamentals in physiology.

Laboratory in Mammalian Physiology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985
Prerequisite: or concurrent:BIOL 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 477 Biology of Human Sexuality (3) Biological aspects of human sexual development, response, expression, function, and dysfunction among individuals of various ages and life experiences.

Biology of Human Sexuality (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 177

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 479 (AN SC 479) General Endocrinology (3) Endocrine mechanisms regulating the morphogenesis, homeostasis, and functional integration of animals.

General Endocrinology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: BIOL 141 orBIOL 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 482 Coastal Biology (3-4) Marine organisms, their interactions with each other, and their relationships with several coastal habitats.

Coastal Biology (3-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 492 Senior Seminar in Biology (1) Discussion of selected topics from recent biological literature; reports on current research or internship experiences.

Senior Seminar in Biology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 18 credits in Biology; seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 495 Internship in Biology (3-12) Practical off-campus experience in Biology under the supervision of a professional and a faculty member.

Internship in Biology (3-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 496A Exercise Physiology (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Exercise Physiology (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 496B Metabolic Physiology (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Metabolic Physiology (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 496C Junior/Senior Research in Behrend Biology (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Junior/Senior Research in Behrend Biology (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497A Environmental Science and Conservation Biology: A Field Course in the Biodiversity of Costa Rica (4) Using a course model of pre-trip, field-trip, and post-trip activities students gain an in-depth interdisciplinary and international understanding of environmental science and conservation biology.

Environmental Science and Conservation Biology: A Field Course in the Biodiversity of Costa Rica (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497A Evolution of Infectious Diseases (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Evolution of Infectious Diseases (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497A Biology of RNA (3) This course explores the role of RNA in the emergence of life, evolution of RNA function and relevance of RNA-based mechanisms to health.

Biology of RNA (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: BIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497B Human Dimensions of Health Care (3) Health care from the point of view of patients, their families, and health care providers by on-site experience in family and community medicine settings.

Human Dimensions of Health Care (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497D Pathobiology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Pathobiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 230W, BIOL 240W and 6th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497B Biology of Reproduction (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Biology of Reproduction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 497E Evolution of the Vertebrates (3) Covers the evolution of vertebrate animals, with emphasis on adaptation and convergence within and among living representatives of each group.

Evolution of the Vertebrates (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 220W andBIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 498 (ENT 498) Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biology (BIOL)

BIOL 499A (IL) Tropical Field Ecology (3) An intensive introduction to tropical biodiversity to be taught in Belize, Central America.

Tropical Field Ecology (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 101 Introduction to Medical Equipment Maintenance (1) Introduction to the field of clinical engineering and the management of medical equipment and systems.

BE T 101 Introduction to Medical Equipment Maintenance (1)

BE T 101 is an introductory course in medical equipment management. It is an entry level course intended to give students the big picture of the field of biomedical and clinical engineering. The course will cover the background and history of the field, exploring how medical equipment technology has changed as well as the management of the service of the equipment. The focus of this class will be from the perspective of the biomedical equipment technician, what skills are necessary, education requirements, training opportunities, certification, job duties and descriptions, and career paths. The types of employers, their organization structures, required regulations, recommended standards and information about the work place will be presented. Business ethics of working with medical equipment, patients, clinical care givers and other health care providers will be discussed.

Topics covered include:

- Background and history of medical equipment management
  - FDA involvement
  - Aerospace program
  - Electrical safety issues and patient shock
  - Changes in health care delivery in US
- Changes in medical equipment technology
  - Tube
  - Transistor
  - Integrated circuits
  - Microprocessors
  - PC based systems
  - WEB/Internet/wireless systems
- Certification for biomedical equipment technicians
  - CBET
  - CRES
  - CLES
  - CCE
  - Candidate and full certification requirements
  - Exam methods and structures
- BE T job duties, descriptions and requirements
  - BMET 1
  - BMET 2
  - BMET 3
  - BMET Specialists
  - Clinical engineer
  - Supervisory Positions
- BET continuing education needs
  - Educational opportunities
  - Training programs
  - Skill development
- Ethical decisions in medical equipment management
  - Patient confidentially
  - HIPPA requirements
  - Risk management issues
- Functions & Organization of clinical engineering departments
  - Employer types
    - Hospital
    - Independent Service Organizations (ISO)
    - Manufacturers (OEM)
  - Department organization charts
  - Reporting structures
  - Services provided by clinical engineering departments
- Regulatory and standards requirements
  - Regulatory organizations
  - Standard organizations
  - Professional organizations
- Documentation systems
  - Software systems available for medical equipment management
  - Major functions and requirements of software systems

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Biomedical Engineering Technology (BE T)

BE T 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 201 Medical Equipment & Systems I (5) Introduction to the field of biomedical engineering technology, electrical wiring devices, theories of measurement, cardiovascular systems and ECG monitor operation.

BE T 201 Medical Equipment & Systems I (5)

Goal: This course will introduce the student to electrical safety standards and related wiring devices/methods/systems, the acquisition and analysis of electro-physiological signals and transducer systems, the cardiopulmonary system and a introduction to electrocardiograph signals and measurement equipment.

Objectives: The specific course outcomes supporting the program outcomes are that students will be able to
• perform basic preventive maintenance tests to an ECG Monitor
• perform electrical safety tests to a medical device
• perform the basic operation of an ECG Monitor.
• identify:
o ECG Lead configurations
o ECG block diagram of the front end
o ECG front end protection and isolation circuits
o ECG Monitor service manual layout
• identify and understand:
o Theory of physiological measurement: Categories, Factors and Errors
o Electrodes and Sensors
o Transducers: strain gauge, quartz and silicone
o Wheatstone bridge circuits
o Temperature transducers: thermistor and thermocouple
o Student will understand the basic functions of :
o Wiring devices
o Power Cord
o Isolated Power (LIMS & Portable)
o Protective Circuits
o Surge Protection
o Harmonics
o Static Protection
o Uninterruptible Power Supplies (UPS)
o Basic hospital electrical distribution
o Electro magnetic interference (EMI)
o Cathode Ray Tube (CRT) operation.
• to use an electrical safety analyzer for grounding and leakage current measurements.
• to use an ECG simulator to PM test an ECG monitor.
• to use digital multimeters and oscilloscopes
• to use receptacle tension testers
• to use basic soldering irons to solder and de-solder components
• to identify the applicable regulation and standard organizations regarding medical equipment management
• understand the required grounding limits
• understand the required leakage current limits
• understand the required electrical safety requirements
• understand the background, history and organization of medical equipment management
• identify the applicable professional organizations regarding medical equipment management
• understand the applicable certification types and requirements
• understand the applicable job positions, duties, and department organizations.
• understand the need for continuing education in the field
• understand the basic functions of the human:
o Blood and circulatory system
o Heart chambers and valves
o Cardiac physiology
o Bio-potentials
o Electro-conduction system of the heart

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EET 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 202 Medical Electronics II (4) Introduction to electronic devices used in medical equipment: BJTs, JFETs, MOSFETs, amplifier configurations, personal computer hardware, networking, and DICOM fundamentals.

BE T 202 Medical Electronics II (4)

Goal: To provide students with an in-depth background of discrete devices and amplifier circuits; computer hardware and networking fundamental; and medical network DICOM and PACs fundamentals.

Objectives: At the completion of this course, students will be able to:
identify and understand fundamentals of amplifier cascading
identify and understand fundamentals of Bipolar Junction Transistors (BJT)
identify and understand fundamentals Field Effect Transistors (FET)
identify and understand fundamentals of Metal-oxide-Semiconductor (MOSFET)
identify and understand the hardware components of a personal computer
understand the formatting of hard drives
install various Windows operating system
identify and understand basic networking components
create a simple network with several PCs and basic networking components
construct prototype electronic circuits
design electronic (PC software based) prototype electronic circuits
correctly operate standard electronic test equipment, such as: oscilloscopes, digital multi meters, frequency generators, frequency counters, power supplies, current meters and soldering equipment
correctly analyze and compare a constructed circuit to it’s designed theoretical circuit
work with other students in teams that are conducting and reporting electronic lab projects
work with other students in teams constructing a basic PC network

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BE T 201, BE T 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 203 Biomedical Equipment Laboratory (Internship) (4) Practical experience, within or related to the hospital environment, on a variety of biomedical instruments.

BE T 203 Biomedical Equipment Laboratory (Internship) (4)

Goals: The final semester internship term is a curriculum requirement for the Biomedical Engineering Technology (BET) Program. It allows eligible students to develop entry-level skills in the biomedical field while gaining valuable work experience before graduation. The program consists of 400 hours of hands-on experience in an actual work environment on patient care and life support equipment.

Specifically, the educational outcomes of this class are as follows:

- perform basic operation, troubleshooting methods, preventive maintenance and electrical safety tests to medical devices and systems
- understand the normal and abnormal outcomes of the limited number of medical devices
- use technical support materials to service medical equipment
- use an electrical safety analyzer and various required analyzers and simulators to test, calibrate and service medical equipment and systems
- inquire, understand and follow established testing standards at the internship site
- participate in the clinical application design of selecting and lay-out/design of the installation of medical equipment and systems
- participate in the installation of new medical equipment and systems
- participate in the acceptance testing for medical equipment and systems
- work with technicians as assigned by internship supervisor, independently and on teams as assigned by internship supervisor
- understand and follow all internship policies and procedures, all regulatory requirements and other required regulations
- complete all necessary documentation as required by internship site
- be exposed and use equipment management software and documentation systems
- follow all required policies and procedures regarding patient privacy and infection control
- keep a daily log in ink, explicitly describing there activities during each working day, write a report on his or her internship and complete a listing of all medical equipment and systems
- complete all necessary documentation as required by internship site
- use quality customer skills when using telephones, when working with clinical staff, physicians, patients, visitors and all others
- participate in presentations by medical device suppliers
- make an oral presentation in-service to clinical staff, technicians or other staff as assigned by the internship supervisor
- investigate education and training schedule of the clinical engineering department, entry requirements, length and costs of training schools and risk based preventative maintenance system
- investigate and understand the clinical engineering department performance indicators, SMDA policy and procedures, hazard alert policies and procedures, incident investigation policies and procedures and ECRI medical device reporting system

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BE T 204W, BE T 202, BI SC 004 orBIOL 141 and it must be the last class taken for the degree

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 204W Medical Equipment and Systems II (5) Principles of medical equipment: operation, application; circuit and block diagrams; preventive maintenance inspections; and troubleshooting with report writing and presentations.

BE T 204W Medical Equipment and Systems II (5)

Goals: To introduce the student to various types of medical instrumentation and to prepare the student for the biomedical internship (BET 203) by review and explanation of: equipment operation and application; circuit and block diagrams; preventive maintenance; inspections; performance testing; and troubleshooting. In addition, the student is required to demonstrate communication skills as they would be used in the biomedical field in the form of technical reports, equipment reviews, and in-service presentations.

Objectives: At the completion of this course, students will be able to:
perform basic preventive maintenance and electrical safety tests to the following medical devices: Physiological Monitor, Electrocardiograph, Blood Pressure Monitor, Noninvasive, Pacemaker, External-Invasive, Defibrillator, Pulse Oximeter, Infusion Pump, Electrosurgical Unit (Note: this list of medical devices is defined as the limited number of medical devices)
perform the basic operation to the limited number of medical devices
understand the normal and abnormal outcomes of the limited number of medical devices
use an electrical safety analyzer for electrical safety measurements
understand and demonstrate the required preventative maintenance tests and limits to the limited number of medical devices
use an ECG simulator
use a physiological simulator (ECG, blood pressure, temperature)
use a non-invasive blood pressure simulator
use a pressure meter
use a defibrillator analyzer
use a pulse oximeter analyzer
use an infusion pump analyzer
use an electrosurgical analyzer
use digital multimeters and oscilloscopes
use receptacle tension testers
use basic soldering irons to solder and de-solder components
identify the applicable regulation and standard organizations regarding medical equipment management
will present well written engineering reports on various medical devices
will make an oral presentation to the class on a selected medical device that includes: overheads, handouts and an accompanied written paper
will understand the fundamentals of the FDA 510(k) pre-market approval process
will understand fundamentals of the SMDA regulations
will understand the basic functions of the human: Blood (composition and ph), Circulatory system, Heart chambers and valves, Cardiac physiology, Bio-potentials, Electro-conduction system of the heart, and Lungs

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BE T 201, BE T 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 205 Medical Electronics I (3) A study of diodes, power supplies, operational amplifiers, specialized high power devices, 555 timer and tuned amplifiers.

BE T 205 Medical Electronics I (3)

Goal: To provide students with an in-depth background of discrete devices and amplifier circuits, and to teach them the necessary tools for analysis and design of these circuits.

Objectives: At the completion of this course, students will be able to:
- identify and understand fundamentals of solid –state principles
- identify and understand fundamentals of diode biasing (Forward/Reverse Bias, P-N Junction)
- identify and understand fundamentals of diode models - Ideal, Practical, and Complete Diode
- read and understand diode specification sheets
- identify and understand fundamentals of specialized diodes - Zener, LED, Clippers, Clamper and Voltage Multipliers and Testing
- identify and understand fundamentals of power supplies – Transformers, Half wave rectifiers, Full wave rectifiers (transformer & bridge circuits), Filters, Regulation and protection
- identify and understand fundamentals of switching mode power supplies
- identify and understand the following select amplifier circuits: Open Loop, Differential, Unity Gain, Inverting, Non-Inverting, Instrumentation Amplifier, Comparator, Summing, Integrator, Differentiator, Tuned amplifiers (low pass, high pass and notch filters)
- calculate the following on OP-Amplifier circuits: Common Mode Reduction, Gain, Output phase relationship in relation to input, Frequency response
- identify and understand the following specialized power devices – Thyristors, SCR, Diac, Triac, Photo Detectors, and Optoisolators
- identify and understand the 555 Timer
- construct prototype electronic circuits
- design electronic (PC software based) prototype electronic circuits
- correctly operate standard electronic test equipment, such as: oscilloscopes, digital multi meters, frequency generators, frequency counters, power supplies, current meters and soldering equipment
- correctly analyze and compare a constructed circuit to it’s designed theoretical circuit
- work with other students in teams that are conducting and reporting electronic lab projects
- work with other students in a team environment to design and complete a written report for a theoretical power supply
- present an organized written engineering laboratory reports based upon the desired and actual outcomes of electronic experiments
- present an organized written engineering report based upon the theoretical design of a power supply

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EET 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 210 Servicing Medical Equipment (3) Methods and strategies for servicing medical equipment, systems and electronics components.

BE T 210 Servicing Medical Equipment (3)

BE T 210 will provide students with methods and strategies for servicing medical equipment, systems and electronics components. Many different methods can be used to identify and solve problems that include using many different skill sets. This course will introduce the student to logical methods for troubleshooting medical devices that include: equipment operation, application, normal and abnormal outcomes/expectations, tools, test equipment, simulators and analyzers. In addition to the technical skills of troubleshooting, the “soft” skills or “people” skills will be investigated. How to communicate with others and the customer skills will be introduced to the student. While working with medical equipment, individuals need to have an awareness of infection control and the steps that must be followed to protect them, the patients and co-workers. Cleaning, handling and general safety methods will be discussed.

Topics covered include:
• Safety procedures
o OSHA regulations
o Personal Protective Equipment (PPE)
o Buddy system
o Electrical safety
o Pressurized gas safety
o Mechanical safety

• Skill set requirements
o Electrical
o Electronic
o PC Hardware
o PC Software
o Networking
o Pneumatic
o Mechanical
o Hydraulic

• Test equipment, simulators, analyzers and tools
o Electrical test equipment
o Electronic test equipment
o Patient simulators
o Medical equipment analyzers
o Calibration requirements
o Hand tools
o Software, WEB and other electronic resources
o Use of human senses in troubleshooting

• Troubleshooting methods
o Logical method approaches
o Shotgun troubleshooting method
o Signal tracing

• Troubleshooting components
o Passive components
o Active components
o In and out of circuit testing
o Normal and abnormal expectations
o Normal and failure conditions of components
o Testing methods and tools

• Troubleshooting systems
o Normal and abnormal expectations
o Normal and failure conditions of components
o Testing methods and tools
o Interaction between systems
o Shotgun troubleshooting method

• Troubleshooting medical equipment
o Application of medical equipment
o Operation of medical equipment
o Equipment in use issues
o Environmental issues

• Hands on troubleshooting skills
o Application and use of test equipment
o Hands on measurements in lab setting

o Schematic and service manual usage
o Component replacement
o Soldering and de-soldering
o Assembly and disassembly of hardware

• Customer skills
o Communication model
o Personality types
o Learning model
o Methods for successful service customer skills

• Infection Control
o Personal protection
o Patient protection
o Universal precautions
o Cleaning procedures

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BE T 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biomedical Engineering Technology (BE T)

BE T 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biotechnology (BIOTC)

BIOTC 416 (MICRB 416) Microbial Biotechnology (2) Fundamentals of applied biotechnology; the use of microorganisms in the synthesis of biologically-important and industrially-useful products.

Microbial Biotechnology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MICRB 201, MICRB 202;B M B 442 orMICRB 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biotechnology (BIOTC)

BIOTC 459 (HORT 459, BIOL 459) Plant Tissue Culture and Biotechnology (3) Principles and techniques for the in vitro culture, propagation, and genetic manipulations of plant cells.

Plant Tissue Culture and Biotechnology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biotechnology (BIOTC)

BIOTC 479 Methods in Biofermentations (3) Bioprocessing principles and development; uses and operation of biofermentors; determination of biomass; problems of scale-up.

Methods in Biofermentations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MICRB 201, MICRB 202;B M B 251, B M B 252, B M B 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biotechnology (BIOTC)

BIOTC 460 (AGRO 460) Advances and Applications of Plant Biotechnology (3) This course provides a comprehensive overview and current status of plant biotech research. The course provides knowledge of plant systems that fall in the category of GMOs.

BIOTC (AGRO) 460 Advances and Applications of Plant Biotechnology (3)

This course will provide a comprehensive overview and status of current plant biotech research. The focus is on providing knowledge of the biology of plant systems. Consequences of development of a transgenic plant either for food (crops) or as a tool to understand molecular, genetic, and inheritance mechanisms of a trait will be discussed in detail. The course will deliver the current literature and understanding of mechanisms involved in herbicide resistance in transgenic plants. Specific topics that will be of interest to students from various disciplines include disease and insect resistance, quality traits, and secondary metabolites. Molecular biology of different pollination systems will be examined so that students will understand the concept of gene flow from transgenic to non-transgenic crops. Examples from recent developments on the beneficial use of transgenic plants as producers of modified compounds, starches, antibodies and their use in phytoremediation of toxic and organic pollutants will be discussed from the perspective of genetic and molecular plant systems. Gene expression of transgenic plant traits and the stability of an engineered crop will be discussed. Specific emphasis will be on different modes of inheritance that a transgenic plant can follow after its development and release into the environment. The course also prepares students for understanding the regulatory processes that are required for testing, moving, and environment release of transgenic crops. The laboratory component of the course will introduce students to the common technique of molecular biology that are used to detect expression in transgenic plants. Transgenic maize plants will be grown in a greenhouse and analyzed for expression of introduced genes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: BIOL 230W, B M B 251 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Biotechnology (BIOTC)

BIOTC 489 (V SC 489) Animal Cell Culture Methods (3) An overview of animal cell culture methodology and its practical application in bioprocess technology.

Animal Cell Culture Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: MICRB 201, MICRB 202;BIOL 230W orB M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 100 (GS) Introduction to Business (3) A comprehensive view of the contemporary environment of business.

B A 100 Introduction to Business (3)
(GS)

This course provides a broad overview of the study of business and its environment, organization, operation, and interrelationships with government and society. Topic areas include; economic systems, forms of business ownership, information, accounting, finance, management, and marketing principles, legal and regulatory environments, business ethics and international business. A student majoring in business will develop a broad basis for further study in a specific area in business, while other majors will become familiar with the American enterprise system and the functions and issues facing business today.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 195 Cooperative Practicum with Business Offices (3-6) Cooperative practical work with business offices under the supervision of the instructor.

Cooperative Practicum with Business Offices (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 100S (GS) Introduction to Business (3) A comprehensive view of the contemporary environment of business.

Introduction to Business (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 241 Legal Environment of Business (2) Examines the legal system's role and impact regarding business transactions, liability issues, and ownership of intellectual property. Students earning credit for B A 241 may not earn credit toward Smeal College baccalaureate degree for B Law 243 and/or B A 243.

B A 241 Legal Environment of Business (2)

As an integral part of planning and management responsibilities, a business decision-maker must be able to identify risks and opportunities from many sources. The legal environment represents a significant segment of the decision-maker's landscape. This survey course is designed to develop the student's awareness and recognition skills with respect to the major inputs in the increasingly complex commercial legal environment. Students in this course will examine the design and function of the U.S. legal system in its roles as protector of property interests and facilitator of business transactions. Alternatives to judicial resolution and enforcement will also be examined. In addition, students will learn about the legal issues affecting the formation and enforcement of business agreements. This will include studying the impact of our economy's continued shift to digital technology for communication and documentation. Finally, tort liability and intellectual property issues from a business perspective will be examined with a special emphasis upon issues created by the Internet's rapid growth. Students earning credit for B A 241 may not earn credit toward a Smeal College baccalaureate degree for B LAW 243 and/or B A 243.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 242 Social and Ethical Environment of Business (2) Explores the social and ethical environment of business and ethical decision making in a business context.

B A 242 Social and Ethical Environment of Business (2)

Modern businesses operate in an increasingly interdependent environment. The actions of businesses have major impacts on society. Conversely, society influences a wide range of corporate actions through laws and regulations as well as via public opinion and the media. With changes in information technology, corporate decisions that were once considered private are now subject to public scrutiny. Therefore, more than ever, these decisions must take into account the larger social environment. In this course, students will learn about a broad range of stakeholders and societal issues that affect corporate decision-making and they will consider the corporation's responsibility to society. They will also learn to apply ethical decision-making frameworks to a variety of ethical decisions faced by corporate managers. This course is taught in the sophomore year and therefore lays a broad foundation for other core business courses. For example, other courses tend to focus on a single stakeholder group such as customers (marketing), employees (management), or stockholders (finance). This course teaches students to think broadly about how a business fits into a more complex web of relationships within society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 243 Social, Legal, and Ethical Environment of Business (4) Explores the ethical, political, social, legal and regulatory, technological, and demographic diversity environment of business. A student may not receive credit toward graduation for both B LAW 243 and B A 243.

Social, Legal, and Ethical Environment of Business (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 250 Small Business Management (3) Analysis of problems of the small firm, particularly for the student who wishes to venture into business.

Small Business Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 297A Career Planning Strategies (1) Job search process, positions and career paths, self-assessment, goal-setting, projects, and networking with companies.

Career Planning Strategies (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 297A Career Planning Strategies (1) Job search process, positions and career paths, self-assessment, goal-setting, projects, and networking with companies.

Career Planning Strategies (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 297B Social Entrepreneurship and Community Leadership (3) Introductory course for high school students focusing on introducing business leadership and entrepreneurship principles to profit and nonprofit organizations whose products and services are designed to create social value.

Social Entrepreneurship and Community Leadership (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 301 Finance (2) This course provides an overview of finance. The primary focus is on financial decision making in organizations - also known as corporate finance. In addition to corporate finance, the course also covers the two other primary areas of finance: financial markets and institutions, and investments.

Finance (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 301H Finance (2) This course provides an overview of finance. The primary focus is on financial decision making in organizations - also known as corporate finance. In addition to corporate finance, the course also covers the two other primary areas of finance: financial markets and institutions, and investments.

Finance (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 302 Supply Chains (2) Introduction to key elements and strategic importance of supply chain networks.

B A 302 Supply Chains (2)

This course is an introduction to the issues and decisions that are routinely faced by supply chain managers. It will investigate how successful firms integrate the sourcing, manufacturing and fulfillment processes across supply-chain networks to support a customer-oriented operation. Additionally, this course considers the impact of quality on various aspects of the supply chain. Successful organizations align processes and quality issues with the demands of the marketplace by meeting or exceeding customer expectations. The use of information technology as a medium to span the boundaries of the supply chain is also examined. Business firms must incorporate and utilize this technology in an effort to find competitive advantage. After completing this course, the student should have the knowledge, skills, and abilities to:
* Explain the nature of integrated supply-chain networks, which organizations use to acquire, produce, and deliver goods and services all over the world and how information technologies is the key enabler of supply-chain integration.
* Explain the philosophy, as well as apply basic techniques, of the Total Quality Management (TQM) process and articulate the role of TQM in supply chain management.
* Apply key concepts and basic techniques for analyzing supply chain management problems.
* Explain how operations and logistic activities interrelate with other functions and activities of the firm; how they can provide competitive advantage for the firm; and how they aid the firm in achieving its strategic and tactical goals.

This course is part of the Common Business Core requirements and is a prerequisite and foundation course for students entering the supply chain and information systems major. Methods of evaluation include individual and group assignments and examinations. Additionally "hands-on" homework and quiz exercises may be required. Exams and homework may involve problem-solving exercises that require the use of computers, web-based resources, or on-campus computer facilities. Further, examinations may be administered at secure locations, which are available only at pre-designated times.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004, MIS 204;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 302H Supply Chains (2) Introduction to key elements and strategic importance of supply chain networks.

Supply Chains (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ACCTG 211, ECON 002, ECON 004, MIS 204;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 303 Marketing (2) Introduction to customer behavior and research, service/product development, pricing and promotion in diverse and international marketing contexts.

B A 303 Marketing (2)

B A 303 is one of four core courses taken by all juniors in The Smeal College of Business Administration, and focuses on marketing as a primary function of businesses and other organizations. B A 303 teaches terminology and important concepts of marketing. Domestic and international environments that impact marketing are included, with particular emphasis on the marketing environment, segmentation, positioning and targeting. B A 303 course objectives include providing an overview and introduction to marketing; demonstrating the relationship of marketing to other functions and processes in a business organization on an integrated basis; providing real world examples of challenges and issues related to marketing; and explaining and discussing important concepts and analytical tools in marketing. The major topics covered in BA 303 include the impact on marketing created by domestic and global economic, social, technological and political environments; how consumer, business and organizational customers are segmented and targeted based on a competitive marketing position; how different forms of research and information systems are used to create and guide marketing programs; how products are developed to serve consumers, businesses and organizational customers; how service products are developed and managed to meet customer needs; how customers are reached through various conventional and new distribution channels, such as the Internet, and how these sales management processes are managed; how people in the United States and other nations are influenced by marketing as they go through the process of consumer behavior involving products, services and overtures from the non-profit sector; how products and services are marketed to other businesses and organizational customers; how marketing communications programs including advertising, publicity, sales promotion and web sites are designed to reach domestic and international customers; how pricing strategies are designed and managed to support overall corporate objectives in various economic climates; how marketing programs are created and managed as companies move into global markets and what are the various legal and ethical issues which impact marketing and how should they be addressed by responsible corporations and their employees.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200;B A 241 andB A 242 orB A 243

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 303H Honors Core Marketing (2) Junior Core Marketing - Honors Section.

B A 303H Honors Core Marketing (2)

This course is an exploration of fundamental concepts and issues in marketing. In this course, we will discuss what marketing is and learn to analyze the marketing environment and our potential customers. Based on these insights, we will then discuss strategy alternatives and the key functions of marketing. A project is a major component of the course. <\p>

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ACCTG 211, B A 243 orB A 241 andB A 242, ECON 002, ECON 004, ENGL 015, MATH 110 orMATH 140, MIS 204, SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 304 Management and Organization (2) Introduction to key concepts for the design and management of organizations.

Management and Organization (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002, ECON 004;MIS 204 orIST 110;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 304H Honors Core Management (2) Junior Core Business Management - Honors Section.

B A 304H Honors Core Management (2)

The course will familiarize the student with basic concepts, theories and approaches that can lead to a more nuance understanding of management practices. A learning objective is to experience and to relate the concepts in a "real" world context. The experiential exercises, video discussions and supplementary readings will help students accomplish this objective. Another objective is to synthesize and integrate seemingly unrelated management topics. Case discussions are particularly useful in accomplishing this type of learning. An additional type of learning is critical inquiry where students feel empowered to create and critique thought. The group project is aimed at accomplishing this type of learning.

There are several other skills required to become effective managers. Foremost among them are communication and inter-personal skills. The assignments and the course teaching style will make students aware of the importance of developing these skills.

Students are required to read assigned articles and/or cases for each class. They are asked to summarize the main themes underlying the readings and keep journals on what they have learned as well as what they would like to learn. Students in teams are also asked to choose a topic for research and presentation. Possible research topics are:
*Structure: Networks, virtual teams
* Skills: Skill obsolescence, recruiting for talent, employee churning
*Style: Transformation leadership
*Staff: Stock options, altruistic reasons for contribution
* System: Six-sigma, management information system
* Super-ordinate goals: Ethics and aesthetics, social responsibility
*Strategy: Stakeholder wealth maximization, triple bottom line.

Group projects will also be required. Topics will be approved based on proposals submitted early in the semester. Examples of projects are:
1. Understanding the functioning of organizations (e.g. Fraternities, McDonalds, student organizations) by observing/interviewing people to identify interesting facets about how organizations work and don't work.
2. Tracking the genesis of breakthroughs in organizations.
3. Desktop research on emerging organizational forms.
4. Designing and administering a team-building exercise to sensitize a group of freshmen on the virtues and challenges of work-force diversity.
5. Mapping the informal and formal organizational dynamics using "Organigraphs".
6. Interviewing faculty to identify emerging issues on management.

Projects will require a written report, oral presentation, and classroom discussion. The purpose of oral presentations is to give students a "feel" for what will be expected of them, as managers, in the real world. Students will be required to present their group papers as they would in a business environment. Appropriate visuals, etc. should be used, and the presentations should be polished and professional.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ACCTG 211, B A 243 orB A 241, B A 242, ECON 002, ECON 004, ENGL 015, MATH 110 orMATH 140, MIS 204, SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 321 Contemporary Skills for Business Professionals (1-3) Technological and interpersonal skills for the contemporary business professional, stressing collaborative learning, electronic inquiry and communications, critical thinking, and problem solving.

B A 321 Contemporary Skills for Business Professionals (1-3)

B A 321 is the first of a series of courses that progressively and collectively develop the following skills and competencies of the business administration student:

a) Communication Skills and Individual Effectiveness
b) Diversity Management Skills and Competencies
c) Collaboration/Team-Building Skills
d) Problem-Solving/Critical Thinking/Empirical Inquiry Skills
e) Technology and Information/Data Management
f) Leadership

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ACCTG 211, ECON 002 orECON 004, MIS 204, SCM 200 orSTAT 200 . Prerequisite or concurrent:ENGL 202D;MATH 022, MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 322 Individual and Interpersonal Effectiveness for the Business Professional (1-3) Effectiveness of the business professional in team settings, especially the capacity to execute both technologically and cooperatively through group exercises.

Individual and Interpersonal Effectiveness for the Business Professional (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: B A 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 323 Regional Economies of Pennsylvania (3) Study of the people, the policies, and the organizations that form the local and regional business environment of Pennsylvania.

Regional Economies of Pennsylvania (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 335 Real Estate Fundamentals (3) Examination of real estate and market forces affecting it; finance, sales, and brokerage operations.

Real Estate Fundamentals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 336 Real Estate Practice (3) Examination of real estate practice; listing agreements; appraisal; financing; property management and insurance; investment; fair housing laws and ethical practices.

Real Estate Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 335

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 342 Socially Responsible, Sustainable and Ethical Business Practice (3) Course examines actions taken by corporations that impact global citizenship, environmental sustainability, and the economic stability of international societies. It further looks at relationships, rights, and responsibilities between businesses, business decision-makers and their stakeholders.

B A 342 Socially Responsible, Sustainable and Ethical Business Practice (3)

Businesses and other large organizations have come to influence nearly all aspects of life in contemporary industrialized societies. The actions taken by businesspeople have major impacts on individuals and on society as a whole. Conversely, the expectations of citizens and their representative bodies (e.g., governments, communities, unions, interest groups) influence a wide range of corporate actions. Students of B A 342 will examine these relationships, rights, and responsibilities between businesses, business decision-makers and their stakeholders.

As students enter their field of study, this course will introduced them to current ethical, social responsibility and sustainability issues that face business practitioners within their field and across related disciplines. Each business function – accounting, finance, marketing, risk, supply chain, human resource policies, etc. – has relationships and responsibilities within the larger social environment. This course considers commonalities across the business functions and teaches students to think broadly about how a business fits into a more complex web of relationships within society.

The course begins with an overview of the corporation’s place and role in society as well as key concepts in understanding why knowledge related to corporate governance, ethics, sustainability and social responsibility issues is critical to professional managers’ responsibility and long-term career success. The stakeholder model is reviewed along with the study and application of ethical decision-making frameworks to current ethical dilemmas. Sustainability and global responsibility are introduced within the context of government regulation versus responsible stewardship. The closing section of the course provides thought and discussion on issues facing business practitioners across key business functions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MGMT 301, MGMT 301W orB A 304 ; Prerequisite or concurrent:FIN 301 orB A 301;MKTG 301 orB A 303;SCM 301 orB A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 364Y (US;IL) International Business and Society (3) Business organizations and the sociocultural environment; current issues; corporate responsibility; international and multinational business environments.

B A 364Y International Business and Society (3)
(US;IL)

This writing-intensive course will provide an overview of the relationship between business organizations and the sociocultural environment. Current issues in the media and the scholarly literature will be used to discuss and analyze this relationship. Special attention will be given to the topics of business and government relationships, corporate responsibility, environmental issues, and topics related to international and multinational business environments.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 202D, MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 395A Practicum in Business Administration (1) Professional and guided work experience in business administration with private or public organizations. May be taken only as an elective.

Practicum in Business Administration (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 411 Analyzing Business and Industry (3) Prepares students to read, interpret, and analyze financial statements effectively in order to evaluate business entities and their industries.

B A 411 Analyzing Business and Industry (3)

The course provides the students with a methodology for analyzing the business, introduces the students to sources of financial information available from private and public sources and trains the student to prepare and professionally present business analysis reports. The course, which adopts a user perspective, extends the students' basic knowledge of financial reporting and provides them with a broader context for understanding business that includes economic and social forces, the regulatory environment of businesses and their financial reporting, capital market operations and corporate governance. It applies concepts and decision tools that are studied throughout the curriculum such as present value, financial ratio analysis, break-even point analysis and statistical analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: ACCTG 211, B A 301, B A 302, B A 303, B A 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 412H Honors Integration and Research (2-3) The integration of the business core into a detailed financial, strategy and market analysis of actual companies selected by student teams.

Honors Integration and Research (2-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003 Ending: Fall 2010
Prerequisite: B A 301, B A 302, B A 303, B A 304 or any two of these with the other two taken concurrently.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 412H Honors Integration and Research (2-3) The integration of the business core into a detailed financial, strategy and market analysis of actual companies selected by student teams.

Honors Integration and Research (2-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ACCTG 211;FIN 301 orB A 301;SCM 301 orB A 302;MKTG 301 orB A 303;MGMT 301 orB A 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 420 Planning for Internship, Collaborative Project, and Research in Business (1) Planning, preparation, and decision making for students enrolling in either B A 495A, 495B, or 495C courses in their final semester.

B A 420 Planning for Internship, Collaborative Project, and Research in Business (1)

B A 420 is designed much differently than other courses most students will have been exposed to because students will be asked to become personally involved and to think critically about issues that will affect both their immediate future as well as future careers. Students will be asked to continually engage their minds during and while preparing for class. While students will learn specific techniques pertaining to the planning and preparation for their experience in the BA 495 course options, they will be learned in the context of thinking about one's future goals. Students will be expected to focus on how best to gain hands-on experience that will assist them to be successful in their future environments of professional work or formal education.

Students will be exposed to on-line computer techniques that assist people in determining future professions. If choosing to pursue an internship, students will be expected to specifically identify internship opportunities that might allow a student to personally experience and assess applied environmental life before the student graduates. Additionally, if a student wishes to pursue a research course of study, students will be expected to investigate and assess various group project or individual research options that might be selected in the student's final semester.

This course has as its primary focus the preparation of the student to pursue career options that match a student's needs as well as the identification and elimination of options that may not be of personal interest. A secondary purpose of this course is to present job-seeking skills, student development of those skills, and repeated opportunities for students to practice those skills in laboratory settings before entering applied environments in search of internship or career employment.

In this course, students will develop and enhance their resume writing skills as well as learn insights that will help de-mystify what is involved with basic research processes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: B A 321 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 422W Strategic Business Planning (3) Presentations and discussion of contemporary business issues by students and visiting professionals; emphasis on effective business communications.

B A 422W Contemporary Business Seminar (3)

B A 422W is the fourth of a series of courses that progressively and collectively develop the following skills and competencies of the business administration student:

a) Communications Skills and Individual Effectiveness
b) Diversity Skills and Competencies
c) Collaboration/Team-Building Skills
d) Problem-Solving/Critical Thinking/Empirical Inquiry Skills
e) Technology and Information/Data Management
f) Leadership

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 421, MGMT 301, MKTG 301, FIN 301 . Prerequisite or concurrent:B A 495A, B A 495B orB A 495C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 421 Project Management and Planning for Business (1-2) Planning and preparation for field experience internship, senior thesis, or group project supplemented with exercises in project management.

B A 421 Project Management and Planning for Business (1-2)

Project management in business and its accompanying planning, control, and evaluation will be studied. This course is a senior-level project activity that is designed to integrate all of a student's previous business-related coursework in a project management paradigm. Students will be exposed to project management and planning and apply contemporary techniques to the development of a group project approved by the instructor. Teams of students will collaborate to plan, control, and monitor their projects. As with many of the other courses within the Bachelor of Science in Business curriculum, this course further reinforces the development of quality planning, writing, and presentation skills, but also helps the student integrate and apply business administration skills and competencies.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: B A 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 427 Risk and Decisions (3) Conceptualizing decisions involving risk, analyzing choices, estimating the risk, and communicating the analysis.

B A 427 Risk and Decisions (3)

Most tough business decisions involve risk. Rish is where the money is. It's where ruin is too. Smart risk-taking requires special analytical problem solving skills and careful consideration of the relevant data. In this course, you will learn how to conceptualize decisions involving risk, how to analyze your choices, how to estimate the risk, and how to communicate and defend your analysis to others. The skills and tools you will learn come from economics and statistics as well as from game theory and psychology.

The modern understanding of risk has a decidedly quantitative dimension to it, and an electronic spreadsheet will be at the center of much of what we do. The course introduces you to spreadsheet modeling using decision analysis add-ins to Excel.

The course format is eclectic and participation oriented. We will do a number of case studies to build problem structuring as well as problem solving skills. Case study also provides practice with communicating your analysis. The class includes a number of interactive exercises for hands-on practice in a diagnostic environment.

The course is an undergraduate version of a core course in the Smeal MBA program.

The tools and skills taught in the course have applications across the business school curriculum. Here are just some featured in the course:
1) Evaluating risk taking opportunities
2) Modeling an inventory process
3) Evaluating risk sharing agreements
4) Communicating risk to managers and recommending action
5) Preparing a bid for auction
6) How to prepare for a negotiation, how to make decisions during the negotiation
7) Measuring job performance
8) Forecasting product demand

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 110 orMATH 140 and eitherSCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 454H Business Honors Thesis/Project (3) An opportunity to pursue an advanced research thesis or project to integrate studies within Business Administration.

Business Honors Thesis/Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HONOR 301 senior standing and permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 462 Business Strategy (3) Interpretation of business concept in the analysis of problems related to the successful management of a company, institution, or organization.

Business Strategy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FIN 301, MGMT 301, MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 495A Internship in Business (3-9) Guided professional practicum in business administration involving an internship with a business organization; practice of business skills in field setting.

B A 495A Internship in Business (3-9)

This course is a senior-level project activity that is intended to build upon all of a student's previous coursework in business, links the theoretical with day-to-day practical applications, and represents the single largest event in the Bachelor of Science in Business (BSB) program. This course is where the student will design an internship with a business organization in which they have a particular interest and, under the supervision of a faculty member, will practice integrating and applying business fundamentals and skills in a field setting, carry out analysis, prepare a comprehensive paper, and give a presentation of their work.

All parties involved in the internship project should benefit from the experience. The student should receive practical, "hands-on" experience in the business world. The employer benefits from having a highly motivated intern who can contribute to the success of the business. The University benefits from the contacts and goodwill generated by placing our students with local, regional, national, and international organizations.

As with many of the other courses within the BSB curriculum, this course further reinforces the development of writing and presentation skills, but also helps the student integrate and apply business administration skills and competencies. This is one of the five signature BSB courses (B A 321, B A 322, B A 421, B A 495A, B, or C, and B A 422W) and should be taken as close as possible to the end of the course of study. It is recommended that B A 495A be taken concurrently with B A 422W, the capstone course for the BSB degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: B A 322, B A 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 495B Collaborative Project in Business (3-9) Guided professional practicum in business administration involving a group project; application of business skills in collaborative setting.

B A 495B Collaborative Project in Business (3-9)

This course is a senior-level project activity that is intended to build upon all of a student's previous coursework in business, links the theoretical with day-to-day practical applications, and represents the single largest event in the Bachelor of Science in Business (BSB) program. This course is where the student will design a collaborative project in which they have a particular interest and, under the supervision of a faculty member, will focus on a specific business administration problem or issue, carry out analysis, prepare a comprehensive paper, and give a presentation of their work.

Students may choose to work on this project in their current employing organization(s) but identify a project that is outside the scope of their normal work responsibilities. It is hoped that the analysis, findings, and results of the collaborative project may be of value to others.

As with many of the other courses within the BSB curriculum, this course further reinforces the development of writing and presentation skills, but also builds upon the competencies attained in project management whereby the student rather than the instructor drives the time schedule and must coordinate their own unique set of resources, including scheduling time as needed with the supervising instructor.

This is one of the five signature BSB courses (B A 321, B A 322, B A 421, B A 495A, B, or C, and B A 422W) and should be taken as close as possible to the end of the course of study. It is recommended that B A 495B be taken concurrently with B A 422W, the capstone course for the BSB degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: B A 322, B A 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 495C Undergraduate Research in Business (3-9) Guided student research in business administration; application of analytical or research techniques to business problems.

B A 495C. Undergraduate Research in Business (3-9)

This course is a senior-level project activity that is intended to build upon all of a student's previous coursework in business, links the theoretical with day-to-day practical applications, and represents the single largest event in the Bachelor of Science in Business (BSB) program. This course is where the student will design a research project in which they have a particular interest and under the supervision of a faculty member will carry out data collection and analysis, prepare a comprehensive paper, and give a presentation of their work. Research as defined for this course means original research of actual business ituations or phenomena, the findings, or results of which may be of value to others.

As with many of the other courses within the BSB curriculum, this course further reinforces the development of writing and resentation skills, but also builds upon the competencies attained in project management whereby the student rather than the nstructor drives the time schedule and must coordinate their own unique set of resources, including scheduling time as needed ith the supervising instructor.

This is one of the five signature BSB courses (B A 321, B A 322, B A 421, B A 495A, B, or C and B A 422W) and should e taken as close as possible to the end of the course of study. It is recommended that B A 495C be taken concurrently with A 422W, the capstone course for the BSB degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: B A 322, B A 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 497B (E R M 497B) Introduction to Sustainable Business (3) An introduction to sustainable business strategies and practices.

Introduction to Sustainable Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 497F Nittany Lion Fund Manager (3) In this course students manage the Nittany Lion Fund, an investor-owned, student-managed investment fund.

Nittany Lion Fund Manager (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 497F Nittany Lion Fund Manager (3) In this course students manage the Nittany Lion Fund, an investor-owned, student-managed, investment fund.

Nittany Lion Fund Manager (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Administration (B A)

B A 499 (IL) Foreign Study--Business Administration (1-18) Study in selected countries of business institutions, functions, and current business problems.

Foreign Study--Business Administration (1-18)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ACCTG 211;ECON 002, ECON 004;SCM 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 243 Legal Environment of Business (3) Social control through law: courts, basic policies underlying individual and contractual rights in everyday society. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 243.

Legal Environment of Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 340 Business Law (3) Course examines topics such as commercial paper, secured transactions, bankruptcy, suretyship, professionals' libility, malpractice, and related topics.

Business Law (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 341 Business Law I: Introduction to Contracts, Liability Issues, and Intellectual Property (3) An introduction to the business environment emphasizing business contracts, liability issues arising from business relations, including those in the internet realm and intellectual property issues. Alternative dispute resolution and global perspectives will be integrated throughout.

B LAW 341 Business Law I: Introduction to Contracts, Liability Issues, and Intellectual Property (3)

Business decisions have legal consequences. Such decisions can represent both legal risks and opportunities. It is important for one entering business to have a fundamental understanding of the governing legal principles. This course will provide an introduction to the U.S. legal system, coverage of the major components of contract law, and an examination of business liability issues under tort law. In addition, the intellectual property issues of trade secrets, trademarks, patents, and copyrights will be covered. The impact of digital technology and business globalization will be integrated into each topic discussed. The course will be taught in a lecture-discussion format to encourage interaction and exploration of difficult issues. The course text and materials will include key business legal cases.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MGMT 301, MGMT 301W orB A 304 ; Prerequisite or concurrent:FIN 301 orB A 301;MKTG 301, MKTG 301W orB A 303;SCM 301 orB A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 346 Agency, Employment & Business Structure (3) An examination of the laws governing agency relationships, employment, and the various structures of commercial enterprises.

B LAW 346 Agency, Employment & Business Structure (3)

This course is designed to provide the student with a systematic study of the laws governing agency relationships, employment issues, and the various business structures and forms that are available. In addition, this course will explore current trends affecting these areas while enhancing the student's ability to identify legal issues from the business decision maker’s point of view in order to create a greater skill set in business management and entrepreneurship. Student progress and mastery of the material will be evaluated through periodic examinations. Completion of the course is a requirement for the Legal Environment of Business Minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: B A 301 orFIN 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 410 Criminal Law in the Business Community (3) The basic principles of criminal law as they affect society and the business community.

Criminal Law in the Business Community (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: B A 243 orB LAW 243

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 424 (R EST 424) Real Estate Law (3) Analyze contemporary law applicable to various types of ownership interests and rights, methods of transferring ownership, and use of real property.

B LAW (R EST) 424 Real Estate Law (3)

The objectives for this course are: (1) to provide students with an understanding of essential U.S. real estate property law, including the rights private property owners may obtain, how ownership and transfer are handled in view of present and future interests, constitutional issues that impact real estate ownership, and the legal aspects of modern real estate contractual transactions; (2) to teach students the ability to spot the legal issues arising from the above as future business leaders and (3) to introduce students to the legal reasoning process necessary to address and avoid the legal dilemmas presented by such issues. Instructional methods for the course will include detailed lectures and classroom discussion of readings and other materials. Student progress and mastery of the material will be evaluated through periodic examinations. Completion of the course will be credited toward fulfillment of the requirements for the Legal Environment of Business Minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: B LAW 346

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 444 Advanced UCC and Commercial Transactions (3) All articles of the Uniform Commercial Code, banking relationships, debtor- creditor law, and bankruptcy law.

B LAW 444 Advanced UCC and Commercial Transactions (3)

This course is designed to: (1) provide the student with a systematic study of the laws governing sales transactions, the instruments for financing those transactions and rights and liabilities of debtors and creditors (the Uniform Commercial Code governs these issues); (2) to explore current trends in the law affecting commercial transactions; (3) to develop further the student’s legal reasoning processes; (4) to enhance the student's ability to identify legal issues from the business decision maker’s and financial auditor’s perspectives. Instructional methods will include lectures, readings, multimedia content, and class discussions. Student progress and mastery of the material will be evaluated through periodic examinations. Some state C.P.A. Boards require completion of this course as a prerequisite to obtaining certification as a public accountant. Completion of the course will be credited toward fulfillment of the requirements for the Legal Environment of Business Minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: B A 241 orB A 243 andACCTG 211 andB A 301 orFIN 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 425 (R EST 425) Environmental Law, Property, and Commerce (3) Examines the impacts of major federal environmental laws on business relations and property interests.

Environmental Law, Property, and Commerce (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: B A 243, B LAW 243 orE R M 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 445 Intellectual Property & Competition Law (3) Copyrights, trademarks, patents, and trade secrets followed by related topics in the regulation of competition.

B LAW 445 Intellectual Property & Competition Law (3)

The objectives for this course are to (1) provide students with an understanding of U.S. and international law that supports the creation of beneficial information via intellectual property rights, allows government to regulate information property through antitrust and privacy statutes, and promotes business development by encouraging competitive uses of information; (2) teach students the ability to spot the legal issues arising from the above as future business leaders and (3) introduce students to the legal reasoning process necessary to address and avoid the legal dilemmas presented by such issues. Instructional methods for the course will include detailed lectures and classroom discussion of readings and other materials. The course builds on the introductory business law curriculum by providing an advanced and detailed study of specific areas of law that are highly valuable to modern, technology-driven businesses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: B LAW 346

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 471 (CRIMJ 471) Legal Rights, Duties, Liabilities of Criminal Justice Personnel (3) Civil law issues within a justice agency and between criminal justice agencies and members of the public.

Legal Rights, Duties, Liabilities of Criminal Justice Personnel (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 473 (CRIMJ 473) Criminal Procedure and Evidence in the Business Community (3) Law of evidence and proof, constitutional constraints on police procedures (arrest, search, etc.) in society and the business community.

Criminal Procedure and Evidence in the Business Community (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 497 Special Topics (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 497A Legal & Regulatory Environment of Business Relationships (3) In this course, the legal construct of the employment environment is evaluated, especially the employer-employee relationship.

Legal & Regulatory Environment of Business Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Law (B LAW)

B LAW 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Business Logistics (B LOG)

B LOG 410 Transport Economics and Policy (3) Advanced study of the principles of transportation economics and their application and the impacts of transport policy choices.

Transport Economics and Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 100S Exploring Chemical Engineering First-Year Seminar (1) The exploration of Chemical Engineering and available career opportunities.

Exploring Chemical Engineering First-Year Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 210 Introduction to Material Balances (3) An integrated approach to the study of material balances and industrial chemical processes important in chemical engineering.

CH E 210 Introduction to Material Balances (3)

The objective of this course is to present an introduction to chemical engineering calculations, establish mathematical methodologies for the computation of material balances and to present an overview of industrial chemical processes. It is the introductory course in the chemical engineering curriculum and is normally taken in the sophomore year. It is prerequisite for several junior-level courses in the curriculum, including courses in process fluid dynamics, heat transfer and phase equilibrium.

The course reviews the fundamentals of chemistry and physics as they pertain to chemical problems and applies mathematics to the development of time-dependent equations to describe materials flow through a process. Examples of the processes studied include stoichiometry in combustion and other reactions, materials flow with recycle streams, humidification and drying process, and the analysis of non-steady systems. In addition, the course presents an introduction to Industrial Chemistry with an overview of steam reforming, ammonia synthesis and similar examples.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: or concurrent:MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 210H Introduction to Material Balances (Honors) (3) An integrated approach to honor-level study of material balances and industrial chemical processes important in chemical engineering.

CH E 210H Introduction to Materials Balances (Honors) (3)

The objective of this course is to present an introduction to chemical engineering calculations, establish mathematical methodologies for the computation of material balances and to present an overview of industrial chemical processes. The course reviews the fundamentals of chemistry and physics as they pertain to chemical problems and applies mathematics to the development of time-dependent equations to describe materials flow through a process. Examples of the processes studied include stoichiometry in combustion and other reactions, material flow with recycle streams, humidification and drying process, and the analysis of non-steady systems. The Honors version of the course places emphasis on the use of computational methods in the solution of chemical engineering problems through the use of advanced mathematical packages.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: or concurrent:MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 220 Introduction to Chemical Engineering Thermodynamics (3) Chemical process applications of energy balances, equations of state, thermodynamic properties of real fluids, second law of thermodynamics, cycles.

CH E 220 Introduction to Chemical Engineering (3)

This course is the introductory course in chemical engineering thermodynamics. It is normally scheduled in the sophomore year and is continued by a second course which covers the thermodynamics of phase transformations and chemical reactions. The emphasis of this course is in the development of the theory of thermodynamics and its application to pure substances. The theory is applied on the thermodynamic analysis of small- and large-scale processes with multiple streams and energy exchanges, how to compute heat and work loads, and how to assess the efficiency of the process with respect to energy utilization. Starting from small units, such as pumps, compressors, turbines, and heat exchangers, examples grow to include large systems such as power plants and refrigeration cycles, that may involve many interconnecting units and recycle streams. A parallel focus of the course is in the computation of thermodynamic properties through the use of charts, tables, and equations of state with emphasis on non-ideal systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: or concurrent:MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 220H Introduction to Chemical Engineering Thermodynamics (Honors) (3) Chemical process applications of energy balances, equations of state, thermodynamic properties of real fluids, second law of thermodynamics, cycles.

CH E 220H Introduction to Chemical Engineering Thermodynamics (Honors) (3)

CH E 220H is the introductory course in chemical engineering thermodynamics. The emphasis of this course is in the development of the theory of thermodynamics and its application to pure substances. The theory is applied on the thermodynamics analysis of small- and large-scale processes in closed and open systems. Students learn how to formulate the energy balance for a process with multiple streams and energy exchanges, how to compute heat and work loads, from small units, such as pumps, compressors, turbines, and heat exchangers, examples grow to larger systems such as power plants and refrigeration cycles, that may involve many interconnecting units and recycle streams. The Honors version of the course places special emphasis on (a) the connection between thermodynamics and molecular properties and (b) on the use of computational methods for the calculation of thermodynamic properties under non-ideal conditions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: or concurrent:MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 294 Research Project (1-12) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 320 Phase and Chemical Equilibria (3) Pure component phase properties, solution properties, equilibria among phases, equilibrium stage separations, chemical reaction equilibria.

CH E 320 Phase and Chemical Equilibria (3)

The course covers the fundamentals of phase and chemical equilibrium with emphasis on vapor/liquid systems and their applications to separation processes. It is the second course in chemical engineering thermodynamics and leads to the study of separations and reacting systems. Computational methodologies are presented for the calculation of the properties of mixtures and the construction of phase diagrams (P-x-y, T-x-y) using activity coefficients or equations of state. The theory is applied to the analysis of equilibrium stage separation such as distillation and extraction including the construction of McCabe-Thiele diagrams. In the last portion of the course the principles of equilibrium are further applied to chemically reacting systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CH E 210, CH E 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 300 Professional Development Seminar (1) Lectures and discussion by visiting engineers and faculty on chemical engineering, job selection, patents, licensing, ethics, and other professional problems.

CH E 300 Professional Development Seminar (1)

The course objective is to offer an orientation to the chemical engineering profession and to promote professional attributes such as professional ethics, lifelong learning, and awareness of environmental and societal factors and to highlight their importance in the career lives of chemical engineers. The course consists of a one-hour lecture each week by visiting speakers and Penn State faculty. For some lectures, reading material is distributed a week before the lecture and in some cases, the students must turn in the questionnaire in which they have to answer various questions related to the topic of that week. The topics vary from year to year, but several key topics are included each time the course is taught: ethics, environmental issues, process safety, patent law and intellectual property, graduate school, and job opportunities in various industries.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 330 Process Fluid Mechanics (3) An integrated study of the fundamentals and the quantitative design techniques involving flow of fluids in chemical processes.

CH E 330 Process Fluid Mechanics (3)

This course introduces the principles of fluid mechanics that are of fundamental importance to chemical engineers. The list of topics discussed in this course include the mechanical principles governing fluid flow, stress in a fluid, conservation of mass and momentum, using differential and integral balances, elementary constitutive equations, hydrostatics, exact solutions of the Navier-Stokes equations, approximate solutions using control volume analysis, mechanical energy balances and Bernoulli's equation, dimensional analysis and dynamic similarity, and introduction to boundary-layer theory and turbulence.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CH E 210, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 340 Introduction to Biomolecular Engineering (3) Introduction to concepts and principles of biomolecular engineering, with emphasis on biotechnology and pharmaceutical industries.

CH E 340 Introduction to Biomolecular Engineering (3)

This course introduces students to the concepts and principles needed to apply chemical engineering principles to the analysis of biological systems, with particular emphasis on the biotechnology and pharmaceutical industries. Students will learn to use appropriate search engines to identify and characterize specific genes and proteins, discuss similarities and differences between biological and chemical processes, perform statistical analyses of biological data, and estimate rates of enzymatic reactions and bioreactor mass transfer. This course is required for the B.S. degree in Chemical Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CH E 210, B M B 251, CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 330H Process Fluid Mechanics (Honors) (3) An integrated study of the fundamentals and the quantitative design techniques involving flow of fluids in chemical processes.

CH E 330H Process Fluid Mechanics (3)

This course introduces the principles of fluid mechanics that are of fundamental importance to chemical engineers. The list of topics discussed in this course include the mechanical principles governing fluid flow, stress in a fluid, conservation of mass and momentum, using differential and integral balances, elementary constitutive equations, hydrostatics, exact solutions of the Navier-Stokes equations, approximate solutions using control volume analysis, mechanical energy balances and Bernoulli's equation, dimensional analysis and dynamic similarity, and introduction to boundary-layer theory and turbulence.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CH E 210, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 350 Process Heat Tranfer (3) An integrated study of the fundamentals and the quantitative design techniques involving heat transfer in chemical processes.

CH E 350 Process Heat Transfer (3)

The objective of the course is to introduce to students heat transfer mechanisms in solids and fluids and their chemical process applications. At the conclusion of the course, the student should possess the ability to model steady and unsteady heat transfer in simple systems, and design heat exchangers and simple heat exchanger networks. The development of the material of this course requires use of thermodynamics and fluid mechanics, scheduled earlier in the curriculum, and sets the basis for the design of reactors and separation processes, which are covered in subsequent courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CH E 220 ; Prerequisite or concurrent:CH E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 360 Mathematical Modeling in Chemical Engineering (3) Mathematical model formulation for chemical and physical processes, including applications of ordinary differential equations and numerical methods.

CH E 360 Mathematical Modeling in Chemical Engineering (3)

This course covers the applied mathematical techniques necessary for the simulation of physical and chemical processes such as mass transfer and reacting systems, and the analysis of process dynamics. In the former area, the formulation of ordinary differential equations for a variety of situations of interest to chemical engineers is considered. Numerical methods and mathematical packages that form the basis for computer simulations are emphasized. In the latter area, the notions of steady-state, stability and controllability are introduced. The tools discussed in this course are used in subsequent courses on the analysis and design of chemical reactors and mass transfer processes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MATH 230, CH E 330 ; prerequisite or concurrent:CH E 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 410 Mass Transfer Operations (3) Introduction to principles and applications of mass transfer, with focus on the design of equilibrium stage and continuous contacting separation processes.

CH E 410 Mass Transfer Operations (3)

The objective of this course is to present the principles of mass transfer and their application to separation and purification processes. The course integrates fluid dynamics and thermodynamics and proceeds to develop rate expressions for mass transfer in multiphase, multicomponent systems. Starting with Fick's law and macroscopic balances the course moves to the design of large scale separation processes such as equilibrium stage separations (distillation, extraction) and continuous separation (absorption towers, scrubbers) for the separation and purification of chemical compounds. The course also introduces the use using modern software tools such as HySys, used in the actual design of such processes and also in the capstone design course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 320, CH E 330, CH E 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 430 Chemical Reaction Engineering (3) Chemical reaction rates and equilibria, reactors, reactor design; emphasis on industrial chemical processes.

CH E 430 Chemical Reaction Engineering (3)

This course teaches the principles of reaction engineering and reactor design. It is one of the core subjects in the chemical engineering curriculum and it is normally scheduled in the senior year. Students learn how to apply stoichiometry in combination with a rate law to design a chemical reactor that produces the desired conversion of reactants. The design of various types of chemical reactors is discussed at length, including continuous stirred-tank (CSTR), plug-flow (PFR), continuous-operation and batch-operation reactors. Additional topics include heterogeneous reactors, catalytic systems and fluidized beds, the design and optimization of reactor networks, and safety. The course integrates fluid mechanics and heat transfer to the design and analysis of isothermal and non-isothermal reactors. it leads to the capstone design course in which chemical reactors are integrated into a chemical plant.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 320, CH E 330, CH E 350, CH E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 432 (F SC 432) Petroleum Processing (3) A study of physical and chemical processes to convert crude oil into desired products with an outlook from present to future.

Petroleum Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 435 (F SC 435) Industrial Organic Chemistry (3) Chemistry and processes for producing organic chemicals and materials in existing and emerging new manufacturing sectors of organic chemical industry.

Industrial Organic Chemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 441 Polymer Processing (3) Application of principles of heat, mass, and momentum transfer to the analysis of polymer processing problems.

CH E 441 Polymer Processing (3)

This course is designed to give Chemical Engineering students a general background in the field of Polymer Science and Engineering and is offered as a technical elective. The main emphasis in the course is to develop student's abilities to use the fundamentals of heat, mass, and momentum transfer as well as chemical thermodynamics and kinetics to analyze problems associated with the production and processing of polymers. In some sense, the course can be considered a capstone course in which essentially all the fundamentals covered in the chemical engineering curriculum are utilized to analyze problems associated with polymer production and processing.

Topics include: basic terminology in Polymer Science and Engineering: chemical structure and physical states of polymers; application of thermodynamics to various processes including devolatilization; molecular weight and molecular weight distribution; polymerization kinetics and polymerization reactors; rheology and fluid mechanics; processing and fabrication of polymeric materials; process analysis with emphasis on extrusion and injection molding; recycling, environmental impact and legal impact on the polymer industry; heat and mass transfer problems in polymer processing.

In addition to the strictly technical aspects of the course, the students are given a general background concerning the polymer industry which includes topics such as the structure and history of the polymer industry, economic and social forces, recycling and environmental impact.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 330, CH E 350 orMATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 438 Bioprocess Engineering (3) Introduction to the biotechnology field including consideration of upstream and downstream processing of biochemicals.

Bioprocess Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 442 (MATSE 448) Polymer Processing Technology (3) Basic principles of polymer melt processing are reviewed and subsequently applied to the most important industrial processing operations.

CH E 442 (MATSE 448) Polymer Processing Technology (3)

CH E 442 involves both lectures and laboratory experiments illustrating the interrelations between structure, processing conditions, and physical properties of industrial polymer products. Students apply engineering fundamentals and principles of polymer melt rheology to analyze industrial processing operations. Unlike typical polymer processing courses offered at most U.S. universities, CH E 442 covers detailed analyses of individual processing operations, rather than dwelling on underlying polymer science fundamentals that are covered elsewhere in our curriculum. Students learn to optimize processing variables, given a particular set of materials and conditions, establishing how processing conditions impact the physical properties of finished polymer products. We explore the physics governing processing operations including extrusion, mixing, calendering, blow molding, thermoforming fiber spinning compression molding, injection molding, and nanolithography.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: MATSE 447 orCH E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 446 Transport Phenomena (3) Fundamental treatment of mass, heat, and momentum transfer; emphasis on transport properties and mathematical models of chemical engineering transport processes.

CH E 446 Transport Phenomena (3)

This is an intermediate course in transport phenomena intended to expand on the materials introduced in the required undergraduate courses on momentum, heat and mass transfer. It introduces the student to the rigorous formulation of transport problems using the conservation principles and flux expressions, and identifies the similarities and differences among the transport processes for momentum, heat, and mass. The main focus of the course is on microscopic treatment of transport problems, with particular emphasis on proper use of dimensional analysis and scaling arguments. Transport phenomena is a rather mathematical subject and the student is assumed to be familiar with ordinary and partial differential equations, elementary vector analysis, and elementary numerical techniques. This course is intended to prepare the student for a graduate-level course in transport phenomena.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 330, CH E 350, CH E 360 ; prerequisite or concurrent:CH E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 446H Transport Phenomena (3) Fundamental treatment of mass, heat, and momentum transfer; emphasis on transport properties and mathematical models of chemical engineering transport processes.

Transport Phenomena (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CH E 330, CH E 350, CH E 360 ; prerequisite or concurrent:CH E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 448 Advanced Mass Transfer Operations (3) Diffusion and mass transfer as applied to stagewise and continuous contact operations, including equipment design.

Advanced Mass Transfer Operations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 449 Bioseparations (3) Analysis and design of separation processes for the purification of biological molecules.

CH E 449 Bioseparations (3)

This course introduces students to the principles and applications of separation processes used for the purification of biological molecules, including fine chemicals, pharmaceuticals, and therapeutic proteins. By the end of the course students will be able to perform preliminary design calculations and scale-up of specific separation systems including centrifugation, filtration, chromatography, and membrane processes. Students will also be able to develop outlines of overall separation schemes appropriate for the purification of different biological products. This course is required for the Bioprocessing and Biomolecular Engineering Option in Chemical Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 450 Process Dynamics and Control (3) Analysis of time-dependent variables in chemical process plants; reactor design and control; computer applications.

CH E 450 Process Dynamics and Control (3)

The course is an introduction to chemical process dynamics and control and is offered as a technical elective. The first part of the course is devoted on the dynamical behavior of systems and the mathematical tools (differential equations, Laplace transforms) used in their analysis. The second part of the course covers the design and operation of various types of controllers, including proportional, integral and differential and their combinations. The theoretical principles are demonstrated with applications to chemical engineering processes such as storage tanks, chemical reactors and separation processes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: Prerequisite or concurrent:CH E 410, CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 452 Chemical Process Safety (3) This course provides an overview of Process Safety in the Chemical Industry, focusing on the nature of chemical plant addidents.

CH E 452 Chemical Process Safety (3)

The course will provide an overview of Process Safety in the Chemical Industry, focusing on the nature of chemical plant accidents, their causes, and steps to eliminate them, with emphasis on inherently safe designs. Chemical Plant accidents deal most often with Flammability and Toxicity issues and these are dealt with in great detail. The role of Human Error in accidents is also examined Actual case studies (including Bhopal, BP Texas City, Piper Alpha) will be examined to show the relevance in today's workplace. The course requires active student participation via discussions of system designs, their weakness and improvements. Guest lecturers will also be invited to supplement the material. This is offered as a senior elective in Chemical Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:CH E 410, CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 453 Advanced Chemical Engineering Thermodynamics (3) Physical and chemical equilibria in multicomponent systems, including chemically reacting and heterogeneous systems.

CH E 453 Advanced Chemical Engineering Thermodynamics (3)

This course covers advanced topics in Chemical Engineering Thermodynamics and is offered as a technical elective. It builds upon the introductory thermodynamics courses of the curriculum and expands the discussion to a variety of specialty topics which include computational methodologies for the calculation of phase diagrams, adsorption/desorption equilibrium, combined phase and chemical equilibrium and introduction to molecular and statistical concepts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 465 Design Projects in Chemical Engineering (1-6) Problems in design and/or synthesis of chemical engineering processes and/or systems, including a final report on project results.

CH E 465 Design Projects in Chemical Engineering (1-6)

This course covers various topics on the design of chemical engineering processes. The course is based on projects originating from industry, the Learning Factory, or design problems under the supervision of individual faculty members. The actual number of credits depends on the nature of each project. In all cases a final written report is presented to summarize the work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 410, CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 455 Advanced Chemical Reactor Design (3) Application of kinetics to reactor design: nonideal and nonisothermal reactors; scale-up techniques; adsorption and heterogeneous catalysis.

CH E 455 Chemical Reactor Design (3)

This course, offered as a technical elective in chemical engineering, covers advanced topics in chemical reaction engineering, including multiple-reaction engineering, non-ideal flow and residence-time distribution, two-dimensional reactor models, and multiple-phase reactors. Advanced topics in chemical kinetics are also introduced and may include combined mass transfer with chemical reaction, theories of chemical reaction rates, and population balances. Timely applications of chemical reaction engineering are introduced and may include heterogeneous catalysis, polymerization, biological reactions, thin-film growth, population dynamics, and particle processes. Advanced numerical methods for chemical reaction engineering are introduced and include methods of solving systems differential equations, algebraic equations, and partial differential equations. The course builds on introductory undergraduate courses in chemical reaction engineering, thermodynamics, fluid flow, heat transfer, and mass transfer.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 470 Design of Chemical Plants (3) Lectures and practicum on methods and calculations, including economic evaluations for the design of chemical plants; formal technical report required.

CH E 470 Design of Chemical Plants (3)

The chemical engineering capstone design course introduces the principles of process design and economic evaluation utilizing various industry computer tools, with special emphasis on process simulators. The student will develop critical design logic to evaluate a process, starting with block flow diagrams and simple material balances utilizing practical heuristics and then build the process flowsheet through computer simulation, flowsheet optimization, and detailed equipment design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CH E 410, CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 480M Chemical Engineering Laboratory (Honors) (3) Data interpretation and analysis from student-operated experiments on pilot-plant equipment. Individual written and oral technical reports.

CH E 480M Chemical Engineering Laboratory (Honors) (3)

CH E 480M is the laboratory course in chemical engineering. The objectives of CH E 480M is to provide hands-on experience with chemical engineering equipment and consists of a series of experiments that cover the major subjects in chemical engineering, namely, fluid flow, heat transfer, separations and reactions. The subject matter on which these experiments are based is taught in various junior-senior-level classes. This course does not introduce new material but focuses instead on planning, execution and interpretation of experiments. The special aspect of the honors section is that students will be given an open-ended experimental research project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 202C ; prerequisite or concurrent:CH E 410, CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 480W Chemical Engineering Laboratory (3) Data interpretation and correlation from student-operated experiments on pilot-plant equipment. Individual written and oral technical reports.

CH E 480W Chemical Engineering Laboratory (3)

This is the laboratory course in Chemical Engineering. Its objective is to provide hands-on experience with chemical engineering equipment and consists of a series of experiments that cover the major subjects in chemical engineering, namely, fluid flow, heat transfer, separations and reactions. The subject matter on which these experiments are based is taught in various junior- and senior-level classes. CH E 480W does not introduce new material but focuses instead on planning, execution and interpretation of experiments.

The course is team-based and includes laboratory sessions as well as lectures. Evaluation is based on the written and oral reports given based on experiments performed. These reports undergo several drafts, in which at different times students or faculty evaluate the report, suggesting corrections. Course evaluation may also include a "pre-exam" to assure that the students understand technical material coming into the course. Peers assess each others' performance (contributing to the grade), as does the faculty.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: ENGL 202C ; prerequisite or concurrent:CH E 410, CH E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 494 Research Projects in Chemical Engineering (1-6) An original problem, including a search of the literature, experimental investigation, and preparation in formal thesis form.

Research Projects in Chemical Engineering (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: Permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 494H Research Projects in Chemical Engineering (Honors) (1-6) An original problem, including a search of the literature, experimental investigation, and preparation in formal thesis form.

CH E 494H Research Projects in Chemical Engineering (1-6)

Undergraduate research projects for honors students leading to the generation of a thesis for the Schreyer Honors College. The content of this course typically falls within the research interests of the chemical engineering faculty. The work can be computational, theoretical or experimental in nature and culminates with the writing of an honors thesis. Students should select a thesis advisor prior to enrolling in this course and file an honors thesis proposal report form with the Schreyer honors College. A student outside of chemical engineering can take the course if they are working towards an honors thesis in chemical engineering. A student in chemical engineering can take this course with a co-advisor outside of chemical engineering: however, the CH E Faculty member is responsible for assigning the grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 497A Polymers and Complex Fluids (3) Introduction to the field of complex fluids, or "fluids with stuff in them" polymer melts and solutions (rubber cement, mucus, molten plastics, Silly Putty, DNA), self-assembled fluids (soap suspensions, foams, micromulsions, cell membranes, and colloidal suspensions (milk, paint, ink, blood).

Polymers and Complex Fluids (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 466

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemical Engineering (CH E)

CH E 497A Chemical Energy Technology (3) A survey of current and alternative chemical energy sources and conversion approaches.

Chemical Energy Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CH E 210 andCH E 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 001 (GN) Molecular Science (3) Selected concepts and topics designed to give non-science majors an appreciation for how chemistry impacts everyday life. Students who have received credit for CHEM 003, 101, or 110 may not schedule this course.

CHEM 001 Molecular Science (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 001 is designed for students who want to gain a better appreciation of chemistry and how it applies to everyone's everyday life. You are expected to have an interest in understanding the nature of science, but not necessarily to have any formal training in the sciences. During the course, you will explore important societal issues that can be better understood knowing some concepts in chemistry. The course is largely descriptive, though occasionally a few simple calculations will be done to illuminate specific information. The course does rely on your ability to think systematically, and to relate things to each other.

From year to year and instructor to instructor, the course may cover any number of a large variety of topics related to current events, including, but not limited to: air and water pollution, ozone depletion, global warming, acid rain, new and old methods of energy generation and energy use in modern society, examples of production and use of modern polymers, examples of production and use of modern drugs, examples of the chemistry of nutrition, examples of advances in biochemistry and how they affect us.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 003 (GN) Molecular Science With Laboratory (3) Selected concepts and topics designed to give non-science majors an appreciation for how chemistry impacts everyday life. Students who have received credit for CHEM 001, 101, or 110 may not schedule this course.

CHEM 003 Molecular Science with Laboratory (3)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 003 is a course that includes both lecture and laboratory. It is designed for students who want to gain a better appreciation of chemistry and how it applies to everyone's everyday life. You are expected to have an interest in understanding the nature of science, but not necessarily to have any formal training in the sciences. During the course, you will explore important societal issues that can be better understood knowing some concepts in chemistry. The course is largely descriptive, though occasionally a few simple calculations will be done to illuminate specific information. The course does rely on your ability to think systematically, and to relate things to each other.

From year to year and instructor to instructor, the course may cover any number of a large variety of topics related to current events, including but not limited to: air and water pollution, ozone depletion, global warming, acid rain, new and old methods of energy generation and energy use in modern society, examples of production and use of modern polymers, examples of production and use of modern drugs, examples of the chemistry of nutrition, examples of advances in biochemistry and how they affect us.

In the laboratory component, students will conduct experiments that are related to the lecture material being covered.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 021 Environmental Chemistry Laboratory (1) Introduction of basic laboratory techniques and data analysis used in environmental chemistry.

CHEM 021 Environmental Chemistry Laboratory (1)

This course will provide an introduction of basic laboratory techniques and data analysis used in environmental chemistry. The suggested laboratory experiments will consist of a broad range of scientific inquiry that will enhance the lecture material covered in CHEM 020. The course will provide laboratory experience in the chemistry of air, water, and solids. Experiments have been chosen that have a strong biology component such as Stream Ecology, Toxicity, Testing, and Dissolved Oxygen experiments. These experiments should relate to the BIOL 110 and 220 courses. The Chi-Square and Probability experiments will relate to STAT 250 course. The course will be an integral part of the Environmental Studies major providing an experimental chemistry background and experience.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Concurrent: CHEM 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 020 Environmental Chemistry (3) Applications of chemistry to environmental problems, including air, water, thermal pollution; pesticides; drugs and birth control agents; food additives; etc. For non-chemistry majors; chemistry majors will not receive credit.

CHEM 020 Environmental Chemistry (3)

Topics include the study of air, air quality, and the effects of various substances that create air pollution. Significant detail is given to ozone and its interactions in various layers of the atmosphere. The study of fossil fuels and hydrocarbon chemistry leads to an extensive discussion of global warming. Water contamination due to acid rain and acid mine drainage is studied in conjunction with acid-base chemistry. The concept of pH is discussed in detail. Newer sources of energy including fuel cells, photovoltaic cells, biomass fuels, and nuclear energy are investigated with much consideration given to the economics of fuels. These energy topics require a study of electrochemistry, nuclear chemistry, radioactivity and organic chemistry. Biological topics of drug design, toxic substances, pesticides, genetic engineering and food safety complete the course by covering numerous aspects of organic chemistry and biochemistry. Most topics also deal with the associated analytical chemistry of the substances discussed and the challenge of sample procurement, sample preparation, chemical analysis, and result interpretation considering analytical error. Methods of chemistry data presentation to the general public are investigated and ctiticized.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 101 (GN) Introductory Chemistry (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110.

CHEM 101 Introductory Chemistry (2-3)

CHEM 101 is an introductory chemistry course designed to prepare students for college level chemistry courses, such as CHEM 110 or CHEM 202. Prior study of chemistry is not assumed, so the course introduces the vocabulary along with some basic principles of chemical problem solving.

The course covers the following topics: matter and measurement, molecules and molecular compounds, ions and ionic compounds, chemical reaction types, stoichiometry, atomic and molecular weights, the mole, simple quantitative calculations with chemical reactions, the periodic table, nomenclature, electronic structure of atoms, simple periodic properties of the elements, chemical bonding, molecular geometry, and properties of various states of matter, acids and bases, and the basics of chemical equilibrium.

There are 2 and 3 credit versions of this course offered at different locations. The 3-credit version usually involves a laboratory component.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 106 (GN) Introductory and General Chemistry (5) Introductory chemistry and chemical principles for students who are required to take additional chemistry, e.g., CHEM 112, but are unprepared for CHEM 110.

CHEM 106 Introductory and General Chemistry (5)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 106 is an extended version of the first-semester comprehensive general chemistry course. It includes more class time for preparing students so that they learn introductory chemistry and general college level chemistry in one semester. As in CHEM 110, CHEM 106 introduces students to the basic principles of chemistry with an emphasis on the relationships between the microscopic structure and macroscopic properties of matter. Principles are illustrated with a wide variety of examples from the sciences, from engineering and technology, and from everyday life.

The course covers the following topics: matter and measurement, molecules and molecular compounds, ions and ionic compounds, chemical reaction types, atomic and molecular weights, the mole, quantitative calculations with chemical reactions, the periodic table, nomenclature, aqueous reactions and solution stoichiometry, thermochemistry, electronic structure of atoms, periodic properties of the elements, chemical bonding, molecular geometry, the gaseous, liquid, and solid states of matter, properties of solutions, some basic aspects of chemical equilibrium, and applications to the real world including environmental chemistry. GN credit for CHEM 106 requires that CHEM 111 also be completed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007
Prerequisite: satisfactory performance on the Math FTCAP test--i.e. placement beyond the level of MATH 022; orMATH 022 orMATH 041

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 101S (GN) Introductory Chemistry (2-3) Selected principles and applications of chemistry. Prior study of chemistry is not assumed. Students may take only one course for General Education credit from CHEM 101 or CHEM 110.

Introductory Chemistry (2-3)

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 021 ; or satisfactory performance on the MATH FTCAP examination-- i.e. placement beyond the level of MATH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 108 Problem Solving in Chemistry (1) Techniques, strategies, and skills for solving problems in general chemistry for students potentially at risk in CHEM 110.

CHEM 108 Problem Solving in Chemistry (1)

The purpose of CHEM 108 is to facilitate success in the first semester general chemistry course (CHEM 110). Students who need extra help in CHEM 110 are strongly encouraged to take CHEM 108 with CHEM 110. The course covers the same topics in the same sequence as the concurrent CHEM 110 course. It provides an opportunity for students to develop stronger problem solving skills through active and collaborative learning activities and skill building. CHEM 108 does not satisfy the General Education requirement and will not count toward graduation in some majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: recommendation by FTCAP an advisor or the program
Concurrent: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 110 (GN) Chemical Principles I (3) Basic concepts and quantitative relations. Students may take only one course for General Education credit from CHEM 110 or CHEM 101.

CHEM 110 Chemical Principles I (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 110 is the first semester of a two-semester, comprehensive general chemistry course that introduces the students to the basic principles of chemistry with an emphasis on the relationships between the microscopic structure and macroscopic properties of matter. Principles are illustrated with a wide variety of examples from the sciences, engineering and technology, and from everyday life. The course covers the following topics: matter and measurement, molecules and molecular compounds, ions and ionic compounds, chemical reaction types, atomic and molecular weights, the mole, quantitative calculations with chemical reactions, the periodic table, nomenclature, aqueous reactions and solution stoichiometry, thermochemistry, electronic structure of atoms, periodic properties of the elements, chemical bonding, molecular geometry, the gaseous, liquid, and solid states of matter, properties of solutions, some basic aspects of chemical equilibrium, and applications to the real world including environmental chemistry. GN credit for CHEM 110 requires that CHEM 111 also be completed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2009
Prerequisite: satisfactory performance on the Chemistry and Math FTCAP tests-- i.e. placement beyond the level of CHEM 101 and MATH 022; orCHEM 101 andMATH 022 orMATH 041

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 110H (GN) Chemical Principles I (3) Basic concepts and quantitative relations. Students may take only one course for General Education credit from CHEM 110 or CHEM 101.

Chemical Principles I (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: satisfactory performance on the Chemistry and Math FTCAP tests-- i.e. placement beyond the level of CHEM 101 and MATH 022; orCHEM 101 andMATH 022 orMATH 041

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 111 (GN) Experimental Chemistry I (1) Introduction to quantitative experimentation in chemistry.

CHEM 111 Experimental Chemistry I (1)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 111 is a one-credit introductory general chemistry laboratory. It is designed to complement the lecture course CHEM 110. The students are introduced to laboratory safety and good experimental technique, how to keep a proper laboratory notebook, interpret data, and write a formal report. The course introduces laboratory experimentation in the context of a variety of specific topics, such as reactions in solutions, spectroscopy, chemistry of natural waters, acids and bases, and the synthesis and analysis of chemical compounds. GN credit for CHEM 111 requires that CHEM 106 or CHEM 110 or CHEM 110H also be completed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 110 orCHEM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 111S (GN) Experimental Chemistry I (1) Introduction to quantitative experimentation in chemistry.

Experimental Chemistry I (1)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:CHEM 110 orCHEM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 112H (GN) Chemical Principles II (3) Continuation of CHEM 110, including an introduction to the chemistry of the elements.

Chemical Principles II (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 110 orCHEM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 112 (GN) Chemical Principles II (3) Continuation of CHEM 110, including an introduction to the chemistry of the elements.

CHEM 112 Chemical Principles II (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 112 is the second semester of a comprehensive, two-semester general chemistry sequence following CHEM 110. It uses the same text as CHEM 110 and builds upon the subject matter of that course. The course covers the following topics: reaction rates and chemical kinetics, catalysis, acid-base equilibria, the pH scale, common-ion effect, acid-base titrations, factors that affect solubility, buffers, chemical thermodynamics, entropy, free energy, electrochemistry, oxidation-reduction reactions, oxidation numbers, voltaic cells, batteries, corrosion, electrolysis, chemistry of the nonmetals such as hydrogen, oxygen, nitrogen, halogens, noble gases, transition metals, modern materials, alloys and metallurgy, nuclear chemistry, radioactivity, fission and fusion. GN credit for CHEM 112 requires that CHEM 113 or CHEM 113B also be completed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2009
Prerequisite: CHEM 110 orCHEM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 113 (GN) Experimental Chemistry II (1) Continuation of CHEM 111, with emphasis on topics related to CHEM 112.

CHEM 113 Experimental Chemistry II (1)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

CHEM 113 is a second-semester, one-credit introductory general chemistry laboratory course meant to complement the lecture course CHEM 112. The course builds on material learned in CHEM 111 with emphasis on quantitative analytical procedures. Essential material covered includes proper use of a laboratory notebook, writing of a formal laboratory report, use of the chemical literature, experimental design, interpretation of data using statistics, laboratory safety procedures, and an appreciation for what instruments can and cannot do. The course introduces laboratory experimentation in the context of a variety of specific topics, for example: halogens, their compounds and their reactions chemical kinetics of a simple chemical reaction; acid-base equilibria and titrations; oxidation-reduction reactions and electrochemistry; separations of compounds using paper and liquid chromatography; separations using gas chromatography. GN credit for CHEM 113 requires that CHEM 112 or CHEM 112H also be completed.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007
Prerequisite: CHEM 111 . Prerequisite or concurrent:CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 113B (GN) Experimental Chemistry II--Bioscience (1) A continuation of CHEM 111 with emphasis on topics related to CHEM 112 in the context of bioscience.

CHEM 113B Experimental Chemistry II - Bioscience (1)

CHEM 113B is a one-credit introductory general chemistry laboratory course meant to complement the lecture course CHEM 112. This course builds on material learned in CHEM 111. It has the same goals, and covers similar topics to CHEM 113, and for this reason should count as CHEM 113, regardless of major. The main difference is that CHEM 113B covers chemical topics in the context of experiments with biological relevance. The emphasis is on quantitative analytical procedures. Essential material covered includes proper use of a laboratory notebook, writing of a formal laboratory report, use of the chemistry literature, experimental design, interpretation of data using statistics, laboratory safety procedures, and an appreciation for what instruments can and cannot do. The course introduces laboratory experimentation in the context of a variety of specific topics, for example: alcohols; enzyme kinetics; acid-base equilibria and titrations; separations of compounds using paper and liquid chromatography, separations using gas chromatography. GN credit for CHEM 113B requires that CHEM 112 or CHEM 112H also be completed.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 111 . Prerequisite or Concurrent:CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 202 Fundamentals of Organic Chemistry I (3) Introduction to organic chemistry, with emphasis on the properties of organic compounds of biochemical importance. Because of duplication of subject matter, students may not receive credit for both CHEM 202 and CHEM 210.

CHEM 202 Fundamentals of Organic Chemistry I (3)

CHEM 202 is a one-semester, comprehensive course that introduces the students to the fundamental principles of organic chemistry including relationships between the molecular structure of organic compounds and their macroscopic properties. Some of the principles are illustrated with a variety of examples from nature and everyday life. The course covers the following topics: alkanes; alkenes, including polymers; alkynes; benzene and aromaticity; alcohols and phenols; ethers; aldehydes; ketones; carboxylic acids and their acyl derivatives; amines; alkyl halides; nomenclature; stereochemistry, including conformational analysis and chirality. Chemical reactions of the functional groups will be discussed along with the mechanistic details, including stereospecificity, of some of these processes. Biological molecules such as carbohydrates, lipids, steroids, peptides/proteins and nucleic acids, along with their importance in living systems, will be surveyed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 101 orCHEM 110 orCHEM 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 203 Fundamentals of Organic Chemistry II (3) Introduction to organic chemistry, with emphasis on the identification of organic compounds by characteristic chemical reactions and by spectroscopy. The course involves both lecture and laboratory. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.

CHEM 203 Fundamentals of Organic Chemistry II (3)

CHEM 203 is a one-semester organic chemistry course that has both lecture and laboratory components. The lecture introduces students to the basic theory and application (structure determination) of different types of spectroscopy (nuclear magnetic resonance spectroscopy, infrared spectroscopy, and ultraviolet-visible spectroscopy) and mass spectrometry. Certain chemical reactions learned in CHEM 202 will be reviewed along with the mechanistic details of some of these processes. Special topics such as drug discovery, natural product isolation, and synthesis will be surveyed. The laboratory teaches students the fundamental techniques used by organic chemists such as recrystallization, melting point determination, distillation, extraction, thin-layer chromatography, and column chromatography. Mastery of these basic techniques lays the foundation for carrying out organic syntheses and/or natural product isolations. Students are given hands-on access to instrumentation for the characterization of synthetic products or organic unknowns using standard analysis methods such as IR, NMR, UV/V is spectroscopy, mass spectrometry, polarimetry, HPLC, GC and GC-MS. Students are responsible for writing laboratory reports for all experiments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 210 Organic Chemistry I (3) Principles and theories; nomenclature; chemistry of the functional groups; applications of spectroscopy. Because of duplication of material, students may not receive credit for both CHEM 210 and 202.

CHEM 210 Organic Chemistry I (3)

Organic chemistry is an essential subject for many scientific disciplines, particularly those in the life, materials, and chemical sciences as well as chemical engineering. The fundamentals of organic chemistry, as developed in Chemistry 210, the first part of a two semester organic chemistry sequence, are required for scientists to understand the electronic structure and reactivity of simple and complex molecules. Organic chemistry is built on a few and relatively simple concepts that allow a large but highly interconnected discipline to be easily understood. Successful students will not only understand and be able to apply organic chemistry, but they will have developed the capabilities and skills to solve other difficult problems in their own careers. Concepts taught in CHEM 210 include bonding, molecular orbital theory, valence bond theory, hybridization, Lewis acids and bases, isomer, functional groups and their reactivity, organic reaction mechanisms, electrophiles, nucleophiles, electrophilic addition reactions, nucleophilic substitutions, elimination reactions, stereochemistry, and aromaticity. The chemistry of alkenes, alkynes, alkyl halides, dienes, aromatic molecules, alcohols, and ethers is covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 210H Organic Chemistry I (4) Principles and theories; nomenclature; chemistry of the functional groups; applications of spectroscopy. Because of duplication of material, students may not receive credit for both CHEM 210 and 202.

Organic Chemistry I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 212 Organic Chemistry II (3) Continuation of CHEM 210. Emphasis is placed on the role of organic reactions in biological chemistry.

CHEM 212 Organic Chemistry II (3)

This course will continue to build upon the important concepts learned in the prerequisite course, CHEM 210, with an emphasis on reactions mechanisms and organic synthesis. The course will begin with conceptually new material that will be applied in the laboratory course, namely, the elucidation of the structures of organic compounds using mass spectrometry, infrared spectroscopy and nuclear magnetic resonance spectroscopy. The majority of the new material is concerned with the chemistry of carbonyl compounds and includes: 1) the nucleophilic addition reactions of ketones and aldehydes; 2) nucleophilic acyl substitution reactions of acid chlorides, anhydrides, esters and amides; 3) carbonyl alpha-substitution reactions and 4) carbonyl condensation reactions. The latter part of the course will be concerned with biologically relevant compounds such as amines, amino acids/peptides/proteins and carbohydrates.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 213 Laboratory in Organic Chemistry (2) Basic laboratory operations; synthesis and chemical or instrumental analysis. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.

CHEM 213 Laboratory Organic Chemistry (1-2)

A strong foundation in organic laboratory skills is provided by this laboratory course. Laboratory work includes learning the basic techniques and recrystallization/melting point determination, distillation, liquid/liquid extraction, thin layer, chromatography and column chromatography. Mastery of these basic techniques lays the foundation for carrying out a number of organic syntheses or natural product isolations. Students are often provided with hands-on access to instrumentation for the characterization of synthetic products or organic unknowns using standard analysis methods such as IR, NMR, UV/V is spectroscopy, mass spectrometry, polarimetry, HPLC, GC and GC-MS. Chemistry 210 is a prerequisite and CHEM 212 may be* a co-requisite for this course, because they provide the theoretical background for the reaction chemistry as well as the spectroscopic characterization of organic molecules.

*Note: The number of credits and meeting times vary from location to location. Some locations offer CHEM 213 as two one-credit courses to be taken in sequential semesters, whereas other locations offer CHEM 213 as a single-semester two-credit course. Normally, the latter format involves two 3-hour labs per week in addition to extensive written work outside of the laboratory. The prerequisite / concurrent requirement for CHEM 212 does not apply when CHEM 213 is taken as a 1 credit course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210 . Prerequisite or concurrent:CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 212H Organic Chemistry II (3) Continuation of CHEM 210. Emphasis is placed on the role of organic reactions in biological chemistry.

Organic Chemistry II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 213B Laboratory in Organic Chemistry--Bioscience (2) Basic laboratory operations; synthesis and chemical or instrumental analysis of materials of biological significance. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.

CHEM 213B Laboratory in Organic Chemistry - Bioscience (2)

A strong foundation in organic laboratory skills is provided by this intensive, 2-credit laboratory course. This course covers the same laboratory techniques as Chemistry 213 and fulfills the same course requirements for all science and science related majors. It is listed as a separate course because the organic content is focused on bioorganic chemistry and it also has a group project assignment. Students will attend two 3-hour labs per week in addition to extensive written work outside of the laboratory. The written work is divided into two parts that consist of pre-laboratory exercises that must be completed prior to attending each laboratory session and post-laboratory final reports due throughout the semester. The laboratory work during the first half of the semester involves learning the basic techniques of recrystallization/melting point determination, distillation, liquid/liquid extraction, thin layer chromatography, and column chromatography. In the second half of the semester, these techniques are applied to an instructor-assigned group research project that focuses on bioorganic transformations. Each student performs a literature search that is utilized to produce a group project proposal. The group then carries out their proposed experiments and produces a group final report and project poster that is presented at a departmental poster session. Students are provided with hands-on instruction to carry out characterization of their isolated reaction products using IR, NMR, UV/VIS, polarimetry, HPLC, GC, and or GC/MS. Students are also required to identify an unknown which provides additional training in instrument operation and structural interpretation. Chemistry 210 is a prerequisite and Chemistry 212 is a pre- or co-requisite for this course, because these lecture courses provide the theoretical background for the reaction chemistry as well as the molecular characterization of organic molecules.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210 . Prerequisite or concurrent:CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 221 Quantitative Analysis (4) Traditional methods of gravimetric, volumetric, and electrochemical analysis, emphasizing acid-base, solubility, and oxidation-reduction equilibria.

CHEM 221 Quantitative Analysis (4)

CHEM 221 is meant to provide the student with the tools necessary to develop an analytical approach to chemical problems. The principles, methodology and practical aspects of traditional and modern quantitative chemical analysis will be discussed. Topics covered in the course will include gravimetric, volumetric, and electrochemical analysis, emphasizing acid-base, solubility, and oxidation-reduction equilibria. In addition, the role of stoichiometry and chemical equilibrium in the practice of quantitative analysis will be emphasized. The theory and application of these techniques and will be covered both in lecture and laboratory.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 213H Laboratory in Organic Chemistry (2) Basic laboratory operations; synthesis and chemical or instrumental analysis. Because of duplication of subject matter, students may not receive credit for both CHEM 203 and CHEM 213.

Laboratory in Organic Chemistry (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 210 . Prerequisite or concurrent:CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 227 Analytical Chemistry (4) Analytical methods used in the biological and physical sciences with special e emphasis on acid-base and complexation equilibria, electrochemistry, and the fundamental principles of spectroscopy and separations.

CHEM 227 Analytical Chemistry (4)

The purpose of this course is to provide students with a rigorous and comprehensive exposure to the analytical techniques and methods used in biotech, environmental, forensic, and pharmaceutical industrial and research laboratories. Laboratory and lecture are fully integrated emphasizing the importance of the laboratory component to achieving mastery of overall course content. The laboratory combines skill-building exercises with open-ended, hands-on and inquiry-based thematic experiments that combine the concepts of precipitation, acid-base equilibria, chelation, redox, UV/VIS spectroscopy, extraction equilibria and their pH dependencies, and forensic applications of chromatography. Along with learning the chemistry, students will develop experience with computer-interfaced instrumentation, computer-assisted data acquisition, and manipulation of large data sets using computers. These are all crucially important skills that must be developed in students training to be scientists. Students are evaluated on their ability to write, speak clearly, work effectively as part of a team, have good organizational skills, be able to define a problem, gather and analyze samples, suggest solutions based on the data, and the application of these core competencies to real-world problems, in complex and challenging environments while paying attention to quality assurance, controls, external and internal standards and validation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 113 andMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 233 (GH;GN) (ENGL 233) Chemistry and Literature (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature throughout history, and the relationship of science to society, culture, and values.

CHEM (ENGL) 233 Chemistry and Literature (3)
(GN or GH)

CHEM/ENGL 233 is a pedagogically innovative course that will be team taught by an instructor from the English department and one from the Chemistry department. Both instructors will be present in the classroom throughout the semester, providing joint presentations and leading discussions. Students may earn either GH or GN credit for the course, but not both. This course teaches both basic concepts of chemistry and their cultural elaboration in literature. It seeks to provide students with a nuanced understanding of how literature and science inform each other and negotiate cultural, religious, and political tensions. The course seeks to explore ways in which our modern world is defined by and dependent on a variety of sciences and technologies. The impact of scientific and technological discoveries continues to dominate discussions of who we are, where we come from, where we are going, and our place in the universe. Understanding how we, as a society, have acquired knowledge is especially important when the ideas, perspectives, and discoveries are perceived to be in conflict with our religious, cultural, or political beliefs. Understanding the origin and development of these ideas, perspectives, and discoveries is an essential component of science and scientific achievement, but too often our methods of teaching science focus almost exclusively on teaching facts and theories at the expense of the historical discovery and development of those facts and theories. This course teaches both the scientific facts and theories and the contexts of their production in order to sharpen students' abilities at critical evaluation of facts. The literary and scientific focus will vary from class to class, but may include writings by literary authors such as Edward Bulwer-Lytton, Bram Stoker, H. G. Wells, Garrett Serviss, William Butler Yeats, Arthur Machen, D. H. Lawrence, A. E. Waite, Aleister Crowley, Arthur Conan Doyle, and Camille Flammarion, and scientific texts by scientists such as William Crookes, William Ramsay, Frederick Soddy, Ernest Rutherford, Wilhelm Comad Roentgen, Henri Bequerel, J. J. Thomson, Niels Bohr, and Marie Curie. Like many literature courses, ENGL/CHEM 233 interprets history, assesses individual and social behavior, engages philosophical ideas, and expresses ethical and aesthetic values. It is especially useful at exploring cultural and social tensions involving scientific knowledge. For students in science programs, the course will explore the technical and conceptual dimensions of scientific knowledge in historical and cultural context. Political, cultural and personal motivations are integral components of the scientific method and deeply influenced the discovery of many of the fundamental chemical and physical concepts students are expected to master in their science curricula.

Students should expect to take two exams consisting of a midterm and a final, to write at least two papers for the course demonstrating their abilities at literary analysis and grappling with the themes of the course, and to make a group presentation to the class. Classroom discussion and general class participation will also be a factor in evaluation.

The course can be used as an elective credit toward the English Major and Minor, and can help students in English, Chemistry, or any other major fulfill General Education degree requirements.

General Education: GH;GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 294H Special Problems and Research - Honors (1-4 per semester, maximum of 12) Designed for freshman or sophomore students who are prepared to undertake special problems and research by arrangement with a faculty member.

Special Problems and Research - Honors (1-4 per semester, maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 294 Special Problems and Research (1-4 per semester, maximum of 12) Designed for freshman or sophomore students who are prepared to undertake special problems and research by arrangement with a faculty member.

Special Problems and Research (1-4 per semester, maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 310 Introductory Inorganic Chemistry (3) Conceptual and descriptive aspects of inorganic chemistry, focusing on structures, bonding, and properties.

CHEM 310 Introductory Inorganic Chemistry (3)

CHEM 310 covers the structure, bonding, and properties of inorganic molecules and solids. Theories and models of chemical bonding including valence bond theory, crystal field theory, and molecular orbital theory are applied to inorganic molecules, coordination compounds, and solids. Aspects of structural inorganic chemistry are presented, including molecular geometry, symmetry and point groups, and structures of metallic, ionic, and covalent solids. Transition metals are discussed, including key aspects of structure, bonding, and properties. The course also covers acids and bases, oxidation and reduction, and coordination chemistry. Special topics such as organometallic chemistry, solid-state inorganic materials, inorganic nanoscience, bioinorganic chemistry, and the chemistry of the elements might also be included.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 301 Environmental Chemistry and Analysis (3) Chemical principles, interpretation, and methods of analysis for groundwater, water supply, wastewater treatment, stream pollution.

CHEM 301 Environmental Chemistry and Analysis (3)

The objective of the course is to introduce students to water quality chemistry and the associated laboratory analytical techniques commonly used in groundwater, water supply, wastewater treatment, stream pollution control. This course will be instructed with classroom lectures, laboratory exercises, and a project. These laboratory exercises include pH, solids, turbidity, alkalinity, acidity, dissolved oxygen, biochemical oxygen demand, chemical oxygen demand, total organic carbon, chlorine residual, chlorine demand, nitrogen, phosphorus, nitrate, sulfate, chloride, hardness, and metals. This course involves two lecture periods and one laboratory period each week. The students will be evaluated with quizzes, midterm examination, final examination, laboratory reports, and a project report.

The course has a prerequisites of a two-semester General Chemistry course and the associated laboratory courses. This course is a prerequisite for Water Supply and Pollution Control which is one of core courses for Environmental Engineering Program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 316 The Professional Chemist (1) Industrial employment opportunities and challenges; graduate and professional school opportunities; tailoring the chemistry curriculum to career goals.

CHEM 316 The Professional Chemist (1)

This junior-level seminar course is designed to help prepare chemistry majors to take advantage of opportunities provided by the Department and community of professional chemists in choosing, attaining, and furthering their career goals. A number of guest lectures cover a variety of career-related topics. Careers in the pharmaceutical, chemical production, biotechnology, and analytical sectors and other specialty companies will be discussed. Also, various academic careers paths are presented and compared. Preparing for chemistry graduate school and other post graduate training will be an important element of this seminar. Most of the meetings of the course will be primarily informational. A graded short presentation on a chemistry related topic is also required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: fourth-semester standing in chemistry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 395 Chemistry Teacher Assistant Training (1-2) Instruction and practice in the role of the teaching assistant in the undergraduate chemistry laboratory.

Chemistry Teacher Assistant Training (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 400 Chemical Literature (1) Instruction in use of the library and of the literature of chemistry.

CHEM 400 Chemical Literature (1)

CHEM 400 covers an orientation to use the library; sources of organic and inorganic synthesis information; use of relevant indexing and abstracting services; spectral data sources; patent literature; sources related to general chemical information, and properties data. Additional topics may be included as time permits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: 12 credits of chemistry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 402 Chemistry in the Environment (3) Chemistry of the atmosphere, natural waters, and the land surface with particular focus on human influence on processes occurring therein.

CHEM 402 Chemistry in the Environment (3)

Fundamental and descriptive aspects of the sources, reactions, transport, and effects of chemical species, both natural and synthetic, in water, air, soil, and living systems, and the influence of human activities on these processes. The goal of the course is to gain an understanding of the theory and application of the fundamental processes that determine the distribution and transport of inorganic and organic substances in the environment; the techniques for determining important physicochemical properties that influence environmental fate; and the major sources of important classes of environmental chemicals. Rapid increases in technological sophistication have led to startling innovations in our everyday lives almost unthinkable a century ago. However, at the same time, advances in science and engineering have complicated how we live and react to the new technologies and, at times, force consideration of complex issues before our need for reflection. Approaching problems from different directions and perspectives is fundamental to our understanding of Earth processes. New and continued emphasis in global warming, loss of biodiversity, ozone layer depletion, acid mine drainage, sustainable development and energy use are only a few of the major environmental threats which require an intelligent and informed response. As such, the course provides a balanced discussion of the hard science and social sciences aspects of environmental issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 212 . Prerequisite or concurrent:CHEM 450 orCH E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 406 (NUC E 405) Nuclear and Radiochemistry (3) Theory of radioactive decay processes, nuclear properties and structure, nuclear reactions, interactions of radiation with matter, biological effects of radiation.

CHEM 406 Nuclear and Radiochemistry (3)

CHEM 406 provides a basic introduction to many of the important physical phenomena in nuclear and radiochemistry and the theories that describe them. The exposition of both experimental phenomena and theory complements the content of other upper-level courses in physical chemistry such as CHEM 450 and 452.

Specifically, the types of radioactive decay are described, and, using this information, the equations that relate the growth and decay, i. e., the kinetics, of radioactive nuclei are derived. In parallel, a variety of types of nuclear reactions, such as neutron capture are introduced and used to develop the equations that governing the kinetics of nuclear reactions, including the concept of cross section. To describe the nature of nuclear matter, the relationships between energy, binding energy, and mass, are developed and augmented with the introduction of related quantities including the nuclear magnetic-dipole moment, total angular momentum of the nucleus, and Fermi-Dirac and Bose-Einstein statistics. A basic introduction to quantum mechanics, including several problems of increasing complexity, namely, the one-dimensional particle-in-a-box, the three-dimensional particle-in-a-cubic-box, and the particle-in-a-spherical box is then provided. The latter problem forms the basis for developing the single-particle shell-model of the nucleus, which is compared to the single-particle shell-model of the atom, namely, the hydrogen-atom problem. The barrier-penetration theory of alpha-decay, Fermi's phase-space theory of beta-decay, and the selection rules for gamma-ray decay are then presented. Final topics include the interactions of radiation with matter and the biological effects of radiation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 452 orPHYS 237 orNUC E 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 408 Computational Chemistry (3) Introduction to numerical and nonnumerical computer uses in physical science.

CHEM 408 Computational Chemistry (3)

CHEM 408 introduces some of the many ways in which computers are used in modern chemical research. The main emphasis is on “molecular modeling” including such topics as electronic structure calculation, molecular mechanics, molecular dynamics and Monte Carlo simulation methods. In lesser detail, chemical informatics will also be considered, time permitting. Discussion of the theoretical underpinnings of these various methods and their range of applicability will be combined with exercises illustrating the use of several current chemical software packages and with assignments based on critical reading of illustrative literature papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: Prerequisite or concurrent:CHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 410 Inorganic Chemistry (3) Conceptual and descriptive aspects of nontransition elements, covering structural, thermodynamic, and kinetic features.

CHEM 410 Inorganic Chemistry (3)

CHEM 410 covers structure and bonding in inorganic chemistry, including the chemistry of main group elements and selected topics in transition metal chemistry. Theories and models of chemical bonding (valence bond theory, crystal field theory, and molecular orbital theory) are applied to inorganic molecules, coordination compounds, and solids. The course also covers the following topics: periodic trends in the chemistry of the d- and p-block elements, structural solid state chemistry, magnetism of transition metal complexes and inorganic solids, ionic and covalent bonding in solids, electronic properties of metals, alloys, superconductors, and semiconductors, synthesis of inorganic materials, and properties of nanoscale inorganic solids.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 202 orCHEM 210 . Prerequisite or concurrent:CHEM 450 orCHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 413W Chemistry of the Elements (4) Theoretical and descriptive chemistry of the elements; laboratory synthesis and measurements in inorganic, coordination, and transition metal chemistry.

CHEM 413W Chemistry of the Elements (4)

CHEM 413W is divided into two parts that together give an overview of modern inorganic chemistry. The first part involves the descriptive and theoretical aspects of atomic structure (including periodic trends), theories and models of chemical bonding (ionic, valence bond theory and molecular orbital theory), solid state structure and chemical consequences of structure (polarity and acid/base properties). Symmetry and some group theory are introduced early and used throughout the course. In the second half of the course, coordination chemistry is the major focus. Theoretical aspects of the structure, bonding (crystal and ligand field theories), magnetism, electronic spectra, and kinetics and thermodynamics of ligand substitution reactions of transition metal complexes are explored. Organometallic and bioinorganic chemistry is discussed as special topics, time permitting. The laboratory consists of a small part of the classic qualitative analysis scheme to encourage an understanding of descriptive chemistry and additional experiments (involving the synthesis of coordination compounds) that require more advanced laboratory skills such as inert atmosphere and gas handling techniques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 412 Transition Metal Chemistry (3) Structure and bonding of compounds containing transition metals.

CHEM 412 Transition Metal Chemistry (3)

CHEM 412 covers the chemistry of the transition metals, and in particular the d-block elements. Major areas of emphasis include coordination chemistry, organometallics, and the role(s) of transition metals in biology. The course covers the following topics: molecular symmetry with applications to bonding and vibrational spectroscopy, coordination chemistry, structural and optical isomers, crystal and ligand field theories, electronic structure and electronic transitions, spectroscopic methods for probing transition metal complexes, kinetics and thermodynamics of ligand substitution reactions, oxidation-reduction reactions, organometallic complexes and their basic reaction types, homogeneous and heterogeneous organometallic catalysts and their reaction cycles, the interactions of metal ions with biological molecules, the function of transition metal ions in metalloproteins, and medically-important transition metal complexes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andCHEM 202 orCHEM 210 . Prerequisite or concurrent:CHEM 450 orCHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 423 Chemical Spectroscopy (3) Modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis.

CHEM 423 Chemical Spectroscopy (3)

The course reviews modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis. Topics include electronics, optics, and atomic and molecular spectroscopy (UV-VIS, Fluorescence, FTIR, Raman, liquid- and solid-state NMR). The course material is designed to increase student understanding of both the analytical instruments used in the laboratory and the principles underlying the measurements. Evaluation of student performance is based on the level to which a student understands how an instrument operates and how particular components determine overall performance and specifications; limitations to measurements as a function instrument design; criteria by which one selects an appropriate instrument to obtain the desired measurements; and criteria by which one selects appropriate components to build an instrument for specific uses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: CHEM 452, CHEM 457

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 423W Chemical Spectroscopy (4) Modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis.

CHEM 423W Chemical Spectroscopy (4)

The course reviews modern methods and instruments of spectroscopy and their applications to problems of chemical structure and analysis. Topics include electronics, optics, and atomic and molecular spectroscopy (UV-VIS, Fluorescence, FTIR, Raman, liquid- and solid-state NMR). The course thoroughly integrates lecture and laboratory activities. The laboratory component incorporates skill-building exercises with open-ended guided-inquiry laboratory exercises and a semester-long laboratory- and literature-based research project. Students work in small groups (2-3 students) to complete each assignment. Students are required to write five research papers during the semester. Four of the reports are linked to the core course topics and the fifth is associated with the semester-long research project. All reports require students to search for and read the relevant published literature.

The course is designed to be rigorous and comprehensive in scope. The writing component for this course includes: maintaining a proper laboratory notebook; five approximately 10-page reports; and an oral poster presentation. All writing elements are reviewed and graded by the instructor and teaching assistants. The writing component of the course accounts for 50% of the total course grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 452, CHEM 457

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 425 Chromatography and Electrochemistry (3) Gas, liquid, and other forms of chromatography; important techniques of electrochemistry.

CHEM 425 Chromatography and Electrochemistry (3)

The course topics include gas, liquid, and other forms of chromatography, mass spectroscopy, and important techniques of electrochemistry. The course material is designed to increase student understanding of both the analytical instruments used in the laboratory and the principles underlying the measurements. Evaluation of student performance is based on the level to which a student understands how an instrument operates and how particular components determine overall performance and specifications; limitations to measurements as a function instrument design; criteria by which one selects an appropriate instrument to obtain the desired measurements; and criteria by which one selects appropriate components to build an instrument for specific uses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 450 andCHEM 457

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 427W (FRNSC 427W) Forensic Chemistry (4) Analytical and instrumental methods used in the forensic sciences with special emphasis on the analysis and characterization of trace evidence.

CHEM (FRNSC) 427W Forensic Chemistry (4)

The purpose of this course is to provide students with a rigorous and comprehensive exposure to the techniques and methods used in private, state and federal crime labs in the analysis of trace evidence. The course thoroughly integrates lecture and laboratory activities to explore the history, controversies and current issues related to each topic. The laboratory component incorporates skill-building exercises with open-ended guided-inquiry laboratory exercises and a semester-long laboratory- and literature-based research project. Students work in small groups (2-3 students) to complete each assignment. Students are required to write five research papers during the semester. Four of the reports are linked to the core course topics and the fifth is associated with the semester-long research project. All reports require students to search for and read the relevant published literature.

The course is relevant to any student majoring in Forensic Sciences or who has an interest in obtaining employment in a crime lab. The course is required for accreditation through the American Association of Forensic Sciences and is recommended by the National Institute of Justice in their published recommendations for undergraduate curricula in the forensic sciences. The proposed course and the course in Forensic Anthropology/Biology comprise the core 400-level science courses required in the Forensic Sciences major.

The course is designed to be rigorous and comprehensive in scope. Grades will be based on in-class lecture examinations (20%), problem sets (10%), laboratory notebooks (15%), laboratory write-ups (30%), and a term project (written and oral presentations; 25%). The writing component for this course includes: maintaining a proper laboratory notebook; five approximately 10-page reports; and an oral poster presentation. All writing elements are reviewed and graded by the instructor and teaching assistants. Students are allowed to correct, or rewrite, and resubmit notebook entries for three separate submissions (notebooks are graded a total of eight times throughout the semester) and the written reports excluding the final project report. Students are required to submit a preliminary poster for a) non-graded) review prior to the oral presentation. The writing component of the course accounts for 55% of the total course grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 213 andCHEM 227

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 430 Structural Analysis of Organic Compounds (3) Spectroscopic methods as tools in gross and detailed structural analysis and interpretation within the framework of modern theory.

CHEM 430 Structural Analysis of Organic Compounds (3)

This course is designed to introduce students to the spectroscopic techniques that are used to elucidate the structures of organic molecules of various molecular weights. Some theoretical background will be provided and is necessary, but the emphasis is on solving problems. The course starts with fundamental concepts and techniques learned in sophomore organic chemistry and builds toward state-of-the-art methods used by modern organic and bioorganic chemists. Topics to be covered include: UV spectroscopy, 1D- 1H and 13C NMR, spin-spin (scalar) coupling and chemical shifts, IR spectroscopy, simple and advanced mass spectroscopic techniques, stereochemistry, advanced NMR topics including advanced 1D and2D NMR and correlation spectroscopies. Some consideration will also be given to the challenges associated with structure determination in biomolecules.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: CHEM 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 431W Organic and Inorganic Preparations (3) Preparation, purification, and characterization of both organic and inorganic compounds by modern methods.

CHEM 431W Organic and Inorganic Preparations (3)

CHEM 431W is a one-semester, writing-intensive advanced laboratory course that focuses on the preparation, isolation, purification, and characterization of organic, organometallic, and inorganic compounds. Students are expected to use the techniques learned in the introductory organic chemistry laboratory and will learn more advanced techniques such as the use of air-free and anhydrous reaction conditions, glove bags, vacuum manifolds, vacuum distillations, flash chromatography, solvent stills, and gas-tight syringes. Molecular modeling techniques are also introduced. Students are given hands-on access to instrumentation for the characterization of synthetic products or organic unknowns using standard analysis methods such as IR, NMR, UV/V is spectroscopy, mass spectrometry, polarimetry, HPLC, GC and GC-MS. Students are expected to search the chemical literature using databases and online journals and to write formal lab reports in ACS style. The lab assignments include syntheses, separating an unknown mixture, and a team project, which includes a written proposal, synthetic work, a final report, and a poster presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: CHEM 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 430 Structural Analysis of Organic Compounds (3) Spectroscopic methods as tools in gross and detailed structural analysis and interpretation within the framework of modern theory.

CHEM 430 Structural Analysis of Organic Compounds (3)

This course is designed to introduce students to the spectroscopic techniques that are used to elucidate the structures of organic molecules of various molecular weights. Some theoretical background will be provided and is necessary, but the emphasis is on solving problems. The course starts with fundamental concepts and techniques learned in sophomore organic chemistry and builds toward state-of-the-art methods used by modern organic and bioorganic chemists. Topics to be covered include: UV spectroscopy, 1D- 1H and 13C NMR, spin-spin (scalar) coupling and chemical shifts, IR spectroscopy, simple and advanced mass spectroscopic techniques, stereochemistry, advanced NMR topics including advanced 1D and2D NMR and correlation spectroscopies. Some consideration will also be given to the challenges associated with structure determination in biomolecules.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 210 andCHEM 213
Concurrent: CHEM 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 431W Organic and Inorganic Preparations (4) Preparation, purification, and characterization of both organic and inorganic compounds by modern methods.

CHEM 431W Organic and Inorganic Preparations (3)

CHEM 431W is a one-semester, writing-intensive advanced laboratory course that focuses on the preparation, isolation, purification, and characterization of organic, organometallic, and inorganic compounds. Students are expected to use the techniques learned in the introductory organic chemistry laboratory and will learn more advanced techniques such as the use of air-free and anhydrous reaction conditions, glove bags, vacuum manifolds, vacuum distillations, flash chromatography, solvent stills, and gas-tight syringes. Molecular modeling techniques are also introduced. Students are given hands-on access to instrumentation for the characterization of synthetic products or organic unknowns using standard analysis methods such as IR, NMR, UV/V is spectroscopy, mass spectrometry, polarimetry, HPLC, GC and GC-MS. Students are expected to search the chemical literature using databases and online journals and to write formal lab reports in ACS style. The lab assignments include syntheses, separating an unknown mixture, and a team project, which includes a written proposal, synthetic work, a final report, and a poster presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 441 Elemental Analysis and Instrumental Design Laboratory (1) An introduction to the use of modern instruments for problems in chemical structure and analysis.

CHEM 441 Elemental Analysis and Instrument Design Laboratory (1)

CHEM 441 is one of three laboratory courses (CHEM 441, CHEM 443, and CHEM 445) which accompany the lecture course in instrumental analysis, CHEM 440. The topics for CHEM 441 are: 1) optics, flame atomic emission spectrometry & microwave induced plasma emission spectrometry, 2) electronics and data acquisition/signal analysis, and 3) basic ultraviolet-visible instrument design. Every student will have ample opportunity to become proficient in the operation of the instruments being studied. They will spend about half of the time learning the fundamentals of each instrument and will then carry out a specific experiment using each one.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 440 Instrumental Analysis (3) General instrumental theory and methods used in common atomic and molecular analyses.

CHEM 440 Instrumental Analysis (3)

This course presents analytical methods used by the chemistry community in a way that extends and compliments the treatment in CHEM 221. Preliminary discussions will entail sample preparation for organic and inorganic samples, quantitative measurements, sensitivity and limit of detection. Techniques addressed will cover the areas of separation, qualitative and quantitative optical spectroscopic techniques, mass spectrometry, electroanalytical techniques and surface analysis. In separation techniques, methods presented will be capillary electrophoresis, gas, liquid, and ion chromatography. In optical spectroscopy, methods presented will be infrared, Raman, nuclear magnetic resonance, ultraviolet and visible molecular absorption, chemiluminescence, inductively coupled plasma emission, atomic fluorescence, atomic absorption and emission spectrometry. Mass spectrometry methods presented will include time of flight, magnetic sector and electric sector mass spectrometry as well as interfacing with gas chromatography, liquid chromatography and capillary electrophoresis. Electroanalytical methods include amperometric, voltammetric and potentiometric techniques. Surface analysis methods discussed will be atomic force microscopy, scanning tunneling microscopy, Auger electron spectroscopy, X-ray photoelectron spectroscopy and secondary ion mass spectrometry.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 450 andCHEM 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 443 Electrochemistry and Chromatography Laboratory (1) An introduction to the use of modern instruments for problems in chemical structure and analysis.

CHEM 443 Electrochemistry and Chromatography Laboratory (1)

CHEM 443 is one of three laboratory courses (CHEM 441, CHEM 443, and CHEM 445) which accompany the lecture course in instrumental analysis, CHEM 440. The topics for CHEM 443 are: 1) ion sensitive electrodes and cyclic voltametry, 2) gas and high performance chromatography, and 3) gas chromatography-mass spectrometry. Every student will have ample opportunity to become proficient in the operation of the instruments being studied. They will spend about half of the time learning the fundamentals of each instrument and will then carry out a specific determination for each one.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 446 X-Ray Crystallography (3) Theoretical and practical aspects of structure determination using x-ray diffraction, from crystal growth to structure solution.

CHEM 446 X-Ray Crystallography (3)

CHEM 446 introduces the student to the basic principles of molecular structure determination through the diffraction of X-rays by single crystals. The emphasis is on small organic, coordination and organometallic compounds. However the principles can provide the basis for extensions into disciplines ranging across geology, materials, molecular biology, and nanoscience. The course is organized in the same way that an actual crystal structure determination might proceed, with theoretical considerations introduced as needed. Techniques of crystal growth and selection are summarized. X-ray sources and instrumentation are described briefly. Unit cells, Miller planes, unit cell geometry and Bragg’s law give rationale to the diffraction experiment. Space group symmetry is connected with data collection and the contents of the unit cell. Practical considerations of data collection and instrumentation are covered next. The theoretical description of structure factors and Fourier synthesis leads to consideration of solutions to the phase problem. The remainder of the course illustrates the process of structure solution using real data and software readily available to the students. All the details of publication of a crystal structure; the CIF, ORTEP figures and the format of the experimental section of most journals is described using actual student selected publications. Related structural techniques such as protein crystallography and molecular modeling may be reviewed time permitting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 445 Atomic and Molecular Spectroscopy Laboratory (1) An introduction to the use of modern instruments for problems in chemical structure and analysis.

CHEM 445 Atomic and Molecular Spectroscopy Laboratory (1)

CHEM 445 is one of three laboratory courses (CHEM 441, CHEM 443, and CHEM 445) which accompany the lecture course in instrumental analysis, CHEM 440. The topics for CHEM 445 are: 1) flame atomic absorption spectrometry and fluorimetry, 2) infrared and ultraviolet-visible spectroscopy, and 3) nuclear magnetic resonance spectrometry. Every student will have ample opportunity to become proficient in the operation of the instruments being studied. They will spend about half of the time learning the fundamentals of each instrument and will then carry out a specific determination for each one.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 448 Surface Chemistry (3) Surface chemistry, emphasizing the physical and chemical aspects of surfaces important for applications in colloids, catalysis, microelectronics and biocompatibility.

CHEM 448 Surface Chemistry (3)

CHEM 448 introduces the student to the basic principles of the chemical behavior of surfaces with an emphasis on the fundamental aspects, including surface structure, bonding, thermochemistry and dynamical behavior. The course is intended to provide the basis for extensions into disciplines ranging across geology, materials, environmental engineering, biology, agriculture, physics and nanoscience. Fundamental concepts and relationships of the chemical behavior of organic and inorganic substances that the student has already learned in previous courses will be assembled, correlated and directed towards understanding the behavior of the special case of the surfaces and interfaces of liquids and solids. Starting from the basic principles the student will be guided to evolve a fundamental understanding and predictive ability for important man made and natural applications and phenomena of practical interest, including colloids, surface coatings, lubrication, heterogeneous catalysis, weather, geology, chemical sensing, microelectronics and biocompatibility.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 450 andCHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 450 Physical Chemistry - Thermodynamics (3) Introduction to physical chemistry with primary emphasis on chemical thermodynamics and its molecular interpretation.(Graduate credit not allowed for students majoring in Biochemistry and Molecular Biology, Chemistry, or Chemical Engineering.)

CHEM 450 Physical Chemistry - Thermodynamics (3)

CHEM 450 is a physical chemistry course that introduces students to chemical properties of matter and the fundamentals of chemical thermodynamics. The theoretical foundations of thermodynamic principles are covered and illustrated with a wide variety of examples from the sciences, engineering and technology fields. The course covers the following topics: gas laws, equations of state, the First Law of Thermodynamics, work and heat, internal energy, enthalpy changes, heat capacity, the Second Law of Thermodynamics, entropy and entropy changes, the Third Law of Thermodynamics, Helmholtz and Gibbs energies, phase stability and phase boundaries, phase diagrams, phase equilibrium, surface tension, capillary action, partial molar quantities, thermodynamics of mixing, chemical potential, solvent and solute activities, colligative properties, the phase rule, thermodynamics of two-component systems, chemical equilibrium, spontaneity of chemical reactions, the response of equilibria to experimental conditions, and equilibrium electrochemistry.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andMATH 141, PHYS 211 orPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 452 Physical Chemistry - Quantum Chemistry (3) Introduction to physical chemistry with primary emphasis on molecular structure, spectroscopy, and chemical kinetics. (Graduate credit not allowed for students majoring in Biochemistry and Molecular Biology, Chemistry, or Chemical Engineering.)

CHEM 452 Physical Chemistry - Quantum Chemistry (3)

CHEM 452 is an introductory physical chemistry course that covers quantum chemistry, atomic and molecular spectroscopy, and chemical kinetics. If time permits, other possible topics include statistical thermodynamics, nuclear magnetic resonance, electron spin resonance, structures of solids, X-ray scattering, and processes at surfaces.

Quantum chemistry includes: development of wave mechanics, Schrodinger’s equation, particle in a box, in a ring, on a spherical surface, free particle, barrier penetration, harmonic oscillator, postulates, hydrogen atom, helium atom, electron spin, atomic and molecular structure and symmetry. Spectroscopy includes: atomic spectra, microwave, infrared, and visible spectra of molecules. Chemical kinetics includes: rate laws, mechanisms, chain reactions, polymerization reactions, catalysis, molecular reaction dynamics (collision theory and activated complex theory), and nature of potential energy surfaces for reactions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andMATH 141 andPHYS 211 orPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 457 Experimental Physical Chemistry (2) Laboratory experiments designed to illustrate the principles of physical chemistry and teach techniques of error analysis and the presentation of quantitative data. (Graduate credit not allowed for students majoring in Biochemistry and Molecular Biology, Chemistry, or Chemical Engineering.)

CHEM 457 Experimental Physical Chemistry (1-2)

CHEM 457 is a laboratory course designed to illustrate some of the principles of physical chemistry presented in CHEM 450 and 452 and to teach proper treatment and presentation of quantitative data. In this course, students will learn how to write quantitative laboratory reports complete with analysis of the uncertainties of the measurements they make. They will also learn how these uncertainties are propagated through each calculation that make use of the initial measurements. In doing so, students should become more aware of the importance of experimental design, proper use of instrumentation, and careful data collection.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 450 orCH E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 459W Advanced Experimental Physical Chemistry (4) Laboratory experiments and projects for students interested in advanced study in physical chemistry.

CHEM 459W Advanced Experimental Physical Chemistry (4)

CHEM 459W Advanced Experimental Physical Chemistry is a project-based course designed as a follow-up to CHEM 457. CHEM 459W provides students with further experience in laboratory techniques used for quantitative experimentation and with the processing and interpretation of quantitative data. Experiments and short research projects are designed to complement the theoretical knowledge acquired in lecture courses so as to enhance students' competence in problem solving in a research environment. Particular attention will be devoted to written communication of experimental results in an effective and concise manner according to American Chemical Society journal standards.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: CHEM 450, CHEM 457 Prerequisite or concurrent:CHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 460 Advanced Thermodynamics (3) Chemical thermodynamics, with applications to pure phases, solutions, and chemical reactions.

CHEM 460 Advanced Thermodynamics (3)

CHEM 460 is a one semester course that teaches students the fundamental principles of classical thermodynamics. Depending on the instructor and the time available, introductory elements of statistical mechanics and its relationship to classical thermodynamics may be covered. The course generally starts with the laws or postulates of thermodynamics and develops the thermodynamic machinery useful for applications from these laws or postulates. The emphasis is generally on developing a deep and thorough understanding of the fundamental principles of thermodynamics, rather than any particular set of applications. Students who take this course are well prepared to apply thermodynamics to a very broad range of applications. Topical areas that are typically covered include the conditions of equilibrium, entropy, reversible processes and maximum work, Legendre transforms and the thermodynamic potentials, F,G, and H, stability of thermodynamic systems, and the fundamentals of chemical and phase equilibria.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CH E 220 orCHEM 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 462 Advanced Quantum Chemistry (3) Introduction to quantum chemistry, with emphasis on atomic and molecular structure.

CHEM 462 Advanced Quantum Chemistry (3)

CHEM 462 is an introduction to quantum mechanics and its applications to the study of chemical bonding and molecular structure. The course covers the following topics: fundamental principles and theorems of quantum mechanics; mathematical concepts such as operators and eigenvalue equations; the Schrdinger equation; analytical solutions for models such as particle in a box, particle in a rectangular well, and harmonic oscillator; angular momentum; analytical solution for the hydrogen atom; approximate methods such as the variation method and perturbation theory; electron spin; Hartree-Fock theory and applications to diatomic molecules. Applications of quantum mechanics to modern research are also discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 464 Chemical Kinetics and Dynamics (3) Introduction to chemical kinetics and molecular dynamics.

CHEM 464 Chemical Kinetics and Dynamics (3)

CHEM 464 is a one-semester course that introduces students to chemical kinetics and molecular dynamics, the branch of chemistry concerned with the rates of chemical reactions and the microscopic details of how reactions occur. The course covers old and new experimental, theoretical, and computational methods for kinetics and dynamics. Example systems are chosen from a variety of application including gas-phase reactions, reactions in solution, atmospheric chemistry, and reactions in biological systems. Topics covered are: basic concepts, phenomenological treatments, mechanisms, chain reactions, potential energy surfaces, collision theory, transition state theory, analysis, reactions of surfaces, photochemistry, molecular beams, Monte Carlo methods, molecular dynamics, energy requirements for reaction, and energy disposition.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CHEM 450 orCH E 220 andCHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 466 Molecular Thermodynamics (3) Introduction to physical chemistry with a primary emphasis on the statistical and molecular interpretation of thermodynamics.

CHEM 466 Molecular Thermodynamics (3)

CHEM 466 is a physical chemistry course that emphasizes the statistical and molecular interpretation of thermodynamics. This focus enables the student to consider macroscopic properties based on the constituent molecular properties. After a very brief introduction to classical thermodynamics, the statistics of large systems is introduced, used to develop the Boltzmann distribution of energies and then combined with the quantum mechanical structure of energy levels to form a basis to predict and understand atomic and molecular properties such as heat capacity and chemical reaction equilibrium. Solution thermodynamics, interfacial phenomena and colligative properties are discussed in terms of lattice models. The course then turns to a molecular view of transport and chemical reaction rates. Molecular transport is described in terms of random molecular motion and intermolecular forces that tie together to give macroscopic behavior such as ionic conductivity and mass diffusion. Reaction rates are formulated in terms of the distributions of energies and statistical probabilities of the combined reactants in a transition state. Cooperativity in phase transitions is discussed, followed by adsorption and catalysis. Examples with proteins and other biomolecules, as well as polymers and various solutions, appear throughout the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 450 orCH E 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 474 Organic Synthesis (3) Theory and methodology of organic synthesis applied to complex organic molecules.

CHEM 474 Organic Synthesis (3)

CHEM 474 will present the theory and methodology of organic synthesis. The course will initially focus on the methodology necessary to synthesize complex organic molecules. This will include an in-depth look at functional group transformations, carbon-carbon bond forming reactions, ring-forming reactions, aromatic chemistry and heterocyclic chemistry. We will then discuss the use of retrosynthetic analysis and the "disconnection approach" to logically guide total synthesis. Finally, a number of literature syntheses will be used to examine the strategies involved in formulating a total synthesis emphasizing the compatibility of functional groups, sequence of reactions, use of protecting groups and the impact of stereochemistry.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CHEM 039

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 472 General Biochemistry I (3) Basic structure and function of cellular components; principles of enzyme kinetics and regulation.

CHEM 472 General Biochemistry I (3)

CHEM 472 will serve as an introductory course in biochemistry. The course will begin with a review a number of chemical concepts applicable to biochemistry including molecular interactions, acid-base reactions, buffers, titrations and basic thermodynamic and kinetic concepts. The focus will then shift to a discussion of the structures of the biomolecules that make up living matter including carbohydrates, lipids, membranes, proteins, and enzymes, emphasizing the relationship between chemical structure and biological function.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 476 Biological Chemistry (3) Fundamentals of Biochemistry for Chemists. Students cannot receive credit for both CHEM 476 and B M B 401 or B M B 402.

CHEM 476 Biological Chemistry (3)

Approximately a quarter of the course will be devoted to a description of the structure and chemical properties of biomolecules. Another quarter will focus on physical processes such as reaction kinetics and binding equilibria. The third part will present some of the chemical logic in enzymatic reactions, drawing from advanced organic and inorganic chemistry concepts. The last part will address energetic aspects of metabolism. Throughout, the approach will be to introduce the analytical tools that have led to major advances in biochemistry as well as the physical and chemical principles underlying each topic. For example, in the presentation of the structure of DNA, the techniques of X-ray diffraction, sedimentation, and optical spectroscopy, will be reviewed. In the discussion of enzyme kinetics, fluorescence and stopped-flow equipment will be described, etc. The course will follow a textbook designed for chemistry students. It will also include reading assignments of several types: historical papers, current scientific literature (breakthrough reported in the journals SCIENCE and NATURE), and current biological science and society topics, as presented in Science Times section of the New York Times. Review sessions with three-dimensional graphic presentation of structures will be organized (these have been successful at demonstrating the complexity and beauty of biomolecules). The course also includes assignments that require of the students that they use databases such as those of the National Center for Biotechnology Information.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 212 andCHEM 450
Concurrent: CHEM 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 494H Chemical Research (1-10 per semester/maximum of 20) Experimental investigation of an original research problem. Preparation of a formal thesis is optional. (Credit not allowed for graduate students in Biochemistry, Chemistry or Chemical Engineering.)

Chemical Research (1-10 per semester/maximum of 20)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 494 Chemical Research (1-10 per semester/maximum of 20) Experimental investigation of an original research problem. Preparation of a formal thesis is optional. (Credit not allowed for graduate students in Biochemistry, Chemistry or Chemical Engineering.)

Chemical Research (1-10 per semester/maximum of 20)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 496A Synthesis of Polymerization Catalysts (3) Undergraduate research into the synthesis of sulfur-containing organic molecules for the preparation of polymeric compounds with controlled molecular masses and chain architecture.

Synthesis of Polymerization Catalysts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1982

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 497A Organic Reaction Mechanisms (3) This course focuses on the study and analysis of selected electron-pushing mechanisms of organic reactions.

Organic Reaction Mechanisms (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chemistry (CHEM)

CHEM 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 001 Elementary Chinese I (4) Introductory study of Chinese language, with audio-lingual practice of Mandarin Chinese and attention to structure and the writing system.

Elementary Chinese I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 001 Level One Chinese A (4) Introductory study of Chinese language, with audio-lingual practice of Mandarin Chinese and attention to structure and the writing system.

Level One Chinese A (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 002 Elementary Chinese II (4) Continued audio-lingual practice of Mandarin Chinese, further study of structure, practice in reading and writing Chinese.

Elementary Chinese II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 002 Level One Chinese B (4) Continued audio-lingual practice of Mandarin Chinese, further study of structure, practice in reading and writing Chinese.

Level One Chinese B (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 003 Intermediate Chinese (4) Continued audio-lingual practice of Mandarin Chinese, more extensive practice in reading and writing; study of Chinese culture.

Intermediate Chinese (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 003 Level Two Chinese A (4) Continued audio-lingual practice of Mandarin Chinese, more extensive practice in reading and writing; study of Chinese culture.

Level Two Chinese A (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 052 Elementary Intensive Chinese for Graduate Students II (3) Intensive introduction to Mandarin Chinese: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

CHNS 052 Elementary Intensive Chinese for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Chinese. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Chinese vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: CHNS 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 051 Elementary Intensive Chinese for Graduate Students I (3) Intensive introduction to Mandarin Chinese: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

CHNS 051 Elementary Intensive Chinese for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Chinese. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Chinese vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 053 Intermediate Intensive Chinese for Graduate Students (3) Continued intensive study of Mandarin Chinese at the intermediate level: reading, writing, speaking, listening, cultural contexts.

CHNS 053 Intermediate Intensive Chinese for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Chinese. Continued intensive study of Chinese at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

On the model of the curriculum in English as a Second Language (ESL), which provides English-language skills in speaking, listening, reading, and writing as needed for international graduate students to meet the requirements of their graduate programs and/or to prepare for their teaching or other professional expectations, this new series of foreign language courses is designed for English-speaking graduate students to obtain foreign-language skills in speaking, listening, reading, and writing as needed for them to meet the foreign language requirements of their graduate programs and/or prepare for their professional expectations.

Providing additional opportunities for graduate students to meet language requirements and to expand the range of foreign languages they can use is important and timely, as the University continues to implement its commitment to furthering internationalism, including at the graduate level. A new Graduate School Task Force, appointed by Dean Eva Pell, is addressing ways to more completely internationalize graduate education. Intercultural preparedness, including abilities to use languages other than English, is a crucial part of the preparation of a globally enabled workforce.

These intensive courses are planned as part of the offerings of the Summer Intensive Language Institute, an outreach program of the College of the Liberal Arts. They are designed specifically to allow graduate students an optimal opportunity to acquire elementary and/or intermediate language skills efficiently in an intensive pedagogical environment. Like the ESL series for English-language skills, where the curriculum for graduate students uses course numbers such as ESL 114G, 115G, 116G, 117G, etc., these foreign-language skills courses must carry lower-level numbers because their content is not at a level where upper level numbers or graduate numbers would be appropriate (the Graduate School's definition of 500-level courses requires advanced-level subject-matter).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: CHNS 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 083S (IL) Chinese First-year Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Chinese First-year Seminar (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 110 (IL) Conversation, Reading, and Composition (4) Readings in selected modern Chinese literature (short stories, plays, essays, poems) and other texts; practice in conversation and simple composition.

CHNS 110 Conversation, Reading, and Composition (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

As the fourth course in the Chinese language series, CHNS 110 continues to focus on the four skills of listening, speaking, reading, and writing. It intends to introduce students to frequently-used grammatical constructions in the Chinese language and to give students an active vocabulary of about 800 words.
Building on the skills students acquired in Chinese 001 to 003 (the prerequisites to Chinese 110), this course expands their knowledge of the language and cultures of the Chinese-speaking peoples in China, Hong Kong, Taiwan, and around the world. To that end, there are both language-learning objectives and socio-cultural ones in this course. About 85% of the class time will be spent in language learning and about 15% in cultural issues. Research indicates that the more knowledge students have about the context in which the target language is used, the higher their overall linguistic proficiency level will be. To facilitate students' learning of Chinese culture, CHNS 110 also incorporate into the curriculum a variety of culture-related activities, including interviewing native speakers, film screening, calligraphy workshops…etc.
Class activities include group discussion, mini-presentations, and in-class conversation practice. Evaluation will be through means such as vocabulary and sentence pattern quizzes, weekly journals and reaction papers, chapter exams, in-class oral presentations, writing assignments, and a final oral interview with instructor.
Chinese 110 counts towards the Chinese minor and may also fulfill other requirements, such as providing credits towards the major in Comparative Literature or the major in Asian Studies—check with advisors in those majors.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 110 (IL) Level Two Chinese B (4) Readings in selected modern Chinese literature (short stories, plays, essays, poems) and other texts; practice in conversation and simple composition.

**CHNS 110 Conversation, Reading, and Composition (4)
(IL)**

(BA) This course meets the Bachelor of Arts degree requirements.

As the fourth course in the Chinese language series, CHNS 110 continues to focus on the four skills of listening, speaking, reading, and writing. It intends to introduce students to frequently-used grammatical constructions in the Chinese language and to give students an active vocabulary of about 800 words.
Building on the skills students acquired in Chinese 001 to 003 (the prerequisites to Chinese 110), this course expands their knowledge of the language and cultures of the Chinese-speaking peoples in China, Hong Kong, Taiwan, and around the world. To that end, there are both language-learning objectives and socio-cultural ones in this course. About 85% of the class time will be spent in language learning and about 15% in cultural issues. Research indicates that the more knowledge students have about the context in which the target language is used, the higher their overall linguistic proficiency level will be. To facilitate students' learning of Chinese culture, CHNS 110 also incorporate into the curriculum a variety of culture-related activities, including interviewing native speakers, film screening, calligraphy workshops…etc. Class activities include group discussion, mini-presentations, and in-class conversation practice. Evaluation will be through means such as vocabulary and sentence pattern quizzes, weekly journals and reaction papers, chapter exams, in-class oral presentations, writing assignments, and a final oral interview with instructor.
Chinese 110 counts towards the Chinese minor and may also fulfill other requirements, such as providing credits towards the major in Comparative Literature or the major in Asian Studies—check with advisors in those majors.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 120 (GH;IL) Introduction to Chinese Literature and Culture (3) Chinese cultural productions, classical through contemporary; literature and film; changing cultural settings in multiple Chinese-speaking locations. Taught in English.

CHNS 120 Introduction to Chinese Literature and Culture (3) (GH;IL)

(BA) This course meetings the Bachelor of Arts degree requirements.

This course provides an introduction to Chinese cultural production from ancient times to the postmodern era, with an emphasis on literature. In its more recent segments, the course will include film as well as considerations of Chinese cultures in the Chinese diaspora (such as the United States) and throughout the Chinese-speaking world. Students will learn about major eras of Chinese literature and the diversity of Chinese cultures in such locations as mainland China, Taiwan, Hong Kong, and the worldwide Chinese diaspora. Readings will represent several genres, such as poetry, folktale, short story, novel, prose fiction, drama, and historical annals. Through this course students can develop a historical and cultural perspective in order to understand the contexts and value systems that have inspired literary works. Students will investigate such topics as the relation between social institutions and the individual, the traditional patriarchal system, the changing roles of women, westernization, and post modern consumer culture, among others.

Students will read literature and related materials from different periods, with examples from other media such as films where appropriate. Class work will include lectures or presentations by the instructor and student participation through means such as guided discussions, group discussions, and students' presentations. This participatory approach is intended to deepen students' appreciation of the texts, to help them understand value systems that may differ from, or else be shared with, those predominant in modern Western cultures, and to assist students in developing analytical and expressive abilities.

CHNS 120 is designed to be suitable for all students generally interested in China and the Chinese-speaking world, or interested in literature and other fields of humanistic study, whether or not they have previously studied Chinese culture. All materials will be available in English. The course is designed to count as General Education, as international cultures, and as a B.A. "Other Cultures" course.

This course will be taught in the active-learning mode, featuring a variety of instructional components such as lecture, discussion, oral presentations, web-based activities, etc., to provide students abundant opportunity for expressing their opinions. As a general education course, all versions will include writing, speaking, self-expression; information gathering, synthesis, and analysis; and international/intercultural components.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 121 (GH;IL) Chinese Film and New Media (3) Survey of Chinese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.

CHNS 121 Chinese Film and New Media (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This is intended to provide an introduction to modern and cutting-edge forms of cultural production in the Chinese-speaking world from the twentieth century to the present day. Prior study of China is not required and materials will be available in English. Students will learn about major technologies and forms of media, including film, TV, and various forms of new media (cell-phone novels, blogs, MMOGs, IM, and Web 2.0 for instance). Readings and screenings will cover several artistic modes including formalism, historiography, documentary, period drama, and experimental works. The course, or individual units within the course, will be structured so that students develop an historical perspective, allowing them to understand the cultural contexts that have inspired the creative works under study. By examining Chinese-language film and new media with attention to changing cultural settings, students will investigate such topics as the relation between social institutions and the individual, the formation and expression of identity, changing gender roles and family structures, the impact of technological and economic trends on social structure, and changing climates of censorship and freedom of expression. In addition, students will learn to think critically about various media's techniques and aesthetics of representation, and will become more engaged, critical spectators of film and related media.

Class work includes some lecture but emphasizes guided discussions, group work, writing exercises, and some student presentations. This participatory approach is intended to deepen students' appreciation of the works, to help them understand value systems that may differ from those predominant in western cultures, and to assist students in developing both analytical and expressive abilities. Through critical reading, group discussion and interpretive writing, students will hone skills for evaluating modes of cultural production and consumption in the Chinese-speaking world. Evaluation will be through means such as in-class presentations, short writing assignments, midterms or quizzes, one analytic paper (3-7 pages), and in-class/on-line participation and discussion.

The course is designed to be suitable for all students generally interested in China, or interested in various fields of humanistic study, whether or not they have previously studied Chinese culture. It is designed to count as General Education and as a B.A.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 401 (IL) Advanced Conversation (4) Emphasis on oral proficiency through discussions of aspects of contemporary Chinese culture.

CHNS 401 Advanced Conversation (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course aims to enhance students' abilities in speaking, listening, reading, and writing. The objectives in this course are; 1)to review, reinforce, and expand the basic grammar, 2)to expand knowledge of characters, vocabulary and idioms, 3) to be able to speak not only in single sentences, but in dialogues to perform basic communicative functions,4) to be able to read and understand simple essays and stories, 5) to be able to write short compositions.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 401 (IL) Level Three Chinese A (4) Emphasis on oral proficiency through discussions of aspects of contemporary Chinese culture.

CHNS 401 Advanced Conversation (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course aims to enhance students' abilities in speaking, listening, reading, and writing. The objectives in this course are; 1)to review, reinforce, and expand the basic grammar, 2)to expand knowledge of characters, vocabulary and idioms, 3) to be able to speak not only in single sentences, but in dialogues to perform basic communicative functions,4) to be able to read and understand simple essays and stories, 5) to be able to write short compositions.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 402 (IL) Advanced Reading (4) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Chinese culture.

Advanced Reading (4)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language and Other Cultures
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: CHNS 401 OR EQUIVALENT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 403W Practical Written Communication: Chinese for Professional and Academic Purposes (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.

CHNS 403W Practical Written Communication: Chinese for Professional and Academic Purposes (3)

CHNS 403W is designed to help students comprehend and produce discourse-level written Chinese. Students will be introduced to literary and non-literary texts written in advanced shumianyu (standard written Chinese) languages, including newspaper articles, business correspondence and academic writing. They will be required to write extensively in the expository style. Students will be expected to complete an oral presentation of their final project on China-related topics at the end of the semester.

The organization of this course tends to be topical (e.g., China's one-child policy, the impact of the Beijing Olympics, China's film industry, etc.) to permit the development of functional clusters of vocabulary and the practice of written conventions appropriate to various contexts. The availability of web-based materials permits easy supplementation and updating of published materials.

Class activities will include group discussions and mini-presentations, as well as consideration of writing styles appropriate for scholarly and professional work with proper citation and bibliographic forms.

Evaluation will be through means such as class participation and performance (15%),weekly journal and worksheets(10%),annotated bibliography and reaction papers (15%), quizzes (20%), oral presentation(10%),final paper(30%).

Prerequisite knowledge: Chinese 401 or equivalent. Chinese 403W can be taken as part of the major of Chinese, the minor in Chinese Language, or for other purposes such as preparation for living and working in China.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: CHNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 402 (IL) Level Three Chinese B (4) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Chinese culture.

Level Three Chinese B (4)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language and Other Cultures
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHNS 401 OR EQUIVALENT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 452 (IL) Contemporary China: Culture and Trends (3 per semester/maximum of 6) Survey of aspects of the contemporary Chinese-speaking world. Includes readings from Chinese newspapers, magazines, and fiction. Topics may vary each semester.

CHNS 452 Contemporary China: Culture and Trends (3)
(IL)

BA - This course meets the Bachelor of Arts degree requirements.

This course surveys Chinese cultural production in the contemporary period, with an emphasis on literature. Taught in Chinese; readings and assignments in Chinese.

The course will examine the diverse forms of cultural expression (literature, film, new media, theater, television) throughout the Chinese-speaking world. Students will learn about major cultural trends in such locations as mainland China, Taiwan, Hong Kong, and the worldwide Chinese diaspora. Readings will represent several genres, such as poetry, folktale, short story, novel, prose fiction, and drama. Through this course students can develop a historical and cultural perspective in order to understand the contexts and value systems that have inspired literary works in the contemporary period. Students will investigate such topics as the relation between social institutions and the individual, the traditional patriarchal system, the changing roles of women, westernization, and postmodern consumer culture, among others.

Class work will includes lectures or presentations by the instructor and student participation through means such as guided discussions, group discussions, and students' presentations. This participatory approach is intended to deepen students' appreciation of the texts, to help them understand value systems that may differ from, or else be shared with, those predominant in modern Western cultures, and to assist students in developing analytical and expressive abilities.

Chinese 452 is designed to be suitable for students (Chinese majors) who have completed Chinese 401. The course is designed to count as international cultures, and as a B.A. "Other Cultures" course.

This course will be taught in the active-learning mode, featuring a variety of instructional components such as lecture, discussion, oral presentations, web-based activities, etc., to provide students abundant opportunity for expressing their opinions. The course will include writing, speaking, self-expression; information gathering, synthesis, and analysis; and international/intercultural components.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Spring 2010
Prerequisite: CHNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 453 (IL) Chinese Film (3 per semester/maximum of 6) Selected films and directors representing various aspects of Chinese culture and cinema. Topics may vary each semester. Taught in Chinese.

CHNS 453 Chinese Film (3)
(IL)

BA - This course meets the Bachelor of Arts degree requirements.

This course surveys Chinese film from the early twentieth century to the present time, with an emphasis on film and national history. Taught in Chinese; readings and assignments in Chinese.

The course will examine the diverse forms of film language in the works of filmmakers from mainland China, Taiwan, and Hong Kong. Readings will include interviews, reviews, film criticism, and other relevant texts (such as a short story that inspired a film).

Through this course students can develop a historical and cultural perspective in order to understand the contexts and value systems that have inspired Chinese-language films. Students will investigate such topics as the relation between social institutions and the individual, the traditional patriarchal system, the changing roles of women, westernization, and postmodern consumer culture, among others.

Class work will includes lectures or presentations by the instructor and student participation through means such as guided discussions, group discussions, and students' presentations. This participatory approach is intended to deepen students' appreciation of the texts, to help them understand value systems that may differ from, or else be shared with, those predominant in modern Western cultures, and to assist students in developing analytical and expressive abilities.

Chinese 453 is designed to be suitable for students (Chinese majors) who have completed Chinese 401.

This course will be taught in the active-learning mode, featuring a variety of instructional components such as lecture, discussion, oral presentations, web-based activities, etc., to provide students abundant opportunity for expressing their opinions. The course will include writing, speaking, self-expression; information gathering, synthesis, and analysis; and international/intercultural components.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Spring 2010
Prerequisite: CHNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 454 (IL) Introduction to Classical Chinese (3 per semester/maximum of 6) Basic patterns and structures of Classical Chinese to the first millennium B.C. to the 19th century.

CHNS 454 Introduction to Classical Chinese (3)
(IL)

BA - This course meets the Bachelor of Arts degree requirements.

This course introduces students to the basic patterns and structures of Classical Chinese. Classical Chinese is a language shaped in the latter half of the first millennium B.C. that still persists as a living medium of expression today. Knowledge of Classical Chinese is important to help students read and understand sophisticated modern Chinese texts, which make frequent use of Classical allusions and constructs. In this course, students will learn basic grammar, syntax, and commonly-used vocabulary. The cultural and literary implications of classical Chinese will be discussed throughout the course in order to provide the students not only with the linguistic knowledge of classical Chinese, but the rich historical backgrounds implied in this particular style of Chinese.

The main goal of the course is for students to acquire skills in reading Classical Chinese and expand their knowledge and understanding of ancient Chinese culture, society and history in relation to modern and contemporary Chinese culture, such as Confucianism and family values. With this knowledge and training, not only will students be more comfortable reading the Chinese Classics, they will also thereby increase their proficiency in modern Chinese and their knowledge of Chinese culture.

This course will fulfill the Intercultural Cultures and B.A. "Other Cultures" and foreign language requirements.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Foreign Language
Effective: Spring 2010
Prerequisite: CHNS 401 or equivalent (such as study abroad credit)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 455 (IL) Masterpieces of Traditional Chinese Literature (3) Survey of traditional Chinese literature, including poetry, historical narratives, philosophical texts, and drama and novel.

CHNS 455 Masterpieces of Traditional Chinese Literature (3)
(IL)

BA - This course meets the Bachelor of Arts degree requirements.

CHNS 455 Masterpieces of Traditional Chinese Literature presents an overview of China's literary tradition, focusing, in particular, on literary techniques used in a variety of text types such as poetry, essays, fiction and drama.

This course aims to develop students' advanced knowledge of the features of traditional Chinese literature and its intellectual, cultural, and social background. Through close reading of selected major works, students will become familiar with the features of various genres.

For example, students will study prose writings, the major poetic forms and some of the important poets from the Tang period, and aspects of literati culture through close reading of texts from the late imperial period.

At the end of this course, a student will have read and discussed sample writings from philosophical and poetic traditions and well as sample writings on the cultural and scholastic activities of the literati. Students should also be able to deal with classical texts on a reasonable level, to identify problematic passages and to be able to clarify them with the help of secondary reference material. Students should also be able to appreciate some of the civilizing aspects of Chinese culture as well as literary and poetic devices such a tonal patterns, rhyme schemes, structure and writing techniques, and discussion of the poets and their work, and have an understanding of the main genres in classical Chinese literature and philosophy.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Foreign Language
Effective: Spring 2010
Prerequisite: CHNS 401 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Chinese (CHNS)

CHNS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civ & Comnity Engage (CIVCM)

CIVCM 211 (GS;US;IL) (CAS 222, YFE 211) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

Foundations: Civic and Community Engagement (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civ & Comnity Engage (CIVCM)

CIVCM 211S (GS;US;IL) (CAS 222, YFE 211) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

Foundations: Civic and Community Engagement (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 100S Topics and Contemporary Issues in Civil and Environmental Engineering: First-Year Seminar (1) First-Year Seminar exploring a specific topic or contemporary issue in civil and environmental engineering.

C E 100S Topics and Contemporary Issues in Civil and Environmental Engineering: First-Year Seminar (1) (FYS)

The first-year seminar in civil engineering will provide an opportunity for students to explore a specific topic or contemporary issue, which may fall within one of the Department of Civil and Environmental Engineering's technical emphasis areas, or include many of the facets of civil engineering. Civil engineers plan, design, construct, operate, and maintain the physical works and facilities essential to modern life: highways, streets, bridges, dams and levees, water distribution and wastewater collection, and treatment systems. Civil engineers work with architects and other engineers in the design and construction of buildings and industrial structures and facilities. They also have a major responsibility for identifying and remediating environmental hazards.

The specific course topic, chosen by the course instructor, will vary by section and semester and will be indicated by the section subtitle. Examples of the topics that may form the core of a seminar section include droughts and floods, lessons from structural failures, engineers as environmental change agents, beneficial reuse of treated wastewater, highway accident reconstruction and engineering, and landmark civil engineering projects.

Within the context of the specific seminar topic, each section will provide students with an introduction to the civil engineering field, exposure to some of the professional skills and competencies associated with academic study and the practice of engineering, and access to relevant student and professional societies.

Each seminar section will include an active learning element that may include laboratory experiments, group projects, class discussions, and possible trips, providing close interaction with the faculty member teaching the course. This seminar course will help incoming students become acclimated to University life and become aware of available resources and support services.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 209 Fundamentals of Surveying (2) Fundamental surveying measurements, traverse computations, coordinate geometry, mapping, CAD applications. Intended for architectural engineering students. (The lecture will be taught concurrently with C E 211.)

Fundamentals of Surveying (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: E G 130, MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 254 (GHA;US) Personal & Occupational Safety (3) Students will learn about principles of safety in work and personal settings.

C E 254 Personal & Occupational Safety (3)
(GHA; US)

This is a 3 credit course designed for students who want an understanding of safety, practices related to the individual's wellness and developing knowledge, attitudes, habits and skills needed for a safe healthful lifestyle. General safety topics that are relevant to students as they adjust to the transition into and through college are introduced through a values and decision making approach to learning. The students will understand direct and indirect cost related to an accident; identifying the major occupational and general injuries and deaths and the role of workers compensation, and safe procedures. OSHA will be discussed including its structure & organization, citations & fines, inspections, various standard areas, and developing an effective safety program. The course content will also be related to principles of personal and general safety including, preventive and protective systems, highway/road safety, general child safety, emergency response, and how safety is integrated with their lifestyle and our society.

The course is designed to give students a broader understanding of both short-term and long-term wellness and how it is affected by safety behavior.

General Education: GHA
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 310 Surveying (3) Fundamental surveying measurements, traverse computations, coordinate geometry, mapping, GPS and GIS, circular and parabolic curves, earthwork, boundary surveys, CAD applications.

C E 310 Surveying (3)

This is an introductory course in the fundamentals of surveying designed for Civil Engineering students. It includes basic measurement techniques of distance and angles, both horizontal and vertical. Traverse measurements analysis and mapping are discussed. Boundary surveys and legal descriptions are studied. Instruction includes the analysis of circular and parabolic curves, earthwork, and the use of coordinate geometry. Global positioning and graphic information systems are studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: ED&G 100, MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 332 Professionalism, Economics & Construction Project Delivery (3) Introduction to engineering management process; economic analysis; pricing; contract documents; estimating; ethics; professional practice and engineering economy.

C E 332 Project Development (3)

The first five weeks of the course introduces concepts relating to engineering ethics, professionalism including the importance of licensure, and engineering economy. The remainder of the semester concentrates on project development and the design and construction of the delivery process. Topics include: scope of design services; conceptual cost estimates; the bidding process, estimating; and risk management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 321 Highway Engineering (3) Highway engineering principles, vehicle and driver characteristics; geometric and pavement design; highway drainage; traffic engineering, capacity analysis, and signal timing.

C E 321 Highway Engineering (3)

This course provides an introduction to highway engineering and is designed for civil engineering students. It includes topics such as vehicle motion, highway cross-sections, horizontal and vertical alignment, and sight distance. Other topics are pavement design, drainage analysis, traffic engineering and highway capacity. The students will also have a CAD lab where they design a highway using computer software. The semester project provides hands-on highway design experience. This course serves as a prerequisite for advanced highway engineering study.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: C E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 333W Construction Management I (3) Components of a construction organization, managerial terminology and documents, labor laws and relations, insurance and safety.

C E 333W Construction Management I (3)

The object of this course is to have a broad understanding of the business process in the construction industry. The construction industry offers a variety of organization with each having specialized needs and processes in operating an effective business. The professional constructor deals with a complex process of decisions and auctions that start from the time of projects conception until the project is completed. The course addresses issues involving legal and code requirements, necessary documents in selecting projects, developing estimates, determining delivery systems, planning and scheduling, and managing a construction project. Also covered are the liability issues that will be required, insurances or bond requirements, and the ethical role of the constructor. The managerial and safety role of the professional constructor is also introduced.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 335 Engineering Mechanics of Soils (3) Soil compositions, classification, subsurface exploration, ground water flow, stress analysis, compaction, soil behavior, bearing capacity, lateral earth pressure, slope stability.

C E 335 Engineering Mechanics of Soils (3)

This course explores the engineering properties of soils, fundamental soil mechanics, and their applications of foundation design and analysis. Specific topics covered in this course include soil compositions, soil classification, subsurface exploration, ground water flow and seepage analysis, stress analysis, compaction, consolidation, strength behavior, bearing capacity, lateral earth pressure, and slope stability analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213;A E 221 orGEOSC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 336 Materials Science for Civil Engineers (3) Introduction to civil engineering materials; their structure and behavior: relationship between structure and behavior.

C E 336 Materials Science for Civil Engineers (3)

This course introduces engineering students to the structure, properties and behavior of construction materials, providing the bridge between engineering mechanics and engineering design. The course is an engineering science course focused at providing the students with a working knowledge of the nature and engineering properties of construction materials to understand prediction models and statistical variations for quality control. The course provides an introduction to aggregates, concrete, asphalt, timber, steel, structural alloys, and polymers used in the civil infrastructure and in building construction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213 Stat 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 337 Civil Engineering Materials Laboratory (1) Laboratory investigating the physical and mechanical properties of civil engineering materials; soils, aggregates, concrete; steel; wood; and polymers.

C E 337 Civil Engineering Materials Laboratory (1)

The understanding of the structure, physical and mechanical properties and behavior of engineering materials is at the very core of engineering design. A command of this knowledge is essential for all civil engineers. This 1-credit laboratory provides a hands-on experience with the testing and evaluation of civil engineering materials, including soils, aggregates, concrete, steel, wood and polymers. In addition, this lab builds on the topics of professional communication and engineering in groups that are present throughout the Civil Engineering curriculum. This course is required for all Civil Engineering majors and is a required laboratory component for ABET review. The course also may serve selected Architectural Engineering students that currently enroll in Material Science for Engineers. The laboratory will be taught every semester with an offering of 4-6 sections per semester.

The Civil Engineering Materials Laboratory is directly tied to Engineering Mechanics of Soils and Material Science for Civil Engineers. It replaces the laboratory component of both of the existing courses to create a comprehensive materials laboratory experience. By creating a stand-alone course, students may schedule the laboratory separate from the lecture time, eliminating multiple course conflicts. The course meets 3 hours each week throughout the semester with an introductory lecture and training session on lab safety. Concurrent or previous enrollment in Engineering Mechanics of Soils or Material Science for Engineers ensures that the students have completed the Strength of Materials course and have a clear point of reference to the relevance of the material in the course.

The Civil Engineering Materials Laboratory will incorporate the use of a variety of equipment, including universal testing machines, Charpy fracture toughness device, Rockwell Hardness device, soil compaction devices, sieves, plasticity index devices, concrete mixing equipment, electronic strain devices, direct/biaxial/triaxial shear devices and other similar equipment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: C E 335 orC E 336 or concurrent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 341 Design of Concrete Structures (3) Design of reinforced concrete beams, slabs, and columns, with emphasis on ultimate-strength methods; prestressed concrete; building and bridge applications.

C E 341 Design of Concrete Structures (3)

This course provides students with an understanding of the structural design process, the mechanics of reinforced concrete, and the ability to design and proportion structural concrete members including slabs, beams, and columns for strength, serviceability, and economy. Design procedures are based on the Building Code Requirements for Structural Concrete published by the American Concrete Institute. The mechanics underlying the code design equations are explained as well as their application to practical design problems. In addition to regular homework assignments the students complete a design project in which the design of specific components is integrated into the design of the structure as a whole.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: C E 340 . Prerequisite or concurrent:C E 336

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 340 Structural Analysis (3) Analysis of statically determinate and indeterminate trusses, beams, and frames; reactions, axial forces, shears, moments, deflections. Introduction to influence lines.

C E 340 Structural Analysis (3)

The course includes an introduction to structural systems and basic analysis methods for beams, frames, and trusses. Topics covered include the analysis of statically determinate and indeterminate structures, deflection calculations, influence lines, and an introduction to the stiffness method and a software package for structural analysis. Analysis of an indeterminate structure on campus is given as a course project. The structure is analyzed with traditional hand calculations that are compared to a computer analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213 . Prerequisite or concurrent:CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 342 Design of Steel Structures (3) Design of steel tension members, beams, columns, beam-columns, and connections; elastic and plastic methods; design applications.

C E 342 Design of Steel Structures (3)

This is a first course in design of steel structures intended to develop a fundamental ability to evaluate and design steel tension members, beams, columns, beam-columns, composite beams, and connections. Discussion of design requirements focuses on failure mechanisms and behavior, evaluation of existing components, and the process to develop economical steel member designs. All discussions are based on the current American Institute of Steel Construction steel design specifications with an overview of historical requirements as appropriate. Students complete a design project of a multi-story, steel, commercial building that is intended to synthesize the course material and create a realistic context for the course. Weekly assignments are typically derived from the course project. Computer applications are an important component of these assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: C E 336, C E 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 360 Fluid Mechanics (3) Mechanics of fluids; flow in conduits and around bodies, friction and energy loss, fluid measurements.

C E 360 Fluid Mechanics (3)

The course objective is to provide students with the fundamental physical and analytical principles of fluid mechanics through the understanding of the: conservation of mass, conservation of energy, and the conservation of momentum equations. The student will demonstrate the understanding of these fundamentals by solving problems dealing with: fluid properties, fluid statics, pressure on plane and curved surfaces, buoyancy and floatation, kinematics, systems, control volumes, conservation principles, ideal imcompressible flow, impulse-momentum, and flow of a real fluid.

Fluid mechanics is a prerequisite to all courses in hydrosystems and environmental engineering. It is typically offered fall and spring semesters and during summer session. A series of homework problems are assigned after each lecture and there are typically 3 examinations given during the semester and final examination during the final examination period.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 370 Introduction to Environmental Engineering (3) Nature and scope of environmental issues; air, water, land impacts; fundamentals and processes of pollution control.

C E 370 Introduction to Environmental Engineering (3)

The objectives of this course are to introduce science and engineering principles for dealing with natural and engineered environmental systems; to provide quantitative tools to solve environmental engineering problems dealing with water and wastewater treatment, air pollution control, and management of solid and hazardous wastes; and to identify alternative ways to deal with pollution and to minimize pollution.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110;MATH 111 orMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 371 Water and Wastewater Treatment (3) Water treatment; water storage; design of water distribution and wastewater systems; pumping stations.

C E 371 Water and Wastewater Treatment (3)

This course includes engineering design of water and wastewater treatment facilities, and it emphasizes quantitative problem solving. Numerous examples pertain to contemporary water and wastewater treatment facility designs. This course will nurture the ability to use the techniques, skills and state-of-the-art engineering tools so as to prepare students for water and wastewater treatment engineering practice.

Water treatment-related topics include: water quality criteria for potable water, reactor characteristics, reaction rates in water and wastewater treatment, mixing and flocculation sedimentation, rapid sand filtration, chlorination and alternative disinfection. Wastewater pretreatment, biological principles for treatment of wastewater, suspended growth bio-systems, attached film bio-systems, nutrient removal processes, and de-watering and treatment processes for sludges is also included.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: C E 360, C E 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 396 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 397A Geotechnical Engineering for A E Majors (4) Soils, soils stresses, consolidation and settlement, strength and groundwater flow.

Geotechnical Engineering for A E Majors (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 400 Seminar (1-3) No description.

Seminar (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 410W Sustainable Residential Subdivision Design (3) Residential subdivision process; site selection; conservation and neo- traditional design; utility design and layout; best management practices for erosion and stormwater.

C E 410W Sustainable Residential Subdivision Design (3)

The course is designed for seniors and graduate students in Architectural and Civil Engineering interested in learning the principles of sustainable residential design and development. The course is typically offered one semester each year. The objective of this course is to provide the students with a working example of the residential land development process from a regional perspective.

The course provides an overview of zoning legislation and regulations followed by an analysis of market trends and information sources. Conservation and neo-traditional design techniques emphasize sustainable development principles for maximizing profits while complying with open space zoning. Access design principles focus on traffic calming strategies and development of a well-defined transportation hierarchy. Students are introduced to key components in utility design including the basic principles of water and wastewater transport. Best management practices for erosion control and stormwater management are reviewed and included as part of the residential design process. Finally the students are asked to use realistic data to estimate costs and profit margins for development.

To work effectively in residential design, students must be proficient in applying the principles of mathematics, economics and engineering software (CAD or similar) included in accredited programs of engineering. Students will be exposed to engineering/design calculations associated with each of the phases of residential land development. Technical Release 55, the stormwater management design manual, and the BMP Handbook for erosion control and stormwater management supplement the text. The CAD lab will be utilized for approximately 25% of the class.

At the completion of the class, students will present a written project narrative and an oral presentation describing a full-scale residential development designed by the project team. This project is open ended and includes at a minimum a market analysis, engineering calculations, a cost estimate, and a full set of engineering drawings which include, soils, contours, open spaces, lot boundaries, roads, utilities and stormwater control systems details. Five preliminary mini-reports will be written and submitted over the course of the semester. These reports will be evaluated by the instructor for both content and professional writing, and returned to students. Students will be encouraged to consult with the instructor for additional feedback. The reports will be revised and incorporated into the final report. In addition to the team development project, students will receive a mid-term and final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: A E 372 orC E 332 ; seventh-semester standing in Architectural or Civil Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 421W Transportation Design (3) Design of streets and highway facilities; emphasis on geometric elements, intersections and interchanges, roadway drainage, and pavement design.

C E 421W Transportation Design (3)

This course provides advanced study in highway engineering and is designed for civil engineering students who are interested in Transportation Engineering careers. It includes topics such as functional classification, highway cross-sections, horizontal and vertical alignment and sight distance. Other topics are pavement design, drainage intersection and interchange design and highway signs. The students will also have a CAD lab where they design a complete highway system. The semester project provides hands-on highway design experience and includes the planning and operational aspects of a new highway design. This course serves as a capstone design course with writing projects. Students are expected to do in-class presentations of their projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: C E 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 423 Traffic Operations (3) The highway capacity manual, concepts and analyses, freeway operations, signalized and unsignalized intersections, signal coordination, traffic impact studies.

Traffic Operations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C E 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 422 Transportation Planning (3) Transportation systems planning, programming, and management; modeling and simulation, data collection, analysis, and forecasting.

C E 422 Transportation Planning (3)

In this course, students acquire basic knowledge on the history and recent developments in transportation planning problems and quantitative methods. They will develop an understanding of transportation planning, transportation modeling, transportation system simulation, data collection techniques, and gain laboratory experience with each. Students will use mathematical/statistical models and GIS software to analyze, simulate, and forecast the demand for transport services. They will gain familiarity with the software used in transportation planning practice.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: 3 credits in probability or statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 424 Optimization in Civil Engineering Systems (3) Mathematical modeling; linear programming; dynamic programming; network optimization, including network flows, shortest paths, scheduling; decision-making; civil engineering systems applications.

C E 424 Optimization in Civil Engineering Systems (3)

This course provides students with the fundamental skills and concepts of the quantitative techniques of operations research. Techniques that will be covered include mathematical modeling, linear programming, dynamic programming, network flow programming, network optimization (shortest paths, project scheduling, minimum spanning trees), queueing systems, and decision-making. The course will focus on application of these techniques to problems arising in civil engineering systems, including transportation, water resources, project planning and structural design. The students will be expected to complete at least one computer programming assignment. Thus, they are required to have taken CMPSC 201 or to possess programming skills as would result from having taken such a course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 432 Construction Project Management (3) Fundamentals of project management, construction scheduling using the CPM technique, construction project preplanning, and control of quality, safety, and costs.

C E 432 Construction Project Management (3)

This course introduces students to the basic practical aspects of the construction process and the quantitative methods used to manage projects within budget, deadline, and prescribed quality. Students will understand the construction market and the inter-relationships among the various players involved. Focus in this course is on integrating the various facets of construction cost estimating, planning, scheduling, control, and overall project management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: C E 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 435 Foundation Engineering (3) Bearing capacity, settlement, and structural design of shallow foundations; lateral earth pressure; retaining and sheet-pile walls; introduction to deep foundations

C E 435 Foundation Engineering (3)

C E 435 provides students with a working knowledge of the state-of-practice of foundation engineering, covering bearing capacity, settlement, and structural design of shallow foundations; lateral earth pressure; design of retaining and sheet-pile walls; and an introduction to deep foundations. The course is an elective for students in the civil engineering major and serves as an essential prerequisite for continued study in the areas of construction and structural engineering. The course is delivered in lecture format, and concentrates on practice-oriented design problems in foundation engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: C E 335 . Prerequiste or concurrent:C E 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 436 Construction Engineering Materials (3) Design, production, application, specification, and quality control of construction materials unique to civil engineering.

C E 436 Construction Engineering Materials (3)

C E 436 provides students with a working knowledge of the safe design, production and application of quality construction materials unique to civil engineering. The course builds upon the understanding of civil engineering materials gained in the introductory course. C E 436 focuses on the materials design and quality control of aggregates, steel, portland cement concrete, and asphalt concrete.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: C E 336, STAT 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 438W Construction Engineering Capstone Design (3) Construction project integrating geotechnical reports; materials specifications; quality control; equipment; estimation; scheduling; design details: excavations, foundations, retaining walls, formwork, pavements.

C E 438W Construction Engineering Capstone Design (3)

This course is intended to establish the foundation for organizational and procedural understanding in construction engineering. The student will gain the knowledge necessary to apply engineering principles in analyzing economical approaches to construction problems. This course will cover construction methods, equipments, and cost estimation of the construction materials, excavation, foundation, and other phases of civil engineering construction projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: C E 432 andC E 435 orC E 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 445 Advanced Structural Analysis (3) Analysis of trusses and frame stiffness matrix method of analysis. Analysis of indeterminate beams, trusses, and frames using classical methods.

C E 445 Advanced Structural Analysis (3)

The course is an advanced analysis which includes an analysis of structures using classical and matrix methods. Topics covered include the analysis of statically determinate and indeterminate beams; trusses and frames. An introduction to the stiffness method and a software package for structural analysis will also be covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CET 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 441 Structural Design of Foundations (3) Design of concentrically and eccentrically loaded square, rectangular, and combined footings; analysis and design of mat foundations; retaining walls; piles caps; flexible retaining design, and caissons.

C E 441 Structural Design of Foundations (3)

This course prepares the structural engineering student to analyze, proportion, size reinforcing, and select steel sections for structural foundations designs based on the state of practice presented in ACI 318, AISC, and available industry literature. Structural foundation analysis techniques for many foundation types are presented with extensive use of EXCEL in the design process. Analysis and design of foundation systems are developed for concrete shear walls, concentrically loaded square and rectangular footings, eccentrically loaded square and rectangular footings, and combined footings. Use of approximate and finite element analysis methods for analyzing mat foundations and grid foundations are presented. Working knowledge of retaining wall, pile cap, and flexible earth retaining structure design methods are also developed. This course is an elective for students in the civil engineering major and serves as an essential prerequisite for continued study in structural engineering and advancement to the structures capstone course. This course is delivered in lecture format and concentrates on practice-oriented structural foundation analysis and design problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: C E 335, C E 341
Concurrent: C E 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 447 Structural Analysis by Matrix Methods (3) Analysis of truss and frame structures using flexibility and stiffness methods of matrix analysis. Computer applications.

Structural Analysis by Matrix Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: C E 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 448W Advanced Structural Design (3) Wind, snow, seismic, bridge loads; building design using steel, concrete, and prestressed concrete; advanced steel connections; capstone project; computer applications.

C E 448W Advanced Structural Design (3)

The objectives of the course are to develop an understanding of advanced structural engineering design issues in a capstone context that will merge knowledge gained in prerequisite structural design and analysis courses. Building on concepts introduced in introductory steel building, concrete building, and foundation design, students will gain proficiency in structural conceptualization, environmental and induced load determination, modeling and analysis, detailed design of steel and concrete structures, and graphical communication.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: C E 341, C E 342, C E 435

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 450 Law and Technology (3) Introduction to legal aspects of engineering and technology, including intellectual property (patents, copyrights) and products liability.

Law and Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 449 Advanced Structural Design (3) Special systems, frames and bracing in steel, wood and reinforced or precast concrete. Introduction to composite construction.

C E 449 Advanced Structural Design (3)

This course provides students with an understanding of advanced structural design processes, the mechanics of special systems (such as prestressed concrete) as well as the ability to design and proportion structural connections and bracing members including reinforced concrete and steel. The course will also introduce the LRDF approach and composite construction in which the design of specific components is integrated into the design of the structure as a whole.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CET 430, CET 431, CET 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 454 Safety (3) This course will focus on safety issues as they relate to OSHA.

Safety (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 458 Construction Management II (3) Procedures in construction organization including procurement, ethics, field supervision, legal and managerial problems, personnel, cost accounting, and construction business practices.

C E 458 Construction Management II (3)

This course presents policies, procedures, and applications in construction management and organization including procurement, ethics, field supervision, legal and managerial problems, personnel, cost accounting, and construction business practices. The course encompasses construction tenets and fundamentals including planning, organizing, staffing, directing, and controlling. Students who successfully complete this course will be able to:
1) understand organizational issues concerning development of a project delivery system
2) comprehend the roles and responsibility of the Resident Project Representative and members of the construction team and the respective utility of the resident inspection office responsibilities
3) know the various documentation construction records/reports normally
4) recognize the salient features of specifications and drawings and the fundamentals for using them in contract administration
5) become familiar with the prevailing construction laws, policies, and procedures dealing with labor and safety
6) understand the utility of meetings during construction and the principles and techniques of negotiation
7) apply risk management through contractual allocation of rush and liability
8) become well versed in planning/orchestrating during reconstruction operations
9) apply management principles of directing and controlling construction operations and resources including CPM scheduling, inspections, tests, and contractor submittals
10) understand the concept of value engineering in construction operations
11) understand the critical control issues involved with measurement and payments, controlling construction materials and workmanship, and changes and extra work

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: C E 333W, C E 456

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 456 Planning and Scheduling (3) Theory and practice used in planning and scheduling projects; defining task and resources, creating logic diagrams, and monitoring the projects.

C E 456 Planning & Scheduling (3)

"Planning and Scheduling" encompasses construction tenets and fundamentals including organizing, staffing, directing, and controlling representing concepts and principles integral to career applications in project and design management. Students who successfully complete this course will be able to:
1) understand and use planning, scheduling, and control techniques for managing construction projects
2) understand scheduling techniques and computer applications in critical path methods, PERT, and resource scheduling
3) understand construction financing and schedule / cost relations
4) understand the principles of project tracking, progress measurements, trend analysis, and forecasting

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: C E 333W, CET 435, I E 303

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 461 Water-resource Engineering (3) Qualitative and quantitative description of the hydrologic cycle, flood and drought frequency analysis, climate and land use change impacts, risk analysis and uncertainty, water resource management at regional, national and global scale.

Water-resource Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: C E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 465W Water Resources Capstone Course (3) Hydraulic design of river structures and open channels including supercritical and spatially varied flow; hydrologic/hydraulic computer modeling; design project.

C E 465W Water Resources Capstone Course (3)

This course is designed to provide seniors in the water resources area with a major design project. In addition, the course has a writing component, which satisfies the University's writing across the curriculum requirement.

Projects cover hydrologic and hydraulic design. Hydrologic analysis is performed to size the hydraulic structure systems that convey the design flows. The students utilize Geographic Information Systems data bases, utilize several state of the art computer models, and are required to write several computer programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: C E 361 . Prerequisite or concurrent:C E 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 462 Open Channel Hydraulics (3) Free surface flow in rivers, canals, steep chutes, stilling basins, and transitions.

C E 462 Open Channel Hydraulics (3)

This is an advanced senior level course dealing with steady gradually varied flow. The laws of conservation of mass, energy and momentum are applied to gradually varied steady flow problems in rectangular and non-rectangular channels. Basic definitions and equations governing flow are developed for uniform and nonuniform flow conditions. The students will use their knowledge of fluid mechanics, calculus, numerical analysis and computer science to solve practical open channel flow problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: C E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 471 Environmental Sanitation (3) Public health engineering applications related to communicable diseases, water supply, wastewater disposal, solid wastes, air pollution, food, vectors, and radiation.

Environmental Sanitation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: seventh-semester standing 3 credits in biology 3 credits in chemistry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 472W Environmental Engineering Capstone Design (3) Principles and design of unit operations for water; domestic and industrial wastewater treatment; equipment selection and application.

C E 472W Environmental Engineering Capstone Design (3)

This course will integrate engineering science and design skills through application to an open-ended environmental problem dealing with one or more of the following: industrial sustainability and pollution prevention; water transmission and treatment; wastewater collection and treatment; solid waste collection, treatment, and disposal; remedial investigation and feasibility studies for a hazardous waste site.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: C E 370, C E 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 475 Water Quality Chemistry (3) Chemistry applicable to the understanding and analysis of water quality, pollution, and treatment.

C E 475 **C E 475 Water Quality Chemistry (4)**

C E 475 Water Quality Chemistry is a senior/graduate-level course focused on both theoretical aspects of water chemistry and applied aspects of engineering practice. The course will cover a wide range of fundamental chemical principles that will be investigated further in the laboratory exercises and through an independent research project. The course covers reaction stoichiometry and reaction type with specific examples of processes typically encountered in water, wastewater and hazardous waste treatment situations. The course distinguishes between kinetic and equilibrium reactions and presents mathematical formulations for both types of reactions. The course reviews thermodynamics and electrochemistry and relates them to equilibrium constants and the spontaneity of reactions. The course covers redox reactions especially with respect to the corrosion of civil infrastructure, the generation of acid rock drainage, and biological wastewater treatment processes. The course covers acid/base reactions especially with respect to disinfection of drinking water and pH adjustments commonly used to enhance air stripping of pollutants. The course introduces the use of computer models for determining chemical speciation of acid/base constituents. The course covers alkalinity and the carbonate system especially with respect to the issues of acid rain, acidification of the Earth’s oceans, and limestone buffering of surface waters in Pennsylvania. Computer models are used to calculate chemical speciation in carbonate-containing systems. The course covers pH-dependent solubility of common minerals – primarily carbonates, hydroxides and aluminosilicates. The course covers engineering applications related to metal solubility including water softening, coagulation for turbidity removal in water treatment plants, heavy metal generation from acid rock drainage, and heavy metal removal in hazardous waste treatment. The course covers complexation reactions especially with respect to effects on metal solubility and toxicity. Computer models are used to calculate chemical speciation in multi-complexant systems. The course covers analytical chemistry especially with respect to the most common parameters measured in water and wastewater treatment systems, and with respect to the principles of measurement (i.e. gravimetric, spectrometric, volumetric, potentiometric analyses). The course involves a research project on a local water quality problem of concern. In the past, this project has focused on the proposed “Beneficial Reuse” of wastewater in Centre County, and on the impact of acid rock drainage from the construction of I-99 on Buffalo Run in Centre County.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: C E 370, CHEM 110, CHEM 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 473 Water Quality Management (3) Water quality criteria and standards; fate and impact of pollutants in aquatic systems; technology available for wastewater renovation.

Water Quality Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 475 Water Quality Chemistry (4) Chemistry applicable to the understanding and analysis of water quality, pollution, and treatment.

C E 475 **C E 475 Water Quality Chemistry (4)**

C E 475 Water Quality Chemistry is a senior/graduate-level course focused on both theoretical aspects of water chemistry and applied aspects of engineering practice. The course will cover a wide range of fundamental chemical principles that will be investigated further in the laboratory exercises and through an independent research project. The course covers reaction stoichiometry and reaction type with specific examples of processes typically encountered in water, wastewater and hazardous waste treatment situations. The course distinguishes between kinetic and equilibrium reactions and presents mathematical formulations for both types of reactions. The course reviews thermodynamics and electrochemistry and relates them to equilibrium constants and the spontaneity of reactions. The course covers redox reactions especially with respect to the corrosion of civil infrastructure, the generation of acid rock drainage, and biological wastewater treatment processes. The course covers acid/base reactions especially with respect to disinfection of drinking water and pH adjustments commonly used to enhance air stripping of pollutants. The course introduces the use of computer models for determining chemical speciation of acid/base constituents. The course covers alkalinity and the carbonate system especially with respect to the issues of acid rain, acidification of the Earth’s oceans, and limestone buffering of surface waters in Pennsylvania. Computer models are used to calculate chemical speciation in carbonate-containing systems. The course covers pH-dependent solubility of common minerals – primarily carbonates, hydroxides and aluminosilicates. The course covers engineering applications related to metal solubility including water softening, coagulation for turbidity removal in water treatment plants, heavy metal generation from acid rock drainage, and heavy metal removal in hazardous waste treatment. The course covers complexation reactions especially with respect to effects on metal solubility and toxicity. Computer models are used to calculate chemical speciation in multi-complexant systems. The course covers analytical chemistry especially with respect to the most common parameters measured in water and wastewater treatment systems, and with respect to the principles of measurement (i.e. gravimetric, spectrometric, volumetric, potentiometric analyses). The course involves a research project on a local water quality problem of concern. In the past, this project has focused on the proposed “Beneficial Reuse” of wastewater in Centre County, and on the impact of acid rock drainage from the construction of I-99 on Buffalo Run in Centre County.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: C E 370, CHEM 110, CHEM 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 479 Environmental Microbiology Laboratory (1) Introductory microbiology course; application of diagnostic microbiological techniques to the characterization of wastewater enrichment cultures and pure cultures.

C E 479 Environmental Microbiology for Engineers (3)

C E 479 Environmental Microbiology for Engineers is a senior/graduate-level course comprised of three main sections: (1) the fundamentals of microbial structure, function, nutrition, and growth for students with no prior formal instruction in microbiology; (2) microbial diversity and ecology; and (3) the application of these fundamental microbial principles to environmental systems. In the fundamentals section, the course covers microbial nomenclature, macromolecules, cell biology, energetics, growth, and genetic regulation. This is illustrated with calculations of thermodynamic constraints in microbially catalyzed reactions, the calculation of efficiencies based on energy conservation from common pathways, and the connection of these efficiencies to microbial growth in a chemostat. Building on these fundamental concepts of metabolic potential and conserving energy and acquiring reducing equivalents from redox reactions, the second section covers the reactions and energetics of the primary microbial functional diversity such as phototrophy, lithotrophy, autotrophy, anaerobic respirations, and fermentations. It also introduces modern molecular biology techniques for studying microbial systems, and pulls the concepts of functional diversity together by illustration with the major nutrient cycles, including discussions of environments in which each reaction might be encountered. Finally, the last section applies these ecological principles to several specific engineered environments of interest. Homework assignments throughout the semester involve questions about the methods, findings, or applications of recent articles that highlight the recently covered material, giving the students experience in the critical evaluation of primary literature and demonstrating the relevance of the material to environmental microbiology research and application. Complementing the progression of the lectures are eight instructional laboratories that provide hands-on application of diagnostic microbiological techniques to the characterization of environmental enrichment cultures and pure cultures. For example, a microscopy lab immediately follows the lecture material on cell biology, an enrichment experiment follows the material on nutrition, an enumeration experiment follows the section on microbial growth, etc. The final seven weeks of the laboratory period are devoted to group projects, in which students apply the techniques the have learned as appropriate to answer specific short-term research hypotheses. The final period is devoted to group presentations of their projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992 Ending: Fall 2010
Prerequisite: MICRB 400 seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 476 Solid and Hazardous Wastes (3) Characteristics and treatment of solid wastes and hazardous wastes.

C E 476 Solid and Hazardous Wastes (3)

Solid waste management continues to be a major area of concern for the Environmental Engineering profession. Based on the principle of the conservation of mass, we know that all of our wastes must be deposited in either the air, water or land environments. With improvements in air and water pollution control technologies, resulting in solid residuals, an increasing waste load is being placed on the land. Environmental impacts are being addressed as a future need.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: C E 370, C E 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 479 Environmental Microbiology for Engineers (3) Intro microbiology for engineers; microbe structure, function, and diversity; environmental ecosystems; diagnostic labs.

C E 479 Environmental Microbiology for Engineers (3)

C E 479 Environmental Microbiology for Engineers is a senior/graduate-level course comprised of three main sections: (1) the fundamentals of microbial structure, function, nutrition, and growth for students with no prior formal instruction in microbiology; (2) microbial diversity and ecology; and (3) the application of these fundamental microbial principles to environmental systems. In the fundamentals section, the course covers microbial nomenclature, macromolecules, cell biology, energetics, growth, and genetic regulation. This is illustrated with calculations of thermodynamic constraints in microbially catalyzed reactions, the calculation of efficiencies based on energy conservation from common pathways, and the connection of these efficiencies to microbial growth in a chemostat. Building on these fundamental concepts of metabolic potential and conserving energy and acquiring reducing equivalents from redox reactions, the second section covers the reactions and energetics of the primary microbial functional diversity such as phototrophy, lithotrophy, autotrophy, anaerobic respirations, and fermentations. It also introduces modern molecular biology techniques for studying microbial systems, and pulls the concepts of functional diversity together by illustration with the major nutrient cycles, including discussions of environments in which each reaction might be encountered. Finally, the last section applies these ecological principles to several specific engineered environments of interest. Homework assignments throughout the semester involve questions about the methods, findings, or applications of recent articles that highlight the recently covered material, giving the students experience in the critical evaluation of primary literature and demonstrating the relevance of the material to environmental microbiology research and application. Complementing the progression of the lectures are eight instructional laboratories that provide hands-on application of diagnostic microbiological techniques to the characterization of environmental enrichment cultures and pure cultures. For example, a microscopy lab immediately follows the lecture material on cell biology, an enrichment experiment follows the material on nutrition, an enumeration experiment follows the section on microbial growth, etc. The final seven weeks of the laboratory period are devoted to group projects, in which students apply the techniques the have learned as appropriate to answer specific short-term research hypotheses. The final period is devoted to group presentations of their projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CHEM 111, C E 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 488D Capstone Project - Structural Design (4) This course consists of a structural design project either selected by the students with approval or assigned by the instructor.

C E 488D Capstone Project - Structural Design (4)

This course integrates the structural design and construction skills through an application to a project focusing in the construction management area. The course is serves as the capstone of the senior student’s education courses. The course C E 488D identifies the student selection of a structural design capstone project.
The student works on a team during the course project process. The team will evaluated on different assignments during the project as well the final product. The team will submit a final written report as well make an oral presentation. The SDCET advisory board is invited to participate in the oral participations.

The 4 credit hour course is separated into two parts which are taken in two consecutive semesters. The first course offering is for 1 credit to provide the students an overview of the course and an introduction to the project. The course is then repeated for 3 credits the following semester for the project. This is to allow the necessary time for students to complete the project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: eighth-semester Structural Design and Construction Engineering Technology student. Previous or concurrent:CET 430, CET 431, CET 432 andCET 435

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 488C Capstone Project - Construction (4) This course consists of a project either selected by the students with approval or assigned by the instructor.

C E 488C Capstone Project - Construction (4)

This course integrates the structural design and construction skills through an application to a project focusing in the construction management area. The course is serves as the capstone of the senior student’s education courses.
The course C E 488C identifies the student selection of a construction capstone project.
The student works on a team during the course project process. The team will evaluated on different assignments during the project as well the final product. The team will submit a final written report as well make an oral presentation. The SDCET advisory board is invited to participate in the oral participations.

The 4 credit hour course is separated into two parts which are taken in two consecutive semesters. The first course offering is for 1 credit to provide the students an overview of the course and an introduction to the project. The course is then repeated for 3 credits the following semester for the project. This is to allow the necessary time for students to complete the project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: eighth-semester Structural Design and Construction Engineering Technology student. Previous or concurrent:CET 430, CET 431, CET 432, CET 435, C E 456

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 494 Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 494H Honors Senior Thesis (1-6) Investigation of an original project in the area of Civil Engineering.

C E 494H Honors Senior Thesis (1-6)

Investigation of an original project in the area of Civil Engineering. The thesis topic must be approved by the honors advisor and thesis advisor and submitted as a thesis proposal to the Schreyer Honors College prior to scheduling the course. Students may register for a total of 6.0 credits over their last two semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 496A Housing Competition Project (1) Student teams will work on a project for the NAHB Housing Competition. Travel involved. Contact Instructor.

Housing Competition Project (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 497A Enviornmental Microbiology (2) Introductory microbiology course for engineers comprised of the fundamentals of microbiology, and application of these fundamental principles to environmental systems.

Enviornmental Microbiology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 497C Analysis of Transportation Policy: The Larson Lectures (3) Analysis of different areas of transportation policy, including: current transportation challenges, strategic planning and performance measurement; financing; energy and climate issues; changing patterns of travel demand; public transportation and passenger rail; freight transportation, intelligent transportation systems, and safety.

Analysis of Transportation Policy: The Larson Lectures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engineering (C E)

C E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 242 Civil Engineering Materials - Concrete and Bituminous (2) Properties and tests for aggregates, portland cement, fresh and hardened concrete, concrete mix designs. Bituminous Materials: properties, mixtures and tests.

Civil Engineering Materials - Concrete and Bituminous (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 022, MATH 026

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 308 Construction Methods and Materials (3) The study of the methods and materials used in the construction industry.

Construction Methods and Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 022, MATH 026, ED&G 100 orEG T 101 andEG T 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 343 Soils & Fluid Mechanics (3) Fundamentals of fluid mechanics; Hydrostatics, pipe & open channel flow. Soil mechanics; properties, classification, compaction, stresses, shearing and lateral pressures.

CET 343 Soils & Fluids Mechanics (3)

This course presents the fundamentals of engineering soil mechanics and the basics of fluid mechanics and hydraulics related to civil engineering. It includes hydrostatics necessary for application to soil mechanics, supplemented with the fundamentals of fluid flow in closed systems and open channels. The course provides the initial exposure to soil mechanics, presenting the fundamentals essential to further study in foundations; including engineering and index properties for classification, the Unified Classification System, soil compaction essentials, permeability and subsurface stresses in soils, and the theoretical lateral pressures in soils related to their strength characteristics with simplifying assumptions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 140 Statics
Concurrent: Strength of Materials

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 361 Fluid Flow (3) Fluid flow theory; hydrostatics; dimensional analysis and similitude; pipe flow; flow measurement; open channels; flow forces; fluid machinery.

Fluid Flow (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 140 Statics Dynamics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 430 Structural Analysis (3) Analysis of determinate structures; use of influence lines; deflection of structures; classical methods of analysis of statically indeterminate structures.

Structural Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Statics Strength of MaterialsMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 432 Structural Design-Reinforced Concrete (3) Design of reinforced concrete beams, columns, slabs, and selected framing systems for bending and shear. Introduction to formwork design.

Structural Design-Reinforced Concrete (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Statics Strength of MaterialsMATH 140
Concurrent: CET 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 431 Structural Design-Steel (3) Design of steel beams, columns, truss members, decks, bar joists and selected connections.

Structural Design-Steel (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Statics Strength of MaterialsMATH 140
Concurrent: CET 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 434 Foundations (3) Analysis and design of footings, piling, retaining walls; consideration of contruction problems involving soils and foundations of structures.

Foundations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CET 343, CET 430, CET 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 435 Construction Estimating (3) Methods and techniques used in estimating construction cost; practice in takeoffs, costing and final bid preparation; microcomputer applications/class projects.

Construction Estimating (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ED&G 100, ET 200, C E 333W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Civil Engr Tech (CET)

CET 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 001 (GH) Greek and Roman Literature (3) Selected readings within a chronological and thematic context of significant and influential masterworks of Greece and Rome.

CAMS 001 Greek and Roman Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an introduction to the most important literary genres of Greek and Roman literature, which form the basis for Western literature. Content and emphasis may vary each time the course is offered, depending on whether the syllabus concentrates on Greek literature, Roman literature, or a combination of the two. Typically the course surveys Greek or Roman literature or examines a general topic in greater depth such as "Homer and the Tragic Vision," "Greek and Roman Drama," "Greek and Roman Epic," "Greek and Roman Prose," or "Love in Roman Literature." The course's primary objective is to promote an understanding of major literary themes and rhetorical conventions, especially within ancient Mediterranean contexts (literary, social, or historical). Students will learn how to read texts critically, by gathering information and developing methods of interpretation. They will become familiar with the different cultural assumptions that underpin ancient Greece and Rome. And they will be asked to demonstrate their newly acquired understanding of Greek and Roman literature through a variety of exercises, which aim to develop their skills in writing and speaking. Evaluation methods may take the form of periodic quizzing or testing, with an emphasis on writing coherent short paragraph answers and longer essays; additionally, students may be evaluated through oral presentations, classroom discussion or participation, the writing of short to medium length papers (1-7 pp.), and group projects that aim at collaborative learning. CAMS 001 is an introductory course that may be credited toward every Classics and Ancient Mediterranean Studies major, option, and minor. CAMS 001 is also a General Education course in the Humanities (GH).

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 004 (GH;US;IL) (J ST 004, RL ST 004) Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.

CAMS (J ST/RL ST) 004 Jewish and Christian Foundations (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jewish and Christian Foundations seeks to help students better understand the Bible as the scriptural background for both Judaism and Christianity. Some people believe the Bible is "scripture," self communicated by God to humanity. To others, this text is a compendious collection of poetry, historical writing, law, myth, and mystical writings, which stems from the religious, political, and cultural milieu of the ancient Near East. Some people believe this is a book designed to bring people to belief in the power and reality of the god discussed in these writings. For others, the book is a source of both unity and division among people in the world, and must be treated as ambiguous in nature. Still others see the biblical text as the single most important collection of literature to have shaped the religious, political, and imaginative contours of western civilization. This course focuses on selected portions of the biblical text, representing diverse strands of historical remembrances, interpreted and re-interpreted in light of critical historical events, and serving, first as an oral, and later as a written account of the life, beliefs, and hopes of Jewish and Christian peoples. Readings from both the Hebrew Bible (the Christian "Old Testament") and the Christian scriptures (the "New Testament") will be used. RL ST 004 provides a broad discussion of the origin of both Judaism and Christianity within a historical and geographical framework. The principle teachers, writers, and "founders" are discussed, including Moses, Isaiah, David, Ezra, Jesus, Peter, and Paul. Students are challenged to read and understand these important writings which have interpreted the human condition and which have oriented generations of people towards a transcendent referent associated with love and loyalty. Evaluation methods may include two hour examinations, a final examination, and two short writing assignments. The examinations are not cumulative. Class participation will also be a factor in overall evaluation for the final grade. RL ST 004 may be used to fulfill requirements for the Religious Studies, Classics and Ancient Mediterranean Studies and Jewish Studies major/minor. Finally, students will be challenged to evaluate and respond to the literature as it touches on human experience experiences which all people share regardless of their personal religious affiliation.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 002 (GH;IL) Literature of the Ancient Near East (3) Reading and study of literary works from the Ancient Near East, especially from Mesopotamia and Ancient Egypt.

CAMS 002 Literature of the Ancient Near East (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The objective of this course is to introduce the student to Ancient Near Eastern literature and to provide the analytical tools to appreciate that literature within its historical context. This course presents a broad sample of literary compositions from Ancient Mesopotamia and from Ancient Egypt, along with parallels from Ancient Anatolian and Syro-Palestinian traditions. This course complements similar introductory courses in ancient Greek and Latin literature and provides an introduction to the languages and literatures of the ancient Mediterranean world; this course satisfies major and minor requirements for programs of study in the Dept. of Classics and Ancient Mediterranean Studies. This course will be offered once a year, enrolling cap 50. The methods of evaluation include a mid-term and final examinations, two brief quizzes, a term paper and active class participation.

This course will provide students with a detailed overview of the main literary traditions and genres of the Ancient Near East (Mesopotamia and Egypt) and will demonstrate how those literary traditions were influential on the origins and shaping of ancient (Biblical) Hebrew and Greek literary traditions.

The course will be divided into two main sections: Mesopotamian and Egyptian literatures. Students will read some of the most famous literary compositions from the Ancient Near East (such as *Gilgamesh* and the Babylonian story of creation), as well as representative sample of works from a wide variety of genres (love poetry, mythological narratives, laments, religious hymns, tales, wisdom literature). We shall also read texts that mention actual historical characters, such as the legends of the Sargonic kings in Mesopotamia. Moreover, the works related to both official cult and popular religion (hymns, prayers, incantations, prophecies) will be read in their political, social, and religious context. In the limits between sacred and profane, our approach to love poetry will address issues of ritual, gender, and sexuality. More strictly mundane genres (wisdom literature and humor) will show that some basic human concerns have remained unchanged.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 005 (GH;IL) (HIST 005) Ancient Mediterranean Civilizations (3) Survey of the history and cultures of ancient Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.

CAMS (HIST) 005 Ancient Mediterranean Civilizations (3)
(GH;IL)

This course provides an introduction to the history and cultural traditions of the ancient civilizations of the Mediterranean. From the origins of cities and the invention of writing, it surveys the intellectual, artistic, and political traditions that laid the foundations for the later civilizations of Europe and western Asia. Students will acquire a basic historical framework for the ancient Mediterranean from the third millennium BCE through the end of antiquity in the first millennium CE. Within this framework cross-cultural relationships of time and ideas will be established among religious texts, epic literatures, and political and legal traditions. In the part of the world where the division between Asia and the East and Europe and the West was born, the course will examine the development of regional and ethnic identities along with the historical development of concepts of the universal nature of humanity. This course is designed to serve as the foundation course for all majors in the department of Classics and Ancient Mediterranean Studies (CAMS).

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 012 (GH;IL) (J ST 012, RL ST 012) Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

**CAMS (J ST/RL ST) 012 Lands of the Bible (3)
(GH;IL)**

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS/J ST/RL ST 012 introduces students to the lands, cities, and peoples associated with the Hebrew and Christian scriptures. Using methodologies from historical geography, archaeology, ancient history, epigraphy, and anthropology, students study the Fertile Crescent, from the Nile Valley, through the Levant and its Jordan River valley, to Mesopotamia--the river valleys of the Tigris and Euphrates. Students will study the cities and states of the cultures along these rivers in the Bronze and Iron Ages, including Memphis/Saqqarah, Thebes, Ugarit, Jerusalem, Lachish, Megiddo, Shechem, Samaria, Hazor, Ebla, Babylon, Ur, Petra, Jericho, 'Akko, and others. These are the lands of the Hebrew and Christian scriptures, but also cities that have been revealed through modern study. For example, the texts excavated at Ugarit (Syria) in the 1920's shed light on the relations between ancient Israelites and their Canaanite neighbors in the period of the "Conquest" and the monarchies of the Iron I and Iron II periods. Students will learn that the culture of the ancient Near East is inexorably linked to an understanding of the religious traditions that grew up in the region, including Judaism, Christianity, and Islam. Classes will be a combination of lecture, discussion, and problem-solving, with frequent use of slides and occasional use of artifacts to illustrate the topics at hand. Students are evaluated on three of the following five means: a midterm test, a final essay examination, a five to seven page term paper, a team research oral presentation, a team research poster presentation. Participation in class discussion will also be evaluated. This course fulfills three credits of the General Education or the B.A. humanities requirement. For majors in CAMS, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology. The course fulfills the three credit requirement for courses in RL ST 001-099 for the Religious Studies major, and the Jewish Studies major's requirements. The course also would fulfill three credits of the six credit requirement for courses in any field that may be below the 400-level for the Religious Studies Minor, three credits of the nine credits required in course work for the Jewish Studies Minor, and three of the 18 credits required for the CAMS minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 010 (GH;IL) Mesopotamian Civilization (3) Cultural, technological, literary, political, and economic achievements of peoples who occupied the region of Mesopotamia (4,000-331 B.C.E.), in historical context.

Mesopotamian Civilization (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 012U (GH;IL) (J ST 012U, RL ST 012U) Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

Lands of the Bible (3)

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 015 (GH) Wonders of the Ancient World (3) Overview of ancient world by focusing on the famed "Seven Wonders" and similar achievements from 3000 B.C.E.-1st Century C.E.

Wonders of the Ancient World (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 025 (GH;IL) Greek Civilization (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.

CAMS 025 Greek Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Greek Civilization, CAMS 025 GH;GI, is an interdisciplinary and multimedia introduction to the major features of Greek civilization and its importance to the Western heritage. It shows how the ideals, achievements, but also the failures of ancient Greeks have shaped the values of Western civilization. The course begins with an overview of the geography of the areas around the Mediterranean Sea that were inhabited by Greeks in antiquity, the reasons for the location of major settlements, and an introduction to the precursors of the Hellenic peoples, such as the Minoans, whose cultural achievements preceded and influenced the earliest Greeks. The course then follows the 1,500-year long development of Greek history, literature, philosophy, art and archaeology from its early stages in the second millennium B.C.E. through the Hellenistic period. The course presents the political, social, religious, and economic structures of ancient Greece and issues of gender, slavery, foreigners, colonization, and imperial ambition that reward modern re-evaluation. The course particularly emphasizes the development of the Greek city-state, the polis, the unique political system of democracy, and the tension between the individual and the state through the sixth and fifth centuries B.C.E. that saw its greatest successes and the failures that led to the death of Socrates in 399 B.C.E. In this course students may gain an appreciation for the greatest achievements of Greek culture in the fields of literature and philosophy, in the work of poets from Homer and Hesiod to Aeschylus, Sophocles, and Euripides and from the great Ionian thinkers such as Thales to philosophers such as Plato and Aristotle. Because classical culture constitutes a major influence on modern western civilization, such study enables us to see where various aspects of our own society come from and so better understand ourselves. This course, then, emphasizes the similarities between the ancient Greeks and the modern world, thereby establishing the relevance of this study, while at the same time pointing out the differences between these two cultures, thereby providing the critical distance necessary for reflecting on ourselves.

In this course students prepare group projects and oral presentations and write essays that involve the use of library and Web-based tools such as Perseus, an extensive electronic resource for all aspects of ancient Greek culture. In this course students will read (English translations of) original Greek texts, will view many examples of Greek art, architecture, and artifacts, and will hear examples of music based on literary or mythological themes that originated with the Greeks. Through the readings, lectures, and discussions, students may learn methods for interpreting the historiographical, literary, and material evidence upon which we base our understanding of the ancient Greeks.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 020 (GH) Egyptian Civilization (3) The culture, history, literature, and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.

CAMS 020 Egyptian Civilization (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS 020 is a thematic introduction to the major features of ancient Egyptian civilization. If you have heard of hieroglyphics, Tutankhamen, or the Rosetta Stone and wanted to learn more, CAMS 020 will provide the background and significance of these and many other aspects of ancient Egypt. The course begins with a grief historical overview, and then presents topics such as language and writing, the Pyramid Age, kingship, Egyptian imperialism, Egyptian literature, everyday life, Egyptian religion, death and afterlife, women in Ancient Egypt, and science and medicine. The course concludes with a consideration of Egyptomania, the modern fascination with ancient Egyptian culture.

CAMS 020 is taught in lecture and discussion format and will be offered once a year. In some semesters the enrollment is limited to 50 students. In other semesters where enrollment is limited to 120 there are two lectures per week and a discussion section taught by a graduate assistant. Students will make small-group oral presentations in class or in these sections based on library and web-based research. Evaluation will be based on these presentations, on two in-class essay and short answer tests, and a final essay examination. In some sections a term paper may replace the final essay examination. CAMS 020 fulfills a humanities general education or B.A. requirement, and also the requirement for a course in Near Eastern language, literature, history, civilization, or archaeology of the CAMS major. CAMS 020 may be used to fulfill the requirements for 12 credits of course work at any level towards a CAMS minor.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 025U (GH;IL) Greek Civilization (3) The origin and development of the ancient Greek people; their political and social institutions, public and private life.

Greek Civilization (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 034 Latin Literature in English Translation (3) Readings in the major Latin authors (Plautus, Terence, Lucretius, Catullus, Horace, Vergil, Livy, Tacitus, Petronius); their influence on later literature.

Latin Literature in English Translation (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 033 (GH;IL) Roman Civilization (3) Origin of the Romans; sociopolitical development; food, homes, education, marriage, family life, amusements, private and public worship.

CAMS 033 Roman Civilization (3)
(**GH;IL)**

(BA) This course meets the Bachelor of Arts degree requirements.

Roman Civilization (CAMS 033) provides a comprehensive survey of one of the major and most interesting societies from which contemporary western culture developed. For over 1200 years, the Romans expanded and ruled over the largest empire in recorded history. An understanding of their successes and failures can inform our own understanding of modern politics and international relationships. Many ideas in such diverse areas as government, law, military organization and strategy, the calendar, social practices, urban life, literature, art, and architecture clearly derive from Roman practices. Knowledge of the Romans, and the similarities and important differences between their lives and ours provides an opportunity to reflect on human values and contemporary culture.

The course includes discussion of the origins of the Romans, how they saw it themselves, and the rather different picture painted by modern archaeology. How the Romans expanded and maintained their power with long periods of peace from what is now Great Britain to the borders of India, and how their power waned in the later Roman period is one of the great illustrations of political institutional design. Roman society included various social groups, from slaves to the wealthy members of the traditional nobility. The opportunity for movement from slave to freedman or freedwoman to landowner helps explain why for generations Roman rule was widely accepted. Roman urban life, with its great public meeting halls, baths, arenas, race courses, and luxurious houses and comfortable apartment blocks was eagerly accepted across Europe, North Africa, and the Near East. Many of these areas were more intensively and successfully populated under the Romans than at any time since. The greatest achievements of Rome's poets, Virgil's "Aeneid" and Ovid's "Metamorphoses" remain rich sources for current writers, composers, and choreographers. Major Roman historians and thinkers also continue to inform and inspire. Religious beliefs and the causes for the growth of Christianity are also important features of the Roman Empire. Almost two thousand years separate us from the summit of Roman power and yet we still benefit from a study of their society to understand our own.

The class meetings include twice weekly lectures for all students enrolled and once a week discussion sections of thirty students or less. Small enrollment classes meeting three times each week may also be scheduled. Assignments include individual and group papers, tests, and a final examination. Students are expected to participate actively in class discussions.

In addition to twice weekly lectures for the 200 students in this course, smaller discussion sections of 30 students or less are scheduled once per week. All students will be expected to participate actively in the class discussions. In addition, students will write one individual paper and a longer paper based on collaborative work. In preparation of the written papers, students will gather information from both computer/electronic resources and use of the library. WEB resources for the study of classical antiquities and ancient texts are extremely rich. By integrating these various sources, students will be expected to synthesize various sources and to analyze the relationships between ancient and modern culture. A major assignment in this course requires collaborative learning and the preparation of a written paper in groups of 4 students. Study of the Romans includes learning in detail about the geography, resources, and cultures of a very large area of the world from southern Scotland to North Africa, and from Gibraltar to the borders of India. Many basic features of these areas remain relatively unchanged, and the realities of the resources and climate continue to regulate modern societies who inhabit the same spaces, often less successfully.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 044 (GH;IL) (RL ST 044) Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.

CAMS (RL ST) 044 Ancient Near Eastern and Egyptian Mythology (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces students to a selection of major ancient Mediterranean and Egyptian myths, gods, and goddesses. Ancient Canaan, Mesopotamia, and Egypt (geographically approximating the contemporary Middle East) were primary locations for the development-beginning already in the fourth millennium B.C.E.-of highly complex urban civilizations, many of which persisted until the turn of the Era. These ancient societies were responsible for notable technological achievements, such as writing, sophisticated irrigation systems, and the wheel, and for notable cultural achievements, such as impressive legal codes, highly developed astronomical research, and complex religious systems. This course will acquaint students with some major religious writings stemming from these fascinating old world cultures. The class discusses in some detail a limited range of stories about the divine realm, creation, the flood, kingship, life and death, and sexuality. The course pursues such comparisons by studying myths against the background of the different cultures that produce them. Because a number of these religious myths are historically related, the course will also critically compare the similarities and the differences between them. To underscore how important historical and geographic settings are to understanding these stories, the course uses different techniques of instruction such as small group discussions, slides, lectures, and films.

Three of the world's major religions-Judaism, Christianity, and Islam-trace their roots to the religions of the ancient Near East and Egypt. Hence, some attention will be paid to the similarities and differences between the views expressed in these myths and the views developed in classical Judaism, Christianity, and Islam. By grappling with issues such as divine character, self-identity, and female/male relationships in the ancient Mediterranean world, students will be better acquainted with how classical Judaism, Christianity, and Islam innovate beyond the religious heritage to which they are indebted.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 044U (GH;IL) Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.

Ancient Near Eastern and Egyptian Mythology (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 045 (GH;IL) Classical Mythology (3) Introduction to Greek and Roman divinities, heroes and heroines; survey of the major myths and their influence on Western culture.

CAMS 045 Classical Mythology (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of CAMS 045 is to introduce students to the stories that have shaped western art and civilization for a longer time and more profoundly than any others: the myths of ancient Greece and Rome. It is a common assumption that the ancients needed myth because they had no science, and that the birth of science was the death of myth. We beg to differ. A recurring theme of this course is that while science has replaced myth to explain how the world works, myth has always played several other roles in human experience, and continues to do so. Even today myth is everywhere: in literature, the performing arts, and the visual arts, in both high and popular culture. Myth reveals truths about our humanity, and it reaches people at a gut level--which is why it is still of vital interest to novelists, theologians, psychologists, politicians, ad agents, poets, and scriptwriters

The course has several objectives. First and foremost, we want students to come to know, appreciate, and enjoy the myths themselves, by reading them directly in English translations of ancient epics, dramas, and other literary works. Second, we hope that students will come to appreciate the pervasiveness of myth, and its power, not just in past cultures, but also in other cultures throughout the world as well as our own. Third, central to the course are the significant differences between classical antiquity and modern Western societies including the contrast between Polytheistic Paganism and Judeo-Christian Monotheism. The differences in values and practices such as the attitudes toward human sexuality, general relations, slavery, and socioeconomic relations are also discussed. This course will provide valuable experience in the fundamental skills requisite for success both in the University and the workplace: reading, writing, and research. Examples of the evaluation methods may include: a five-page paper, which will be critiqued and returned for correction and rewriting before receiving a final grade, carried out collaboratively with three or four other students, and a group project involving library research and the creation of a WWW-based exhibition of a mythological theme.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 050 (GH) Words: Classical Sources of English Vocabulary (3) An introduction to English word forms stressing the most frequently occurring Latin and Greek elements and their derivatives.

Words: Classical Sources of English Vocabulary (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 070 (GH;IL) (J ST 070, RL ST 070) Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christian traditions, and today.

CAMS (J ST, RL ST) 070 Prophecy: The Near East Then and Now (3) (GH;IL)

The objective of this course is to introduce students to the prophetic traditions of the ancient Near East and the Bible of the Judeo-Christian traditions. The course will explore the development of prophetic circles in the ancient Near East (incl. Egypt, Syria, Canaan, and Mesopotamia) and then focus on the major prophetic traditions of the Hebrew Bible (to include at least Isaiah, Jeremiah, Ezekiel, Amos, Hosea, Micah, Haggai, Zechariah, and Daniel) and how these traditions were understood in early Judaism and nascent Christianity. Special attention will be paid to the roles of priests, kings, and prophets in ancient Israel to better understand Israelite and Judaean prophetic traditions in ancient Israelite society. The course will then examine the rise of apocalypticism and its modern manifestations in the coalition of conservative Christians and Jews in "Zion" -- the new Jerusalem. Additional emphasis will be placed on the religious and political interactions which manifest themselves in the prophetic movements--then and now--including the rhetoric of ideology and propoganda. Important figures and events illustrate these cultural and political trends, in antiquity, and in the contemporary setting.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 083T (GH;IL) First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.

First-Year Seminar in Classics and Ancient Mediterranean Studies (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 083S (GH;IL) First-Year Seminar in Classics and Ancient Mediterranean Studies (3) Critical approach to the study of ancient Mediterranean languages, literatures, and/or material cultures.

CAMS 083S First-Year Seminar in Classics and Ancient Mediterranean Studies (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The first-year seminar in Classics and Ancient Mediterranean Studies (CAMS) is concerned with interesting and challenging features of one or more of the cultures that surrounded the Mediterranean Sea in antiquity, from around 3,500 B.C. to 500 A.D. While the topic of CAMS first-year seminars varies, in all, you will be introduced to the civilizations that surrounded the Mediterranean Sea in ancient times and why their great accomplishments, their struggles, and their failures remain important to us even today, thousands of years later. You will learn about ancient literature and physical remains that provide information about these cultures. In this class, you will learn to assess theories about ancient societies, the types of evidence that exist for antiquity, and how to gain access to academic resources in the library and in electronic form. The topics of the seminars vary. Some current seminars include a critical study of widely believed " Ancient Mysteries,' such as the continent of Atlantis and Pyramid Power; a seminar on the relationships among Christians, Jews, and Pagans in the later Roman period; and Word Power, a course that gives you linguistic tools to understand the sources and nature of much of our modern English vocabulary. You will read selections of ancient literature in English translation and examine the remains of the societies that produced them to ponder basic questions about the meaning and value of human life. Some knowledge of ancient Mediterranean cultures has always been indispensable to intelligent participation in western society. Their social, political, economic, and legal systems, their religious experience, their language and art all are of interest, and their contribution to our own present world view can hardly be overemphasized. Today, the oldest of humanistic disciplines is more vital, more wide-ranging, and more current than ever before. By reading ancient literature, studying the structure of ancient languages, and learning about the religious, political, and social ideas formulated in antiquity, you may gain important insights into our own culture and come to understand the common humanity all people share.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 090 (GH;IL) (J ST 090, RL ST 090) Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.

CAMS (J ST/RL ST) 090 Archaeology of Jerusalem: Past and Present (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jerusalem, a holy city for Judaism, Christianity and Islam, is symbolically depicted in art and literature as the physical and spiritual center of the world. Throughout its history, this "city of peace" was a focal point attracting numerous cultures and peoples, the latter sometimes as prophets and more often as conquerors. The reasons for Jerusalem's centrality and significance during the past five millennia as a heavenly and earthly capital are explored in this course.

The course curriculum will survey the religious, political, archaeological and historical record of ancient Jerusalem, beginning with its earliest settlement during the fourth and third millennia BC. Jerusalem's urbanization in the second millennium BC, its role as the capital of biblical Israel and Judah during the First and Second Temple periods, and its transformation as a center of Christianity and later Islam are studied utilizing the testimony of artifacts, architecture, and iconography in relation to the written word. Throughout the ages and continuing into the 21st century, Jerusalem remains a contested city for the three monotheistic faiths. The holy city's impact on the politics of the modern Middle East will be critically examined in light of Jerusalem's history and recent archaeological discoveries and their modern-day interpretation.

Objectives include the critical evaluation of archaeological, historical and literary evidence and its relationship to modern-day political and religious perceptions of Jerusalem. The course will encourage research skills (including library training sessions) and writing and oral communication skills based on an analytical approach to the texts and material culture relevant to Jerusalem.

This course will fulfill three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in CAMS, the course will fulfill the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the CAMS ancient Mediterranean archaeology option it will fulfill the three credits of archaeology course work requirement. The course will fulfill three credits of course work concerned with the ancient period or with the land of Israel.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 100 (GH;IL) (HIST 100) Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.

CAMS (HIST) 100 Ancient Greece (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements

The course presents a survey of ancient Greek history and culture beginning with the Bronze Age palace-states of Crete and Mycenae, examines the emergence of Greek city-states, notably Athens and Sparta, traces their transformation through conflicts among themselves and with the Persian empire, and describes their eventual eclipse by the kingdom of Macedon. Since this course treats the beginnings of historical writing among the Greeks, students learn to evaluate diverse historical texts and their relationship to legend, myth, and poetry. The nature of historical thought itself is emphasized throughout the course. Also emphasized is the debate between the egalitarian Justice of democracy, the sober wisdom of oligarchy, and the overwhelming power of monarchy, as experienced by the Greeks down to the end of the fourth century B.C.E.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 101 (GH;IL) (HIST 101) The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.

CAMS (HIST) 101 The Roman Republic and Empire (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course fulfills 3 credits of the General Education-Humanities (GH) requirement and is an introduction to the ancient Roman empire: how that empire came into being, how it evolved, how it came to govern much of the Mediterranean and European world, and how that empire declined. Particular stress is placed, through readings and discussion, on the sources of our knowledge of the past and on the social and legal structures employed by a past society to govern an ethically- and religiously-diverse population. This course complements other courses on the ancient Mediterranean world (such as HIST/CAMS 100) and is a prerequisite to more advanced (400-level) courses in ancient Mediterranean history. An example of evaluation includes: three brief quizzes, a take-home mid-term permitting library and Internet use, and a final examination; all examinations require student synthesis and expression of what has been learned through written essays of varying length. Emphases in the course is on student engagement through class discussion of the topics presented in the texts and lectures.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 104 (GH) (HIST 104) Ancient Egypt (3) The history and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.

Ancient Egypt (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 102 (GH;IL) (HIST 102, J ST 102, RL ST 102) Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.

CAMS (HIST/J ST/RL ST) 102 Canaan and Israel in Antiquity (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

From the domestication of animals and the dawn of agriculture to the development and socialization of monotheism, the world of the first civilizations led to that of the Bible and ancient Israel. This course, involving a critical view of Biblical texts in light of other anicent sources, archaeology and historical methods, explains the nature and the evolution of society, religion and thought in the Biblical era. Learn how civilization arose, and how the state appropriated religion and applied it for its purposes. How the science of administration developed and deployed ideological tools to further its own ideas of the West developed. This course is deeply subversive, particularly of religious and academic shibboleths. The only authority in this class is that of the most persuasive reader, and doctrines, whether religious or political, will have to be checked at the door.

An example of evaluation may be: weekly participation in discussion; mid-term and final essay examinations involving a critical evaluation of ancient text's claims in combination with archaeological evidence; a research essay, where the class or section size is lower than 30; an ability to read critically, bringing different classes of evidence to bear on issues arising from the texts, and construct coherent and compelling arguments to a particular thesis. The course provides a Near Eastern counterpart to HIST 100, 402 and a Near Eastern aspect to the Jewish Studies major. It complements RL ST 110, by offering historical exploration of the culture under study in that course. Related courses include ANTH 012, HEBR, 010, ENGL 104, RL ST 004, and RL ST 111. The course helps round out the majors in History and Jewish Studies, particularly in ancient history. It also extends the program in Religious Studies (history of religions), and it contributes to the ancient stream of the prospective program in Jewish Studies and History.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 105 (GH;IL) History of the Ancient Near East (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.

CAMS 105 History of the Ancient Near East (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The objective of this course is to introduce the student to the history of Ancient Near Eastern societies. The geographic areas to be covered include Mesopotamia, Iran, Anatolia, Syro-Palestine, and Egypt. This course will stress the variegated nature of civilizations in those geographic areas and focus on the written texts and material culture through which we can reconstruct the history of the Ancient Near East. This course complements similar introductory courses in ancient Mediterranean history and civilizations. This course satisfies major and minor requirements for programs of study in the Dept. of Classics and Ancient Mediterranean Studies. This course will be offered once a year, enrolling cap 50. The methods of evaluation include a mid-term and final examinations, two brief quizzes, a term paper and active class participation. A special emphasis will be placed on those aspects that permit us to relate to the seemingly arcane mechanisms lying behind the social, religious, and political interactions which characterize the history of these civilizations, especially ideology, economy, and propaganda. Major figures and events will be presented as being as symptomatic of cultural or political trends.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 105U (GH;IL) History of the Ancient Near East (3) History of the Ancient Near East from the end of the Neolithic to the Hellenistic period.

History of the Ancient Near East (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 109Y (GH;IL) Writing Systems of the World (3) Writing intensive overview of the world's writing systems throughout history.

CAMS 109Y Writing Systems of the World (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The objective of this course is to provide students with a broad overview of the world's writing systems in historical context. Students will be introduced to the origins, mechanisms, and conventions of diverse writing systems used by different cultures throughout the world. This preliminary overview will enable students to address a wide variety of theoretical issues raised by the origins and development of different writing systems. This course satisfies major and minor requirements for programs of study in the Department of Classics and Ancient Mediterranean Studies. This course will be offered once a year, enrolling cap 25. The methods of evaluation include a mid-term and final examinations, two brief quizzes, a term paper and active class participation.

Special attention will be given to the history of writing systems. For instance, we will examine how the earliest writing systems in the Near East and East Asia originated and developed orthographic strategies and standards to record the linguistic realities for which they were designed; what processes and mechanisms facilitated the creation of the first alphabet in the Ancient Near East; how modern scholars have been able to decipher scripts lost long ago (such as Egyptian hieroglyphs, and Mesopotamian cuneiform), and how some decipherment processes are advancing and improving our knowledge of other civilizations (such as the Mayan and the Indus Valley).

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 110 (GH;US;IL) (J ST 110, RL ST 110) Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.

CAMS (J ST/RL ST) 110 Hebrew Bible: Old Testament (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Hebrew Bible is the record of the interaction between the people of ancient Israel and their God. As a religious text, the Bible is inextricably intertwined with the cultures of Israel's neighbors, including the Canaanites, Syrians, Greeks, Assyrians, Babylonians, Arabs, Egyptians, and the peoples of the eastern desert. To study the Hebrew Bible and its development during the first millennium BCE is to study the history, culture, and literature of the entire region. Hebrew Bible introduces students to the literature of ancient Israel, its rituals, the stories which established a people's identity, and which defined their moral behavior. Great figures of the texts, such as Moses, David, Solomon, Bathsheba, Ruth, Jeremiah, Daniel, and Ezra, teach us important lessons about life and how people of faith attempted to relate to one another, to God, and to people outside their ethnic group. Students will read from the text and from a textbook which contains scholarly opinion from a variety of sources. Recent archaeological and epigraphical studies will be incorporated into the course to enhance our work. The ultimate goal will be to assess the meaning of the texts in their ancient Near Eastern environment, and to understand the development of Hebrew religion and the beginnings of Rabbinic Judaism. Students will be evaluated using an hour examination, a 6-8 pp. "hermeneutical essay," a final examination, class attendance and discussion. As an introduction to the scriptures of the Hebrew Bible/Old Testament, RL ST 110 utilizes the methodologies used in the academic study of religion. The course is related or linked to many courses in religious studies which use these same methods or which are related to the history and development of Judaism, Christianity, or Islam. RL ST 110 may be used to fulfill requirements for the Religious Studies major. RL ST 110 may also be used to fulfill the US;IL or GH requirements in the major or minor in RL ST, CAMS and J ST.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 111 (GH;IL) (J ST 111, RL ST 111) Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.

CAMS (J ST/RL ST) 111 Early Judaism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Early Judaism will introduce students to the history of Judaism as reflected in Jewish literature from the period of the Babylonian exile (587/6 BCE) to the closure of the Babylonian Talmud (ca. 600 CE). In this period, ancient Hebrew religion was transformed into a new world religion-Judaism. Students will read selections from the Bible, and from other religious literature, including the Dead Sea Scrolls, the Apocrypha, the Christian Scriptures, the Mishnah, and the Talmudim. By tracing the development of various Jewish "parties," students will appreciate how Classical Judaism evolved, and how the early Church emerged from Jewish roots in the first centuries CE. Early Judaism grew from its roots in the period of Achaemenid domination. Jews were dispersed throughout the eastern Mediterranean, so influences from Persian, Hellenistic, and Roman thought naturally influenced the faith's development. Students in Early Judaism will develop a new appreciation for the basic beliefs and practices of Judaism as well as for the beginnings of the Jesus movement and the development of the early Christian Church. Theological and historical questions concerning the origins of evil, the primacy of prayer, the beginnings of Jewish religious architecture, and the rise of anti-Semitism will be explored. Religion is always linked inextricably to culture. Judaism's transformation in contact with diverse cultures will become evident throughout RL ST/CAMS/J ST 111. The methodologies used in this course will enable students to read and evaluate primary and secondary sources used in the academic study of Judaism. Many other courses in Religious Studies (001, 004, 110, 120, 124), Jewish Studies (010 and 102), and Classics and Ancient Mediterranean Studies, as well as History and Art History are closely related or linked to this course. RL ST 111 may be used to fulfill 3 credits in the Humanities, or to fulfill the GI requirement in the major or minor. The course will be offered once each year, with an enrollment of 65. This course will satisfy 3 credits towards the minor in Jewish Studies or the major in Religious Studies, plus being cross-listed with CAMS, fulfilling part of the requirement for courses in supporting or related areas of all Classical and Ancient Mediterranean Studies majors. The course also provides an excellent addition to other courses, such as CAMS 010, "Mesopotamian Civilization;" CAMS 044, "Ancient Near Eastern Mythology;" CAMS 045 "Classical Mythology;" CAMS 033, "Roman Civilization; and CAMS/ANTH/J ST 012, "Archaeology of the Lands of the Bible."

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 124 (GH;US;IL) (J ST 124, RL ST 124) Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.

CAMS (J ST/RL ST) 124 Early and Medieval Christianity (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course traces the development of one of the world's "Big 5" religions from the death of its founder (about the year 30 CE) down to the middle ages. It focuses on significant trends, controversies, personalities, and turning points. These are not just diverse in terms of chronological breadth, but are also spread geographically from the eastern end of the Roman Empire (the border with Persia) to northern Europe. Attention is given to the various manifestations of Christianity (Judaic, Hellenistic, Latin), and the linkage between local patterns (culture, history and predispositions) and how these shaped the sort of Christianity that took root in particular areas. Students typically will be evaluated on four "pop" quizzes, a midterm and a final exam. The course can be used towards a major or minor in Religious Studies, Classical and Ancient Mediterranean Studies, and Jewish Studies and used to fulfill 3 credits in the Humanities for non-majors.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 120 (GH) (J ST 120, RL ST 120) New Testament (3) Introduction to the history, literature, and religion of early Christianity in the Jewish-Hellenistic setting.

CAMS (J ST/RL ST) 120 New Testament (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces the student to the New Testament (NT), the principal religious text of Christians. As such, it is one of the most significant and most studio texts in human history. Written in Greek between approximately 55 C.E. and 110 C-E the New Testament consists of 27 individual books, each written by a separate author (authors), that were later assembled into the "New Testament." Because of the growth of Christianity, the NT has influenced every aspect of our world-to name only a few: history, politics, economics, literature, philosophy, ethics, medicine, science, the arts (music, architecture, the visual arts), gender roles, theater and drama, law, psychology, and sociology. After introducing the student to the academic study of religion and the "historical-critical method," our study begins by examining the materials from which the NT's text is reconstructed, and the period in which the NT was authored. This includes exploring other parallel phenomena (such as miraculous hearings, resurrections, and virgin births) in contemporaneous Graeco-Roman religions. After this background is in place, the course turns to an examination of the gospels and their interrelationships, the pictures of Jesus presented (and their relationship to first-century B.C.E. Judaism), variations among Christian understandings of Jesus reflected in the NT and other contemporaneous Christian writings (he was a man, an angel, a lesser divinity), Paul and his life and writings, and the emergence of Christianity from Judaism as a distinct, new, apocalyptic religion. Along the way, we examine the manuscript tradition of the NT, changes that have been made to its text, and different interpretations of certain passages in the NT. We also examine the historical-critical tools scholars use to date and sequence passages in the NT (form, redaction, literary, and historical criticism, for example), for one can correlate the evolution of early Christian theology with the evolution of the NT's text.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 133 (GH) (J ST 133, RL ST 133) Archaeology of the Levant and Ancient Israel (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.

CAMS (J ST/RL ST) 133 Archaeology of the Levant and Ancient Israel (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Ancient Canaan, a region that included present-day Israel, Jordan, Palestine, Lebanon, and southern Syria, traditionally served as the land bridge and crossroads that connected the great empires of Mesopotamia and Egypt of the ancient Near East. Its strategic geographic location has ensured its significance throughout history. In the past as in the present, many different cultures and peoples have influenced and controlled this region resulting in a very multicultural past reflecting the history of the entire Ancient Near East. This is the background to origins of the Israelites at the one of the second millennium B.C.E. and the impact of this history is still evident in modern political events of the region. This course will focus on Canaan in the southern Levant from the origins of agriculture to the emergence of ancient Israel down to ca. 1000 B.C.E. Students will examine cultural, social and political developments and transitions in Canaan and Israel in antiquity that will include the development and emergence of urban society; pastoral nomadism; the age of internationalism of the Middle Bronze - Late Bronze Ages; religion and oultic practices; Egyptians in Canaan during the 13th and 12th centuries B.C.E.; daily life in Canaan; the arrival and settlement of the Philistines; and the Emergence of Israel. Emphasis will be placed on a critical reading of contemporary historical and Biblical texts and an analysis of the archaeological evidence in order to reconstruct the history, culture, and society of Canaan and ancient Israel. The course grade will be based on active participation (attendance, discussion sessions, group presentations and individual oral presentations), one midterm exam and one paper on a topic that requires a critical examination of both historical texts and archaeological evidence. The course fulfills three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in Classical and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the CAMS ancient Mediterranean archaeology option it fulfills the three credits of archaeology course work requirement. The course fulfills three of the nine credit requirement for courses in RL ST 100-299 for the Religious Studies major, and the Jewish Studies major's requirement for three credits of course work.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 140 (GH;IL) Classical Archaeology--Ancient Greece (3) Literary sources and material evidence for society; culture of the inhabitants of Greece in ancient times.

CAMS 140 Classical Archaeology-Ancient Greece (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Greek Archaeology (CAMS 140 GH;GI) presents the literary and physical evidence for ancient Greek culture, especially in the Late Bronze Age from about 1550-1100 B.C. and in the Classical Period of the fifth and fourth centuries B.C., when the city of Athens was at its height of political and cultural influence. The course emphasizes the archaeological sites that illustrate these stages, on the island of Crete, at Troy, and on the Greek mainland at places such as Delphi, Olympia, and Athens. The connections among political and economic changes and the artifacts, both impressive buildings and humble fragments of broken pottery, are emphasized. The course begins with some fundamental principles of archaeology, with particular emphasis on survey methodologies; the various scientific and comparative methods used to establish dating; problems with existing ethical guidelines concerning the destructive marketing of antiquities; and the connections among geography, environment, and human settlement patterns. The great sites of the Bronze Age Aegean, including Knossos, Troy, Mycenae, and Pylos are described with discussion of the connections to Egypt and the Ancient Near East. The use of pottery and other artifacts to trace political structure on Crete is demonstrated. The decipherment of the Early Greek Linear B language provides evidence for relating economic and political organization to the results of surveys and excavation at various sites. The course briefly touches on the ceramic evidence for the collapse of this Bronze Age society and the Iron Age transition to Classical culture, including the reintroduction of writing, cultural interchange through Mediterranean trade, and colonization. The course culminates with a detailed consideration of the city of Athens, with emphasis on the economic and political center in the Agora; housing, coinage, funerary practices and monuments. Lectures illustrate some ways that archaeologists have used information provided by ancient authors such as Herodotus, Pausanias, and Thucydides to understand the excavated areas of the Athenian Agora and nearby sites. This course has two in-class essay examinations and a comprehensive final examination. Collectively these count for 75 percent of the course grade. In addition, students are graded on five assignments, each of which comprises 5 percent of the course grade. Four are essays based on textbook assignments. The fifth consists of a team-led classroom review of the previous six to eight classes. Assignments require use of Perseus II, a major and reliable Web resource for the study of ancient Greek civilization.

CAMS 140 is a counterpart to CAMS 133 and 150, an appropriate prerequisite for CAMS 440W, and an appropriate parallel to CAMS/HIST 100 or a successor to CAMS 025. CAMS 140 is one of three courses accepted as a prerequisite for students enrolling in the Penn State Education Abroad Program in Athens.

CAMS 140 fulfills common requirements in the major under two categories: (1) for a 3 credit course concerned with Greek or Roman language, literature, civilization, or archaeology, and (2) 6 credits of study in the general field of Classics and Ancient Mediterranean Studies at any level. CAMS 140 may be used to fulfill the requirements for 12 credits of course work at any level toward a CAMS Minor. CAMS 140 is an approved General Education Humanities course that may fulfill three credits of the six-credit requirement. It may also be used to fulfill the three credit B.A. humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 134 (GH;IL) (J ST 134, RL ST 134) Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.

CAMS (J ST/RL ST) 134 Archaeology of Biblical Israel (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Ancient Israel and the Levant, a region that included present-day Israel, Jordan, Palestine, Lebanon, and southern Syria, traditionally served as the land bridge and crossroads that connected the great empires of Mesopotamia and Egypt. Its strategic geographic location has ensured its significance throughout history. Many different cultures and peoples have influenced and controlled this region resulting in a very multi-cultural past reflecting the history of the entire Ancient Near East. This is the background to the origins of the Israelites at the end of the second millennium B.C.E., the birth of the Hebrew Bible, and the emergence of Judaism, Christianity and Islam. This course will focus on Biblical Israel in the southern Levant from the emergence of Ancient Israel (ca. 1200 BCE) through the Second Temple and Roman periods concluding with the development of the region as the "Holy Land" for Jews, Christians and Moslems. Students will examine the emergence of Israel; the arrival and settlement of the Philistines; state formation and the period of the United and Divided Monarchies; the fall of Israel and Judah to the Assyrians and Babylonians; the return from exile during the Persian period; Hellenism and the influence of the Roman world on Palestine; the reemergence of Judah during the Second Temple period; the destruction of the Second Temple and emergence of Rabbinic Judaism; Palestine and its role as the "Holy Land" to Jews, Christians and Moslems. The course grade will be based on active participation (attendance, discussion sessions, group presentations and individual oral presentations), one midterm exam and one paper. This course fulfills three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in Classical and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the CAMS ancient Mediterranean archaeology option it fulfills the three credits of archaeology course work requirement. The course fulfills three of the nine credit requirement for courses in RL ST 100-299 for the Religious Studies major, and Jewish Studies major's requirement for three credits of course work. CAMS/J ST/RL ST 134 GH may be used to fulfill the requirements for 12 credits of course work at any level towards a Classical and Ancient Mediterranean Studies minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 150 (GH;IL) Classical Archaeology--Ancient Rome (3) Literary sources for the development of Roman civilization in relation to the relevant archaeological discoveries.

CAMS 150 Classical Archaeology-Ancient Rome (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements

Roman Archaeology (CAMS 150 GH) presents the literary and physical evidence for ancient Roman culture, from its formation in the Republican Period through Late Antiquity, over 1200 years later. The course emphasizes three archaeological sites that illustrate stages of Roman culture, Cosa, Pompeii, and Ostia. The connections between political and economic changes and artifacts, both impressive buildings and humble fragments of broken pottery, are emphasized. The course begins with some fundamental principles of archaeology, with particular emphasis on survey methodologies; the various scientific and comparative methods used to establish dating; problems with existing ethical guidelines concerning the destructive marketing of antiquities; and the connections among geography, environment, and human settlement patterns. The site of Cosa, in Etruscan territory, is used to demonstrate features of Roman urbanism in the Republic and the ways in which influences enter Roman culture from other Italic cultures, both Etruscan and Greek. The course then turns to the extraordinarily well preserved site of Pompeii. This course emphasizes the planning and organization of housing at Pompeii, as well as the artifacts and decoration typical of Pompeii at different stages in its history. The public baths, arena, temples, tombs, and forum are also emphasized. The port of Ostia, where an ethnically diverse population was housed in impressive apartment blocks, provides information on economic and social relationships through a series of funerary reliefs, and the well published excavations. Throughout the course, comparisons to Rome and its major monuments enable students to become familiar with the Roman and Imperial fora and landmark structures such as the Pantheon, the Colosseum, and the Baths of Caracalla. Lectures illustrate some ways that archaeologists have used information provided by ancient authors such as the Elder and Younger Pliny, Vitruvius, Suetonius, and others to understand Roman culture. Assignments include essays based on the assigned readings and participation in student group-directed classroom reviews throughout the semester. Students will be evaluated on essay tests and a final examination, which assess students' ability to identify artifacts and discuss their significance, to compare cultural features at various stages of historical development, and to interpret the relationship between written and physical evidence for Roman culture. Collectively these count for 75 percent of the course grade. In addition, students are graded on five homework assignments, each of which comprises 5 percent of the course grade. Four are essays based on textbook assignments. The fifth consists of a team-led classroom review of the previous six to eight classes. CAMS 150 GH is an appropriate prerequisite for CAMS 440W, an upper level archaeology course. CAMS 150 GH is one of several courses that fulfill common requirements in the major under two categories: (1) for a 3 credit course concerned with Greek or Roman language, literature, civilization, or archaeology, and (2) 6 credits of study in the general field of Classics and Ancient Mediterranean Studies at any level. CAMS 150 GH may be used to fulfill the requirements for 12 credits of course work at any level toward a CAMS Minor. CAMS 150 GH is an approved General Education course that may fulfill three credits of the six credit Humanities requirement. It may also be used to fulfill the three credit B.A. humanities requirement.

Classroom discussion, written assignments based on text readings, and student led review classes are required in CAMS 150. As it is available, assignments will requires the use of Perseus II, a major and reliable Web resource for the study of ancient Greek and Roman civilization. In CAMS 150, students have an opportunity to study the geographically dispersed areas of Roman settlement across a long period of time, from Britain to Africa and Spain to Mesopotamia. CAMS 150 allows students to see how the Romans were influenced by the non-Roman cultures of the Mediterranean region as they gained political and economic control over them, and how these regions were Romanized. Students have an opportunity to master the geography and historical developments of this wide-flung area over a 1,200-year period. By seeing how Mediterranean cultures were interrelated in antiquity through trade, colonization, invasion, and accommodation, students are led to reflect on cultural interchange in the present. Some class time is devoted to consideration of the problems brought about by the antiquities market in destroying a shrinking resource for understanding our past. The difficulty in regulating the trade in antiquities through current ethics guidelines permits students to consider the difficult relationship between policy and enforcement in this area, and ethical choices more generally.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 152 (HEBR 152, J ST 152) Intermediate Biblical Hebrew (3) Intermediate study of Biblical Hebrew grammar, syntax, and vocabulary.

CAMS (J ST/HEBR) 152 Intermediate Biblical Hebrew (3)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS/J ST/HEBR 152 continues from CAMS/J ST/HEBR 151, which is a prerequisite for enrollment. After a brief review of key grammar and morphology from the first semester, the course will complete the process of providing students with a sufficient grasp of Hebrew vocabulary, morphology, and syntax to enable them to read unadapted passages from Biblical Hebrew texts (with the aid of a lexicon) by the end of the course. Class sessions will focus on grammar drills, sentences, and similar exercises as homework to supplement class work. As the semester progresses, students will read more and more from actual Hebrew texts, rather than composed sentences by the textbook author, so that when the students enter more advanced classes, they will find the transition to reading Hebrew as smooth as possible.

In tandem with the increasing emphasis on Hebrew written by ancient Hebrews, the course will continue to focus on the linguistic and cultural background for the texts that the students read. Students will be evaluated on a combination of written work, including frequent quizzes, tests, homework completion, and course attendance and participation. CAMS/J ST/HEBR 152 will prepare students to continue with courses at the 400-level.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: CAMS 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 151 (HEBR 151, J ST 151) Introductory Biblical Hebrew (3) Fundamentals of Biblical Hebrew grammar, syntax, and vocabulary.

CAMS (J ST/HEBR) 151 Introductory Biblical Hebrew (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of CAMS/J ST/HEBR 151 is to introduce students to the fundamentals of Biblical Hebrew as quickly and thoroughly as possible. Biblical Hebrew is the language in which the Old Testament was written, between the period of approximately 1200-200 B.C.E. This focuses primarily on the morphology and syntax of Biblical Hebrew. Drills on each point of grammar, as well as translation of sentences from Hebrew to English and English to Hebrew, and brief passages taken from the Bible are the basis of the student's homework throughout the semester. By the end of the semester, the students will be prepared to read short, unmodified passages of the Bible. The course will focus primarily on reading and writing, though students will read aloud in class regularly in order to ensure correct pronunciation and understanding. CAMS/J ST/HEBR 151 will prepare students to continue with CAMS/J ST/HEBR 152 and then 400-level courses.

The course goals, in addition to providing the students with a firm grounding in Hebrew grammar and vocabulary, include giving the students a basic understanding of the history of the Biblical text. The primary focus will be on mastering paradigms and syntax, but the students will also be introduced to the Biblical texts themselves, which together from such an important piece of literature.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 180 (GH;IL) (HIST 180) Ancient Warfare (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.

CAMS (HIST) 180 Ancient Warfare (3)
(GH;IL)

Warfare has occupied a central place in the civilizations of the Mediterranean from the earliest times. The prehistoric origins of warfare is a hotly debated topic and constitutes the starting point for this course. Most scholars are agreed that military culture grew in step with sociopolitical development over the course of the third millennium BCE. In the following centuries, the Egyptians, and later the Assyrians and Persians, took great strides in developing sophisticated tactical systems, using infantry, chariotry, and cavalry. These matters occupy a little over the first third of the course. Across the Aegean Sea, Bronze Age (Mycenaean) Greece was ruled by elites occupying massively walled citadels, their leaders buried surrounded by their weapons. But how did these warriors fight? Do the epic poems of Homer memorialize Bronze Age combat? In the Archaic Period (700-500 BCE) infantry warfare in Greece was transformed by the appearance of the heavily-armored infantryman (the hoplite), deployed in a tight formation (the phalanx). The processes involved in the appearance of this kind of warfare, its nature, and its affects on Greek society and culture will be the focus of our attention for the second third of the course. On the periphery of the Mediterranean basin stood a variety of warrior cultures (the Scythians, Celts, or Germans). Numerous warrior-dominated polities vied with each other in Archaic Italy, but one of them, sitting on a ford on the river Tiber, ultimately rose to be the greatest military power produced by the ancient Mediterranean world – Rome. The Roman legions first won and then ensured the security of a Mediterranean-wide empire that stood for 700 years and evolved ultimately into world’s first standing army of professional volunteers. The Roman military system holds our attention for the final third of the course. The course defines “warfare” broadly to include both tactical and strategic, as well as cultural and ideological, matters. Even this canvas is too vast to be surveyed in all its richness, so the major themes explored are: (i) what is war, where does it come from, and how did it change as civilization spread?; (ii) in what ways did warfare develop in the periods under study, in terms of strategy, tactics, and weapons technology?; (iii) how do different warfare practices reflect essential facets of the various cultures under consideration?

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 200 (GH) (PHIL 200) Ancient Philosophy (3) Examines the thought and influence of major Western thinkers from the pre-Socratics to the neo-Platonists, emphasizing Plato and Aristotle.

CAMS (PHIL) 200 Ancient Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS (PHIL) 200 satisfies the GH requirement. As part of the history of philosophy sequence required of undergraduate philosophy majors, this course is designed to present students with a survey of ancient Western Philosophy beginning with the pre-Socratics, continuing with Plato (Socrates), Aristotle, and the post-Aristotelians, and concluding with neo-Platonists and early Christians. Emphasis will be placed on Plato and Aristotle. The class will examine the historical and cultural foundations from which ancient Western philosophy grew, and will explore issues which were focal points of ancient philosophy, such as the nature of reality, change, permanence, truth, form, and matter. Students will critically consider these issues in required comparison/contrast papers, a position paper, a collaborative project, and a comprehensive final exam. Students will also be evaluated on class participation. The course is a prerequisite to Philosophy 400-level courses and it will be offered once a year with an enrollment of 35 students. For students studying ancient languages, particularly Greek, this course will offer an important exposure to the interpretation of philosophical text. For Classical and Ancient Mediterranean Studies majors, PHIL/CAMS fulfills the requirement under Supporting Courses for three credits in Greek or Roman literature and language, civilization, or archaeology; and it also fulfills the requirement for six credits for study at any level from an approved list in the general field of Classics and Ancient Mediterranean Studies

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 250U (GH;IL) Honors Classics in Literature and Film (3) This honors course explores the Classical Tradition as it thrives in the literature of later epochs and film.

CAMS 250U Honors Classics in Literature and Film (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Classics in Literature and Film has as its objective an exploration of the vital, continuing life of classical literature--its influence on the artistic production of later centuries and the ways in which ancient works re-emerge globally as modern literature and cinema whose verbal and visual rhetorical devices engage motifs and themes of recurring intercultural concern through the millennia. Readings include epic, drama and lyric poetry, all of which encompass global political,philosophical and artistic concerns. The demands of the course reading and film viewing require the strong engagement and critical acumen that should be a staple of students in the Honors College. CAMS 250U relates to programs of study in literature, film & classical studies.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 297H (J ST 297H) Genesis 1-3 (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Genesis 1-3 (1)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 400W Comparative Study of the Ancient Mediterranean World (3) Comparative study of ancient Mediterranean civilizations.

CAMS 400W Comparative Study of the Ancient Mediterranean World (3)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS 400W provides students in the Classics and Ancient Mediterranean Studies (CAMS) Major, and other undergraduate and graduate students in allied fields, a capstone overview of research methodologies as they are applied to contemporary issues in ancient Mediterranean studies. The course is interdisciplinary in nature, and stresses the interactions among the ancient cultures of the Mediterranean region. The specific course content varies depending on the current research interests of the department faculty and the work undertaken by participating students. The course is organized as a seminar with participation by department faculty, and, when appropriate, visiting speakers. The topics concern issues of chronological, geographic, and cultural breadth. Students are expected to give an oral presentation of their research on a relevant topic during the last three weeks of the semester.

This course requires a sequence of written assignments that constitute drafts in the process of writing an extended research paper. These consist of a statement of the problem, an annotated bibliography, a preliminary draft, and a final paper revised in light of the instructor's comments on the assignments. This paper and an oral presentation in class based upon it will constitute about half of the final grade. A quiz and essay final examination will constitute the remainder of the grade.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: 3 credits in Classics and Ancient Mediterranean Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 405 (IL) Law & Economy in the Ancient Near East (3) This course is an overview of the legal and economic texts and institutions in the Ancient Near East.

CAMS 405 Law & Economy in the Ancient Near East (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will introduce the students to the legal and economic institutions of the Ancient Near East, as well as to the many theoretical issues raised by their study, such as: the matter of land tenure; the role played by the temple and the palace in the economic structure; the nature of law within political theology and kingship; and the legal and economic status of specific social groups (women, the elderly, slaves, children).

Since most of the topics to be examined are widely debated, the course will provide the students with a broad overview of scholarly theories and intellectual schools. In order to accomplish such an objective, the readings for the class will include both introductory works (taken, for instance, from Sasson, Civilizations of the Ancient Near East) and more advanced and specific articles and works (e.g., R. Westbrook, A History of Ancient Near Eastern Law). Students will be asked to prepare these readings, which will be available in the library or in electronic format, so they will be ready to take part in class discussions.

The source book for the basic legal texts will be M.T. Roth's edition of law collections. Moreover, students will be expected to give a presentation based on some of the optional readings listed on the syllabus. Thus, every class will consist of lecture on the topic and a critical and open discussion of the assigned readings. Every lecture will take into account the assigned readings and will be accomplished by some handouts.

Students will be evaluated on the basis of class participation (including a class presentation), as well as on writing assignments. The writing assignments will include take-home examinations.

This course complements other existing courses in areas such as Ancient Near Eastern studies, biblical studies, Classics, Ancient History, and Linguistics. Moreover, this is one of the several history and culture courses in CAMS that provide detailed overviews of major civilizations of the Mediterranean and Near Eastern regions.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 410 Classical Epic (3) Homer, Hellenistic Epic, and Vergil; influences on later epic.

Classical Epic (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 411W Classical Drama (3) Masterpieces of Greek tragedy (Aeschylus, Sophocles, Euripides) and comedy (Aristophanes, Menander); their influence on Roman writers.

CAMS 411W Classical Drama (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of this course is to read, interpret, discuss, and write about the best known and most influential examples of classical drama (in English translation). Students will become conversant with the formal and thematic aspects of Greek tragedy and comedy. (The course could also include a module devoted to Roman adaptations of Greek drama.) The Greek playwrights to be read are Aeschylus, Sophocles, Euripides, and Menander. (Roman playwrights would include Plautus, Terence and Seneca.) The objectives of this course include learning how to read, analyze, and interpret tragedy and comedy within a literary, cultural, and historical framework that is fundamentally different from our own. At the same time as students come to grip with the cultural differences of Greek drama, they will be invited to ponder why these texts are still relevant to modern readers and audiences. The second objective of this course is to give students a forum in which they may reenact the critical debates and dramatic conflicts that characterize the ancient Greek theater. Class time will be devoted to structured discussion on set topics. Toward the end of the semester students will give 15-minute presentations on different aspects of classical drama that illuminate the texts read in class: for example, the design of Greek theaters and ancient theatrical production, the religious and civic functions of tragedy, gender roles, tragic and comic heroism, myth, rhetoric, philosophy, and the legacy of Greek tragedy and comedy in the modern world. The third objective of the course is to focus on developing critical writing skills and communicating clearly with readers. Students will write six papers of varying length (three papers in two drafts) and two essay exams (mid-term and final). The process of writing will provide a vehicle for close-reading and critical interpretation of classical drama. Students will also learn in classroom discussion and in feedback from the instructor and other students that critical writing entails drafting ideas and revising them. Finally, participants will learn how to write properly documented and well-argued research papers.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 420 Introductory Targumic Aramaic (3) Fundamentals of Aramaic grammar, syntax, and vocabulary.

CAMS 420 Introductory Targumic Aramaic (3)

The aim of CAMS 420 is to introduce students to the fundamentals of Targumic Aramaic as quickly and thoroughly as possible. Targumic Aramaic, is the dialect used by Jews in the last few centuries BCE in their translations of the Bible into Aramaic. Targumic Aramaic texts remain vital within Judaism and Biblical study. This course focuses primarily on the morphology and syntax of Aramaic. Drills on each point of grammar, as well as translation of sentences from Aramaic to English and English to Aramaic, and brief passages taken from the native texts are the basis of the student's homework throughout the semester. By the end of the semester, the students will be prepared to read short, unmodified passages of actual Aramaic. The course will focus primarily on reading and writing, though students will read aloud in class regularly in order to ensure correct pronunciation and understanding. CAMS will prepare students to work with Aramaic in related courses in CAMS, in particular those dealing with other Aramaic dialects, the Bible, and other related ancient languages. The course goals, in addition to providing the students a basic understanding of the history of the Aramaic literary tradition. The primary focus will be on mastering paradigms and syntax, but the students will also be introduced to real Targumic Aramaic texts, which are of great importance to understanding the history of Biblical textual transmission.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 421 Introductory Syriac (3) Fundamentals of Syriac grammar, syntax, and vocabulary.

CAMS 421 Introductory Syriac (3)

The aim of CAMS 421 is to introduce students to the fundamentals of Syriac as quickly and thoroughly as possible. Syriac, a kind of Aramaic, is the language used by several eastern churches beginning in the first century CE, and still in use today. There is an enormous corpus of Syriac texts, of both religious and secular natures. This course focuses primarily on the morphology and syntax of Syriac. Drills on each point of grammar, as well as translation of sentences from Syriac to English and English to Syriac, and brief passages taken from the native texts are the basis of the student's homework throughout the semester. By the end of the semester, the students will be prepared to read short, unmodified passages of actual Syriac. The course will focus primarily on reading and writing, though students will read aloud in class regularly in order to ensure correct pronunciation and understanding. CAMS will prepare students to work with Syriac in related courses in CAMS, in particular those dealing with the Bible and other related ancient languages. The course goals, in addition to providing the students with a firm grounding in Syriac grammar and vocabulary, include giving the students a basic understanding of the history of the Syriac literary tradition. The primary focus will be on mastering paradigms and syntax, but the students will also be introduced to several actual Syriac texts, which make up an important corpus for understanding the ancient world.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 440W Studies in Classical and Ancient Mediterranean Archaeology (3-6) Selected topics in the literary sources and material evidence for classical and ancient Mediterranean society.

CAMS 440W Studies in Classical Archaeology (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS 440W is a writing-across-the-curriculum upper level archaeology course on various topics in the broad field of ancient Mediterranean archaeology. The course will vary depending on the specific topic, which could be a study of authors such as Herodotus and/or Pausanias in relation to the archaeological record; epigraphy; numismatics; food production and consumption (e.g., diet, subsistence requirements, public dining, symposia, Roman dining, furnishings) from the literary and archaeological record; various classes of ancient Mediterranean ceramics; or the archaeological study of a specific urban site, such as Troy, Babylon, Egyptian Thebes, the Athenian Agora, or Pompeii with an emphasis upon economic and social organization.

In most semesters the topic will emphasize interdisciplinary themes, such as comparative state formation, or Egyptian-Greek-Persian relations, or the cultural development of a particular society, such as the Etruscan, that was strongly influenced by interaction with other Mediterranean cultures.

Students will learn of major publications in the field of study, and how to conduct searches of the previous archaeological literature and the related literary record. As one requirement, students will complete a research paper on a topic related to the particular theme of the course that semester. The sequence of writing assignments is designed to allow students to develop a project, to search for related publications, to develop a proposal, and to revise drafts of the final paper.

The course is also intended to provide students with a practical background in Classical and ancient Mediterranean archaeology that will help prepare them for fieldwork at ancient Mediterranean sites, for the interpretation of archaeological publications, and, as relevant, for utilizing the literary and/or epigraphic record for interpreting archaeological evidence.

Those considering enrolling in this course may obtain information about the specific topic by asking the faculty member listed as teaching the course or the Undergraduate Officer in the Department of Classics and Ancient Mediterranean Studies.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2000
Prerequisite: 3 credits from:ANTH 002, ART H 311, CAMS 010, CAMS 020, CAMS 025, CAMS 033, CAMS 140, CAMS 150, HIST 100, HIST 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 442 (IL) (KINES 442) Sport in Ancient Greece and Rome (3) An examination of the continuity of sport in Greek and Roman societies.

CAMS (KINES) 442 Sport in Ancient Greece and Rome (3)
(IL)

This course examines the continuity of sport in ancient Greek and Roman societies. It investigates the role of athletic festivals in both cultures as well as the value placed on physical activity as part of the educational process.

The objec

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 470 (IL) Languages and Cultures of the Ancient Near East (3) This course is an overview of the languages and cultures that populated the Ancient Near East.

CAMS 470 Languages and Cultures of the Ancient Near East (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course aims to provide students with a wide overview of the languages spoken in the Ancient Near East. The goal is to go beyond the merely linguistic sketches of the main grammatical features of these languages. In fact, the focus will be placed on historical, literary, social, anthropological, and ethnic matters: language contact settings; relations between language and ethnicity; sociolinguistic aspects of language evolution, language variation, bilingualism, and diglossia; relations between historical and social patterns and the literary, bureaucratic, and popular uses of language; etc.

In order to address this ample variety of issues, the students will be introduced first to the essential set of facts needed to comprehend the sociolinguistic history of each region, i.e., basic overviews of the languages in question, their linguistic affiliation, the main periods of their history as evolving linguistic realities, and their different writing systems. These overviews will immediately open the door to the discussion of a tapestry of topics concerning the realities behind these languages, especially their speakers and their ethnic, historical, and political identity. This inquiry into the facets of language as an inherently human reality will lead to a miscellaneous constellation of problems, such as, for instance, the construction of a national identity through the use, revival, or vindication of a concrete language or dialect.

Students will be required to do a number of readings before each class. These readings will include basic historical sketches of the languages and linguistic traditions with which the course will deal. Moreover, students will be expected to give a presentation based on some of the optional readings listed on the syllabus. Thus, every class will consist of a lecture on the topic and a critical and open discussion of the assigned readings. Every lecture will take into account the assigned readings and will be accompanied by some handouts.

Students will be evaluated on the basis of class participation (including a class presentation), as well as on writing assignments. The writing assignments will include take-home examinations.

This course complements other existing courses in areas such as Ancient Near Eastern studies, biblical studies, Classics, Ancient History, and Linguistics. Moreover, this is one of the several history and culture courses in CAMS that provide overviews of major civilizations of the Mediterranean and Near Eastern regions.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 471 Sumerian (3) Introduction to the Sumerian language and the cuneiform writing system.

CAMS 471 Sumerian (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Sumerian was the language originally spoken in the south of Ancient Mesopotamia (modern Iraq) during the third millennium b.c.e. After it died out as a spoken language, Sumerian became the essential cultural vehicle for a wide variety of literary, scholarly, and religious genres, and it was preserved in writing until the practical disappearance of the Mesopotamian civilization by the second century of our era.

This course aims to familiarize students with the basics of Sumerian grammar and enable them to read royal inscriptions from the Early Dynastic and Ur III periods (3rd millennium b.c.e.) as well as provide them with a preliminary introduction to some literary and non-literary texts. Students will be introduced to a variety of genres: royal inscriptions, administrative documents, letters, incantations, and literary texts.

Because of the specific nature of the writing system and the fact that most Sumerian texts are available only in copies, students will also be introduced to the cuneiform script, its basic structure, and a basic repertoire of signs.

Students will be required to do all the assigned exercises in advance, and participate in class. Special emphasis will be put on class participation: every students will be asked to read and translate in class. Furthermore, occasional quizzes are by no means a remote possibility. In addition, there will be a mid-term and a final examination.

This course complements other existing courses in areas such as Ancient Near Eastern studies, biblical studies, Classics, Ancient History, and Linguistics. Moreover, this is one of the courses in CAMS that provide an introduction to as essential language of the Mediterranean and Near Eastern regions.

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 472 Akkadian (3) Introduction to the Akkadian language (Babylonian & Assyrian) and the cuneiform writing system.

CAMS 472 Akkadian (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Akkadian is the cover term for the East Semitic dialects spoken and written in Mesopotamia (modern Iraq) from the mid-third millennium b.c.e. to about the first century c.e. These dialects (Babylonian and Assyria) are all quite similar. As is customary, the course will focus on Old Babylonian, as this is the "classical" variety of the language, and served as the basis for the dialect of the vast majority of later Akkadian texts (Standard Babylonian). This course aims to familiarize students with the basics of Akkadian grammar and enable them to read a wide variety of genres: legal texts, letters, omens, royal inscriptions, and literary compositions.

Because of the specific nature of the writing system and the fact that many texts are available only in copies, students will also be introduced to the cuneiform script, its basic structure, and a basic repertoire of signs. Every meeting will follow a similar structure: the first part will be devoted to the exercises corresponding to the lesson in the textbook that was explained the previous day; and the second part will be an explanation of the next lesson, the exercises of which will have to be prepared for the next meeting.

Students will be required to do all the assigned exercises in advance, and participate in class. Special emphasis will be put on class participation: every student will be asked to read and translate in class. Furthermore, occasional quizzes are by no means a remote possibility. In addition, there will be a mid-term and a final examination.

This course complements other existing courses in areas such as Ancient Near Eastern studies, biblical studies. Classics, Ancient History, and Linguistics. Moreover, this is one of the courses in CAMS that provide an introduction to an essential language of the Mediterranean and Near Eastern regions.

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2009
Prerequisite: 6 credits in any undergraduate CAMS courses

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 480 (J ST 480) Greeks and Persians (3) Development and achievements of the Achaemenid kingdom; relationships between Persians and Greeks.

Greeks and Persians (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: CAMS 010, CAMS 025 orCAMS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 492 Intermediate Field Methods (3-6) On-site experience in archaeological fieldwork in the ancient Mediterranean region.

CAMS 492 Intermediate Field Methods (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

Students will have the opportunity to participate in a practicum in archaeological fieldwork at Mediterranean sites under the direction of an experienced research archaeologist. Activities will include surveying recognition and recording of stratigraphy and standing remains, recovery of artifacts and ecofacts, and on site conservation. Students will keep a journal and be graded on it as well as on their development of skills in excavation and interpretation. This course may be used to fulfill a requirement for the Classics and Ancient Mediterranean Studies option of the CAMS major and as a 400-level course for the CAMS Minor. The course will be available when CAMS faculty conduct archaeological fieldwork or students participate in projects approved by CAMS archaeology faculty. Estimated enrollment will vary depending on project, funding, etc.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2000
Prerequisite: approval by field school director

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 490 Ancient Mediterranean Languages (3-6) Variable topic study of an ancient language of the Mediterranean basin and related areas, other than Greek, Latin, or Hebrew.

CAMS 490 Ancient Mediterranean Languages (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS 490 is a variable topic course in ancient languages, other than Greek, Latin, and Hebrew, that are offered by the Department of Classics and Ancient Mediterranean Studies. The course expands the range of ancient languages of areas in the Mediterranean region which students may study at Penn State. The course permits students of Latin, Greek, or Hebrew to learn the basics of other ancient Mediterranean languages, thereby extending their understanding of the structural similarities and differences of the region's writing systems. The languages taught at present include Egyptian and Sanskrit. Other languages, such as Akkadian, Hittite, Ugaritic, or Aramaic may be offered in future years. The course consists of three major components: The course begins with an overview of the language of study with respect to the language systems of the ancient Mediterranean world in a historical context. Next students learn the essential features of the language of study including its forms, grammar, and lexicon. In the second part of the semester, students read selected texts of various genres as appropriate, including literary and historical texts and inscriptions. The known features of the oral language will also be discussed. The course complements advanced courses such as LATIN 45OW, The History of the Latin Language, and other advanced language offerings in Greek, Latin, and Hebrew. It also complements offerings in historical-comparative and Indo-European linguistics such as LING 102(GH).

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: GREEK 003 orLATIN 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 493 Intermediate Field Analysis (3-6) On-site experience in archaeological analysis in the ancient Mediterranean region.

CAMS 493 Intermediate Field Analysis (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

Students will have the opportunity to participate in archaeological fieldwork at Mediterranean sites under the direction of an experienced research archaeologist. Activities will include analysis of materials recovered in archaeological projects including maintaining an objects database, artifact sorting and reparation, recognition of pottery types, recording finds, proper handling and storing of finds, and understanding the role of artifacts in archaeological interpretation. Students will keep a journal and be graded on it as well as on their development of skills in recording and interpreting archaeological data.

This course may be used to fulfill a requirement for the Classics and Ancient Mediterranean Studies option of the CAMS major and as a 400-level course for the CAMS Minor. The course will be available when CAMS faculty conduct archaeological fieldwork or students participate in projects approved by CAMS archaeology faculty.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2000
Prerequisite: approval by field school director

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 497A (ARAB 497A) Introduction to Classical Arabic (3) Introduction to the grammar of classical Arabic.

Introduction to Classical Arabic (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 499A (IL) (ANTH 499A) Landscape Archaeology (3) This course introduces students to the basics of archaeological surveys.

Landscape Archaeology (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 499B (IL) GIS for Archaeologists (3) This course gives students a hands-on introduction to the use of GIS programs in archaeological research.

GIS for Archaeologists (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 499C (IL) (J ST 499C, HIST 499C) Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.

Archaeological Field School (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 499D (IL) (J ST 499D, HIST 499D, ANTH 499D) Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.

Conservation and Public Archaeology (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Classics and Ancient Mediterranean Studies (CAMS)

CAMS 499E (IL) (HIST 499E, RL ST 499E) Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.

Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

College Student Affs (CSA)

CSA 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

College Student Affs (CSA)

CSA 297A First Year Seminar for Discover House (1) DISCOVER House is a living-learning opportunity for students who wish to explore more than one academic option before deciding on a major. In addition to the typical social and informational programming provided for first-year students, this innovative residential life experience includes special programs and advising to support students in investigating academic majors and careers.

First Year Seminar for Discover House (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

College Student Affs (CSA)

CSA 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

College Student Affs (CSA)

CSA 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 152 Community Development Concepts and Practice (3) Concepts and practice of community development.

CED 152 Community Development Concepts and Practice (3)

Community development is broadly recognized as a process by which places (communities, small towns, neighborhoods) and the people in them, improve their economic and/or social well-being. Health of the environment and sustainable use of natural resources ensure the long-term well-being of human populations and so are central to sustainable community development. The practice of community development requires the ability to identify and understand the interrelationships of economy, society and environment locally, nationally and globally. Community development hinges on the capacity of local communities and residents to influence and determine their own futures.

Students will gain an introduction to the concepts and models of community development and will become familiar with the roles of community development practitioners in developed and developing country settings. They will be able to identify the consequences of development strategies for social, economic and environmental well-being, focusing on the interrelationships of these aspects of development. Students will be introduced to strategies to identify capacity and resources available in communities and those that need to be enhanced. Models of decision-making will be introduced and students will work in teams in class with a focus on successful team functioning, identifying commonalities and shared interests to foster decision-making, and being able to extend that experience to working with groups in a community.

Students will gain knowledge and understanding of the relevant concepts, processes and practice through readings and in-class lecture and discussion. Case studies of specific community development issues will give students the opportunity to apply the concepts and skills they learn in class, and to work in teams where students take on perspectives of different stakeholders and attempt to reach a resolution. Examples will be used throughout the course to portray important concepts. This knowledge and associated skills can be used to form the basis for further training and a career in community development or to provide a basic understanding for those interested in volunteering in their own community.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: R SOC 011 orSOC 001;ECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 201 Introductory Environmental and Resource Economics (3) Apply principles of economics to analyze environmental protection policies and natural resource use decision. Examine contemporary policy issues.

E RRE (AG EC) 201 Introductory Environmental and Resource Economics (3)

An introduction to the concepts, theories, and applied methods used in the economic analysis of environment and natural resource issues. The course covers topics such as the principles of market efficiency, why the market often fails where environmental and natural resource issues are concerned, and environmental policy prescriptions and tools designed to correct this market failure. These principles and tools are explored with respect to air and water pollution, management and use of renewable natural resources such as forests and fisheries, and the unique problems of managing nonrenewable resources such as minerals and oil. The course aims to give students an understanding of how traditional economic principles can be used to suggest and evaluate possible responses to the environmental and resource problems facing society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: AG BM 101 orECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 201 (AG EC 201) Introductory Environmental and Resource Economics (3) Apply principles of economics to analyze environmental protection policies and natural resource use decision. Examine contemporary policy issues.

E RRE (AG EC) 201 Introductory Environmental and Resource Economics (3)

An introduction to the concepts, theories, and applied methods used in the economic analysis of environment and natural resource issues. The course covers topics such as the principles of market efficiency, why the market often fails where environmental and natural resource issues are concerned, and environmental policy prescriptions and tools designed to correct this market failure. These principles and tools are explored with respect to air and water pollution, management and use of renewable natural resources such as forests and fisheries, and the unique problems of managing nonrenewable resources such as minerals and oil. The course aims to give students an understanding of how traditional economic principles can be used to suggest and evaluate possible responses to the environmental and resource problems facing society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG BM 101 orECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 230 Development Issues in the Global Context (3) Exploration of issues related to economic development in national and international contexts, where key interrelationships between and among developed and developing regions are made explicit.

CED 230 Development Issues in the Global Context (3)

Local communities - in both developed and developing countries -- are influenced by strong global forces that affect the well-being of their residents. Community economic development is one approach to enhance improve economic outcomes. This course will use an issue-oriented approach to help students understand economic development patterns and resultant issues in the U.S. as compared to what is observed and what is of critical concern in other places. Topics will include the concept of globalization, economic restructuring trends, investment in human capital and the ability to retain this often mobile form of capital, migration and change in patterns of migration, and environmental effects of development in different contexts. Each year that the course is taught, there will be a focus on patterns of economic development by region in the U.S. but with comparisons to three other selected countries -- one in Latin America, one in Asia and one in Africa. Students will be encouraged to compare and contrast economic and related social issues that arise in these contexts, with particular emphasis given to recent economic trends and events and to the rate of change compared to the past.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002, ECON 004, R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 309 Land Use Dynamics (3) Theory of land use and land use decision-making.

CED 309 Land Use Dynamics (3)

Land is a key natural resource for society. Decisions related to land use are understood through alternative theories that serve to explain why prevailing land use patterns occur and change. This course examines the theoretical foundations of land use and policy practices to better understand how land use may change in the future in response to changes in land prices, population growth, human preferences and especially preferences for natural amenities, and the quality of the natural environment, among other factors. Given current issues including the twin problems of urban sprawl and land abandonment, the course will also examine the role of land use policy and specific programs to guide and provide greater public control over land use decisions. Students will gain an appreciation of the importance of land as a resource, and the potential for irreversibility in many land use decisions. Knowledge will be gained of the relevant theories, trends and policies through readings and in-class lecture and discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 or equivalent;GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 404 Survey Research Methods (3) Students will learn empirical research methodology in the areas of environ- mental and natural resource economics.

E RRE (AG EC) 404 Methods in Natural Resource and Environmental Economics (3)

Students will learn practical approaches to empirical research in the areas of environmental and natural resource economics. Students will learn how to design and administer data collection efforts, including surveys, and how to analyze the data generated to infer economic values associated with changes in the levels of non-market goods. Additionally, students will learn how to design and run experimental economics sessions useful for investigation of individual behavior regarding for example provision of public goods and extraction of open-access resources, as well as in simulating markets for public and private goods. The course will also discuss of the reliability and validity of these empirical methodologies. Students will work in groups to measure the value of a change in a public good, using one of the three methods discussed in class. Students will present their results in-class at the end of the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CED 201 orECON 302, ECON 428

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 404 (AG EC 404) Methods in Natural Resource and Environmental Economics (3) Students will learn empirical research methodology in the areas of environ- mental and natural resource economics.

E RRE (AG EC) 404 Methods in Natural Resource and Environmental Economics (3)

Students will learn practical approaches to empirical research in the areas of environmental and natural resource economics. Students will learn how to design and administer data collection efforts, including surveys, and how to analyze the data generated to infer economic values associated with changes in the levels of non-market goods. Additionally, students will learn how to design and run experimental economics sessions useful for investigation of individual behavior regarding for example provision of public goods and extraction of open-access resources, as well as in simulating markets for public and private goods. The course will also discuss of the reliability and validity of these empirical methodologies. Students will work in groups to measure the value of a change in a public good, using one of the three methods discussed in class. Students will present their results in-class at the end of the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: AG EC 201 orECON 302, ECON 428

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 409 Land Use Planning and Procedure (3) General land use planning laws and procedures.

CED 409 Land Use Planning and Procedure (3)

This course provides students with an understanding of the legal and procedural aspects of land use planning as found in the United States. The emphasis of the course is to explain the sources of land use planning authority, the processes by which it is applied and the potential conflicts that arise in the application of this authority. As a result of taking this course, students will be expected to learn and explain a) the objectives of land use planning systems and a comparative analysis of these systems; b) the bases on which land use planning law and procedure is applied across the U.S.; c) policies, strategies and principles that can be applied to land use planning decisions; d) several land use planning models currently applied in American jurisdictions, including the structure of each land use planning system; e) the procedural steps used to engage the land use planning system by property owners and government officials; f) typical conflicts that arise in creating, changing or enforcing land use planning measures; g) how land use planning conflict is resolved in various systems.

Student performance will be measured in two midterm exams and a final exam. The instructor reserves the right to give additional exams to aid in measuring student knowledge and understanding of course material. Each test will primarily be short essays questions that ask for an explanation, discussion, comparison or application of specific concepts and principles. Case studies also will be used to present students with situations to hone their analytical, organizational and problem solving skills on specific problem situations. This will ask students to analyze a given set of facts, assess the issues raised by the facts from the perspectives of individuals who are described in the situation and form and present a response that addresses a specific question posed to the student.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: 6 credits of B LAW CED ECON E R M E RRE PL SC R EST SOC S T S (any combination)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 417 (R SOC 417) Power, Conflict, and Community Decision Making (3) Impact of institutions on human interdependence and behavior, the structure of power, and community decision making and public policy.

CED (R SOC) 417 Power, Conflict, and Community Decision Making (3)

Community decision making and public choice is the result of collective action among individuals. The purpose of this course is to develop frameworks for analyzing conflict, power, and public choice. This course enables students to understand how culture and institutions affect the nature of human interdependence and behavior, shape patterns of influence and power, and impact community decision making and policy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 410 The Global Seminar (3) Exploration of critical global issues relevant to sustainable development and the environment. Collaborative with other universities worldwide.

CED 410 The Global Seminar (3)

The Global Seminar course will help students gain an understanding of the implications of global change in a world of limited natural resources. The course will help students to understand the difficulties that society faces in balancing the environment with human needs; appreciate the challenge of balancing competing needs at different levels (individuals, communities, organizations, governments); understand trade-offs and the role of policy; and explore and critically assess avenues for effectively dealing with global issues. Students participating in the Global Seminar have the opportunity of direct interaction with students from other universities and academic institutions who may have different perspectives on these issues. To allow this interaction, the Global Seminar is offered jointly with other universities from across the world, with students engaging in global videoconferences, virtual classroom discussions and group work with student peers at other universities. Case studies are used, with critical assessment of important global issues related to development and environment, with a particular focus on food production and natural resources. Specific cases vary by course offering but may include cases related to: population dynamics, biodiversity, water quality, waste management, GMOs, BSE, organic food production, novel protein foods, among others. Issues of long-term sustainability are explored to gain a better understanding of the implications of alternative choices. The course is offered in collaboration with Cornell University, with students using Cornell's Blackboard system. The course is intended to strengthen linkages for students with other universities for study and research.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004;R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 420 (US;IL) (R SOC 420, WMNST 420) Women in Developing Countries (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.

Women in Developing Countries (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: 5th semester standing or above

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 425 International Community and Economic Development (3) International community and economic development.

CED 425 International Community and Economic Development (3)

Eight of ten people on the planet live in developing countries where problems such as hunger, malnutrition, infant morality, inadequate housing, underemployment, over-urbanization, and environmental degradation often are severe. This class will focus on community and economic development in developing countries. Through lectures, readings, a series of topical videos, and in-depth class discussions, students will obtain a firm grounding in the ways development has been defined, the social and economic problems facing developing countries today, the basic ways in which economic development has been approached theoretically and empirically, the implications for developing countries of being embedded in a globalizing economy, the influence of multinational corporations, the policies that developing countries have followed to foster economic growth, the nature of foreign aid, the causes and consequences of Third World debt, the promise of micro-enterprise and the informal economy, rural development and land reform, and other topics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CED 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 427W (S T S 427W, SOC 427W) Society and Natural Resource (3) Analysis of the relationships between societal development and enhancement and natural resources.

CED (S T S/SOC) 427W Society and Natural Resources (3)

There is a common tendency to portray environmental and natural resource problems as biophysical in nature. The implication of this tendency is that such problems are best addressed by scientists and engineers who discover evidence of and devise new technologies to fix them. Another common tendency is to assume that people resist solutions to environmental and natural resource problems because of individually held anti-environmental attitudes. In contrast to these two perspectives, sociologists point out that environmental and natural resource problems often lie at the intersection of biophysical processes and social, political, economic, belief, value, and knowledge systems. The goals of this writing-intensive course are to introduce students to the complexity of environmental and natural resource problems and to teach them to think sociologically. In addition to reading assigned books and articles, students will participate in a simulation to negotiate a global environmental treaty, attend a field trip to learn about alternative energy strategies, and conduct research on a local environmental or natural resource issue. After taking this course, students should be better prepared to engage in debates with academics, politicians, and other citizens regarding the causes o and potential solutions to environmental and natural resource problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 429 Natural Resource Economics (3) Optimal management of resources; roles of markets and other institutions; resources and economic development; public policy.

Natural Resource Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 431W Economic Analysis of Environmental and Resource Policies (3) Economic analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques; resource damage assessment.

Economic Analysis of Environmental and Resource Policies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 450 (IL) International Development, Renewable Resources, and the Environment (3) Theories of agricultural and economic development, with particular attention to interactions between development, renewable resources, and the environment.

International Development, Renewable Resources, and the Environment (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 6 credits in agricultural economics or economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 470 Comparative Community Development (3) Crosscultural community development projects and the problems encountered in each of the different cultural contexts.

Comparative Community Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 6 credits in social or behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 475 CED Integrated Capstone Experience (3) An experiential-learning course that provides a capstone learning experience for seniors graduating from the Community, Environment and Development major.

CED 475 CED Integrated Capstone Experience (3)

A well-designed capstone experience provides students with a valuable reflective and integrative experience as they complete their baccalaureate degree programs. This course is designed to encourage students to reflect, integrate and apply the knowledge that they have learned in previous coursework for the CED major. The course is built on discussion and exercises that require integration. Like the CED program more generally, this course relies on case studies to help students apply the skills that they have learned to actual cases that challenge communities and regions in developed and developing areas of the world. The CED program is also designed to include experiential-learning exercises throughout the program; this course engages students in a significant in-depth experience or project that will vary year-by-year. The experience could be in the United States or in another country. The project will be hands-on and action-oriented. Evaluation is based on assessment of active participation in class discussions, papers that provide critical assessments of the case studies assigned to the class, and a final project conducted in the field, either in the U.S. or internationally.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: senior status only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 495A Internship in Community, Environment, and Development (1-15) Supervised field experience in an environmental setting.

Internship in Community, Environment, and Development (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 497 Special Topics (1-18) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 497A Social Demographic Methods (3) Measurement and analysis of population dynmaics and social trends such as fertility, mortality, migration, families and households, and economic wellbeing.

Social Demographic Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 497A Community, Local Knowledge & Democracy (3) Understanding community decision making citizen-expert interactions and methods for resolving semmingly intractable local issues.

Community, Local Knowledge & Democracy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002 andECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 497B Land Use (3) Introduces Policy-relevant issues related to land use change: examinating historical trends, patterns and development, human and environment potential impacts.

Land Use (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comm Env &Devlop (CED)

CED 497H Community, Local Knowledge, and Democracy (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Community, Local Knowledge, and Democracy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Commonwealth College (CWC)

CWC 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 083S (GS) First-Year Seminar in Speech Communication (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.

First-Year Seminar in Speech Communication (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 084S (GH) First-Year Seminar in Communication Arts and Sciences (3) Introduction to significant issues surrounding effective human communication; humanities emphasis.

First-Year Seminar in Communication Arts and Sciences (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100 (GWS) Effective Speech (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.

Effective Speech (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100A (GWS) Effective Speech (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.

CAS 100A Effective Speech (3)
(GWS)

This general education course studies the purposeful use of oral communication as a means of addressing practical problems, both professional and civic. It is designed to introduce students to principles of effective public speaking, implemented through the design and presentation of individual speeches and through practice in message analysis and evaluation. Class size is limited and class meetings involve considerable attention to developing public speaking skills through in-class activities, collaborative learning, peer critiques, and analysis of public speeches and other messages. At least three individual, graded speeches are required in this course. Additional presentations (graded or non-graded) may be required by some instructors. Course work may also include instruction and practice in group decision making. Assessment includes evaluation by examination (one or two; no final exam is given in the course) and by occasional quizzes and other activities, all of which emphasize the mastery and application of the conceptual content of the course. Public presentations are evaluated for content, organization, and presentation.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100B (GWS) Effective Speech (3) Principles of communication, implemented through group problem solving, with some attention to formal speaking and message evaluation.

CAS 100B Effective Speech (3)
(GWS)

This is a general education course designed to introduce students to principles of effective communication with a specific focus on group problem solving. The goal of CAS 100B differs from the goal of the other sections of CAS 100, with the goal of CAS 100B directed toward skill development in effective group communication, with less emphasis on formal public speaking and message evaluation. Toward the end, class size is limited and class meetings involve considerable attention to group dynamics, teamwork, and effective communication within groups. Through in-class activities, peer critiques, and analysis of both process and product, this course is designed to allow students to actively work in groups and engage in self-analysis of their own group processes. Structurally, this course begins with discussion of the principles of effective communication and public presentation and then covers significant course content addressing group communication and group process. This course enables students to work more effectively in groups, develop teams, and make effective group and individual presentations. At least one individual speech, several group communication activities, and one message evaluation are required in this course. Evaluation methods include evaluation beyond formal exams. Public presentations are evaluated for content, organization, and presentation; group work is evaluated for process effectiveness and outcomes; critical evaluation of messages is assessed in individual assignments; and all course content is covered on exams. There is one midterm exam and one final exam, with the possibility of quizzes on lecture and reading materials throughout the semester.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100C (GWS) Effective Speech (3) Principles of communication, implemented through analysis and evaluation of messages, with some attention to formal speaking and group discussion.

CAS 100C Effective Speech (3)
(GWS)

This is a general education course designed to introduce students to principles of effective communication with a specific focus on the analysis and evaluation of messages. Toward the end, class size is limited and class meetings will involve considerable attention to individual and group work in message analysis and critique. Through in-class activities, lecture, and discussion, this course focuses on the critical analysis of persuasive messages. This course will enable student to be better prepared to analyze both written and oral messages, work in groups, and develop effective presentations. Students will deliver a minimum of two public speeches and work on at least one group assignment. Public presentations will be evaluated for content, organization, and presentation. Exams will test students ability to synthesize and apply course concepts from the textbook and lectures.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100H (GWS) Effective Speech (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.

Effective Speech (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100H (GWS) Effective Speech (3) Introduction to speech communication: formal speaking, group discussion, analysis and evaluation of messages.

Effective Speech (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 100S (GWS) Effective Speech (3) Principles of communication, implemented through presentation of speeches, with some attention to group discussion and message evaluation.

Effective Speech (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 101 (GS) Introduction to Human Communication (3) Introduction to major theoretical, critical, research and pedagogical issues in human communication.

Introduction to Human Communication (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 175 (GH) Persuasion and Propaganda (3) An introductory examination of how symbols have been used to create belief and action in revolutionary, totalitarian, and democratic settings.

Persuasion and Propaganda (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 126 Developmental Listening (3) Introduction to effective strategies of listening, with an emphasis on studying, note taking, test taking, and research paper writing.

CAS 126 Developmental Listening (3)

This course designed to assist first year students in developing a comprehensive understanding of their role as students, the nature of the learning process and the role of communication in successful learning. A critical objective of the course is for students to understand the integral relationship of communication to academic success. Therefore, considerable attention is given to learning processes and the significant impact of communication on these processes and subsequent learning outcomes. Within this larger context students will be provided opportunities to engage in activities designed to enhance their skills in the following areas: listening, speaking and writing; self awareness and self monitoring; classroom management; time management; study management and learning strategies; exam management; resource management; and researching and developing a thesis in a research paper. Student achievement is evaluated through class participation, including working in groups; a research paper and oral presentation based on developing an effective argument; an academic planning project; reflection papers; quizzes; and two exams. CAS 126 is available only to students participating in the Comprehensive Studies Program, Penn State's Act 101 Program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 195 Careers in Communication (1) An introduction to a variety of careers in the field of communication arts and sciences.

Careers in Communication (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 200 (US;IL) Language, Culture, and Communication (3) Introduction to language, language development, cultural literacy, culture, and intercultural communication.

CAS 200 Language, Culture, and Communication (3)
(US;IL)

This course defines culture broadly, including how people conceptualize and enact reason, rationality, race/ethnicity, sex/gender, power, and age. Course content is organized into three large units: (1) how culture shapes language use; (2) how language use shapes culture; and (3) how culture and language (both verbal and nonverbal) operate together and influence each other, including how language is used to create, and negotiate understandings of culture. In the first unit, the class examines the effects of preconceived cultural beliefs on behavior; that is, how beliefs that a culture takes for granted as being true filter persons' perceptions of reality. This unit also covers the concepts of self-fulfilling prophecies, cultural stereotypes about age, the possibility of cross-cultural universals (e.g., politeness), and African-American culture. In the second unit, the class examines how the structure of different culture's languages (e.g., their vocabulary and grammar) shapes how persons experience the world and thus shapes their "reality." In the third unit, the class takes the position that various aspects of culture (e.g., race/ethnicity, sex/gender, power, and age) are constantly being constructed and re-constructed through language. This unit examines how persons accomplish being "a woman," "African American," "old," "polite", "powerful," etc. This class is interdisciplinary and incorporates materials from anthropology, applied linguistics, linguistic anthropology, communication studies, and sociology. Grades are based on three in-class exams (two midterms and a final), which are closed-book and involve short-answer and essay-type questions. Attendance is mandatory. This is one of the three core/required courses for the major. This course ties into another core course, Communication Theory, by discussing several key Communication Theories in different ways, such as the Sapir/Whorf hypothesis, Politeness Theory, and various theories of language. This course ties into those dealing with race and gender.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 201 (GH) Rhetorical Theory (3) History and theory of public advocacy and civic discourse.

Rhetorical Theory (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 201S (GH) Rhetorical Theory (3) History and theory of public advocacy and civic discourse.

Rhetorical Theory (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 202 (GS) Introduction to Communication Theory (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.

Introduction to Communication Theory (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 202S (GS) Introduction to Communication Theory (3) Survey of human communication studies in relational, interpersonal, group, organization, intercultural, health, technology and communication systems.

Introduction to Communication Theory (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 203S (GS) Interpersonal Communication (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.

Interpersonal Communication (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 203 (GS) Interpersonal Communication (3) Exploration of competent communication and the skills necessary to manage personal and professional relationships.

Interpersonal Communication (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 204 Communication Research Methods (3) Overview of the skills necessary to evaluate commonly reported communication research.

Communication Research Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 205 The Voice and Its Use (3) Emphasis on procedures to improve vocal effectiveness in personal and professional communication; not offered at University Park campus.

The Voice and Its Use (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 211 Informative Speaking (3) Planning, organizing, adapting, and presenting informative speeches and oral reports on technical/scholarly projects, both by manuscript reading and extemporaneously.

Informative Speaking (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 206 (GH) Mediation and Communication (3) Presentation of the history, theory, and practice of mediation as a means of resolving conflict through communication.

CAS 206 Mediation and Communication (3)

There are two overall objectives to this course. First, the course will acquaint students with conflict as a normal part of the human condition, and with the efforts of humans for thousands of years to resolve conflict in a peaceful way. The specific method of conflict resolution addressed by the course is mediation, which involves the intervention of a third party who is neutral in the conflict. Modern uses of mediation to resolve conflict extend from the playground to essential functions in society, for example, labor relations, legal systems, government operations, including international relations, and family disputes. While Western methods will be emphasized, mediation also plays an important role in non-Western cultures. For example, Hawaiian, Palestinian, Native American, and Chinese cultures rely on mediation to resolve conflict and rebuild relationships. In fact, mediation is the most popular means of conflict resolution in China, Taiwan, and Japan. Second, the course will acquaint students with the essential means by which mediation is accomplished, communication. The success of the mediation depends on the ability of the mediator to communicate well in specific ways when addressing the assembled parties, and when interacting with them individually. The course will also acquaint students with communication issues in mediation under study by both professional mediators and communication scholars. This course relates to lower-division Communication Arts and Sciences courses in rhetoric and interpersonal communication, in that it demonstrates how the different theories and practices they discuss can be integrated to produce important positive outcomes not only to individuals in conflict, but also to cultures. This course relates to upper-division Communication Arts and Sciences courses in rhetorical theory, interpersonal communication theory and research, conflict resolution and family communication theory and research, by providing an introduction to communication issues arising from an important context of communication, mediation, issues that can stimulate both further theory and research. This course relates to upper division courses in Labor Studies and Industrial Relations dealing with workplace dispute resolution and collective decision-making, and in Human Development and Family Studies dealing with interventions and resolving problems, to the extent that these courses discuss mediation. This course introduces the communication bedrock on which mediation rests.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 212 Professional Public Speaking (3) Organizing, adapting and presenting ideas in public informative, persuasive, technical and ceremonial speeches.

Professional Public Speaking (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 213 Persuasive Speaking (3) Planning, organizing, and adapting techniques of persuasion to achieve personal and public goals; engaging in critical assessment of persuasive messages.

Persuasive Speaking (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 214W Speech Writing (3) Writing speeches for delivery in political, professional, and ceremonial settings; emphasis on composition and language for oral presentation.

Speech Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 215 Argumentation (3) Theory of argument: gathering of evidence, analysis of proposition, case building, cross-examination, refutation, composition and delivery of argumentative speech.

Argumentation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 222 (GS;US;IL) (CIVCM 211, YFE 211) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

CAS 222 (YFE/CIVCM 211) Foundations: Civic and Community Engagement (3)
(GS;US;IL)

This course uses lectures, case studies, and hands-on practice to provide a foundation for students' orientation to public scholarship, civic engagement, and the relationship between learning and democratic practice. Core concepts about democracy in America, the land-grant university's historic mission, and about service learning and public scholarship are introduced. Students learn about a range of ways that citizens within the United States as well as in other countries participate in democratic decision making. Students also are introduced to diverse political perspectives and civic practices for different ethnic and cultural groups within the United States and internationally. Civic practices in different parts of the world are embedded in the economic conditions and cultural norms of the particular contexts. Students also are introduced to global citizenship/public issues such as environmental sustainability and labor and educational practices, and learn about opportunities for civic engagement within the U.S. and internationally.

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 216 Parliamentary Procedure (2) Practice in presiding over and participating in meetings conducted under rules of order.

Parliamentary Procedure (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 250 Small Group Communication (3) Skill development in the areas of group discussion, leadership, and teamwork.

CAS 250 Small Group Communication (3)

This course serves to develop students' skills in decision-making, problem-solving, and leadership. To provide opportunities for students to develop competence as communicators and leaders, this course will address both theory and practices. Learning from case studies and analyzing real-world problems are at the center of exploring group communication in this course. CAS 250 fulfills the skills requirements for our majors and minors and is the skills course associated with an organizational communication pathway emphasis in the major. Additionally, involvement in groups is essential to learn about group processes; therefore students will participate in a variety of group-based assignments and presentations. Evaluations will be determined at the individual level (e.g., exams, papers, attendance, peer evaluation) and at the group level (e.g., group presentation, group process, group paper). There will be two exams, a problem analysis report, and at least two small papers required in addition to the final group project and presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 252 Business and Professional Communication (3) Interviewing, briefing, conferring, and decision making; analyzing and evaluating formal and informal patterns of communication in organizations.

Business and Professional Communication (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 253 Health Communication (3) To introduce students to principles of health message design and the general theories and models used to guide these efforts.

CAS 253 Health Communication (3)

This course is designed to provide students with theoretical principles for practice in planning and evaluating health messages for dissemination by health organizations, policy makers, and other interested publics. CAS 253 emphasizes the potential positive and negative outcomes associated with specific messages designed to impact individuals' knowledge and behavior with health consequences. It emphasizes the importance of audience segmentation on goal selection in guiding health message design, as well as the effects and effectiveness of source and channel selection for reaching particular audiences. The CAS 253 Health Communication course is one of a series of electives for Communication Arts and Sciences majors or minors interested in pursuing careers in organizational communication, health communication, sales, and training and development in small groups. The course is possibly linked to those with interests in biobehavioral health.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 271 (US;IL) Intercultural Communication (3) Introduction to intercultural communication. Focus on topics such as language, identity, prejudice, and intergroup relations on a domestic/ international level.

CAS 271 Intercultural Communication (3)
(US;IL)

This is an introductory course that also fulfills an intercultural and international competence (GI) requirement. CAS 271 is designed to give undergraduate students an introduction to the various issues, trends, and historical perspectives pertaining to communication within U.S. domestic and international cultures. Students will be graded on the following required assignments: (1) exams, (2) book reviews, (3) opinion-editorial position papers, (4) a class-organized campus tour designed to accent the achievements and contributions of people of color who are or have been affiliated with Penn State University, (5) journal of personal reflections concerning racial, ethnic, cultural and international communication issues, (6) six abstracts of journal articles that when synthesized will comprise a six-article literature review, (7) final presentation on cultural relationship building through communication. CAS 271 is an introductory survey course that is highly recommended to students as a course preceding several other 300 and 400-level courses on interpersonal, group and intercultural communication, relationships, and processes.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 280W Storytelling and Speaking (3) Principles of oral performance from storytelling to the printed page; includes oral performance of stories, speeches, prose, drama, and poetry.

Storytelling and Speaking (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 294 Research Topics (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Topics (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: prior approval of assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 283 Communication and Information Technology I (3) Introduction to communication technology and information management; intended for students in the Liberal Arts.

Communication and Information Technology I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 295 Internship (1-16) Supervised nongroup instruction, including field experiences, practicums, or internships. Written and oral critique of activity required.

Internship (1-16)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 302 Social Influence (3) Explores how humans influence others through communication.

Social Influence (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 311 Methods of Rhetorical Criticism (3) Principles for the analysis and evaluation of public discourse.

Methods of Rhetorical Criticism (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 321 Rhetoric and Law (3) A survey of the literature on the role of rhetoric in law, including trial advocacy, appellate argument, and judicial reasoning.

CAS 321 Rhetoric and Law (3)

A survey of the literature on the role of rhetoric in law, including trial advocacy, appellate argument, and judicial reasoning. Rhetoric and Law explains how knowledge of rhetorical principles enhances the understanding of legal documents, reasoning, and performance. This course surveys classical to contemporary rhetorical literature demonstrating its utility to the study of law. Students will examine the role rhetoric plays injury deliberation, trial advocacy, appellate argument and judicial reasoning. Students will demonstrate their understanding of rhetorical theory by participating in a mock trial. In this exercise, students will deliver opening statements, closing arguments as well as conduct direct and cross-examination of witnesses. Finally, the class will examine United States Supreme Court majority and dissenting opinions as rhetorical documents.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 340 Communication and Civility (3) Communication behaviors contributing to civil and uncivil discourse; their implications in business, public life, across cultures and in interpersonal relationships.

Communication and Civility (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 352 Organizational Communication (3) This course examines the function and structure of communication in both formal and informal situations.

Organizational Communication (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 360 Communication for Teachers (3) Analysis of dynamics of instructor-student communication implemented through structured exercises in instructor listening, verbal and nonverbal message- making.

Communication for Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 373 The Rhetorics of War and Peace (3) This course explores how war and peace are advocated.

CAS 373 The Rhetorics of War and Peace (3)

In The Wealth of Nations (1776), the first classic of capitalism, Adam Smith speaks of "the art of war," deploying a phrase from Sun-Tzu's The Art of War that would later appear in Baron von Clausewitz's On War and also in contemporary U.S. military handbooks. This course argues that war is indeed an art, and a thoroughly rhetorical one in which the political economy of persuasion is as important as high-tech weaponry and whiz-bang battle plans. By considering some of war's most thoughtful theorists, by discussing wars past and present, and by reading powerful defenses and trenchant critiques of war, this course will help students understand how wars are managed rhetorically. This course satisfies a grave need: for living in the post-9/11 world requires the critical rhetorical skills necessary to understand not just how war is waged or how it structures our lives but how war is advocated and defended. The trajectory of this course will thus make the full arc from war to peace. Perhaps most importantly in this time of grave post-modern warfare, this semester's readings and discussions will make us all better rhetorical scholars capable of imagining alternative futures. From the realities of war comes the possibility of peace.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 375 Rhetoric and Public Controversy (3) Survey of important events in the history of public address, including speeches, debates, and persuasive campaigns and movements.

Rhetoric and Public Controversy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 383 Culture and Technology (3) This course will examine the area of cyberculture as it relates to communication studies.

Culture and Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 395 Forensics Practicum (1-2 per semester/maximum of 16) Provides students in forensics the opportunity for supervised participation in the activity in class and in intercollegiate competition.

Forensics Practicum (1-2 per semester/maximum of 16)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 402 Speech and Human Behavior (3) General semantics, thought, and human behavior; not offered at University Park campus.

Speech and Human Behavior (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 404 Conflict Resolution and Negotiation (3) Theories and strategies important for conceptualizing, developing, and managing conflict negotiation, mediation, and third-party intervention.

Conflict Resolution and Negotiation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 403 Interpersonal Communication Theory and Research (3) Examining behavior within interpersonal encounters, with emphasis on both theoretical/applied explanations for how and why people act during such interactions.

Interpersonal Communication Theory and Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 405 Family Communication Theory and Research (3) Explores the nature and functions of communication in family life; emphasis on meaning, patterns, and styles of family communication.

Family Communication Theory and Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: CAS 101, CAS 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 406H Honors Course in Communication Arts and Sciences (3) Individual study and seminar in selected areas or issues of speech communication.

Honors Course in Communication Arts and Sciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: an all-University average of B; approval of the departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 411 Rhetorical Criticism (3) Principles of rhetorical criticism examined through analysis of selected texts and critics.

Rhetorical Criticism (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: CAS 201 orCAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 415 Rhetoric of Film and Television (3) Rhetorical analysis of the artistic forms and cultural structures of film and television; intensive study of selected examples.

Rhetoric of Film and Television (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: CAS 100 orCOMM 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 420 Rhetorical Theory (3) Ancient, medieval, Renaissance, Enlightenment, and contemporary theories of rhetoric.

Rhetorical Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: CAS 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 421 Communication and Aging (3) Concentrates on the pivotal role that communication plays in the social process of aging.

CAS 421 Communication and Aging (3)

Communication and Aging is a course that concentrates on the pivotal role that communication plays in the social process of aging. An understanding of the communicative behavior of older adults can result in significant improvements in our ability not only to describe the essential components of a quality life, but to actively intervene in the various factors that help each of us adapt to the many physiological, psychological , social and economic challenges of the aging process. Topics covered in this course include: the theories of social aging; attitudes and ageism; mass media use and portrayals; work, leisure, and retirement; family relationships such as siblings, grandparent-grandchild, parent-child; friendships; health and aging; death and dying; and successful aging. This course places communication and our interactive behavior at the heart of the aging process and helps us combine the growing bodies of literature in physical, psychological and social aging as we attempt to grasp the process of life long development.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: Three credits of CAS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 422 (US) (AAA S 422) Contemporary African American Communication (3) A focused study on the continuities between African and African American culture and communication.

CAS (AAA S) 422 Contemporary African American Communication (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

At least once a year, this multidisciplinary course is designed to serve both Speech Communication and African and African American Studies. It is concerned with the relationship between a people's culture and world view and their systems of rhetoric/communication. It also provides a focus on the continuities between African and African American culture and communication. Specifically, it offers an approach to ascertaining the salient features of African and African American communication for community development. Special emphasis is given to the development and rhetoric of the Civil Rights Movement. The course utilizes videos, guest lectures, tapes of speeches, etc. to clarify objectives and stimulate classroom discussion. Students will be evaluated on two exams, one oral report, a final paper and class participation. Even though students need 400-level courses for their major and minor, this course is not required for Speech Communication majors. However, it does meet the Intercultural and International Competency requirement because it focuses on the communication of African Americans and how that communication has affected all Americans. The course will accommodate ten students in Speech Communication and ten students in African and African American Studies to ensure active discussion of issues.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 426W Communication Ethics (3) Ethical issues in public and private communication; role of communication in expressing and realizing individual and social values.

Communication Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 438 Rhetoric of Documentary (3) Rhetorical analysis of the documentary in film, television, and other media; historical and critical analysis of functions and form.

Rhetoric of Documentary (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 450W Group Communication Theory and Research (3) Selected theories of problem solving through group discussion emphasizing participation and leadership.

CAS 450W Group Communication Theory and Research (3)

(BA) This course meets the Bachelor of Arts degree requirements.

CAS 450W: Group Communication Theory and Research is a writing-intensive course in which students study a broad range of theories and perspectives concerning the role of communication in decision-making and problem-solving groups through a variety of writings by leading scholars in the area of Group Communication. The objectives of CAS 450W are: (1) to expose students to various facets of group life and theories that account for their performance; (2) to provide a summary knowledge of representative findings from research on group interaction; (3) to develop critical skill in the assessment of theoretical arguments and the adequacy of the evidence on which they are based; and (4) to enhance students' capacities for addressing, both orally and in writing, substantive issues posed by the subject matter. Theoretical material is examined with a view toward determining how to improve the performance of decision-making and problem-solving groups. Hence, the course has a strong concern with the identification of communication practices on which students can draw in making choices concerning how to participate in such groups. The course incorporates a discussion, rather than lecture, format. Attendance is required. Students will receive a set of questions in advance of each reading assignment that will provide a basis for discussion in the class sessions. The questions for the first five reading assignments will also serve as topics for a series of five short position papers that fulfill the writing intensive component of the course. In addition to the position papers, students are required to complete a midterm and final examination, both of the open-book, essay variety, and a course paper exploring a significant communication issue raised in the course. Among the topics covered in the course are the impact of member characteristics on interaction, the social dynamics of groups, the management of conflict, argument and decisional outcomes, leadership, and principles of meeting management. Students completing the course will have not only a better understanding of why decision-making and problem-solving groups both succeed and fail, but also a much improved basis for contributing effectively to them. CAS 450W satisfies requirements in the Communication Arts and Sciences Major and Minor, the Liberal Arts Business Minor, and the Dispute Management and Resolution Minor. It may also be used as an elective and is complementary to courses dealing with groups and group process in Psychology, Sociology, and Management.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003
Prerequisite: CAS 100 orCAS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 452 Organizational Communication Theory and Research (3) Explores the nature and functions of communication in organizations; emphasis on concepts, tools, and skills for effective management of communication.

Organizational Communication Theory and Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 202 orCAS 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 452W Organizational Communication Theory and Research (3) Explores the nature and functions of communication in organizations; emphasis on writing and exploring concepts, tools, and skills for effective management of communication.

CAS 452W Organization Communication Theory and Research (3)

This course is designed to further introduce you to the field of Organizational Communication. Emphasis is placed on macro-organizational variables that can systematically affect micro-communication behaviors: in other words, how could something like the hierarchy of the organization influence who you talk with as an organizational employee. The purpose of the course is to provide you with a basic understanding of communication-relevant behaviors and activities in organizations. This includes things like leadership, teamwork, conflict management, and diversity. Additionally, we will examine various theories of and approaches to studying communication within organizations. My hope is that when you've successfully completed the course you've mastered these objectives:

- Develop a vocabulary and understanding of organizational communication concepts.
- Become familiar with the historical, current, and future issues and problems facing organizations.
- Apply theoretical perspectives and concepts to organizational situations and settings.
- Identify and understand the relationships between macro (e.g. structure and hierarchy) and micro (e.g. social support and stress) organizational communication variables.
- Experience locating, reading, synthesizing, and evaluating scholarly research appropriate for organizational communication phenomena.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: CAS 202 orCAS 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 453 Health Communication Theory and Research (3) Principles of communication about health across the lifespan and within health-care contexts.

CAS 453 Health Communication Theory and Research (3)

This is an upper division course designed to provide students with a comprehensive introduction to multiple discourses about health and health care. CAS 453 emphasizes the communication about health and health care that reaches us everyday through many and varied professional, personal, and mediated forms. Interactions with health care providers were once limited primarily to physicians and nurses. Today, careers in health care are among the most rapidly expanding job areas, and a bewildering array of technicians and technical and professional titles greets the client of formal health care. Awareness and understanding of how to assess these various roles increases the ability of students to interact competently with care providers. Family, friends, and the cultural groups that nurture our youth and sustain our adulthood interact with us about health on a regular basis as well. Awareness and understanding of the impact that interactions with these primary social network members has on interactions with health care providers increases the likelihood that both provider and client will be better understood and better served.

Every message about health and health care carries an ethical dimension in its content. The course will increase a students' critical thinking and informed decision-making skills associated with others efforts to influence them regarding their own health practices. It also frames discussion about the ethics of and ethical decision-making associated with health communication. Students will examine communication about health in many situations and contexts to illustrate how it reflects efforts to assign labels to illness and disease, and sometimes the environmental and political contributors to the situation. Students will assess whether communication about health and health care places the responsibility on individuals, institutions, society, or some combination for the particular health condition or situation. Finally, students will evaluate how communication is used to invoke personal, professional, and societal norms of conduct associated with standards of conduct that should promote health and well-being.

The course is linked to the courses in interpersonal communication, organizational communication, health communication, and small group communication, as discourse about health crosses societal, cultural, and personal contexts. CAS 453 is one of the upper division courses that may be used to fulfill Major or Minor students' requirements for upper division credits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 455 (US) (WMNST 455) Gender Roles in Communication (3) Explores the literature on gender research in the discipline of human communication.

CAS (WMNST) 455 Gender Roles in Communication (3)
(US)

This 400-level course is a theory and application course which also satisfies an intercultural requirement. CAS/WMNST 455 strives to ensure that students understand female and male differences and similarities in communication patterns, perceptions of the opposite sex, and expectations and stereotypes regarding the opposite sex. Many researchers find that gender communication is "cross cultural," i.e., that women and men come from two different cultures, and therefore misunderstanding of each others' intent and expectations may frequently occur. This course examines how distinctions in meaning and interpersonal dynamics may create these two differing cultures, and promotes understanding and possibilities for adaptation. It also investigates when and if changing communication styles is desirable, and in which settings. A goal of the course is to help students to solve puzzles toward understanding those we work with and relate to, as well as to apply their knowledge to their own lives and contexts. The course content and format reflects these goals. CAS/WMNST 455 begins with theoretical information, later applying it to situations of interest to most -- relationships, language use differences (verbal and nonverbal), media messages, and workplace issues. Lecture incorporates considerable discussion and exploration of gender issues, and most topics are followed by activities, which illustrate how theories work in real life. This course is useful for any students seeking an intercultural course. It is recommended to Communications Arts and Sciences and Women's Studies majors and minors due to emphasis on communication theory and gender issues. Business, counseling, psychology, sociology, education and any social science majors may fulfill a US requirement through 455.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: CAS 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 470 Nonverbal Communication (3) Examining ways nonverbal messages, such as gestures, posture, vocal intonation, and facial expressions, affect us on a daily basis.

Nonverbal Communication (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: 6 credits in Communication Arts and Sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 471 (US;IL) Intercultural Communication Theory and Research (3) Intercultural and cross-cultural communication research theory and practice as applied within and across national boundaries.

CAS 471 Intercultural Communication Theory and Research (3) (US;IL)

This course is designed to introduce theoretical approaches to cross-cultural communication from a variety of disciplines, e.g., speech communication, anthropology, linguistics, sociology, sociolinguistics, psychology, and has a double aim of combining theory with practical application and empirical observation. We will be utilizing a number of readings, films, and such mass media elements as films, magazines, newspapers, and television programs and commercials, as well as actual interviews with people from other cultures. Classes will be conducted through lecture sessions, class discussions, and small group activities. Specific: To examine characteristics of communication, language, and culture; to consider which aspects of language, communication, and culture may be universal, culture-specific or individual characteristics of speakers; to examine cultural values and their relationships to communication involving members of the same cultural group and members of groups outside of that culture; to raise awareness of both similarities and differences within and between cultural groups; to analyze how effective communication is achieved and to identify potential sources of miscommunication and/or misunderstanding; to raise awareness of our own cultural norms, preferences, and expectations; to increase acceptance, understanding, and appreciation of similarities and dissimilarities among people. Students will be evaluated on two midterm exams (undergrads) or two extended analytic journals (grads) 25%, observation journals (6 total) 15%, thought journals (4 total) 15%, article presentation and critique 15%, final paper and oral report 25%, and participation 5% The content and focus of this course is related to any field which has the potential of dealing with persons of other cultures, including but not limited to biobehavioral health, business and marketing, and education. This course is inherently related to Speech Communication Majors and Minors, but is also valuable from a cross-disciplinary perspective since we deal squarely with issues of humanity, tolerance, values, and communication.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: CAS 271

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 475 Studies in Public Address (3) History and criticism of public discourse; intensive analysis of selected public addresses and social movements.

Studies in Public Address (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 471U (US;IL) Intercultural Communication Theory and Research (3) Intercultural and cross-cultural communication research theory and practice as applied within and across national boundaries.

Intercultural Communication Theory and Research (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CAS 271

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 478 Contemporary American Political Rhetoric (3) Analysis of selected speeches, debates, and persuasive campaigns and movements in recent American political history.

Contemporary American Political Rhetoric (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 483 Communication and Information Technology II (3) Theory and application of interactive internet-based communication and information management; for students who want a Liberal Arts approach.

Communication and Information Technology II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: CAS 283

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 480 Group Performance of Literature (3) Applying storytelling skills and performance theory to the group presention of literature; criticism of literature through group presentations.

Group Performance of Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 494 Research Topics (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Topics (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 494H Research Topics (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Topics (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 497A New Media and Democracy (3) This course will discuss 'new' media in the context of democratic citizenship, networked publics, cyberactivism, citizen journalism, and peer- to-peer production.

New Media and Democracy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 497A Global Health Campaigns (3) Theory and experiences with health, persuasive, and intercultural communication; analyze current and to design future health campaigns internationally.

Global Health Campaigns (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CAS 253

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 497H Introduction to Research Topics and Methodologies in Communication Arts andSciences (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introduction to Research Topics and Methodologies in Communication Arts andSciences (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 497H Introduction to Research Topics and Methodologies in Communication Arts andSciences (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introduction to Research Topics and Methodologies in Communication Arts andSciences (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 498A Communication for a Position Classroom Environment (3) This course is designed for upper level undergraduate and beginning graduate level students, focuses on a variety of communication behaviors that affect the level of positive interaction in the classroom.

Communication for a Position Classroom Environment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 498A Isses in Freedom of Speech (3) Theories, doctrines, statutes, and cases related to the First Amendment guarantee of freedom of speech.

Isses in Freedom of Speech (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 498A Freedom of Expression (3) Theories, doctrines, statutes, and cases related to the First Amendment guarantee of freedom of speech.

Freedom of Expression (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Arts and Sciences (CAS)

CAS 499 (IL) Foreign Studies (1-9) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-9)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 100 (GHA;US) Preventing Vocal Abuse, Misuse, and Disorders (1.5) Principles of the voice mechanisms, preventing vocal abuse, and promoting vocal health across the life span.

Preventing Vocal Abuse, Misuse, and Disorders (1.5)

General Education: GHA
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 101 (GHA;US) Preventing Hearing Loss (1.5) Assessment, intervention, and prevention of hearing loss caused by loud music and recreational and industrial noise.

Preventing Hearing Loss (1.5)

General Education: GHA
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 146 (US;IL) Introduction to Communication Sciences and Disorders (3) Classification of speech, language, and hearing disorders, diagnostic and treatment procedures; skills and responsibilities of the speech-language pathologist and audiologist.

CSD 146 Introduction to Communication Disorders (3)
(US;IL)

CSD 146, Introduction to Communication Sciences and Disorders (INTRO TO CSD), is a 3-credit course typically offered every semester. The course is intended as the first course for Communications Sciences and Disorders majors or for students exploring Communications Sciences and Disorders as a possible major. For Communications Sciences and Disorders majors, CSD 146 is a required course, requiring a grade of "C" or better, and should be taken during the first or second year (semester standing 1-4) since CSD 146 is a prerequisite for CSD 230, 245, 395W, 442, 444, 451, and 459W. The educational objectives of the course are to introduce students to speech, language, and hearing disorders and the professions of speech/language pathology and audiology. This is done by providing an overview of the normal aspects of speech, language, and hearing followed by an overview of speech, language, and hearing disorders with emphasis on assessment and intervention strategies. The course includes an overview of the anatomy and physiology of the speech and hearing mechanisms, physics of sound, and linguistic and psycholinguistic development. Students are required to complete several observations of speech, language, or hearing therapy or assessment in the Penn State Speech and Hearing Clinic and readings from a required text and Internet sites. Students are evaluated by three to four tests and their clinical observation reports.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 218 American Sign Language I (3) Introduction to sign language; provides basic receptive and expressive skills; includes out-of-class practice.

CSD 218 American Sign Language I (3)

CSD 218, American Sign Language I (AM SIGN LANG 1), is a 3-credit course that can be taken by any student interested in learning sign language. Several sections of the course are offered every semester. For Communications Sciences and Disorders majors, the course is highly recommended as an elective. The intent of the course is to provide students with a basic understanding of receptive and expressive sign language skills. The educational objectives are that students will (a) acquire a basic knowledge of expressive and receptive skills in American Sign Language (ASL), content variety signing, and finger spelling, (b) acquire a knowledge of the role of ASL in the lives of deaf people and to other cultural aspects of deafness, (c) develop and demonstrate a 600 word sign language vocabulary, and (d) demonstrate basic sign language communication skills. Students meet the educational objectives by attending class, completing reading assignments, observing video tapes, and practicing sign language inside and outside of class. Students will be evaluated using five tests. One test concerns aspects of the deaf culture as it pertains to the use of ASL and the grammatical structure of ASL. Four tests assess knowledge of vocabulary and communication skills by having the instructor sign vocabulary and questions and having students write down or sign back the answer. CSD 218 is a prerequisite for CSD 318, Sign Language I

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 230 Introduction to Audiology (3) Basic measurement procedures, evaluation, and screening of hearing loss using pure-tone and speech audiometry, immittance, and physiological measurements.

CSD 230 Introduction to Audiology (3)

CSD 230, Introduction to Audiology (INTRO TO AUDIOLOGY), is a 3-credit course typically offered during Fall semester. The course is prerequisited by Communications Sciences and Disorders 146, required for Communications Sciences and Disorders majors, and should be taken during the second or third year. The course can also be taken by students exploring CSD as a major. The intent of this course is to provide students with a basic understanding of hearing measurement procedures, screening for hearing loss, and the educational, social, and vocational problems of hearing impaired individuals across the age span. The educational objectives are that students will acquire an understanding of: 1) acoustics as related to hearing testing, 2) anatomy and physiology of the auditory system, 3) common disorders of the auditory system, 4) the basic principles of measuring hearing sensitivity, speech understanding ability, and middle ear function, 5) screening for hearing loss, and 6) the educational, social, and vocational problems caused by a hearing loss across the life span. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings, participating in workshops, observing hearing testing, and completing several examinations

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 245 Professional Programs and Relationships (2) Organization and administration of speech pathology and audiology programs in various professional settings; personal, professional, and community relationships and responsibilities.

CSD 245 Professional Programs and Relationships (2)

CSD 245, Professional Programs and Relationships (PROGRAMS & RELTSP), is a 2-credit course that is typically offered Spring semester. The course is intended as one of the first courses for Communications Sciences and Disorders majors or for students exploring Communications Sciences and Disorders as a possible major. The course can be taken after or at the same time as CSD 146. The course is required for Communications Sciences and Disorders majors. The intent of this course is to provide students with an orientation and basic understanding of the profession and professional responsibilities of speech/language pathologists and audiologists. The educational objectives are that students will acquire an understanding of: 1) the scope of practice of speech/language pathologists and audiologists, 2) requirements for becoming certified and licensed, 3) employment settings and responsibilities, 4) code of ethics, 5) national associations and support groups, 6) service delivery models, 7) healthcare reform and legislation, and 8) critical thinking regarding professional issues. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings in the text, in professional journals and on the Internet, and completing two or three tests.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 245 Professional Programs and Relationships (2) Organization and administration of speech pathology and audiology programs in various professional settings; personal, professional, and community relationships and responsibilities.

CSD 245 Professional Programs and Relationships (2)

CSD 245, Professional Programs and Relationships (PROGRAMS & RELTSP), is a 2-credit course that is typically offered Spring semester. The course is intended as one of the first courses for Communications Sciences and Disorders majors or for students exploring Communications Sciences and Disorders as a possible major. The course can be taken after or at the same time as CSD 146. The course is required for Communications Sciences and Disorders majors. The intent of this course is to provide students with an orientation and basic understanding of the profession and professional responsibilities of speech/language pathologists and audiologists. The educational objectives are that students will acquire an understanding of: 1) the scope of practice of speech/language pathologists and audiologists, 2) requirements for becoming certified and licensed, 3) employment settings and responsibilities, 4) code of ethics, 5) national associations and support groups, 6) service delivery models, 7) healthcare reform and legislation, and 8) critical thinking regarding professional issues. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings in the text, in professional journals and on the Internet, and completing two or three tests.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: or concurrent:CSD 146

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 269 (US;IL) Deafness and Society (3) Explores the economic, social, psychological, and political aspects of the deaf culture and its interaction with the majority hearing culture.

CSD 269 Deafness and Society (3)
(US;IL)

CSD 269 GI, Deafness and Society (DEAFNESS & SOCIETY), is a 3-credit General Intercultural and International Competence course offered every semester. The course is intended as one of the first courses for Communications Sciences and Disorders majors or for students exploring Communications Sciences and Disorders as a possible major. CSD 269 GI is a required course for Communications Sciences and Disorders majors and should be taken during the first or second year. The intent of this course is to provide an overview of the American Deaf Community using a cultural model to explore the Deaf Community as being a distinct culture having its own rules of social interaction, values, group norms, and identity. The educational objectives are that students will acquire an understanding of: 1) the development of the American Deaf Community, 2) factors affecting an individual's choice to affiliate with the Deaf community, 3) history and current trends in deaf education, 4) American Sign Language (ASL) and other forms of communication used by Deaf Americans, 5) social, emotional, and psychological aspects of deafness, 6) diversity within the Deaf community, and 7) deafness in the literature, media, and the arts. Students meet the educational objectives by attending and participating in class discussions, completing required readings, and completing several quizzes some of which will be not be announced in advance.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 300 (US;IL) Developmental Considerations in the Assessment and Treatment of Language Disorders (3) Using a developmental framework to interpret problems in child language acquisition.

CSD 300 Developmental Considerations in the Assessment and Treatment of Language Disorders (3) (US;IL)

CSD 300, Developmental Considerations in the Assessment and Treatment of Language Disorders (DEV OF LANG DIS), is a 3-credit course typically offered every Fall semester. For Communications Sciences and Disorders majors, CSD 300 is a required course, requiring a grade of "C" or better, and should be taken during the second or third year (semester standing 3-6). The course is oriented toward students who intend to pursue a career in speech-language pathology and provides the foundation for higher level speech and language courses in Communications Sciences and Disorders. The overall educational objective of the course is to introduce students to child language development as the foundation for assessing and treating children with language disorders. This is done by lecture and active learning experiences so that students understand (a) several theories and information concerning the relations between normal and abnormal language development in children, (b) how individual, cultural, and linguistic differences contribute to language development, (c) the relations between theories of language development and empirical research, and (d) the interaction between normal and abnormal language development in children. Students are required to complete reading assignments and participate in group activities.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 300 (US;IL) Developmental Considerations in the Assessment and Treatment of Language Disorders (3) Using a developmental framework to interpret problems in child language acquisition.

CSD 300 Developmental Considerations in the Assessment and Treatment of Language Disorders (3) (US;IL)

CSD 300, Developmental Considerations in the Assessment and Treatment of Language Disorders (DEV OF LANG DIS), is a 3-credit course typically offered every Fall semester. For Communications Sciences and Disorders majors, CSD 300 is a required course, requiring a grade of "C" or better, and should be taken during the second or third year (semester standing 3-6). The course is oriented toward students who intend to pursue a career in speech-language pathology and provides the foundation for higher level speech and language courses in Communications Sciences and Disorders. The overall educational objective of the course is to introduce students to child language development as the foundation for assessing and treating children with language disorders. This is done by lecture and active learning experiences so that students understand (a) several theories and information concerning the relations between normal and abnormal language development in children, (b) how individual, cultural, and linguistic differences contribute to language development, (c) the relations between theories of language development and empirical research, and (d) the interaction between normal and abnormal language development in children. Students are required to complete reading assignments and participate in group activities.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 146

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 301 Acoustic Principles in Communication Sciences and Disorders (3) Explores the fundamental concepts of acoustics as applied to individuals with communicative disabilities; special emphasis is placed on the acoustic analysis of speech.

CSD 301 Acoustic Principles in Communication Sciences and Disorders (3)

CSD 301, Acoustic Principles in Communication Sciences and Disorders (ACOU PRIN IN CSD), is a 3-credit course typically offered every Spring semester. For Communications Sciences and Disorders majors, CSD 301 is a required course, requiring a grade of "C" or better, and should be taken during the second or third year (semester standing 3-6). The educational objectives of the course are to introduce students to fundamental concepts of acoustics and to apply those concepts to individuals with communicative disabilities and to the acoustic analysis of speech. This is done through lecture, active learning, and problem solving experiences. The course includes a detailed overview of the physics of sound, sound propagation, sound measurement, the generation, acoustic principles, measurement of speech sounds, and the acoustical analysis of speech for normal and disordered speakers. Students are required to have a scientific calculator capable of exponentiation, logarithms, and trigonometric functions. Students are evaluated by two to three tests during the semester and a comprehensive final examination.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 301 Acoustic Principles in Communication Sciences and Disorders (3) Explores the fundamental concepts of acoustics as applied to individuals with communicative disabilities; special emphasis is placed on the acoustic analysis of speech.

CSD 301 Acoustic Principles in Communication Sciences and Disorders (3)

CSD 301, Acoustic Principles in Communication Sciences and Disorders (ACOU PRIN IN CSD), is a 3-credit course typically offered every Spring semester. For Communications Sciences and Disorders majors, CSD 301 is a required course, requiring a grade of "C" or better, and should be taken during the second or third year (semester standing 3-6). The educational objectives of the course are to introduce students to fundamental concepts of acoustics and to apply those concepts to individuals with communicative disabilities and to the acoustic analysis of speech. This is done through lecture, active learning, and problem solving experiences. The course includes a detailed overview of the physics of sound, sound propagation, sound measurement, the generation, acoustic principles, measurement of speech sounds, and the acoustical analysis of speech for normal and disordered speakers. Students are required to have a scientific calculator capable of exponentiation, logarithms, and trigonometric functions. Students are evaluated by two to three tests during the semester and a comprehensive final examination.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 146

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 311 Clinical Phonetics (3) Introducton to phonetic transcription of speech emphasizing articulatory phonetics of American English, its dialects, and disordered speech; extensive transcription experiences.

CSD 311 Clinical Phonetics (3)

CSD 311, Clinical Phonetics (CLINICAL PHONETICS), is a 3-credit course typically offered every Fall semester. For Communications Sciences and Disorders majors, CSD 311 is a required course, requiring a grade of "C" or better, and should be taken during the second or third year (semester standing 3-6). The educational objectives of this course are to introduce students to the phonetic transcription of speech sounds using the Internal Phonetic Alphabet, provide an overview of articulatory phonetics, describe representative sounds from languages of the world with primary emphasis on American English and its dialects, and the transcription of disordered speech production. Through lecture and active learning experiences, students will be expected to read and transcribe broad and narrow phonetic symbols, become familiar with sociolinguistic factors and non-organic and organic speech disorders that affect pronunciation. In addition, students will be expected to describe the phonetic capabilities of humans including the articulary basis of speech sounds, aspects of speech production, and speech sounds produced by the world's languages and disordered speakers. Recitation and extensive practice in transcription of live speech are integral parts of the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 318 American Sign Language II (3) Review of basic signing, plus continued development of signing skills.

CSD 318 American Sign Language II (3)

CSD 318, American Sign Language II (AM SIGN LANG II), is a 3-credit course that can be taken by any student interested in learning sign language provided they have taken CSD 218, Sign Language I. The course is offered every semester. For Communications Sciences and Disorders major's, the course is highly recommended as an elective. The intent of the course is to provide students with an intermediate and some advanced understanding of receptive and expressive sign language skills. The educational objectives are that students will: 1) acquire intermediate and some advanced knowledge of expressive and receptive skills in American Sign Language (ASL) and content variety signing, 2) acquire conversational skills for interaction with members of the Deaf community, and 3) continue to develop signed vocabulary, ASL grammar, fluency in the use of signs and finger spelling, and knowledge of the Deaf culture. Speech is not permitted in the classroom. Students meet the educational objectives by attending class, completing reading assignments, observing video tapes, practicing sign language inside and outside of class, and spending at least 10 hours outside of class conversing in ASL with others who sign.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: CSD 218

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 331 Anatomy and Physiology for Speech and Hearing (3) Structure and function of the physical systems involved in speech and hearing, including respiration, phonation, articulation, perception, and neurology.

CSD 331 Anatomy and Physiology for Speech and Hearing (3)

CSD 331, Anatomy and Physiology for Speech and Hearing (ANAT SPCH HEAR), is a 3-credit course typically offered every Fall semester. For Communications Sciences and Disorders majors, CSD 331 is a required course, requiring a grade of "C" or better, and should be taken during the second or third year (semester standing 3-6). The overarching goal of this course is to provide a comprehensive foundation for understanding normal anatomy and physiology of the speech and hearing mechanisms (respiration, phonation, articulation, neurology, and perception), which is essential for evaluating and treating individuals with speech, language, or hearing disorders. Through lectures and active learning experiences, students will be expected to (a) distinguish between principles of anatomy and physiology, (b) demonstrate knowledge of terminology, concepts, and theories related to anatomy and physiology of the speech and hearing mechanism, and (c) understand how normal anatomy and physiology of the speech and hearing mechanism relates to understanding communication disorders.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 395W Clinical Observations in Communication Disorders (1) Systematic observation of therapy and diagnostic sessions in speech-language pathology and audiology.

CSD 395W Clinical Observations in Communication Disorders (1)

CSD 395W, Clinical Observations in Communication Disorders (CLINICAL OBSERV), is a 1-credit writing-intensive course offered every semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146, and can be taken during the second, third, or fourth year. The course can also be taken by students exploring Communications Sciences and Disorders as a major. The intent of this course is to provide students with an opportunity to observe and write observation reports for speech, language, or hearing therapy and diagnostic evaluations. The educational objectives are that students will acquire an understanding of the basic principles of: 1) speech, language, and hearing therapy and diagnostic evaluations, and 2) observational techniques with emphasis on client and therapist behaviors and on client-therapist interactions. Students are required to complete a minimum of ten clock hours of observation in the Penn State Speech and Hearing Clinic and their dress must conform to the Clinic's dress code. Students meet the educational objectives by attending and participating in class discussions, completing observation hours, and written reports. The written observation reports are due throughout the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: CSD 146

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 442 Introduction to Disorders of Articulation and Phonology (3) Etiology, diagnosis, and treatment of articulation disorders.

CSD 442 Introduction to Disorders of Articulation and Phonology (3)

CSD 442, Introduction to Disorders of Articulation and Phonology (DIS OF ARTIC/PHON), is a 3-credit course typically offered every spring semester. This course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146, 300, and 311, and should be taken during the third or fourth year. The intent of this course is to provide students with a basic understanding of the etiology, diagnosis, and treatment of children having articulatory and phonological disorders. The course is designed to facilitate critical thinking through problem solving. The educational objectives are that students will acquire an understanding of: 1) the theoretical and practical bases of language and dialectal variations, 2) normal and abnormal articulatory and phonological acquisition, 3) factors related to phonological disorders, 4) assessment procedures and analysis and interpretation of assessment results, and 5) remediation concepts, principles, and methodologies. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings, multiple choice examinations, and three written projects or papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146, CSD 311, CSD 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 433 Aural Rehabilitation (3) Methods for improving receptive skills of persons with hearing impairments; clinical observation and practice.

CSD 433 Aural Rehabilitation (3)

CSD 433, Aural Rehabilitation (AURAL REHAB), is a 3-credit course typically offered during Fall semester. The course is prerequisited by CSD 230, required for Communications Sciences and Disorders majors, and should be taken during the second, third or fourth year. Through lecture, reading, and active learning experiences, students will gain a basic understanding of the principles of aural rehabilitation for hearing impaired (HI) and deaf infants, children, and adults. Specifically, students will gain an understanding of: 1) hearing loss and hearing handicap in relation to speech understanding and communication, 2) the principles of amplification systems and assistive listening and alerting devices, 3) assessment of communication and communication strategies, 4) auditory training, 5) speech reading, 6) aural rehabilitation for adults, and 7) aural rehabilitation for infants/children. In addition, students will also acquire knowledge concerning the roles and work-sites of professionals working with HI and deaf individuals, and the impact of hearing loss and deafness on the individual, family, and society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: CSD 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 442 Introduction to Disorders of Articulation and Phonology (3) Etiology, diagnosis, and treatment of articulation disorders.

CSD 442 Introduction to Disorders of Articulation and Phonology (3)

CSD 442, Introduction to Disorders of Articulation and Phonology (DIS OF ARTIC/PHON), is a 3-credit course typically offered every spring semester. This course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146, 300, and 311, and should be taken during the third or fourth year. The intent of this course is to provide students with a basic understanding of the etiology, diagnosis, and treatment of children having articulatory and phonological disorders. The course is designed to facilitate critical thinking through problem solving. The educational objectives are that students will acquire an understanding of: 1) the theoretical and practical bases of language and dialectal variations, 2) normal and abnormal articulatory and phonological acquisition, 3) factors related to phonological disorders, 4) assessment procedures and analysis and interpretation of assessment results, and 5) remediation concepts, principles, and methodologies. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings, multiple choice examinations, and three written projects or papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300, CSD 311 plus 3 additional CSD credits at the 300-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 444 Introduction to Organic Disorders of Speech and Language (3) Etiology, diagnosis, and principles of treatment of stuttering, and of speech- language disorders having organic bases.

CSD 444 Introduction to Organic Disorders of Speech and Language (3)

CSD 444, Introduction to Organic Disorders of Speech and Language (ORGANIC SP/LAN DIS), is a 3-credit course typically offered fall semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146 and 331, and should be taken during the third or fourth year. The intent of this course is to provide students with a basic understanding of stuttering, related fluency disorders, and other organic disorders, The course is designed to facilitate critical thinking through problem solving with emphasis on the etiology and treatment of organic speech disorders. The educational objectives are that students will acquire an understanding of: 1) stuttering and related fluency disorders with emphasis on causation theories and assessment techniques, and 2) other organic disorders causing speech disorders with emphasis on stroke and closed-head trauma. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings in the text, handout packet, and on the Internet, and completing four tests.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146, CSD 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 444 Introduction to Organic Disorders of Speech and Language (3) Etiology, diagnosis, and principles of treatment of stuttering, and of speech- language disorders having organic bases.

CSD 444 Introduction to Organic Disorders of Speech and Language (3)

CSD 444, Introduction to Organic Disorders of Speech and Language (ORGANIC SP/LAN DIS), is a 3-credit course typically offered fall semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146 and 331, and should be taken during the third or fourth year. The intent of this course is to provide students with a basic understanding of stuttering, related fluency disorders, and other organic disorders, The course is designed to facilitate critical thinking through problem solving with emphasis on the etiology and treatment of organic speech disorders. The educational objectives are that students will acquire an understanding of: 1) stuttering and related fluency disorders with emphasis on causation theories and assessment techniques, and 2) other organic disorders causing speech disorders with emphasis on stroke and closed-head trauma. Students meet the educational objectives by attending and participating in class discussions, completing assigned readings in the text, handout packet, and on the Internet, and completing four tests.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 301, CSD 331 plus 3 additional credits in CSD at the 300-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 451 An Introduction to Augmentative and Alternative Communication (3) Examination of assessment and intervention issues in augmentative and alternative communication techniques with persons with severe communication disorders.

CSD 451 An Introduction to Augmentative and Alternative Communication (3)

CSD 451, An Introduction to Augmentative and Alternative Communication (INTRO TO AAC), is a 3-credit course typically offered fall semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146 and 300, and should be taken during the third or fourth year. The intent of this course is to examine assessment and intervention issues in augmentative and alternative communication (AAC) techniques for persons having severe communication disorders. Students will be expected to spend outside of class time becoming familiar with common AAC devices located in the department's AAC laboratory. The educational objectives are that students will acquire an understanding of: 1) persons with severe communication disorders who may require AAC, 2) terminology and principles of AAC applications, 3) types and evaluation of existing AAC systems and emerging technology, 4) assessment issues for children and adults concerning the use of AAC devices, 5) intervention, learning, and therapy issues for children and adults who use AAC, 6) research in AAC, and 7) theoretical issues. Although the course will focus on non-electronic AAC applications, students will be expected to spend time in or outside of class becoming familiar with common electronic AAC devices located in the department's AAC laboratory. Students meet the educational objectives by attending class, participating in class discussions, group projects, constructing an AAC system, completing assigned readings, and examinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146, CSD 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 451 An Introduction to Augmentative and Alternative Communication (3) Examination of assessment and intervention issues in augmentative and alternative communication techniques with persons with severe communication disorders.

CSD 451 An Introduction to Augmentative and Alternative Communication (3)

CSD 451, An Introduction to Augmentative and Alternative Communication (INTRO TO AAC), is a 3-credit course typically offered fall semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146 and 300, and should be taken during the third or fourth year. The intent of this course is to examine assessment and intervention issues in augmentative and alternative communication (AAC) techniques for persons having severe communication disorders. Students will be expected to spend outside of class time becoming familiar with common AAC devices located in the department's AAC laboratory. The educational objectives are that students will acquire an understanding of: 1) persons with severe communication disorders who may require AAC, 2) terminology and principles of AAC applications, 3) types and evaluation of existing AAC systems and emerging technology, 4) assessment issues for children and adults concerning the use of AAC devices, 5) intervention, learning, and therapy issues for children and adults who use AAC, 6) research in AAC, and 7) theoretical issues. Although the course will focus on non-electronic AAC applications, students will be expected to spend time in or outside of class becoming familiar with common electronic AAC devices located in the department's AAC laboratory. Students meet the educational objectives by attending class, participating in class discussions, group projects, constructing an AAC system, completing assigned readings, and examinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300 plus 6 additional CSD credits at the 300-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 459W Principles of Clinical Management in Communication Disorders (3) Survey of principles and practices for diagnosing, interviewing, counseling, treating, reporting, and programming in Communication Disorders.

CSD 459W Principles of Clinical Management in Communication Disorders (3)

CSD 459W, Principles of Clinical Management in Communication Disorders (PRIN CLIN MGMT), is a 3-credit writing-intensive course offered each semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146, and should be taken during the third or fourth year. The intent of this course is to closely review the principles and practices for assessing and treating people across the life span who have a communication disorder as well as reviewing, interviewing, counseling, and report writing skills. Overall, this "how-to" course is designed to provide students with practical solutions and methods when serving persons with communication disorders. The educational objectives are that students will acquire an understanding of: 1) report writing with emphasis on different styles and the need for clear documentation and explanations, 2) assessment with emphasis on interviewing skills, preparation and test administration, interpretation of the results, and oral and written presentation, 3) therapy practices with emphasis on task analysis, behavioral objectives, and implementation, 4) documentation with emphasis on lesson plans, mid and final reports, documentation specific to school versus medical settings, and billing, and 5) client and family counseling and group sessions. Students meet the educational objectives by attending and participating in class discussions, quizzes, writing assignments, and class projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003 Ending: Summer 2010
Prerequisite: CSD 146

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 459W Principles of Clinical Management in Communication Disorders (3) Survey of principles and practices for diagnosing, interviewing, counseling, treating, reporting, and programming in Communication Disorders.

CSD 459W Principles of Clinical Management in Communication Disorders (3)

CSD 459W, Principles of Clinical Management in Communication Disorders (PRIN CLIN MGMT), is a 3-credit writing-intensive course offered each semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 146, and should be taken during the third or fourth year. The intent of this course is to closely review the principles and practices for assessing and treating people across the life span who have a communication disorder as well as reviewing, interviewing, counseling, and report writing skills. Overall, this "how-to" course is designed to provide students with practical solutions and methods when serving persons with communication disorders. The educational objectives are that students will acquire an understanding of: 1) report writing with emphasis on different styles and the need for clear documentation and explanations, 2) assessment with emphasis on interviewing skills, preparation and test administration, interpretation of the results, and oral and written presentation, 3) therapy practices with emphasis on task analysis, behavioral objectives, and implementation, 4) documentation with emphasis on lesson plans, mid and final reports, documentation specific to school versus medical settings, and billing, and 5) client and family counseling and group sessions. Students meet the educational objectives by attending and participating in class discussions, quizzes, writing assignments, and class projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300, CSD 230 plus 3 additional credits in CSD at the 300-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 462 (US;IL) Clinical Bases of Language Disorders (3) Description of pathological language and cognitive development, and principles of assessment and remediation among individuals with communication disorders.

CSD 462 Clinical Bases of Language Disorders (3)
(US;IL)

CSD 462, Clinical Bases of Language Disorders (LANG DISORDERS), is a 3-credit course typically offered Spring semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 300, and should be taken during the third or fourth year. The course is designed to be an overview of language disorders with emphasis given to child language disorders. Specifically, the course provides information with a wide range of language disorders that affect individuals having different disabilities such as autism, hearing impairment, mental retardation, cerebral palsy, specific language impairment, learning disabilities, and traumatic brain injury. Through lecture, active learning experiences, and out-of-class assignments, students will learn to differentiate communication characteristics and associated problems for specific populations and become familiar with basic assessment and intervention principles. In addition, students will gain information of associated educational and medical problems common to individuals with language disorders.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005 Ending: Summer 2010
Prerequisite: CSD 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 494H Senior Honors Thesis (1-6) Independent study related to a student's interests directed by a faculty super supervisor and culminating in the production of a thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: Approval of honors thesis advisor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 462 (US;IL) Clinical Bases of Language Disorders (3) Description of pathological language and cognitive development, and principles of assessment and remediation among individuals with communication disorders.

CSD 462 Clinical Bases of Language Disorders (3)
(US;IL)

CSD 462, Clinical Bases of Language Disorders (LANG DISORDERS), is a 3-credit course typically offered Spring semester. The course is required for Communications Sciences and Disorders majors, prerequisited by CSD 300, and should be taken during the third or fourth year. The course is designed to be an overview of language disorders with emphasis given to child language disorders. Specifically, the course provides information with a wide range of language disorders that affect individuals having different disabilities such as autism, hearing impairment, mental retardation, cerebral palsy, specific language impairment, learning disabilities, and traumatic brain injury. Through lecture, active learning experiences, and out-of-class assignments, students will learn to differentiate communication characteristics and associated problems for specific populations and become familiar with basic assessment and intervention principles. In addition, students will gain information of associated educational and medical problems common to individuals with language disorders.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CSD 300 plus 6 additional credits in CSD at the 300-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 495A Speech Therapy Practicum (1-6) Demonstration and practice in examination, diagnosis, and treatment of speech problems.

CSD 495A Speech Therapy Practicum (1-6)

CSD 495A, Speech Therapy Practicum (SPCH THPY PRACT), is a variable credit (1-6 credit) course offered every semester, The course is not required for Communications Sciences and Disorders majors. Fourth year Communications Sciences and Disorders students having a GPA of 3.0 can apply to take this course by contacting the Penn State Speech and Hearing Clinic, Coordinator of Clinical Services; however, Communications Sciences and Disorders graduate students are given priority. Typically, undergraduate students enroll in this course for 1-2 credits. Students enrolled in this course are student clinicians and provide assessment and treatment to clients of the Penn State Speech and Hearing Clinic. Students are highly supervised by Communications Sciences and Disorders clinical faculty and may be paired with Communications Sciences and Disorders graduate students. Students must adhere to all of the policies and procedures stated in the Penn State Speech and Hearing Clinical Policy Manual. Students are evaluated using outcome-based competency measures that includes oral and written reports skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: CSD 395W, CSD 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 495B Audiology Practicum (1-5) Demonstration and practice in examination, diagnosis, and treatment of hearing impairment problems.

CSD 495B Hearing Impairment Practicum (1-5)

CSD 495B, Audiology Practicum (AUDIOLOGY PRACT), is a variable credit (1-5 credit) course offered every semester. The course is not required for Communications Sciences and Disorders majors. Fourth year Communications Sciences and Disorders students having a GPA of 3.0 and an interest in Audiology can apply to take this course by contacting the Penn State Speech and Hearing Clinic, Coordinator of Audiological Services; however, Communications Sciences and Disorders graduate students are given priority. Typically, under-graduate students enroll in this course for 1-2 credits. Students enrolled in this course are student clinicians and provide hearing assessment and treatment to clients of the Penn State Speech and Hearing Clinic. Students are highly supervised by Communications Sciences and Disorders clinical faculty and may be paired with Communications Sciences and Disorders graduate students. Students must adhere to all of the policies and procedures stated in the Penn State Audiology Clinic Policy Manual. Students are evaluated using outcome-based competency measures that includes oral and written reports skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: CSD 395W, CSD 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 497H Genetics and Communication Sciences and Disorders (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Genetics and Communication Sciences and Disorders (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communication Sciences and Disorders (CSD)

CSD 497K Pre-Practicum and Observation Experiences in CSD (2) This course will focus on knowledge and skills necessary for students to participate in clinical practicum. Observations, goal-setting, ethical practices will be discussed.

Pre-Practicum and Observation Experiences in CSD (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 002 Newspaper Editorial Staff (2-3 per semester, maximum of 12) A newspaper/print media practicum. Credits do not fulfill Communication d major credits in all programs.

Newspaper Editorial Staff (2-3 per semester, maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 001 Newspaper Practicum (1 per semester/maximum of 8) A newspaper/print media practicum. Credits do not fulfill Communication major credits in all programs.

Newspaper Practicum (1 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 003 Radio Practicum (1 per semester/maximum of 8) A broadcast media practicum. Credits do not fulfill Communication major credits in all programs.

Radio Practicum (1 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 100 (GS) The Mass Media and Society (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.

COMM 100 The Mass Media and Society (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

The Mass Media and Society is an overview of the interaction between mass media and society. By drawing from selected topics, the course pays particular attention to the social influences (e.g., economics, politics, technology, law and culture) that shape media messages. Among others, the course examines the nature of media controllers as well as the character of "users" and "consumers" of media products. By so doing, students are informed about the overall structure and scope of the mass media and led to understand the power and influences associated with media messages and practices. By the end of the semester, each student should have a better understanding of the dynamic nature of the mass media in an information society.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 100S (GS) The Mass Media and Society (3) Mass communications in the United States: organization, role, content, and effects of newspapers, magazines, television, radio, books, and films.

COMM 100S The Mass Media and Society (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

The Mass Media and Society is an overview of the interaction between mass media and society. By drawing from selected topics, the course pays particular attention to the social influences (e.g., economics, politics, technology, law and culture) that shape media messages. Among others, the course examines the nature of media controllers as well as the character of "users" and "consumers" of media products. By so doing, students are informed about the overall structure and scope of the mass media and led to understand the power and influences associated with media messages and practices. By the end of the semester, each student should have a better understanding of the dynamic nature of the mass media in an information society.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 118 (GS) Introduction to Media Effects (3) Examination of individuals' selection, uses and perceptions of media and the effects of media on individuals' attitudes, beliefs, and behaviors.

COMM 118 Introduction to Media Effects (3)
(GS)

Aside from working and sleeping, individuals in the United States spend more time consuming media than any other single activity. By the time the average person reaches the age of 65, he or she will have spent over six full years of life watching television - not to mention the additional time spent reading newspapers and magazines, listening to the radio, using the Internet, and playing videogames. Given the centrality of media in the lives of most people, it is imperative that we understand and critically explore the variety of ways in which we perceived and are influenced by media messages. The purpose of this course is to introduce students to the study of the effects of media on individuals and on society. This course will overview a broad range of media theories that have examined media as a social force, that have explored factors that affect individuals' selection of and perceptions of media messages, and that have studied how media affect viewers' attitudes, beliefs, and behaviors. These theories will be used to examine a variety of different types of content, including media violence, portrayals of race and gender, politics, advertising, and entertainment, among others. Students will be assessed by exams on these theories and topics, by group-based writing assignments, and by an assignment requiring students to locate, identify, and critically evaluate media content that illustrates the theories and issues covered in class.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 110 (GH) Media and Democracy (3) This course considers the role of the mass media with regard to developing civic awareness and engagement in democratic societies.

COMM 110 Media and Democracy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

COMM 110 seeks to introduce students to the important role of the mass media in developing conceptions of democracy and democratic participation in contemporary societies. Utilizing current events, popular culture and the students' own relationship to media as the template, this course is designed to stimulate student thinking about the interrelationship between the dynamics of US culture, news, politics, and civil society in order to develop a greater understanding and appreciation of what civic engagement and global awareness can do towards nurturing democracy's principles and practices.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 120 Advertising and Society (3) History and structure of advertising in American society; the role of advertising in the economic and communications systems; regulation. May not be used to fulfill requirements of any major in the School of Communications.

Advertising and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 150 (GA) The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.

COMM 150 The Art of the Cinema (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Communications 150 is an introduction to cinema studies. The course assumes, as film historian John Belton puts it, that films can reveal, both directly and indirectly, something about cultural identity and memory, and that movies “can be analyzed--even psychoanalyzed--to reveal something about the cultural conditions that produced them and attracted audiences to them.” The course seeks both to familiarize students with works they probably haven’t seen and to “defamiliarize,” through critical and historical analysis, works they very well may have seen. Movies are examined as formal constructs, market commodities, and cultural artifacts--as reflections, however distorted, of life in the twentieth century.

Topics include the emergence of the cinema as an institution; the global dominance of classical Hollywood cinema; American film industry organization (production, distribution, exhibition, vertical integration, the studio system, the star system); analysis of film styles (national cinemas, historical movements); analysis of film genres (e.g., silent film melodrama,*film noir*, comedy, the war film, the western); consideration of film audiences (reception, spectatorship, criticism); introduction to film aesthetics (film art and appreciation); and alternative cinemas (independent, documentary and experimental cinemas).

COMM 150 emphasizes media literacy and seeks to help students develop critical thinking, reading and viewing skills. All sections integrate lectures and readings with viewing feature films during the weekly practicum period. Many sections also incorporate slides and film or video clips during the lecture periods to allow students to exercise their critical viewing skills regarding certain teaching points. Students prepare for film screenings by reading, listening to lectures, and analyzing examples of relevant works. Introductory lectures seek to provide a critical and historical context for each week’s screening; follow-up lectures offer critical analysis and examinations reward close viewing. The core purpose of the course, therefore, is to make film viewing a conscious, critical and analytic activity.

COMM 150 serves as a prerequisite for most upper-level film studies courses. It is required for Media Studies majors who have chosen the Film/Television option, and is among three courses (along with COMM 100 and COMM 180) from which all Media Studies majors are required to choose. It has no prerequisite and assumes no prior exposure to film studies, and so is directed primarily to students outside the field.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 150S (GA) The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.

COMM 150S The Art of the Cinema (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Communications 150S is an introduction to cinema studies. The course assumes, as film historian John Belton puts it, that films can reveal, both directly and indirectly, something about cultural identity and memory, and that movies “can be analyzed--even psychoanalyzed--to reveal something about the cultural conditions that produced them and attracted audiences to them.” The course seeks both to familiarize students with works they probably haven’t seen and to “defamiliarize,” through critical and historical analysis, works they very well may have seen. Movies are examined as formal constructs, market commodities, and cultural artifacts--as reflections, however distorted, of life in the twentieth century.

Topics include the emergence of the cinema as an institution; the global dominance of classical Hollywood cinema; American film industry organization (production, distribution, exhibition, vertical integration, the studio system, the star system); analysis of film styles (national cinemas, historical movements); analysis of film genres (e.g., silent film melodrama,*film noir*, comedy, the war film, the western); consideration of film audiences (reception, spectatorship, criticism); introduction to film aesthetics (film art and appreciation); and alternative cinemas (independent, documentary and experimental cinemas).

COMM 150S emphasizes media literacy and seeks to help students develop critical thinking, reading and viewing skills. All sections integrate lectures and readings with viewing feature films during the weekly practicum period. Many sections also incorporate slides and film or video clips during the lecture periods to allow students to exercise their critical viewing skills regarding certain teaching points. Students prepare for film screenings by reading, listening to lectures, and analyzing examples of relevant works. Introductory lectures seek to provide a critical and historical context for each week’s screening; follow-up lectures offer critical analysis and examinations reward close viewing. The core purpose of the course, therefore, is to make film viewing a conscious, critical and analytic activity.

COMM 150S serves as a prerequisite for most upper-level film studies courses. It is required for Media Studies majors who have chosen the Film/Television option, and is among three courses (along with COMM 100 and COMM 180) from which all Media Studies majors are required to choose. It has no prerequisite and assumes no prior exposure to film studies, and so is directed primarily to students outside the field.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 150H (GA) The Art of the Cinema (3) The development of cinema to its present state; principles of evaluation and appreciation; examples from the past and present.

COMM 150H The Art of the Cinema (3)
(GA)

This course takes a critical and historical approach to cinema, exploring relationships between classical and contemporary films and society and culture. It stresses critical thinking, analytical viewing, and essay writing (rather than memorization of facts or aesthetic evaluation of movies). COMM 150H assumes that the cinema reveals, both directly and indirectly, something about collective experience, identity, and culture, and that movies can be analyzed-even psychoanalyzed-to reveal something about the cultural conditions that produced them and attracted audiences to them. The course seeks both to familiarize students with works they probably haven't seen and to "defamiliarize," through critical and historical analysis, works they very well may have seen. Students will examine movies as formal constructs, market commodities, and cultural artifacts-as reflections, however distorted, of society in the twentieth and twenty-first century.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 160 Basic News Writing Skills (1) Grammar, punctuation, spelling, and word usage skills required of journalists.

COMM 160 Basic News Writing Skills (1)

COMM 160 is a one-credit course that will provide instruction in the basic writing skills required of all journalists. The course will cover three main topics: (1) spelling and word usage, (2) grammar, and (3) punctuation. Students will be assessed by exams on each of the three course parts and a comprehensive final exam. Writing is the lynchpin of the journalism curriculum and it is essential that students possess the basic writing skills necessary to be successful in journalism classes. For that reason, COMM 160 will be a prerequisite to all writing courses in the journalism curriculum. Students will be advised to take the course in their freshman year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 180 (GS) Survey of Electronic Media and Telecommunications (3) The development of electronic media and telecommunications, emphasizing social, economic, political and global impact.

COMM 180 Survey of Electronic Media and Telecommunications (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to electronic communications (telecommunications) and their consequences for society and the economy. Until a few years ago, this primarily meant over-the-air television, radio and cable TV, and a dial-up telephone. Increasingly, however, the field has expanded to include a wide variety of broadcast, wire-based and wireless forms of video, data and voice communications. The rapid convergence of previously disparate industries and services, especially the melding of television, telephone and Internet systems, will be a dominant theme in the course. At the same time, a global system of electronic communications has been steadily evolving. This class is also about the dynamics of that changing system; it is about the origins of the telecommunications system, and its future. To better understand these developments, we will examine powerful interacting forces that are shaping the world of information by drawing on history, economics, technology studies, politics, and culture.

While the course is intended primarily for Telecommunications majors planning careers in these fields, all students will benefit from the course by learning to critically analyze media structures and programming and to better appreciate the importance of ICTs (Information, Communication and Technology) in their lives. This course serves both as an introductory core course for students in the Telecommunications major and as a broad social science course for students in other departments across the university. For students within the Telecommunications major, the course introduces the key terminology, concepts and issues in the field as well as the range of career options within the telecommunications industries. For students outside the major, this course provides a grounding in the current shirt from an industrial society to an information society in which electronic media play a pervasive role in our personal, social, economic, and political lives.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 170 Introduction to the Sports Industry (3) The course provides a basic understanding of how the principles of business apply in the industry of sports.

COMM 170 Introduction to the Sports Industry (3)

Since 1987 the sports industry has grown from $50 billion to more than $200 billion. It has become one of the ten leading industries in the United States. It is also an industry that is unlike any other in its structure and operating principles. In traditional business, the participants compete vigorously with one another for revenue and profits. By contrast, in almost every sports venture, the competitors, while competing on the field of play, must cooperate off the field in order for the venture to be profitable.

Students in this course will study the unique aspects of the sports industry. They will begin to understand the workings through learning the history. Students will study the effect of the sports industry on the mass media and vice versa. The interrelationships of sports with the print, broadcast and electronic media will be considered. Students will learn how the basic principles of law, marketing, labor relations, profitability, finance and economics apply to the sports industry.

The effect of legislation and regulation on the sports industry will be covered.
The subject of ethics in sports will also be examined.

The course will explore the formation and structure of leagues and governing agents in the sports industry. Professional, amateur, collegiate, international and Olympic sports will be included.

An emphasis will be placed on current events in the sports industry. Students will be required to read and discuss the contents of weekly editions of Sports Business Journal. They will apply the principles learned in class and through the readings to the business problems of the day as reported in the Journal.

Career opportunities in the sports industry and related fields will be explored. Students will be able to begin to evaluate their interest and ability to pursue careers in this area.

The course will explore the formation and structure of leagues and governing agents in the sports industry. Professional, amateur, collegiate, international and Olympic sports will be included.

An emphasis will be placed on current events in the sports industry. Students will be required to read and discuss the contents of weekly editions of Sports Business Journal. They will apply the principles learned in class and through the readings to the business problems of the day as reported in the Journal.

Career opportunities in the sports industry and related fields will be explored. Students will be able to begin to evaluate their interest and ability to pursue careers in this area.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 205 (US) (WMNST 205) Women, Minorities, and the Media (3) Analysis of historical, economic, legal, political, and social implications of the relationship between women, minorities, and the mass media.

COMM (WMNST) 205 Women, Minorities, and Media (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

COMM 205 explores the historical, economic, legal, political and social implications of the relationship between women, minorities, class and the mass media. In this class students explore how the media helps in constructing notions of social reality. The primary focus of the course is on media representations of marginalized groups in the United States. The course objectives are as follows:
* To understand historical, political, economic and cultural influences that shape media representations of women, minorities and other marginalized groups.
* To understand culture -- what it is and the interplay between media and culture.
* From a cultural perspective, learn tools to help students understand and criticize media as related to representation of gender, race and class.
* To acquaint students with relevant media theory, as well as theories of representation.
* To encourage students to, think about ways that media depictions of marginalized and disempowered groups might be improved.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 215 Basic Photography (3) An introduction to photography, emphasizing both technical skills and aesthetics with both the camera and in the darkroom.

COMM 215 Basic Photography (3)

An introduction to photography as a means of visual communication, emphasizing aesthetic and technical approaches. Students will learn basic picture-taking principles, camera handling, photographic aesthetics, and photographic production techniques. Students will be encouraged to explore photography as an aesthetic, expressive, and socially significant medium. This will be achieved through individual and group criticism of each student's photographs, as well as through analysis of examples of the work of prominent photographers. Another aim is to give students first-hand experience in making photographs. Students will complete a series of assignments designed to introduce various principles and techniques such as depth of field, action photography, and portraiture. Students will supply their own cameras and are expected to buy supplies such as film, printing paper, and mounting materials. At the end of the semester, students will be able to produce photographs that tell a story and write captions for their photographs. In addition, they will have a knowledge of the aesthetics of photography, will understand the importance of both form and content, and will have the ability to critically evaluate photographs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 215 Basic Photography for Communications (3) An introduction to photography, emphasizing both technical skills and aesthetics with both the camera and in the darkroom.

COMM 215 Basic Photography (3)

An introduction to photography as a means of visual communication, emphasizing aesthetic and technical approaches. Students will learn basic picture-taking principles, camera handling, photographic aesthetics, and photographic production techniques. Students will be encouraged to explore photography as an aesthetic, expressive, and socially significant medium. This will be achieved through individual and group criticism of each student's photographs, as well as through analysis of examples of the work of prominent photographers. Another aim is to give students first-hand experience in making photographs. Students will complete a series of assignments designed to introduce various principles and techniques such as depth of field, action photography, and portraiture. Students will supply their own cameras and are expected to buy supplies such as film, printing paper, and mounting materials. At the end of the semester, students will be able to produce photographs that tell a story and write captions for their photographs. In addition, they will have a knowledge of the aesthetics of photography, will understand the importance of both form and content, and will have the ability to critically evaluate photographs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 230W Writing for Media (3) The application of creativity to the practical concerns of narrative script and radio/television spot writing.

COMM 230W Writing for the Media (3)

This course is an introduction to writing for various kinds of mass communication media. Students will practice writing public relations news releases, public information announcements, print, television and radio advertisements, as well as news stories and editorials. Students will be given weekly writing assignments, some of which will be re-writes of earlier submissions. In-class exercises will include various writing exercises designed to get students more comfortable with writing for media. Prerequisite: ENGL 015 and ENGL 202.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 015 andENGL 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 241 Graphic Design (3) Introduction to basic design principles, critical analysis of visual material, and solving graphics problems utilizing traditional and digital production tools.

Graphic Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 241 Graphic Design for Communications (3) Introduction to basic design principles, critical analysis of visual material, and solving graphics problems utilizing traditional and digital production tools.

Graphic Design for Communications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 242 Basic Video/Filmmaking (3) Introduction to basic motion picture techniques, emphasizing practical experience in filmmaking.

COMM 242 Basic Video/Filmmaking (3)

COMM 242 is an introductory course that emphasizes the development of creative expression and technical skills in film and video production. Students will explore modes of moving image representation through screenings, lectures, discussions, and especially through hands-on film and video making. Students are required to construct projects that have both clear intentions and technically competent execution. The work of the course will facilitate the development of basic skills in image design, editing, and writing as they apply to single camera techniques for documentary, narrative, and experimental film and video. The course will also provide a basic cultural and historical context for the various production modes, and students will be encouraged to consider their own projects in relation to the work of other video and film artists. Creative collaboration and group critique are essential elements of the course. Students will be required to produce some collaborative projects, and to respond critically to the work of the other students in the course. Students will make projects using 16mm film and video cameras, microphones, portable lighting, and nonlinear editing stations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: COMM 150 and second third or fourth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 250 (GA) Film History and Theory (3) Exploration of film theory and criticism in the context of aesthetic, technological, and economic evolution of film history.

Film History and Theory (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: COMM 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 250H (GA) Film History and Theory (3) Exploration of film theory and criticism in the context of aesthetic, technological, and economic evolution of film history.

Film History and Theory (3)

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: COMM 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 251 The Nature of Media (3) A theoretical, cultural, and philosophical study of print and non-print media, including their histories, possibilities, limitations, and interrelationships.

COMM 251 The Nature of Media (3)

An examination of the theory, history, practice, and meaning of media. Within the framework of various media theories, students examine how print media, broadcast media, film, telephones, the Internet, and other technological forms communicate. Executives and practitioners from various media outlets visit the class to discuss what happens in the real world and what career opportunities might be available. Emphasis is placed on a final creative project which should reflect each student's understanding of the nature of media and how it creates the culture we live in.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 261 (GH) The Literature of Journalism (3) Representative nonfiction by writers such as Susan Sheehan, George Orwell, Joan Didion, Alice Walker, Truman Capote, C. D. B. Bryan, Russell Baker.

COMM 261 The Literature of Journalism (3)
(GH)

The Literature of Journalism introduces students to 20th century nonfiction by people who were/are considered journalists. Most of the work originally appeared in magazines or newspapers and in some cases was expanded on before being published as a book. This is not a course in literary journalism, although some of the books assigned might qualify as such. Instead, the course is designed to give students a greater appreciation for the journalistic enterprise and different styles of writing. Students will also see how different writers influenced other writers. Students will read works by Hunter Thompson, Alex Haley, Joan Didion, Truman Capote, George Orwell, and James McBride, among others.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 260W News Writing and Reporting (3) News and news values; legal and ethical problems of reporting; writing and reporting news for the mass media.

COMM 260W News Writing and Reporting (3)

COMM 260 introduces students to the basics of news reporting and writing. Through a combination of lecture, discussion, and writing assignments, students learn how to write news stories that are accurate, fair, clear, and concise. The goals of COMM 260 are to produce students who can:
* Demonstrate an understanding of the importance of accurate, thorough, and fair news writing
* Write concise, well-organized stories with effective leads that get the reader's attention and tell the most important news
* Gather information through the use of interviews, documents, and basic reference materials
* Generate story ideas that reflect an understanding of the elements of newsworthiness (timeliness, prominence, proximity, conflict, novelty, and impact)
* Produce copy free of misspellings, grammatical errors, AP style errors, and factual errors
* Understand the legal, ethical, and historical principles underlying journalism, including the role of journalists in society
* Appreciate the joy and importance of being well informed

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: ENGL 015 orENGL 030;COMM 160 ; third-semester standing and typing proficiency

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 261H (GH) The Literature of Journalism (3) Representative nonfiction by writers such as Susan Sheehan, George Orwell, Joan Didion, Alice Walker, Truman Capote, C.D.B. Bryan, Russell Baker.

COMM 261H The Literature of Journalism (3)
(GH)

The purpose of this class is to acquaint you with some of journalism's "classics". COMM 261H introduces students to 20th century nonfiction by people who were/are considered journalists. Most of the work originally appeared in magazines or newspapers and in some cases was expanded on before being published as a book. When you have completed the course, you should have a greater appreciation for journalistic enterprise and different styles of writing. You will also gain insight on reporting and research. You will also see how different writers influenced other writers. And you'll get a feel for history and culture of the 20th century. Students will read works from a common class reading list and also select individual readings to reflect their own academic interests.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 269 Photojournalism (3) Photography for communication in print and online; creating photographs for newspapers, magazines and the Web; digital camera and software skills.

COMM 269 Photojournalism (3)

Photography as a medium for communication; creating visual content for newspapers, magazines, and online publications; digital camera and editing techniques.

Students complete a series of assignments that help them learn to produce visual content for newspapers, magazines, and online publications. Major topics of the course include fundamentals of digital photography for multimedia and print, ethics, composition, caption writing, photo editing, and the use of electronic imaging software.

Through individual and class projects, students critically evaluate their own work and the work of others. Students use class assignments to create a portfolio.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:COMM 260W orCOMM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 269 Photojournalism (3) Photography as a medium for communication; creating photographs and photoessays for newspapers and magazines; camera and darkroom techniques.

COMM 269 Photojournalism (3)

Photography as a medium for communication; creating visual content for newspapers, magazines, and online publications; digital camera and editing techniques.

Students complete a series of assignments that help them learn to produce visual content for newspapers, magazines, and online publications. Major topics of the course include fundamentals of digital photography for multimedia and print, ethics, composition, caption writing, photo editing, and the use of electronic imaging software.

Through individual and class projects, students critically evaluate their own work and the work of others. Students use class assignments to create a portfolio.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986 Ending: Summer 2010
Prerequisite: COMM 260W orCOMM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 270 Introduction to Multimedia Production (3) Introduction to multimedia project activities to explore image editing, layout, the integration of texts and images and web architecture.

Introduction to Multimedia Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 282 Television Field Production (3) Explore the particularities of single camera pre-production and production and analog and digital videotape editing.

COMM 282 Television Field Production (3)

COMM 282 provides an introduction to the pre-production, production and post production techniques when creating video content. The course will explore the grammar and syntax of constructing and criticizing video messages in single camera productions. Students will apply shooting and editing concepts while doing a variety of projects typical of single camera shoots. Students will learn the particularities of single camera production from the textbook, the lectures, discussions and classmates’ experiences.
While learning the technical aspects of video production, the students will learn the managerial aspects of production. Students will practice and apply the processes of budgeting, topic and location research, script writing, production treatments, dealing with unions, releases, etc.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 283W Introduction to Audio and Video Communications (3) Introduction to audio and video studio procedures and techniques within the context of human communication.

COMM 283W Television Studio Production (3)

Communications 283W is an advanced video course. The course builds on the principles learned in Communications 282.

• The purpose of this course is two fold. The first goal is to learn the technical aspects of multi-camera (studio) television production. Students will learn how to brainstorm ideas, write program proposals, treatments and scripts for various formats of television studio production. Incorporated in the technical aspects of the class, the students will learn how to produce and direct a studio production. They will also learn all the crew positions in a television studio production including audio, teleprompter, technical director, assistant director, videotape, floor manager, character generator operator and camera crew.

• The second goal of this course is to apply the grammar and syntax of constructing and criticizing video messages to multi-camera television productions. Students will apply shooting, producing and directing concepts while doing a variety of projects typical of multiple-camera shoots. They will learn the particularities of multi-camera television production from lectures, discussions and their own experiences.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1990 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 283W Television Studio Production (3) Students will learn the technical aspects of multi-camera studio television production.

COMM 283W Television Studio Production (3)

Communications 283W is an advanced video course. The course builds on the principles learned in Communications 282.

• The purpose of this course is two fold. The first goal is to learn the technical aspects of multi-camera (studio) television production. Students will learn how to brainstorm ideas, write program proposals, treatments and scripts for various formats of television studio production. Incorporated in the technical aspects of the class, the students will learn how to produce and direct a studio production. They will also learn all the crew positions in a television studio production including audio, teleprompter, technical director, assistant director, videotape, floor manager, character generator operator and camera crew.

• The second goal of this course is to apply the grammar and syntax of constructing and criticizing video messages to multi-camera television productions. Students will apply shooting, producing and directing concepts while doing a variety of projects typical of multiple-camera shoots. They will learn the particularities of multi-camera television production from lectures, discussions and their own experiences.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 282

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 292 (GH) Introduction to Media & Politics (3) This course explores the intersection of media and politics, introducing students to the critical analysis of mediated political discourse.

COMM 292 Introduction to Media & Politics (3) (GH)

COMM 292 examines how mass media and political institutions interact to shape public thinking and debates around social goals, priorities, and policies. The course explores how media structures, routines, and practices shape political decision making; how political forces influence mass media institutions; and how public opinion and media audiences are formed. Students will gain an understanding of these issues through in-depth case studies, class discussions, and written assignments, helping students to develop their own informed views and to learn to express them constructively. The course is designed for both Communications majors and other students with an interest in media and politics.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 287 Voice Training for the Media (3) This course emphasizes voice training technqiues. It is designed to help students expand their vocal capabilities and vocal performance skills in different media.

COMM 287 Voice Training for the Media (3)

This course is designed to help students develop their vocal presentations more clearly and effectively in a variety of media and public speaking formats, and provides a good foundation for students to assume the role of talen in other communications courses such as video production, multimedia production and audio production. Through an array of exercises and assignments, including short readings, narration and news stand-ups, students will demonstrate versatility and discipline in vocal presentations. This course will introduce phonetics and other vocal techniques and practices, provide an understanding of professional vocal production practices across media, and develop students' vocal skills to an advanced level. Professional standards will be emphasized as well as the standards for production of portfolio material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 297A American Journalism, Principles and Traditions (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

American Journalism, Principles and Traditions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 297E Introduction to Radio and TV Production (3) Students introduced to techniques and fundamentals of reporting and editing audio stories; and of presenting themselves and stories on television.

Introduction to Radio and TV Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 300H Research and Writing for the Mass Media (3) This course helps students explore paradigms and theoretical frameworks in communications research.

COMM 300H Research and Writing for the Mass Media (3)

This course is designed to help students explore the range of paradigms and theoretical frameworks used in conducting communications research. This exploration is intended to help students refine their own academic and professional areas of interest and may lead to the development of a proposal for a senior honors thesis or project. Course requirements may include writing and research assignments, the development of a thesis-related journal, in-class presentations, and participation in seminar discussions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: fourth-semester standing; admission to the Schreyer Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 304 Mass Communication Research (3) Introduction to research methods in a mass communications.

Mass Communication Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: STAT 200 ; and 3 credits fromCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 315 Applications for Media Writing (3) Tutorial and practice in various kinds or journalistic and commercial writing, emphasizing basic skills.

Applications for Media Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 320 Introduction to Advertising (3) Advertising management in business, including communication theory; common industry practices; basics of copy, media, and budget decision; and environmental influences. A student may not receive credit for both COMM 320 and MKTG 322.

Introduction to Advertising (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 320H Introduction to Advertising (3) Advertising management in business, including communication theory; common industry practices; basics of copy, media, and budget decision; and environmental influences. A student may not receive credit for both COMM 320 and MKTG 322.

Introduction to Advertising (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 331 Visual Communication Theory and Analysis (3) This course explores visual theory pertaining to movies, television production, and graphic design, emphasizing semiotics, the psychology of vision, and reception theory.

COMM 331 Visual Communication Theory and Analysis (3)

This course explores visual communications theory pertaining to movies, television, and graphic design. Students will be introduced to semiotics, the psychology of vision, and reception theory. Students will analyze images and processes of visual communications in movies, television and graphic design through papers and oral presentations. The course provides an understanding and application of visual theories as they apply to movies, television, and graphic design through the use of case studies. It builds on theories presented in COMM 100 and COMM 150, and gives students opportunities to analyze issues and trends in visual media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 333 Film History for Filmmakers I: The Development of the Cinema to 1960 (3) History of the art, industry, economics, culture, and technology of cinema from its origins to 1960.

COMM 333 Film History of Filmmakers I: The Development of the Cinema to 1960 (3)

Film History I describes the prehistory and history of the medium of cinema to 1960. The course explores the artistic, technical, economic development of the cinema, and the cultural contexts in which this development occurred. The course covers narrative, experimental, and documentary cinema and trains students in the techniques of close formal analysis of the cinema. The course stresses formal, thematic, and cultural analysis of the cinema throughout the first decades of its history. This course is integral to the curriculum in Film-Video. It provides Film-Video students with a detailed description of trends in their art form. It provides students with intensive study in the history of an influential medium in the development of the concept of mass media and communications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: COMM 150 Film-Video major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 332 Reporting (3) Practice in researching and gathering material for and preparation of news stories for print media.

COMM 332 Reporting (3)

The course is an introduction to the various tools and techniques of researching and gathering information, using a combination of traditional research methods and new computer-based technologies. It develops performance and critical skills focusing on concepts of news, fact checking, finding and developing sources, interviewing, writing styles, and structures of different story types. It also provides solid grounding in historical, ethical, and legal dimensions of U.S. newspaper journalism within a comparative media system context. For the duration of the course, there shall also be continuous discussion on the role of the journalist in society, where students shall examine the legal provisions and ethical considerations that govern the practice of journalism, the unwritten "social contract" between journalists and their audiences, and the nature of the relationship between journalists and those who wield political and economic power in the community.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 337 Theory and Practice of Production (3) Analysis and theory of production process combined with projects exploring alternative and documentary forms.

Theory and Practice of Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996 Ending: Fall 2010
Prerequisite: COMM 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 337W Theory and Practice of Production (3) Writing-intensive course addressing the analysis, theory and film and video production process of alternative and documentary forms.

COMM 337W Theory and Practice of Production (3)

This course is a foundational technical and aesthetic course in documentary and alternative media production. Through screenings, discussions, readings and creative production projects using various media, students explore the collaborative process of filmmaking, the conventions of the non-fiction form – both traditional and alternative, formal concepts of the visual image -- both still and motion, the principals of controlling light and sound, the conventions of editing, and idea development.

Technically this course builds on the skills and knowledge obtained in the beginning production course. Students work independently and collaboratively on the production of short media projects using video, film and digital technologies that provide project-driven experience in the disciplines of writing, producing, camera work, sound, editing, and directing. This course introduces new technologies and production techniques in relation to non-fiction modes.

Emphasis is placed on using written work to inform the study of non-fiction modes of visual media. As a writing-intensive course, students gain experience in the writing of media criticism and analysis as well as learning the writing styles specific to non-fiction media. Writing assignments include both informal and formal writing assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 338 Intermediate Narrative Production (3) Exploration of narrative film or video techniques and aesthetics through the completion of short exercises and projects.

COMM 338 Intermediate Narrative Production (3)

This course is an intermediate aesthetic and technical production course in short-form narrative production. Through screenings, discussions, readings and creative production projects, students will explore the collaborative process of narrative filmmaking and the conventions of the fiction form. This course builds on the skills and knowledge obtained in the beginning production course. Students work independently and collaboratively on the production of short media projects using video and digital technologies that provide project-driven experience in the disciplines of writing, producing, directing, camera work, sound, and editing.

The success of any narrative film depends on a focused collaborative effort by a number of individuals to tell a story. In this course, students will explore the process of producing a short narrative video using traditional production techniques. An emphasis is placed on learning the responsibilities and established practices of key production roles such as producer, director, cinematographer, sound designer and editor. Working in small groups, students will develop a short project where they will apply the processes associated with pre-production, production and post-production. Students will be building on their technical and aesthetic knowledge of digital video formats through lectures, demonstrations, outside readings and class exercises; videos will be viewed throughout the semester to demonstrate these concepts. Students will participate in class discussions and contribute critical feedback on their classmates' projects. The emphasis will be on the exploration of visual and aural expression and a fundamental mastery of the digital medium as it applies to traditional narrative production.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: COMM 242 and Film-Video major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 339 Intermediate Alternative Production (3) Exploration of alternative film or video production techniques and aesthetics through the completion of short exercises and projects.

COMM 339 Intermediate Alternative Production (3)

COMM 339 is an intermediate level course in alternative film and video aesthetic theory and technique. The class is designed to expose students to a broad range of alternative and avant-garde filmmaking concepts, including classical and contemporary experimental practices, animation and new forms of cross disciplinary media production.

The course is designed to encourage students to think about film and video production as the beginning point in an expanding journey of creative exploration. It exposes students to a diverse range of historical and contemporary alternative or experimental filmmaking practices and forms and enables them to:

- Expand their creative horizons beyond preconceived and popular forms of film culture.
- Develop their abilities to discover their own personal filmmaking focus and language.
- Learn the skills necessary to create unique bodies of work in film and video media.
- Critically assess the success of their own and their fellow students' efforts.

Students will create several short projects over the course of the semester. Formal parameters will be discussed and explored in advance of the assignments and students will be expected to complete three discrete projects either on their own or with a group. Formal evaluation will be comprised of group critique, oral feedback from the instructor and written self-evaluation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: COMM 242 and Film-Video major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 340 Production Technology and Technique Topics I (3) Intensive practical experience and studies of camera, lighting, audio, and editing.

Production Technology and Technique Topics I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 342W Intermediate Film and Video Production I (6) A comprehensive approach to the film and video production process including writing for the screen, directing, and film and video production. Exploration through the production of nonsynchronous 16mm film and video projects. Designed primarily for Film/Video Majors.

COMM 342W Idea Development and Media Writing (3)

This writing-intensive course is designed to introduce students to various modalities of idea development and expression for audio-visual projects. Writing as an ideational, descriptive or reflexive tool is an integral element of each modality. Learning objectives encompass the development of skills in the following areas:
- Conceptualization: finding, refining and articulating the idea into a clearly worded proposal
- Visualization: translating the proposal into a visual and highly imagistic form
- Decision-making: deciding what form and genre would best suit the visual form of the idea
- Intellectual articulation: explaining and rationalizing the visual idea in a written form, either as a treatment or script.
- Manifestation: initial preparation for production of developed idea(s) into selected audio-visual formats.

Emphasis will be placed on using written work as an integral part of the creative process. As a designated “W” course, students will gain experience in the writing of media criticism and analysis as well as learning the writing styles specific to the profession. Writing assignments will include informal writing such as exercises in intuitive and timed writing, one minute response papers and collective story telling. Formal writing assignments will include observational essays, descriptive essays or stylistic “treatments”, formal narrative proposals, analytic and editorial story reports, and self-reflexive critique papers.

Students will progress through a series of creative exercises that support the development of the above skills consisting of:
- Written and oral exercises in synthetic thinking and idea generation. These will be comprised of short 200-500 word in class “warm up” exercises and include assignments in intuitive and timed writing, one minute response papers and collective story telling.
- Exercises in visual thinking, visual storytelling and image composition (photography as well as other forms of two dimensional imagery) to be undertaken in a complementary structure with written assignments comprised of observational essays and narrative translations of visual data.
- Longer (750-1500 word) written assignments in various forms (descriptive, persuasive, analytical, editorial and critical) tailored to the professional requirements of the film-video major; these include descriptive essays or stylistic “treatments”, formal narrative proposals, analytic and editorial story reports, and self-reflexive critique papers.

Written feedback from the instructor will be provided on a regular basis, as well as in class peer critique and story workshops. Students will be required to redraft and rewrite assignments as needed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993 Ending: Fall 2010
Prerequisite: COMM 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 340 Intermediate Cinematography and Editing Techniques (3) Exploration of film and video production techniques through the use of camera, lighting, audio and digital post-production equipment.

Intermediate Cinematography and Editing Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 242 Film-Vido major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 342W Idea Development and Media Writing (3) Introduction to various modalities of idea development and written expression for media production.

COMM 342W Idea Development and Media Writing (3)

This writing-intensive course is designed to introduce students to various modalities of idea development and expression for audio-visual projects. Writing as an ideational, descriptive or reflexive tool is an integral element of each modality. Learning objectives encompass the development of skills in the following areas:
- Conceptualization: finding, refining and articulating the idea into a clearly worded proposal
- Visualization: translating the proposal into a visual and highly imagistic form
- Decision-making: deciding what form and genre would best suit the visual form of the idea
- Intellectual articulation: explaining and rationalizing the visual idea in a written form, either as a treatment or script.
- Manifestation: initial preparation for production of developed idea(s) into selected audio-visual formats.

Emphasis will be placed on using written work as an integral part of the creative process. As a designated “W” course, students will gain experience in the writing of media criticism and analysis as well as learning the writing styles specific to the profession. Writing assignments will include informal writing such as exercises in intuitive and timed writing, one minute response papers and collective story telling. Formal writing assignments will include observational essays, descriptive essays or stylistic “treatments”, formal narrative proposals, analytic and editorial story reports, and self-reflexive critique papers.

Students will progress through a series of creative exercises that support the development of the above skills consisting of:
- Written and oral exercises in synthetic thinking and idea generation. These will be comprised of short 200-500 word in class “warm up” exercises and include assignments in intuitive and timed writing, one minute response papers and collective story telling.
- Exercises in visual thinking, visual storytelling and image composition (photography as well as other forms of two dimensional imagery) to be undertaken in a complementary structure with written assignments comprised of observational essays and narrative translations of visual data.
- Longer (750-1500 word) written assignments in various forms (descriptive, persuasive, analytical, editorial and critical) tailored to the professional requirements of the film-video major; these include descriptive essays or stylistic “treatments”, formal narrative proposals, analytic and editorial story reports, and self-reflexive critique papers.

Written feedback from the instructor will be provided on a regular basis, as well as in class peer critique and story workshops. Students will be required to redraft and rewrite assignments as needed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 242 and Film-Video Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 346 Writing for the Screen I (3) A beginning course in narrative Screenwriting emphasizing analysis, creativity, and critiquing skills necessary for the development of storytelling.

COMM 346 Writing for the Screen I (3)

The course is about the creative process of conceiving and fashioning films that wish to order experience into a meaningful and expressive narrative structure. It is designed for students who wish to delve more deeply into screenwriting and those wishing to develop a script for senior-level production. It continues to develop screenwriting and storytelling skills introduced in Introductory Film and Video Production and Media Writing, and seeks to further hone their creative skills as writer-filmmakers.

A large part of classroom sessions will be conducted in a traditional writers workshop structure, focusing on the presentation, discussion, and critiquing of written work; other sessions will concentrate on the analysis and critiquing of professional screenplays, with particular emphasis on close-reading of individual scenes, and study of screenwriters writing about the process.

Scripts produced will be limited to short-form work, target length being no more than 15 pages maximum. Such a length combines both the virtues of disciplined, sharply-focused perceptions with a length sufficient for developed narrative arcs and tonal and thematic complexity. Scripts produced in this class will be appropriate for all of the advanced single semester advanced production courses and submission as part of a student’s application for the two-semester advanced production for groups course.

Assessment is based on the progress of creative written work throughout the semester, as well as participation within the critiquing process, both verbally in class discussions and in critical writing submitted to each other and the instructor. Each individual will be expected to: (a.) display an understanding of the various creative elements of filmic storytelling – including visual story-telling, character, dialogue, narrative structure, and theme - and how those elements create and amplify meanings in the work; (b.) thoroughly develop original and meaningful narratives and effectively convey them cinematically; (c.) hone the specific writing and (most especially) re-writing skills needed for successful screenwriting through their application and practice; (d.) illustrate the ability to thoughtfully and constructively critique their own work as well as that of their fellow writers in the class. During the semester students will be expected to learn to write original and creative constructed pitches, treatments, and scripts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999 Ending: Fall 2010
Prerequisite: COMM 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 345 Production and Direction (3) An intermediate-level course on directing and production technique for film.

Production and Direction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996 Ending: Spring 2011
Prerequisite: COMM 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 346 Writing for the Screen I (3) A beginning course in narrative Screenwriting emphasizing analysis, creativity, and critiquing skills necessary for the development of storytelling.

COMM 346 Writing for the Screen I (3)

The course is about the creative process of conceiving and fashioning films that wish to order experience into a meaningful and expressive narrative structure. It is designed for students who wish to delve more deeply into screenwriting and those wishing to develop a script for senior-level production. It continues to develop screenwriting and storytelling skills introduced in Introductory Film and Video Production and Media Writing, and seeks to further hone their creative skills as writer-filmmakers.

A large part of classroom sessions will be conducted in a traditional writers workshop structure, focusing on the presentation, discussion, and critiquing of written work; other sessions will concentrate on the analysis and critiquing of professional screenplays, with particular emphasis on close-reading of individual scenes, and study of screenwriters writing about the process.

Scripts produced will be limited to short-form work, target length being no more than 15 pages maximum. Such a length combines both the virtues of disciplined, sharply-focused perceptions with a length sufficient for developed narrative arcs and tonal and thematic complexity. Scripts produced in this class will be appropriate for all of the advanced single semester advanced production courses and submission as part of a student’s application for the two-semester advanced production for groups course.

Assessment is based on the progress of creative written work throughout the semester, as well as participation within the critiquing process, both verbally in class discussions and in critical writing submitted to each other and the instructor. Each individual will be expected to: (a.) display an understanding of the various creative elements of filmic storytelling – including visual story-telling, character, dialogue, narrative structure, and theme - and how those elements create and amplify meanings in the work; (b.) thoroughly develop original and meaningful narratives and effectively convey them cinematically; (c.) hone the specific writing and (most especially) re-writing skills needed for successful screenwriting through their application and practice; (d.) illustrate the ability to thoughtfully and constructively critique their own work as well as that of their fellow writers in the class. During the semester students will be expected to learn to write original and creative constructed pitches, treatments, and scripts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 342W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 347 Intermediate Video/Filmmaking (3) Exploration of narrative, documentary, and experimental forms through the production of 16mm film and video projects.

COMM 347 Intermediate Video/Filmmaking (3)

COMM 347 is an intermediate aesthetic and technical production course in short-form narrative film and video production. The class is designed to introduce more advanced filmmaking concepts and techniques and to ultimately give students the skills that will help them realize their creative goals. The success of any narrative film is measured by its clarity in interpreting the intent of the writer and then executing it. It depends on a focused collaborative effort by a number of individuals to tell a story.

In this course, students will explore the process of producing a short narrative video using traditional film techniques. Working in small groups, students will start with a script, develop it, shoot the video and complete a fine cut with a mixed soundtrack. Students will learn film-related production techniques from pre-production planning such as budgeting, scheduling and script breakdowns to on-set production procedures for working with a cast and crew. Students will be building on their technical knowledge of the use of both 16mm film and digital video through lectures, demonstrations, outside readings and class exercises; videos will be viewed throughout the semester to demonstrate aesthetic concepts. Topics covered will include 16mm sync camera operation, lighting, audio recording, scripting and editing. The course will require a significant amount of work outside of class. Students are encouraged to participate in class discussions and contribute critical feedback on their classmates' projects. The emphasis will be the exploration of visual and aural expression and a fundamental mastery of film and digital medium.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Spring 2011
Prerequisite: COMM 337

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 350 (IL) Comparative Media Cultures (3) Intercultural examination of economic, political, philosophical, and historical forces that shape various societies' newsgathering routines and content.

COMM 350 Comparative Media Cultures (3)
(IL)

Utilizing a case study approach, students examine how and why news organizations and styles have developed in different ways in different cultures. The course begins with a sociology of news work, and an examination of the ownership of news outlets and the economic constraints and opportunities each medium and media culture offers. A staple of the course will be an intercultural comparative study of different news products, analyzed for visual structure, stereotyping and objectivity. The effects of the Internet on cultural messages, "The Global Village," and intercultural news exchanges will be examined, as well as the legal and ethical precedents and boundaries created for news in different societies. The First Amendment and the right to privacy are examined in the context of news and personal freedoms in other cultures.
Prerequisite: COMMS 251

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 360 Radio Reporting (3) Reporting, writing, producing, and presenting radio news programs, focusing on the development of news judgment and writing skills.

COMM 360 Radio Reporting (3)

COMM 360 provides an introduction to broadcast news writing and radio production. Students take this course after they have completed an introductory print reporting course but before they take advanced courses that focus on television news production. This course is designed to introduce students to the general principles of broadcast writing used in both the radio and television mediums. As a prerequisite for 400-level courses, COMM 360 is offered on a regular basis to allow students to complete curricular requirements in a timely manner.

Students learn the techniques needed to report, write and produce radio news. During the semester, students report on news and learn to produce, anchor and engineer a newscast.

Learning objectives for COMM 360 are that students:
* demonstrate an understanding of professional ethical principles in news reporting and apply those principles in newsgathering;
* demonstrate basic proficiency in the tools used to report and produce broadcast-quality radio news;
* demonstrate the ability to write news for a broadcast format;
* demonstrate the ability to produce quality work on deadline;
* apply an understanding of news values in the creation of a newscast; and
* demonstrate the ability to supervise other students in a working newsroom.

Students work together in a broadcast facility to produce a radio newscast. They are evaluated throughout the semester on their ability to integrate skills and concepts they learn into their broadcast stories. Upon successful completion of the course, students will have learned the theories and skills at the core of their broadcasting profession.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: or concurrent:COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 360 Radio Reporting (3) Reporting, writing, producing, and presenting radio news programs, focusing on the development of news judgment and writing skills.

COMM 360 Radio Reporting (3)

COMM 360 provides an introduction to broadcast news writing and radio production. Students take this course after they have completed an introductory print reporting course but before they take advanced courses that focus on television news production. This course is designed to introduce students to the general principles of broadcast writing used in both the radio and television mediums. As a prerequisite for 400-level courses, COMM 360 is offered on a regular basis to allow students to complete curricular requirements in a timely manner.

Students learn the techniques needed to report, write and produce radio news. During the semester, students report on news and learn to produce, anchor and engineer a newscast.

Learning objectives for COMM 360 are that students:
* demonstrate an understanding of professional ethical principles in news reporting and apply those principles in newsgathering;
* demonstrate basic proficiency in the tools used to report and produce broadcast-quality radio news;
* demonstrate the ability to write news for a broadcast format;
* demonstrate the ability to produce quality work on deadline;
* apply an understanding of news values in the creation of a newscast; and
* demonstrate the ability to supervise other students in a working newsroom.

Students work together in a broadcast facility to produce a radio newscast. They are evaluated throughout the semester on their ability to integrate skills and concepts they learn into their broadcast stories. Upon successful completion of the course, students will have learned the theories and skills at the core of their broadcasting profession.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 370 Public Relations (3) Public understanding of organizations and institutions; identification and analysis of public; media relations; public relations practice.

Public Relations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 363 Desktop Publishing (3) Practical and theoretical approach to visual communication production in newspaper journalism, advertising, public relations, and other communication industries.

COMM 363 Desktop Publishing (3)

An introduction to publication design and production for the print media, with an emphasis on newspaper, newsletter, advertising, and magazine design. Students critically analyze existing publication designs in order to develop their visual literacy and visual analysis vocabularies. For assignments, students make layouts and designs using desktop publishing and visual editing software, learning to combine visual and textual elements in publications to make them elegant, consistent, and visually appealing as well as readable and accessible. Assignments are critiqued in class discussion sessions designed to further develop critical visual vocabularies. Unique design issues associated with online and interactive media design are also discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 215 orCOMM 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 371 Visual and Video Communication (4) A study of the technical and aesthetic factors in visual production, including visualization, composition, lighting, sound, performance, and project management.

COMM 371 Visual and Video Communication (4)

This course introduces students to visual communication theory through exercises and examples utilizing modern desktop video technology. Students produce visual storytelling exercises using digital video camcorders and computerized non-Tinear editing software. Small teams of students will work together to write scripts, design storyboards, then shoot video and assemble raw clips into short storytelling videos. Visual literacy and visual communication theories are made more understandable when applied through basic video production exercises. Includes a 1-credit lab section that meets once a week in small groups to complete video production exercises. Prerequisite: COMMS 251.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 374 Audio Communication (3) Theory and practice in studio recording and broadcasting techniques, including continuity/news writing, control room operation and audio production.

COMM 374 Audio Communication (3)

Studio techniques for the production of audio essays, musical portraits, news, and on-air editorials and radio drama are explored through various writing and control room exercises. Students learn how to make interesting, marketable audio material suitable for both broadcast and non-broadcast markets. This course also covers the aesthetic limitations of each format and the marketing potential in the current broadcast and narrowcast markets. The cultural genesis and brief history of each medium and format provides the context for the producer, as will readings covering the ethical and legal constraints particular to each production medium.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: COMMS 251 orCOMM 100 and permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 381 Telecommunications Regulation (3) Overview of the regulation of electronic media.

COMM 381 Telecommunications Regulation (3)

Telecommunications Regulation offers students an introduction to a wide range of regulatory and policy issues affecting the telecommunications industries. These industries include traditional radio and television broadcasting, cable, satellite, telephone (wired and wireless), broadband, and the internet. This class is especially useful for students interested in careers in telecommunications, electronic commerce, public policy, information science, business management, law, information policy, and other related fields. Students taking this course will learn how regulations can affect business opportunities and how public policy shapes the development of the world's communications infrastructure.

New developments in technology, business practices and regulatory philosophy are leading to dramatic changes in the regulatory climate in telecommunications. The goal of this course is to help you understand the implications of these chances for business strategy and for society as a whole. Some of the questions we will consider include: Why do we regulate telecommunications? What are the legal parameters of regulation? How does the regulatory process work? Why do "experts" disagree on the proper way to regulate? How do regulations influence business strategy and industry development? How do regulations affect the way individuals communicate and acquire information? How can we choose the best policies for the future to balance reliance on marketplace forces versus the need for Government intervention?

This course emphasizes an economic and legal approach to regulation. Readings will include primary documents such as FCC regulations, court cases, and statutes as well as historical and economic analyses of telecommunications regulation. Students enrolled in Telecommunications Regulation are expected to have a basic understanding of the various telecommunications industries and should be familiar with fundamental economic concepts such as those taught in an introductory economics course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: COMM 180;ECON 002 orECON 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 383 Production Administration (3) Management, production, and analysis of video programming for mass and submass audiences. Emphasis on single-camera field production.

Production Administration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: COMM 283W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 385 Broadcast and Cable Programming (3) Framework, principles, and strategies for the programming of Broadcast television, Cable television, and radio stations.

COMM 385 Broadcasting and Cable Programming (3)

This course will expose the students to the framework, principles, and strategies for the programming of Broadcast Television, Cable Television, and Radio. The course will give a framework of the different "environments" in which programming occurs: Network Television, local affiliate television stations, independent television stations, public television stations, cable networks, cable systems, and commercial and public radio. Students will be exposed to the principles and techniques for programming the different environments and their implications for the competition. Through various exercises and case studies, the class will learn the different options for making programming decisions. The class will also cover the relationship between programming and sales and how each of these aspects of the business of television and radio influences the other. Another aspect that will be covered in class is program syndication and sales and the relationship between Station Rep Companies, Advertising Agencies, and television, radio stations and networks.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 384 Telecommunications Promotion and Sales (3) Principles of marketing services applied to telecommunications and information products/services; models of customer-focused selling and their applications to media time sales.

COMM 384 Telecommunications Promotion and Sales (3)

The two-fold objective of this course is learning the foundations of service marketing and achieving technical proficiency in applying models of customer-focused selling. The context is the ever-changing marketplace for voice, video, and data services in computing, telephone, broadband (cable) and broadcasting. Topics covered include principles of services marketing and of customer-focused selling, electronic marketing, distribution and sales, selling media advertising products, (television, radio, Web), niche position marketing for voice, video and data services, marketing and advertising trends in Ecommerce. Classroom time is devoted to lecture, discussion, team activities and presentations. Other course work may involve online discussion groups and other forms of electronic distributed learning, creating and presenting sales presentations to actual clients and study by case method.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 180 orCOMM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 386 Telecommunications History (3) Historical development of telecommunications systems in the United States, including telegraph, telephone, radio, television, and the internet.

COMM 386 Telecommunications History (3)

Telecommunications History examines the development of electric and electronic communication systems in the United States within their economic, political, social and cultural contexts. Students will look at the origins and growth of communications systems and how those systems arise from and are constrained by existing social conditions. The evolution and impact of the telegraph, telephone, radio, television and Internet systems and industries will be among major topics addressed. In the process of examining the evolution of specific industries, students will be exposed to broader theories of technology and social chance. As a 300-level course, students will be expected to acquire modest skills in historical research, including library, Internet and some original research such as oral histories.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 387 Introduction to Broadcast/Cable Management (3) Introduction to basic principles of management as they apply in electronic media industries.

Introduction to Broadcast/Cable Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: COMM 180;ECON 002 orECON 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 401 Mass Media in History (3) Relationship of news media to social, economic, and political developments in the Western world.

Mass Media in History (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 403 Law of Mass Communications (3) Nature and theories of law; the Supreme Court and press freedom; legal problems of the mass media.

COMM 403 Law of Mass Communications (3)

This discussion-intensive seminar provides an in-depth analysis of contemporary First Amendment issues ranging from the protection of violent media content and sexually explicit speech to defamation and invasion of privacy. Students explore the legal standards, public policies and theories that protect - and restrict - the Constitutional rights of free speech and free press. The primary area of study in this course is the law of mass communications and, in particular, legal issues facing the entertainment and news media. Using a law school casebook, written by a Harvard Law School professor, we will cover legal issues related to topics such as sex and violence in the media, defamation, privacy, and copyright.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 405 Political Economy of Communications (3) Structure and functions of American and other mass communications systems and their relationship to political and economic systems.

COMM 405 Political Economy of Communications (3)

COMM 405 takes a critical look at the structure and performance of the U.S. mass media within the U.S. and global political economy. The normative purpose of the course is to evaluate whether the media system is performing in such a way as to support and promote a democratic society. We will look at theoretical approaches to the study of political economy; the origins and development of capitalism and the mass media; the structure of contemporary capitalism; the ownership and control of mass communications; the origins of advertising and its effects on the U.S. economy and the mass media; the economic structure and organization of the recorded music and filmed-entertainment industries; and the political economy of democratic communications.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 403H Law of Mass Communications (3) Nature and theories of law; the Supreme Court and press freedom; legal problems of the mass media.

COMM 403H Law of Mass Communications (3)

This discussion-intensive seminar provides an in-depth analysis of contemporary First Amendment issues ranging from the protection of violent media content and sexually explicit speech to defamation and invasion of privacy. Students explore the legal standards, public policies and theories that protect - and restrict - the Constitutional rights of free speech and free press. The primary area of study in this course is the law of mass communications and, in particular, legal issues facing the entertainment and news media. Using a law school casebook, written by a Harvard Law School professor, we will cover legal issues related to topics such as sex and violence in the media, defamation, privacy, and copyright.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 405H Political Economy of Communications (3) Structure and functions of American and other mass communications systems and their relationship to political and economic systems.

COMM 405H Political Economy of Communications (3)

COMM 405H takes a critical look at the structure and performance of the U.S. mass media within the U.S. and global political economy. The normative purpose of the course is to evaluate whether the media system is performing in such a way as to support and promote a democratic society. We will look at theoretical approaches to the study of political economy; the origins and development of capitalism and the mass media; the structure of contemporary capitalism; the ownership and control of mass communications; the origins of advertising and its effects on the U.S. economy and the mass media; the economic structure and organization of the recorded music and filmed-entertainment industries; and the political economy of democratic communications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 406 Electronic News Gathering and Editing (3) Intermediate level skills in creating and editing television news packages.

COMM 406 Electronic News Gathering and Editing (3)

This course is designed to provide a substantial background in video production techniques coupled with electronic newsgathering and the use of video equipment. Although students enrolled in this course would be expected to have a basic understanding of video production from previous courses, more advanced editing techniques, along with sustained practice in interviewing, taping, organizing and writing various types of news and feature packages, should provide an excellent preparation for subsequent internships or employment. This is a "hands-on" course and will provide extensive opportunities for practical application of material covered in class. Students will be evaluated on the quality of their productions. This course serves as a supporting course in the Communication and Media Studies major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 315 orCOMM 283W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 407 Advertising in the American Economy (3) Economic organization and the nature of economic institutions; evolution of advertising; its performance in the American economy.

Advertising in the American Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 408 (S T S 408) Cultural Foundations of Communications (3) Examination of oral, scribal, print, industrial, and electronic cultures; analysis of impact of technology on communications and social structure.

COMM (S T S) 408 Cultural Foundations of Communications (3)

(BA) This course meets the Bachelor of Arts degree requirements.

COMM (S T S) 408 traces the development of communications technologies and their impact on culture over the last 500 years. Students will examine how different tools for communicating changed the way people organized and made sense of their worlds. The course begins by looking at oral cultures and moves on to the scribal, print, industrial, electronic and post-industrial or postmodern cultures, studying the media developments that marked each of these eras. With each period and its corresponding technology students will examine how and why the new media altered not only the *form* of communication (the type of speech, form of writing and/or speed of information transfer), but also how such changes altered the *content* of knowledge (how people made sense of their lives and communities). Readings are drawn from a range of disciplinary perspectives on the issues, from history, sociology and anthropology, to philosophy, communication studies and cultural theory.

The historical and theoretical knowledge provided by the course will give students a solid foundation for coming to terms with media trends in present-day society and for thinking through their possible epistemological, political and cultural impacts.

The course is a communications elective for the Journalism and Telecommunications majors and the Media Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: select 3 credits fromCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320, COMM 370 ; or 3 credits of S T S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 409 News Media Ethics (3) Ethical problems in the practice of journalism; principal public criticisms of news media; case study approach.

COMM 409 News Media Ethics (3)

Ethics is about doing the right thing - which, in the news business, is rarely as easy as it sounds. Is it ever OK for reporters and photographers to intrude on grieving families? Is it ever OK to lie to get information? Are the sex lives of politicians and celebrities our business? COMM 409 will give students a fuller understanding of how journalists do their jobs and how they should make ethically sound decisions. This class is more about learning to ask the right questions than learning the right answers. We'll rely on recent news coverage to get us in the habit of working through the moral dilemmas that reporters routinely confront.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 409H News Media Ethics (3) Ethical problems in the practice of journalism; principal public criticisms of news media; case study approach.

COMM 409H News Media Ethics (3)

Ethics is about doing the right thing - which, in the news business, is rarely as easy as it sounds. Is it ever OK for reporters and photographers to intrude on grieving families? Is it ever OK to lie to get information? Are the sex lives of politicians and celebrities our business? COMM 409H will give students a fuller understanding of how journalists do their jobs and how they should make ethically sound decisions. This class is more about learning to ask the right questions than learning the right answers. We'll rely on recent news coverage to get us in the habit of working through the moral dilemmas that reporters routinely confront.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 410 (IL) International Mass Communications (3) The role of international media in communication among and between nations and people. Complement to COMM 419.

COMM 410 International Mass Communications (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will consider the following questions about the global communications system and its effect on the relations among countries and peoples of the world: Why do we in the United States know what we think we know about the rest of the world? Why is our worldview so different than that of citizens of other countries? How does the international communications system operate and why? How and why is it changing? What is the effect of the rapid globalization of media on the world economy and other cultures? What is the relevance of international borders in light of rapid advances in new communications technologies? Is information - an important resource in an interdependent world - fairly distributed among peoples and nations? If not, why and what can be done, if anything, to remedy the situation? What role do the media play in world affairs, especially in foreign policy decision making and in fostering international understanding? To what extent do the media exacerbate international conflict or can they be used to reduce conflict?

As a central focus of the course, students will participate in a simulation of the United Nations in which they act as delegates of various nations and/or UN officials seeking multilateral solutions to complex international communications problems. Through this interactive, problem-based learning method, the participants will be challenged to better understand the shortcomings and portents of the global communications system in solving vexed international problems and fostering world understanding. Further, by requiring U.S. students to view these problems, through the eyes of other nations (some of them unfriendly to the United States), the simulation encourages greater empathy for the differing needs and perspectives of the rest of the world.

The course is directed primarily at students who wish to be more discriminating consumers of global media and more astute judges of international issues. However, it also should be useful to communications students who anticipate working as media professionals abroad or who will work in domestic media that affect and are affected by events elsewhere in this interdependent world.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: select 3 credits from the followingCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 411 Cultural Aspects of the Mass Media (3) The mass media as creators and critics of mass culture in American life; relationships between the media and mass culture.

COMM 411 Cultural Aspects of the Mass Media (3)

This course examines the mass media as creators and critics of mass culture in American life and the relationship between the media and the mass culture.

What are the mass media? What is culture? What are the relationships between mass media and culture? How do mass media help construct the way we live our lives? Do the mass media reflect or condition social reality? How does one study or engage the mass media? Why would you want to anyway? This course is designed to answer some of these questions by promoting a critical understanding of the mass media from historical, social, philosophical, cultural, and economic perspectives. Ultimately, the course will equip students to address these opening questions on their own terms, without simply allowing the mass media to provide their own pictures of how they should be understood. One of the goals of this course is to denaturalize the way people view the mass media-as simply a given, or as pure unmediated reality. Media culture has been and continues to be made. Course materials and lectures will provide several ways of thinking about and studying the conditions of media making and interpretation.

Students are encouraged to think as broadly and creatively as possible: to this end, the course will make use of research across a wide range of academic fields such as sociology, history, ethnography, cultural studies, literature, politics, gender studies, economics, art, and philosophy. The course is a communications elective for the Journalism and Telecommunications majors and the Media Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: 6 credits in the arts or the humanities; and 3 credits selected from the followingCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 411H Cultural Aspects of the Mass Media (3) The mass media as creators and critics of mass culture in American life; relationships between the media and mass culture.

COMM 411H Cultural Aspects of the Mass Media (3)

COMM 411H takes a cultural studies approach to media and more generally culture and politics. The class is predicated upon three assumptions about media. First, media must be examined in context. Second, media play a significant role in the construction of our lived reality. Third, these constructions and all attempts to study them are political and implicated in relations of power. As such, this course treats media as part of cultural and political processes that are not separable, but instead co-constitutive In other words, these three assumptions have some immeasurable effect on each other and impact our understanding of their relationships.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 6 credits in the arts or the humanities; and 3 credits selected from the followingCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 412 Sports, Media and Society (3) Sport and media relationship in American culture.

COMM 412 Sports, Media and Society (3)

This course is designed to help students more critically view the role of sport media in American culture. The influence of/relationship between sport media and issues such as race, gender, sexuality (homophobia), nationalism, capitalism/consumerism, violence and civic life will be examined. Issues in relation to journalism ethics and the production of sport media also will be examined.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 413 The Mass Media and the Public (3) Nature of mass communications, relationships between mass media and public, media influences on opinion; social pressures on the media.

The Mass Media and the Public (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: 3 credits selected from the following:COMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 413W The Mass Media and the Public (3) Social-level and political theories of the relationships between media and public; media influences on public opinion; social pressure on the media; political communications.

COMM 413W The Mass Media and the Public (3)

This course is designed to explore the complex and dynamic relationships among the media, public, and government. These relationships are examined through the lenses of sociological and political theories regarding the nature and process of mass communication. The central questions answered in the course are: "How do the media influence the public, its opinions, and social and political behavior?" and "How does the public - through social pressures, and political constraints - influence media performance and content?" Special attention is paid to modes of inquiry in communication research, social functions and control of the media, social construction of reality, political communication, and public opinion. The goals of the course are to introduce students majoring in professional areas of communications to theoretical frameworks that help explain media practices, advance the understanding of the communications research literature for Media Studies majors, and develop skills of all students to be informed and critical consumers of the media. The course is required of Media Studies majors and is a communications elective for the Journalism and Telecommunications majors, the Corporate Communications and Journalism options in Communications, and the Media Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: select 3 credits from the followingCOMM 100, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 413W The Mass Media and the Public (3) Social-level and political theories of the relationships between media and public; media influences on public opinion; social pressure on the media; political communications.

COMM 413W The Mass Media and the Public (3)

This course is designed to explore the complex and dynamic relationships among the media, public, and government. These relationships are examined through the lenses of sociological and political theories regarding the nature and process of mass communication. The central questions answered in the course are: "How do the media influence the public, its opinions, and social and political behavior?" and "How does the public - through social pressures, and political constraints - influence media performance and content?" Special attention is paid to modes of inquiry in communication research, social functions and control of the media, social construction of reality, political communication, and public opinion. The goals of the course are to introduce students majoring in professional areas of communications to theoretical frameworks that help explain media practices, advance the understanding of the communications research literature for Media Studies majors, and develop skills of all students to be informed and critical consumers of the media. The course is required of Media Studies majors and is a communications elective for the Journalism and Telecommunications majors, the Corporate Communications and Journalism options in Communications, and the Media Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011
Prerequisite: select 3 credits from the followingCOMM 100, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370 and select 3 credits from the following:COMM 304, COMM 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 414 Media Management (3) Theoretical bases and practical approaches for management and administration of communications projects, organizations, and resources.

COMM 414 Media Management (3)

Students examine various management styles and how they are applied in various media industries. Special issues in media management such as intellectual rights and work-for-hire contracts are covered. General business management topics are also covered, such as human resource management, sales, motivation, working with unions, managing talent and other assets, and maximizing profits within the framework of very basic business principles. In addition, this course includes topics useful for small media business startups and freelance media content producers. Usually this course utilizes a case/book study approach relying heavily on in-class discussion.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 415 Advanced Photography (3) Advanced applications in documentary photography emphasizing the narrative qualities of imagery, and utilizing digital technologies.

COMM 415 Advanced Photography (3)

An advanced undergraduate examination of documentary photography with the goal for each student to produce a portfolio of pictures suitable for exhibition or to show prospective employers. Each week students complete photographic assignments designed to simulate commercial photography work and to give experience with a variety of photographic techniques and subjects. Assignments include topics such as portraiture, documentary photo story production, studio lighting, fill-flash lighting, and sports photography. Classroom exercises include demonstrations of various techniques as well as critique sessions to discuss student assignments and other photography work.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: COMM 215

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 417 Ethics and Regulation in Advertising and Public Relations (3) Ethical issues in practice of advertising and public relations; legal and regulatory issues; case studies.

COMM 417 Ethics and Regulation in Advertising and Public Relations (3)

The purpose of this course is to help students gain an understanding of the complex legal and ethical issues they may face in advertising and public relations practice. Through an examination of historic and contemporary issues and cases, students will develop a professional framework for evaluating ethical dilemmas. Perspectives of advertisers, public relations practitioners, agencies, government, media, clients and advocacy groups will be examined, with a focus on social responsibility in professional practice.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 415 Advanced Photography for Communications (3) Advanced applications in documentary photography emphasizing the narrative qualities of imagery, and utilizing digital technologies.

COMM 415 Advanced Photography (3)

An advanced undergraduate examination of documentary photography with the goal for each student to produce a portfolio of pictures suitable for exhibition or to show prospective employers. Each week students complete photographic assignments designed to simulate commercial photography work and to give experience with a variety of photographic techniques and subjects. Assignments include topics such as portraiture, documentary photo story production, studio lighting, fill-flash lighting, and sports photography. Classroom exercises include demonstrations of various techniques as well as critique sessions to discuss student assignments and other photography work.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 215 orCOMM 269 and permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 418 Media Effects: Theory and Research (3) Investigation of social and psychological effects of media messages and technologies via theories and empirical evidence pertaining to processes of effects.

COMM 418 Media Effects (3)

This is an upper-level undergraduate course on the social and psychological effects of media messages and technologies, which moves beyond a simple introduction of media theories. Drawing on social and behavioral research in communication, psychology and related disciplines, it will attempt an advanced understanding of media effects via theories and empirical evidence pertaining to the processes of effects. Emphasis will be placed on rigorous examination of theory testing and theory development. The class will assume a general familiarity of basic communication theories pertaining to the relationship between media and public (COMM 118) and a working knowledge of quantitative research methods (COMM 304W).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: COMM 118 andCOMM 304 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 419H (US;IL) World Media Systems (3) Comparative study of modern media systems of mass communications in selected foreign countries.

COMM 419H World Media Systems (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Students in this course will have the opportunity to discover the variety of media systems in the world today and, more importantly, how they got that way and what functions they perform for their respective societies. Students will evaluate each media system's history and analyze the functions of the mass media in the respective contexts. They will examine the historical, social, economic and cultural forces that influence the adoption of a national media system. They will compare perspectives on the problems and issues in freedom of expression within national media systems and evaluate the organization, regulation and economics of those systems. Finally, students will analyze the national development of media systems and the impact of the mass media in the modernization of peasants.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: select 6 credits in the arts or the humanities; and 3 credits from the following:COMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 419 (US;IL) World Media Systems (3) Comparative study of modern media systems of mass communications in selected foreign countries.

COMM 419 World Media Systems (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Through the use of interactive, problem-based learning methods, students in this course will have the opportunity to discover the variety of media systems in the world today and, more importantly, how they got that way and what functions they perform for their respective societies. As a central focus of the course, students will participate in a simulation and case studies designed to illuminate the factors that promote or hinder the development of media systems that best serve the interests of diverse peoples around the world. Although understanding the theory and practice of other media systems is an important end in itself and may help to foster greater international understanding, another important purpose of this course is to give U.S. students a better context in which to judge their own media system. The course also intended to enhance students' skills of analyzing complex information, working cooperatively to apply reasoned solutions to practical problems, and communicating (written and oral) effectively.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: select 6 credits in the arts or the humanities; and 3 credits from the following:COMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 420 Research Methods in Advertising and Public Relations (3) Primary and secondary research methods used in the development of solutions to advertising and public relations problems.

COMM 420 Research Methods in Advertising and Public Relations (3)

This course is designed to provide an introduction to the logic and methods of social science research and its applications in the professional practice of advertising and public relations. Students will be introduced to methods of primary research used in the advertising and public relations fields such as survey, focus group, content analysis, and experimental design. Students will also become more familiar with basic and advanced statistical techniques and statistical software used in the field. Understanding how research is conducted and the strengths and limitations of research findings is a critical first step in developing the ability to apply research findings to communication problems in advertising and public relations.

In addition to helping students understand how to conduct research, this course is also designed to help them become critical consumers of the research conducted by others. Advertising and public relations problems often require the identification, understanding, synthesis, and application of data collected by others in developing problem solutions. Understanding secondary sources of data commonly used in the field, such as Simmons, Nielsen, Arbitron and SRDS, is an essential component of professional expertise.

Problem-solving in advertising and public relations requires decision-making in a turbulent and dynamic marketing environment. To help students learn how to relate research tools and outcomes to the advertising and public relations problems at hand, this course will examine the role of research in decision-making at the critical steps in the problem-solution process. As part of developing understanding of this decision-making process, students will also become more aware of the ethical issues associated with research in advertising and public relations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: COMM 320 orCOMM 370;STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 421W Advertising Creative Strategies (3) Planning, designing, writing advertisements; introduction to graphics and production techniques and processes; layout and copywriting practice and critiques.

COMM 421W Advertising Communications Problems (3)

This course is designed to provide students with an overview of the intellectual and practical skills involved with the development of advertising creative work. Students are introduced to research and thinking strategies that lead to creative ideas and are provided with computer software and other training that facilitates the execution of advertising based on their ideas. The course requires students to complete several creative projects, in distinct product categories (e.g., packaged goods, durable goods, public services, consumer services), over the course of the semester. Before developing advertising, students will be expected to research the product, service or idea that constitutes the creative project. They will gain an understanding of the kinds of information most valuable to creative professionals in the development of ideas, and be provided with an overview of research strategies leading to the discovery of such information. After completing the required research, students will produce briefs that summarize findings and serve as a platform for further work on their creative projects. Given the course 's designation as writing intensive, these documents will be evaluated both for their content and the degree of accuracy demonstrated in grammar, spelling, punctuation and word choice. Since the evaluation of creative ideas is inherently subjective, these written research documents are usually weighted more heavily in the calculation of final course grades. Students will use their own research as the platform for generating creative ideas to advertise their product, service or idea. Instruction on creative thinking techniques will be provided as tools for this activity. As ideas are developed, students are encouraged to share their work with their peers and the instructor for feedback. In "workshop" fashion, these in-class critiques of creative work serve to refine and improve ideas. Over the course of the semester, students work toward finalizing creative solutions. By semester's end, each student will be expected to submit a final portfolio of work that demonstrates proficiency in the subject matter covered by the course. Traditionally, the final portfolio includes creative briefs and ads developed from them.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: COMM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 422 Advertising Media Planning (3) Analysis, selection, and scheduling of advertising media; examination of algorithms, technologies, and software used in media planning.

Advertising Media Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: COMM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 424 Advertising Campaigns (3) Advertising campaign problems from the viewpoint of the national advertiser and advertising agency; production of a complete advertising campaign.

COMM 424 Advertising Campaigns (3)

This comprehensive capstone course is designed to provide an opportunity to showcase your creativity and knowledge about advertising communications. Strategic integrated marketing communications concepts are emphasized. The campaign project developed in this course will showcase the full weight of your knowledge and skill in the area of advertising communications. Students will need a background in creative design and practices, media planning principles and practices, and research methods used to delineate appropriate target groups and evaluate campaign effectiveness. The primary objective is the creation of a complete advertising/marketing communications campaign proposal that reflects a set of communication goals derived from a set of measurable objectives.

The campaign will include a situation analysis that provides a detailed assessment of the product or service environment. This includes analysis of the product class, lifecycle, generic and brand level competition, and target group identification. The goal is to gain relevant information that can be used to make justifiable strategic decisions related to the advertising campaign. Strategic goals and objectives will be developed that allow the direction and efficacy of the campaign to be measured. Campaigns include diagnostic and performance benchmarks used to evaluate the progress of a set of predetermined measurable objectives. The goal is to provide formal feedback that allows the agency and client to evaluate the effectiveness of the campaign. This is especially important as client/agency relations continue to adapt a series of formal measures of campaign effectiveness.

The class is designed to develop critical thinking skills. For example, each strategic decision presented in a campaign must have a fully explicated rationale that is based on quantitative and qualitative criteria. Research tools will be presented in class that allow and support the development of measurable objectives. The campaign must include a series of benchmarks designed to evaluate the campaign.

The campaign will have a complete media plan that includes selected media, cost efficiencies, and media schedule. Students will be expected to be familiar with media principles and media planning software.

Research is used to inform and complement the creative process inherent in the development of any successful campaign. For example, research-based tools will be used to suggest message strategies tailored to individual target groups. The message attributed will then be actualized as specific creative executions in the creative platform.

Working groups are very typical in the advertising world. The campaigns will be developed over a series of group assignments culminating in a final campaign document that will be presented in class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: COMM 420 orCOMM 304;COMM 421W, COMM 422

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 425 Advertising Message Strategy (3) Advanced work in developing message strategies for advertising campaigns; presentation and defense of strategic plans; extensive practice in creating advertisements.

Advertising Message Strategy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: COMM 421W, COMM 422

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 426 International and Intercultural Strategic Communication (3) Advertising and public relations in the international and intercultural arenas; multicultural strategic communications strategies.

COMM 426 International and Intercultural Strategic Communication (3)

COMM 426 will provide students with a framework for applying their existing public relations and advertising tools in the global arena. Working internationally and/or interculturally challenges the advertising, public relations or marketing executive to think outside his or her own "cultural box." Some of the challenges include finding research about consumers, competitors and the marketplace outside of North America and Western Europe, understanding local cultures and customs, understanding the importance of ethnicity, and building an integrated core of professional communications that work with a common purpose, even if they come from different backgrounds - or are on different continents.

The emphasis will be on developing a methodology for researching international and intercultural strategic communications problems, and then discussing possible communications-based solutions. To that end, case studies from both the international advertising and international public relations disciplines will play an important role in the course. Additionally, students will be exposed to a number of frameworks for analyzing culture, coming from the areas of anthropology (Schwartz' 10 Value Domains), social psychology) Bond's essay on impression management in multicultural organizations) and international business (Hofstede's Dimensions of National Culture).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: COMM 320 orCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 427 Client/Agency Relations (3) Building and maintaining client/agency relationships in advertising, public relations and direct response agency business functions.

COMM 427 Client/Agency Relations (3)

Client/Agency relations provides students with an understanding of advertising, public relations and direct response agency business functions, and the important role of building and maintaining client/agency relationships. It covers the phases of pre-relationship (identifying, prospecting, pitching and winning accounts), developing relationships with clients and maintaining and enhancing these relationships over time. Client/agency relationships are built on the development of viable partnerships with clients, establishing strategies to support and maintain the vitality of client business success, and the on-going delivery of fresh creative ideas from all agency disciplines.

Today's agency has become a resource for all integrated marketing communication (MARCOM) needs. This includes, but is not limited to, advertising, promotion, public relations, direct response marketing, event marketing, customer-relationship marketing, interactive internet communication and branding ideas. This course covers the integration of these disciplines on behalf of an agency's clients.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: Advertising Option - Prerequisite or concurrent - One can be taken concurrently:COMM 421, COMM 422 . Public Relations Option - Prerequisite:COMM 471 Prerequisite or concurrent:COMM 473

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 430 Mass Media and Politics (3) Study of mass media as institutions and the effects of the mass media on politics, public policy, and citizens.

COMM 430 Mass Media and Politics (3)

In Mass Media and Politics, we address issues and relations of the political realm, the media institutions, and the public sphere. Particular attention is dedicated to the influence of and coverage by both the domestic and international news media. In addition, we also examine topics such as bias in the media, women and politics, political campaigns, and advertising, ideology and hegemony, and cultural representations in the media. Of importance are notions of how and why mass media influences the national political debate, as well as what mass media exports in terms of culture and what this means to the political reality of other nations. The discussion of these issues is often couched in terms of technologies, especially emerging and traditional mass media technology systems such as convergence technologies, the World Wide Web, television, radio, and newspapers. Prerequisite: COMMS 251.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 433 Film History for Filmmakers II: The Development of the Cinema from 1960 to the Present (3) History of the art, industry, economics, culture, and technology of cinema from 1960 to the present.

COMM 433 Film History for Filmmakers II: The Development of the Cinema from 1960 to the Present (3)

Film History for Filmmakers II presents the history of the medium of cinema from 1960 to the present. The course explores the artistic, technical, economic development of the cinema, and the cultural contexts in which this development occurred. The course covers narrative, experimental, and documentary cinema and trains students in the techniques of close formal analysis of the cinema. The course builds upon formal, thematic, and cultural analysis of the cinema introduced in Film History I. This course is integral to the existing curriculum. It provides Film-Video students with a detailed description of trends in their art form. It provides students with a more intensive study in the history of an influential medium in the development of the concept of mass media and communications. The course will be taught each Spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: COMM 333

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 436 Advanced Audio Production (3) Advanced concepts and techniques of audio production in analog and digital formats with hands-on experience in recording, mixing and editing.

COMM 436 Advanced Audio Production (3)

This course builds on the concepts and techniques of audio production in both analog and digital formats introduced in COMM 374 and includes in-depth examination of sound theory and hands-on practice in advanced projects involving recording, mixing and editing in analog and digital formats. This course provides an understanding of technical and aesthetic aspects of advanced audio production, and provides students the opportunity to demonstrate advanced skills in recording, editing and mixing. Students gain an understanding of professional studio and field practices and develop advanced studio and field projects suitable for a portfolio.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 374

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 437 Narrative Video/Filmmaking (3) Intensive exploration of narrative form through the production of a fiction film or video.

COMM 437 Advanced Documentary Production (3 per semester/maximum of 6)

This course is designed to enable students to produce portfolio-quality work while bringing together ideas, processes, practices, and theories in the service of documentary production. Students will explore the history, conventions and theory of the documentary film form, while developing and producing a film or video work for screening at the end of the semester. Working in small crews with others from the class and using sophisticated production equipment, students will write and produce short digital video projects. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions as well as on providing the support, guidance, and critique necessary for a successful production. Particular emphasis is given to the traditions of social criticism, the creative treatment of actuality, the individual and collective points of view.

The history of documentary form is illustrated by comparing the work of the American "Direct Cinema" style embodied in the work of Drew Associates to the French "Cinema Verite" style developed by Jean Rouch. The evolution of these styles into what we now just refer to as “Verite” filmmaking is put into practice through a series of exercises that incorporate a variety of points of view.

Analysis of the above works, as well as examples from Barbara Kopple, Errol Morris, and Frederick Wiseman, provide students with a springboard to develop their own style, vision, and personal creative voice. An examination of Bill Nichols taxonomy of non-fiction film classification further contextualizes aesthetic and theoretical issues for students. A series of lectures, discussions, readings, and screenings move students through the personal and collaborative process of documentary production.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 337

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 437 Advanced Documentary Production (3 per semester/maximum of 6) Advanced exploration of documentary production techniques and aesthetics through the completion of a short video project.

COMM 437 Advanced Documentary Production (3 per semester/maximum of 6)

This course is designed to enable students to produce portfolio-quality work while bringing together ideas, processes, practices, and theories in the service of documentary production. Students will explore the history, conventions and theory of the documentary film form, while developing and producing a film or video work for screening at the end of the semester. Working in small crews with others from the class and using sophisticated production equipment, students will write and produce short digital video projects. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions as well as on providing the support, guidance, and critique necessary for a successful production. Particular emphasis is given to the traditions of social criticism, the creative treatment of actuality, the individual and collective points of view.

The history of documentary form is illustrated by comparing the work of the American "Direct Cinema" style embodied in the work of Drew Associates to the French "Cinema Verite" style developed by Jean Rouch. The evolution of these styles into what we now just refer to as “Verite” filmmaking is put into practice through a series of exercises that incorporate a variety of points of view.

Analysis of the above works, as well as examples from Barbara Kopple, Errol Morris, and Frederick Wiseman, provide students with a springboard to develop their own style, vision, and personal creative voice. An examination of Bill Nichols taxonomy of non-fiction film classification further contextualizes aesthetic and theoretical issues for students. A series of lectures, discussions, readings, and screenings move students through the personal and collaborative process of documentary production.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 337W, COMM 340, COMM 342W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 438 Advanced Narrative Production (3 per semester/maximum of 6) Advanced exploration of narrative production techniques and aesthetics through the completion of a short film or video project.

COMM 438 Advanced Narrative Production (3 per semester/maximum of 6)

This course is designed to enable students to produce portfolio-quality short projects that bring together ideas, processes, practices, and theories in the service of narrative production. Over the course of the semester, students will pursue an entire project from conception to completion through intensive pre-production, production, and post-production stages. Working in small crews composed of fellow classmates and using sophisticated production equipment, students will write and produce short digital video projects. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions, as well as providing the support, guidance, and critiques necessary for a successful production. There will be an emphasis on the thorough execution and evaluation of the steps taken toward completion of their project.

As a workshop, specific topics pertaining to the three stages of production will be reviewed as necessary. Students will be expected to hand in a pre-production packet (budget, schedule, script breakdown and lined script) before proceeding to the production phase.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 338, COMM 340, COMM 342W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 438 Non-Fiction Video/Filmmaking (3) Intensive exploration of documentary traditions through the production of a non-fiction video or film.

COMM 438 Advanced Narrative Production (3 per semester/maximum of 6)

This course is designed to enable students to produce portfolio-quality short projects that bring together ideas, processes, practices, and theories in the service of narrative production. Over the course of the semester, students will pursue an entire project from conception to completion through intensive pre-production, production, and post-production stages. Working in small crews composed of fellow classmates and using sophisticated production equipment, students will write and produce short digital video projects. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions, as well as providing the support, guidance, and critiques necessary for a successful production. There will be an emphasis on the thorough execution and evaluation of the steps taken toward completion of their project.

As a workshop, specific topics pertaining to the three stages of production will be reviewed as necessary. Students will be expected to hand in a pre-production packet (budget, schedule, script breakdown and lined script) before proceeding to the production phase.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002 Ending: Fall 2010
Prerequisite: COMM 337 seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 439 Alternative Film/Video Production (3) Intensive exploration of non-narrative form through the production of a film or video.

COMM 439 Advanced Alternative Production (3 per semester/maximum of 6)

Advanced Alternative Production is a senior level course focusing on the development and expression of the individual filmmaker. The emphasis of the course is on exploring the history, conventions and modes that surround the experimental and animation film forms and using this knowledge in creating work that challenges conventions of mainstream media. The course involves viewing works of classic and contemporary alternative media, discussing its contribution or value in communications, and using these examples as models for exploration.

Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions, as well as on providing the support, guidance, and critique necessary for a successful production. There will be an emphasis on the thorough execution and evaluation of the steps taken toward completion of their project.

This course assumes a working knowledge of intermediate film and video production and post-production techniques. Additional production and post-production techniques may be introduced based on the students' interest.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 337

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 440 Advanced Production Technology and Technique (3) Intensive practical experience and studies of camera, lighting, audio, and editing.

COMM 440**COMM 440 Advanced Cinematography and Lighting Techniques (3)**

This course is a comprehensive approach to techniques, equipment and procedures of film and video production with an emphasis on both practical skills and aesthetics. The course is divided into four sections that will employ a combination of lectures and workshops in camera, lighting, audio and color grading. The course will focus on understanding the theory and procedures underlying dynamic composition, visual and psychological perspective, practical and emotive lighting and sound, color, and the conveyance of meaning through color and continuity. In addition, students will learn accepted procedures in care and use of film and video cameras, sound recording equipment, lighting and grip gear, as well as proper organization, media storage and maintenance techniques specific to post-production. Students will work individually and collaboratively to produce projects for critique and evaluation.

The emphasis of the course is on the artistic and technical aspects that allow an idea to be cinematically realized on celluloid and/or a suitable digital format. The course involves viewing the work of outstanding, established cinematographers and videographers in great detail, and assessing their contributions to film aesthetics and history through the detailed, direct analysis of film excerpts and sequences from landmark films and video work, and the discussion of assigned reading materials on both film and video technique. Students then work in specific film and video production positions to reproduce precisely scenes from the films analyzed. By doing so, students will develop an understanding of the technology and artistic vision used in film and video production so that they may be better prepared to successfully create challenging and thought-provoking projects. In addition, this course also allows for an exploration and comparison of the ever-changing technology used in film and video production. Through this direct use of multiple visual and audio formats, students will discover the creative advantages and disadvantages of various media used to fulfill their artistic vision.

COMM 440 is a support course for the senior level production courses. Student cinematographers in COMM 448 (Adv. Production for Groups) are strongly encouraged to take this course concurrently. It can also be taken as an elective technique course in conjunction with any of the one-semester mode specific advanced production courses (COMM 437, COMM 438, or COMM 439).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: COMM 347

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 439 Advanced Alternative Production (3 per semester/maximum of 6) Advanced exploration in experimental and animation forms through the production of a film or video project.

COMM 439 Advanced Alternative Production (3 per semester/maximum of 6)

Advanced Alternative Production is a senior level course focusing on the development and expression of the individual filmmaker. The emphasis of the course is on exploring the history, conventions and modes that surround the experimental and animation film forms and using this knowledge in creating work that challenges conventions of mainstream media. The course involves viewing works of classic and contemporary alternative media, discussing its contribution or value in communications, and using these examples as models for exploration.

Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions, as well as on providing the support, guidance, and critique necessary for a successful production. There will be an emphasis on the thorough execution and evaluation of the steps taken toward completion of their project.

This course assumes a working knowledge of intermediate film and video production and post-production techniques. Additional production and post-production techniques may be introduced based on the students’ interest.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 339, COMM 340, COMM 342W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 440 Advanced Cinematography and Lighting Techniques (3) Advanced exploration in camera, lighting, audio, and color-grading techniques, emphasizing technical skills as well as aesthetics.

COMM 440**COMM 440 Advanced Cinematography and Lighting Techniques (3)**

This course is a comprehensive approach to techniques, equipment and procedures of film and video production with an emphasis on both practical skills and aesthetics. The course is divided into four sections that will employ a combination of lectures and workshops in camera, lighting, audio and color grading. The course will focus on understanding the theory and procedures underlying dynamic composition, visual and psychological perspective, practical and emotive lighting and sound, color, and the conveyance of meaning through color and continuity. In addition, students will learn accepted procedures in care and use of film and video cameras, sound recording equipment, lighting and grip gear, as well as proper organization, media storage and maintenance techniques specific to post-production. Students will work individually and collaboratively to produce projects for critique and evaluation.
The emphasis of the course is on the artistic and technical aspects that allow an idea to be cinematically realized on celluloid and/or a suitable digital format. The course involves viewing the work of outstanding, established cinematographers and videographers in great detail, and assessing their contributions to film aesthetics and history through the detailed, direct analysis of film excerpts and sequences from landmark films and video work, and the discussion of assigned reading materials on both film and video technique. Students then work in specific film and video production positions to reproduce precisely scenes from the films analyzed. By doing so, students will develop an understanding of the technology and artistic vision used in film and video production so that they may be better prepared to successfully create challenging and thought-provoking projects. In addition, this course also allows for an exploration and comparison of the ever-changing technology used in film and video production. Through this direct use of multiple visual and audio formats, students will discover the creative advantages and disadvantages of various media used to fulfill their artistic vision.
COMM 440 is a support course for the senior level production courses. Student cinematographers in COMM 448 (Adv. Production for Groups) are strongly encouraged to take this course concurrently. It can also be taken as an elective technique course in conjunction with any of the one-semester mode specific advanced production courses (COMM 437, COMM 438, or COMM 439).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 441 Advanced Graphic Design (3) Theory and practice designing graphic visual communication in commercial, non- commercial, and fine art formats for print and on-line media.

COMM 441 Advanced Graphic Design (3)

An advanced examination of graphic design. Students develop proficiencies in the art, craft, formats, and vocabulary of commercial graphic design by creating original work in a series of hands-on projects. During the semester, students learn to research, organize, and interpret verbal and visual information and to solve increasingly complex communication problems. They will further refine their creative problem solving and collaborative production skills. By semester end, students will have begun to develop their own styles and are able to verbally articulate it to others. Assignments generally include topics such as interactive media design, animation, advertising design, and infographic design.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: COMM 241 orCOMM 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 441 Advanced Graphic Design for Communications (3) Theory and practice designing graphic visual communication in commercial, non- commercial, and fine art formats for print and on-line media.

COMM 441 Advanced Graphic Design (3)

An advanced examination of graphic design. Students develop proficiencies in the art, craft, formats, and vocabulary of commercial graphic design by creating original work in a series of hands-on projects. During the semester, students learn to research, organize, and interpret verbal and visual information and to solve increasingly complex communication problems. They will further refine their creative problem solving and collaborative production skills. By semester end, students will have begun to develop their own styles and are able to verbally articulate it to others. Assignments generally include topics such as interactive media design, animation, advertising design, and infographic design.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 241 orCOMM 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 442 Advanced Audio Video Production (3) Advanced techniques in video production applied to narrative, non-narrative and short documentary formats.

COMM 442 Advanced Audio/Video Production (3)

The Advanced video production course allows students who have taken the introductory video production course (COMMU 383) to explore and learn more sophisticated and advanced applications of video communications beyond the one video project requirement of COMMU 383. In COMMU 483, the student will produce five videos which expands their introductory video skills and prepares communication students and future media artists and professionals with knowledge of advanced creative and technical theory and techniques necessary to all formats from 30-second commercials to socially relevant documentaries. This course will also further develop and enhance the writing, producing, and direction skills of students who may want to pursue further studies and career paths in the electronic media industry.

The texts used will be Media Production, Kindem & Musburger and Directing, Proferes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 345

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 444 Advanced Post-Production Techniques (3) This course offers intensive practical experience in editing, motion graphics and sound mixing techniques, emphasizing both technical skills and aesthetics.

COMM 444 Advanced Post-Production Techniques (3)

Through a combination of lectures, readings, screenings, and practical exercises, students will learn advanced post-production techniques needed to produce high quality finished film and video pieces. The course includes modules on the theory and aesthetics of editing, motion graphics, visual effects, 2D animation, audio signal processing and audio mixing. The course will enable students to develop creative skills for translating ideas into short films and to serve as post-production support for senior level productions. Specific design strategies and approaches will be discussed. Students will also be required to demonstrate competence in a variety of digital graphics programs. Throughout the semester students will work individually and collaboratively on practical exercises for critique and evaluation, developing technical, analytical and critical skills.
The course is divided into three sections. In the first section students will focus on the procedures for successful post-production supervision and workflow management, including an exploration of accepted professional practices of editing departments. Students will explore advanced methods of picture editing in all modes and will edit and critique a professionally produced scene. In the second section of the course, students will work on graphics, animation and special effects procedures generally accepted as part of film-video post-production processes. The focus will be on techniques that translate to a variety of software and work environments; including manipulation of picture and text, light and color effects, compositing of multiple images and manipulation thereof. The third section of the course will focus on the practice of preparing elements for a professional audio mix and use of advanced digital audio workstations. This section will feature a discussion of the theory and practice of how tracks are organized, advanced psychoacoustics and signal processing, preparing a multi-track project for mix, and completion of a mixed sound design project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 445 Directing for the Screen II (3) An advanced course in directing for both narrative and documentary film and video.

COMM 445 Directing Workshop (3)

This course is an advanced aesthetic and skill production course in directing for the screen. The class is designed to introduce more advanced directing concepts and techniques as well as to more deeply explore the collaborative processes of working with a creative team on effectively integrating the aesthetics of cinematography, production design and acting performance in film narrative.

The first section of the course will focus on understanding the actor’s preparation and process with the goal of developing the appropriate and effective communications skills to coach performance. Students will thoroughly explore scenes for interpretation of subtext and motive, and will learn accepted practices of script preparation. Casting and audition styles will be investigated and demonstrated, as will various types of rehearsal techniques. At the end of this section students will workshop a scene in a small group, blocking it and executing it to illustrate concepts of character relationships, stage and camera craft to produce a short scene for discussion and critique.

The second section of the course will be an advanced aesthetic exploration of the visual vocabulary, including cinematic, psychological and fine art concepts that contribute to the planning and design of screen direction. Students will then analyze the technical means to execute this aesthetic vision through production design, lighting and composition. In practice the students will then translate this analysis into a working scene plan and will produce a short scene for discussion and critique. Students will also be introduced to professional practices such as location and studio set protocols and on-set safety procedures.

The third section of the course will explore narrative conventions and their relationship to screen genres in the interest of understanding the film language shared between filmmaker and audience. At the end of the section students will produce a short classic scene with an alternative interpretation for discussion and critique.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: COMM 345

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 445 Directing Workshop (3) An advanced aesthetic and skill production course in directing for the screen.

COMM 445 Directing Workshop (3)

This course is an advanced aesthetic and skill production course in directing for the screen. The class is designed to introduce more advanced directing concepts and techniques as well as to more deeply explore the collaborative processes of working with a creative team on effectively integrating the aesthetics of cinematography, production design and acting performance in film narrative.

The first section of the course will focus on understanding the actor's preparation and process with the goal of developing the appropriate and effective communications skills to coach performance. Students will thoroughly explore scenes for interpretation of subtext and motive, and will learn accepted practices of script preparation. Casting and audition styles will be investigated and demonstrated, as will various types of rehearsal techniques. At the end of this section students will workshop a scene in a small group, blocking it and executing it to illustrate concepts of character relationships, stage and camera craft to produce a short scene for discussion and critique.

The second section of the course will be an advanced aesthetic exploration of the visual vocabulary, including cinematic, psychological and fine art concepts that contribute to the planning and design of screen direction. Students will then analyze the technical means to execute this aesthetic vision through production design, lighting and composition. In practice the students will then translate this analysis into a working scene plan and will produce a short scene for discussion and critique. Students will also be introduced to professional practices such as location and studio set protocols and on-set safety procedures.

The third section of the course will explore narrative conventions and their relationship to screen genres in the interest of understanding the film language shared between filmmaker and audience. At the end of the section students will produce a short classic scene with an alternative interpretation for discussion and critique.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 446 Writing for the Screen II (3) An advanced course in screenwriting that further develops elements of storytelling technique.

Writing for the Screen II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: COMM 346

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 448 Advanced Group Production I (3) A two semester advanced production course emphasizing intensive collaborative film-video production from script through post-production.

COMM 448 Advanced Cinematography and Sound Workshop (3)

This course is designed to enable students to produce portfolio-quality work in any production mode (alternative, documentary, narrative) and to bring together ideas, processes, practices, and theories in the service of this production. Over the course of the semester, students will engage in intensive pre-production and production of an approved film or video project. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by collaborative productions as well as providing the support, guidance, and critique necessary for a successful production. There will be an emphasis on the thorough execution of every step of pre-production, principal photography, and preparation for post-production in spring semester. Students will fill a single production role (such as producer, director, cinematographer, sound designer, editor) throughout the two semesters and are strongly encouraged to take concurrently the supporting technique course for that production role.

Students will be assigned individual exercises specific to their production role in addition to the collaborative work of the project’s production.

Production groups will be formed the first week of class. The first part of the semester is devoted to the development of the projects and pre-production. Roughly half way through the semester, the projects will begin production, with shooting and editing to be completed the following semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 340, COMM 342W and two of the following:COMM 337, COMM 338 orCOMM 339 and permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 448 Advanced Cinematography and Sound Workshop (3) Intensive practical experience and studies of camerawork, lighting, and audio production.

COMM 448 Advanced Cinematography and Sound Workshop (3)

This course is designed to enable students to produce portfolio-quality work in any production mode (alternative, documentary, narrative) and to bring together ideas, processes, practices, and theories in the service of this production. Over the course of the semester, students will engage in intensive pre-production and production of an approved film or video project. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by collaborative productions as well as providing the support, guidance, and critique necessary for a successful production. There will be an emphasis on the thorough execution of every step of pre-production, principal photography, and preparation for post-production in spring semester. Students will fill a single production role (such as producer, director, cinematographer, sound designer, editor) throughout the two semesters and are strongly encouraged to take concurrently the supporting technique course for that production role.

Students will be assigned individual exercises specific to their production role in addition to the collaborative work of the project’s production.

Production groups will be formed the first week of class. The first part of the semester is devoted to the development of the projects and pre-production. Roughly half way through the semester, the projects will begin production, with shooting and editing to be completed the following semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986 Ending: Fall 2010
Prerequisite: COMM 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 449 Advanced Film and Video Projects (1-6) Applied theory/technique of synchronous sound film and video production; supervised experience in major production. Individual and group-directed study of in-depth projects.

COMM 449 Advanced Film and Video Projects (3)

This course is the second half of a two-semester production course designed to enable students to produce portfolio-quality work in any production mode and to bring together ideas, processes, practices, and theories in the service of this production. Students from the fall semester will complete production and engage in intensive post-production in order to have a high-quality finished project to submit to film festivals by the end of the semester. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions as well as providing the support, guidance, and critique necessary for a successfully completed project. Students will continue in the same production role (producer, director, cinematographer, sound designer, editor) from the fall semester, learning new skills for their role in the post-production phase.

Students will be assigned individual exercises specific to their production role in addition to the collaborative work of the project’s production. It is expected that all production group members will continue into the spring as well.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Fall 2010
Prerequisite: COMM 437

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 449 Advanced Group Production II (3) Continuation of advanced production course emphasizing intensive collaborative film-video production from script through post-production.

COMM 449 Advanced Film and Video Projects (3)

This course is the second half of a two-semester production course designed to enable students to produce portfolio-quality work in any production mode and to bring together ideas, processes, practices, and theories in the service of this production. Students from the fall semester will complete production and engage in intensive post-production in order to have a high-quality finished project to submit to film festivals by the end of the semester. Utilizing a workshop structure, class time will be focused on discussion and analysis of the challenges faced by individual productions as well as providing the support, guidance, and critique necessary for a successfully completed project. Students will continue in the same production role (producer, director, cinematographer, sound designer, editor) from the fall semester, learning new skills for their role in the post-production phase.

Students will be assigned individual exercises specific to their production role in addition to the collaborative work of the project’s production. It is expected that all production group members will continue into the spring as well.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: COMM 448

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 450 Analysis of Film Practice (3) Course is oriented towards video and filmmakers; analyses of how ideas and creative concepts are connected to the production process.

Analysis of Film Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: COMM 242, COMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 451 Topics in American Film (3 per semester, maximum of 6) Critical and historical studies of American films. Analysis of directing, cinematography, editing, screenwriting, and acting.

Topics in American Film (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989
Prerequisite: COMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 452 Topics in International Cinema (3 per semester, maximum of 6) Critical and historical studies of topics in non-American film. Analysis of theory, direction, cinematography, editing, and screenwriting.

Topics in International Cinema (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989
Prerequisite: COMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 454 Documentary in Film and Television (3 per semester, maximum of 6) Study of representative films from various documentary movements, examining form, technique, trends, and audience objectives.

Documentary in Film and Television (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 453 (IL) (CMLIT 453) Narrative Theory: Film and Literature (3) Comparative study of the aesthetics and techniques of film and literature; close analyses of masters of each art form.

Narrative Theory: Film and Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: COMM 150 or 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 455 Advanced Film Theory and Criticism (3 per semester, maximum of 6) Close examination of classic and contemporary film theory and critical perspectives.

Advanced Film Theory and Criticism (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989
Prerequisite: COMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 456 Media Criticism and Theory (3) Critical and theoretical approaches to the analysis of media and communication.

COMM 456 Media Criticism and Theory (3)

To what extent does media (television, movies, print, radio, Internet, etc.) shape our awareness of not only the world around us but also ourselves as thinking human beings? Is it all a matter of perception and relative exposure to these media? How do we approach everyday interfaces with the immense number of media messages in both public and private spaces? Where do our opinions of the validity of both the informational and the aesthetic standards of media messages come from? In this class we attempt to come to terms with the rise and apparent predominance of media as a dominant cultural institution.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 457 Media Audiences and Contexts (3) Survey of the ways media attempt to influence audience reception and how audiences hold sway over media content.

COMM 457 Media Audiences and Contexts (3)

The course begins with an examination of how the mass audience is conceived as a statistical entity by analyzing quantitative methods such as the Nielsen ratings. Much of the course is then spent interrogating how this statistical information is used and by whom. If the audience is created as a commodity and is sold to advertisers, what ethical guidelines are in place? How do audience profiles influence the programs we see and consume? As media become more and more fragmented, how does the problem of audience as a commodity get resolved? Students utilize a case-study approach to explore a variety of audience problems and present their findings in papers, demonstrations, and exhibitions.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 458 Media Law and Ethics (3) The study and practice of key issues in media law and ethics, including libel law, conflict of interest, truth in advertising.

COMM 458 Media Law and Ethics (3)

An examination of the role of the mass media in American society in regard to the rights, responsibilities, and duties of practicing media professionals. The semester is almost evenly divided between law and ethics topics. Students examine current laws in mass media with the goal of preparing them to be lawful and responsible members of the profession. Law topics include defamation, privacy, intellectual property and protection of anonymous sources. Students also get an introduction to ethical theories and their practical applications in media industries. Topics include journalistic responsibilities, objectivity, conflicts of interest, invasion of privacy, and the ethics of persuasion and entertainment.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 100 orCOMM 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 460W Reporting Methods (3) Techniques in reporting news and trends at the local, regional, and county levels. Emphasis on both deadline and interpretive reporting.

Reporting Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1990
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 459 Cultural Effects of Interactive and Online Media (3) Study of the global social impact and rhetorical limitations of converging media, emphasizing cross-cultural media influences.

COMM 459 Cultural Effects of Interactive and Online Media (3)

An examination of the various effects of digital media on society and culture. The nature of digital media affects content and production, the way people use media, and social interaction. Topics include convergence, the information society, the global village, and the various changes in the ways media producers do their work. Various aspects of changes including philosophical, economical, and political are examined with the goal of helping students understand how to prepare for future changes in media industries.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMMS 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 461 Professional Journalism Seminar (3 per semester/maximum of 6) Problems of research, content, and form in journalistic specializations; topics of specialization announced each semester course is offered.

Professional Journalism Seminar (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 462 Feature Writing (3) Reporting and writing the human interest article for newspapers and magazines.

COMM 462 Feature Writing (3)

COMM 462 teaches the fundamentals of reporting and writing feature stories for newspapers and magazines. Students learn reporting and writing techniques for various types of feature stories. The course emphasizes the development of sound journalistic judgment and proper ethical standards. Students write various types of features stories.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 464W Editorial, Opinion and Commentary Writing (3) Introduces techniques of editorial, opinion and commentary writing.

COMM 464W Editorial, Opinion and Commentary Writing (3)

COMM 464W teaches the fundamentals of writing editorial, opinion and commentary articles. Students learn the techniques of gathering information and writing various types of opinion articles. The course emphasizes the development of sound journalistic judgment and proper ethical standards. Students write various types of opinion articles.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 463 Newspaper Design (3) This course will cover newspaper design. Students will learn to solve design problems, edit photos, and work with industry software.

COMM 463 Newspaper Design (3)

This upper-division course will cover contemporary design theory, grid systems, typography, color and photography as they pertain to newspapers. Students will develop skills necessary to solve design problems associated with the editing process. Students will also learn to use photo editing and page layout software.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: COMM 160, COMM 260, COMM 467 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 465 Television Reporting (3) Television news reporting and production.

COMM 465 Television Reporting (3)

COMM 465 provides an introduction to television news reporting and production. Students learn the techniques of reporting and writing news for television. They also learn the audio and video techniques required to produce television news stories. The course emphasizes the development of sound news judgment and proper ethical standards. Students complete actual news assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 466 Public Affairs Broadcasting (3) Producing radio and television magazine programs featuring individually-produced mini-documentaries and public affairs interviews.

Public Affairs Broadcasting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: COMM 383 orCOMM 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 467 News Editing and Evaluation (3) Concepts and procedures involved in processing news for various news media, but with emphasis on print media editing.

COMM 467 News Editing and Evaluation (3)

The goal of the course is to qualify the student to be a proficient newspaper copy editor. These skills can be easily transferred to editing assignments on a Web site, in magazines and other publications, in broadcasting, and in public relations. Even if the student does not intend to become a copy editor, the course should help him or her do a better job of writing. The course emphasizes editing for accuracy, clarity, precision in language, and fairness of content. Students will learn about evaluating the relative importance of news and writing headlines, captions and other display elements. The course familiarizes the student with editing photographs and graphics and designing a newspaper page.

Skill in editing is particularly important to the student majoring in print journalism. It is useful to anyone who regularly works with words. The student is evaluated through written work (editing copy, writing headlines and captions) and through quizzes, examinations, or other methods the instructor chooses to assess a familiarity with the theory and principles of the course.

Because students need an opportunity to practice their skills under supervision, the course must be taught in a laboratory setting in which each student has access to a computer connected to the Internet.

COMM 260W is a prerequisite. COMM 467 builds on the student's understanding of reporting and news writing techniques by teaching rigor in the use of language.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 468 Graphic Applications in Print Communications (3) Issues, concepts, and practice identified with contemporary design strategies for print journalism, advertising, and public relations.

Graphic Applications in Print Communications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988
Prerequisite: COMM 260W orCOMM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 469 Photography for the Mass Media (3) Development of an informed and critical approach to photocommunication; individual and team projects, seminars, and critiques.

Photography for the Mass Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: COMM 269

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 470A Convergent Media News Service: Newspaper Production (3) Practicum emphasizing newsgathering and reporting for newspaper and for additional media formats.

Convergent Media News Service: Newspaper Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 470B Convergent Media News Service: TV (3) Practicum emphasizing television news package production for periodic campus news program and for additional media formats.

Convergent Media News Service: TV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 470C Convergent Media News Service: Radio and Online Publications (3) Practicum emphasizing streaming radio news package production or production of news pieces for online publications and for additional media formats.

COMM 470C Convergent Media News Service: Radio and Online Publications (3)

The digital revolution and cross media ownership has challenged all areas of communications, especially the electronic and print news media. Most media outlets now have an online presence along with their traditional operations. Increasingly news outlets are producing news packages for more than one media outlet, which can include online production of breaking news reports presented with text, images, movies and/or sound bites. Currently students preparing for news careers must have traditional news skills across media along with multimedia computer-based skills to develop versatility in reporting and production. This practicum in streaming radio and online news provides opportunities to produce pieces for streaming radio and online publications and also to reformat these pieces for other media outlets such as the newspaper or television. It will also give students the opportunity to produce news pieces suitable for a cross-media portfolio.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: COMM 242 orCOMM 374 andCOMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 471 Public Relations Media and Methods (3) Analyzing media and audiences for public relations purposes; planning, designing, and writing public relations communications; press relations and publicity methods.

COMM 471 Public Relations Media and Methods (3)

COMM 471 introduces students to the methods used in public relations to generate news media coverage for organizations and individuals. The public relations practitioner must understand the goals of the client organization and its publics to establish effective and ethical communication between them. This course focuses on writing and is designed to assist students in developing and improving professional writing skills for public relations practice, in many forms and for a wide variety of media. Students will learn the importance of different writing approaches required for specific publics and news media organizations. In this course students learn to: (1) locate, read, and evaluate research materials; (2) develop clear, concise program objectives based on the organizations' or clients' goals and the results of their research; (3) determine materials that need to be developed and written to achieve the program objectives; (4) develop newsworthy story ideas; (5) write clear, concise copy that is accurate and logically organized; (6) write in a variety of formats commonly used in public relations practice, including: pitch letters, news releases, position papers, backgrounders, public service announcements; and (7) design media kits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: COMM 260W andCOMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 472 Public Relations Event Planning (3) Effective planning, organization, implementation and evaluation of events planning.

COMM 472 Public Relations Events Planning (3)

This course links the public relations theories and practices with skills and techniques required for effective events planning. Students will build on their understanding of public relations introduced in COMM 370 by working on projects that are designed to help them to develop skills in conceptualizing public relations events, designing events, selecting sites, analyzing audiences, budgeting, and promoting/marketing. Students will gain experience in event conceptualization and implementation through in-class exercises and discussions, and public events projects. These assignments will provide students the opportunity to develop portfolio materials.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 473 Public Relations Campaigns (3) Case studies and problems in publicity and public relations in industry, government, and institutions.

COMM 473 Public Relations Problems (3)

This capstone course in the public relations major is designed to provide the student with the opportunity to develop a comprehensive public relations/marketing communications campaign plan based on the four-step process of public relations programming. Those steps include formative research, objectives, programming, and evaluative research. Initially, students will critically analyze award-winning public relations problems, cases, and programs that will provide a foundation for understanding the public relations planning process. Students will be introduced to public relations and communications theories that provide the foundation for excellence in program development. The public relations campaign plan will be developed from the analysis of primary and secondary research sources. The campaign plan will begin with a situation analysis that includes the client's historical, financial, and competitive position in the marketplace. Previous public relations, advertising, and marketing communications programs will be reviewed and evaluated. Additional secondary research will include a content analysis of the client's news media coverage as well as an analysis of the psychographic and demographic profiles of previously targeted publics. Account teams will design and conduct surveys and focus groups as part of the formative research required in setting the program objectives, strategies, and tactics. The public relations plan will require the development of a media plan, media objectives, production timetable, and budget for implementing the program objectives, strategies, and tactics. Students will apply their critical thinking skills and creative abilities to design and produce communication executions that will communicate the program message to the targeted publics. Those creative abilities include a working knowledge of writing, desktop publishing, photography, and graphic communication. The final phase of the public relations/marketing communications plan will include the design of evaluative research to measure the effectiveness of the program objectives. Those research methods will include content analysis, survey research, and focus groups. Students will work in account teams where each team will be responsible for developing a public relations counseling firm, where team members will produce a firm manual outlining the firm's mission statement, organizational policies, organizational chart, records of all meetings with clients, records of all firm meetings, time sheets for each firm member, a weekly summary of firm activities, project budget reports, bi-weekly evaluations of firm members, and a client presentation plan. The final public relations plan will be presented to the client for evaluation and critique. The final goal of the course is to provide students with the technical and managerial knowledge and experience required for effective public relations program design and implementation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: COMM 370, COMM 420 orCOMM 304 andCOMM 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 474 Depth Reporting (3) Exploration of strategies for developing indepth newspaper or magazine articles, with an emphasis on gathering information and long-form writing.

COMM 474 Depth Reporting (3)

This is an upper-level undergraduate course designed to prepare students for writing in-depth newspaper or magazine articles, which extends beyond the basics of writing and reporting techniques emphasized in courses such as News Writing and Reporting, Reporting Methods, and the Feature Article. Depth stories are comprehensive accounts that go well beyond a basic news story or feature. An emphasis on longer, more comprehensive stories that require extensive research and interviews gives students an opportunity to be more than technicians following a rigid set of journalistic guidelines or principles. Depth stories require journalists to spend days, weeks or months exploring and investigating a topic and writing a lengthy story that must be cemented with effective transitions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 475 Issues for Newsroom Managers (3) Newspaper and television management, the state of the industry and topics that prospective employees should know about.

COMM 475 Issues for Newsroom Managers (3)

This is an upper level course for students with an interest in newspaper or/and television management. Issues that managers deal with and management approaches will be covered, emphasizing practical experiences. The basic text may be a packet based on professional experiences of instructor. There will be two papers of roughly 1,500 words. There will be one oral presentation, accompanied by a short summary outlining the main points. The class will consider major issues affecting the industry - the economy, the effort to attract younger audiences and how the look of a product forms the basis of what the audience thinks about the brand and whether it appeals to them. The class will consider how the Internet can be an asset to TV stations and newspapers, if used effectively. Students will evaluate some TV and newspaper Internet sites. The role of advertising and community relations for newspapers and television stations will be discussed. Newspaper opinion pages and public (or interactive journalism) will be covered. The importance of a good local report, and evaluating how effective local coverage is, will focus on state newspapers and television stations. The role of The Associated Press and other news agencies and their approach to coverage and how they relate to local media will be covered. Leadership, management and decision-making will be part of the course. The traits of effective leaders and managers will be discussed. There will be some in-class exercises on managing and ethics. Strategy focusing on the start-up of USA TODAY will illustrate how local newspaper can make strategic gains by following the same checklist. There will be occasional video on the topics covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: COMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 476 Sports Writing (3) Techniques in sports reporting and writing for newspapers and magazines.

COMM 476 Sports Writing (3)

This is an upper-level course designed to prepare students to write sports stories for newspapers and magazines. These specialized stories - including contest coverage, analysis, columns, enterprisers, profiles, and sidebars - require skills that go beyond those taught in classes such as News Writing and Reporting Methods.

As the popularity of high-school, college, and professionals sports has exploded, the sports section has become one of the most widely read section of many newspapers, and myriad magazines are published that cover a variety of sports. But increasingly knowledgeable sports readers demand more from publications than simple game stories and columns. Modern sports writing requires sportswriters to not only attend games and interview coaches, but also to use statistics, profile sports figures, and explore trends in sports. Through a variety of story assignments, the course will provide students with the experience that will prepare them for the demands of being modern sportswriters. And it will ground them in the ethical principles that all journalists must follow.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: COMM 260, COMM 460

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 477 Sports Broadcasting (3) Techniques of sports broadcasting for radio and television.

COMM 477 Sports Broadcasting (3)

This is an upper-level course designed to prepare students to broadcast sports events and news. These specialized broadcasts - including play-by-play, studio sportscasts, field reporting, and features - requires myriad skills that go beyond those taught in classes such as Broadcast Journalism I (Radio News Reporting) and Broadcast Journalism II (Television News Reporting).

As the popularity of high-school, college, and professional sports has exploded, sports shows have become some of the most popular on radio and television. Myriad networks and shows are devoted to sports coverage exclusively. But increasingly knowledgeable sports viewers demand more from sports broadcasters then game coverage and opinion pieces. Modern sports broadcasting requires journalists to not only attend games and interview coaches, but also to use statistics, profile sports figures, and explore trends in sports. Through a variety of story assignments, the course will give students the experience that will prepare them for the demands of being modern sports broadcasters. And it will ground them in the ethical principles that all journalists must follow.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: COMM 260, COMM 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 479 Telecommunication Networks (3) Economic, regulatory/business issues in the design/operation of large-scale telecommunication networks such as telephone, cable, wireless, and computer networks.

COMM 479 Telecommunication Networks (3)

The objective of the course is to help students understand the economic, regulatory, and business aspects of the physical infrastructures underlying modern telecommunications. We will discuss the large-scale technological systems such as telephone, cable, wireless and computer networks over which media and telecommunications services are delivered today. We will not be discussing the content offered over telecommunications networks as much as the infrastructures themselves: the conduits over which information is delivered to the home and the workplace.

With technological convergence and regulatory changes, telephone, cable and wireless networks have acquired the capability to provide services earlier reserved exclusively for one or the other network. For example, we can now access telephone services over wireless networks or over the Internet. Similarly, Web content is available with the traditional telephone modem, as well as over cable, wireless and even satellite networks. In the not too distant future, it may become more meaningful to talk in terms of consumer network to a broadband conduit for all types of content, rather than to particular services such as cable television or long-distance telephony.

It thus becomes necessary for those who wish to participate in the telecommunications industry of the future to have a clear understanding of the way large-scale telecommunications infrastructures are put together and operated. Existing courses in the telecommunications curriculum provide instruction in the technology and content aspects of the media and telecommunications industries. The proposed course will complement these existing courses by focusing on the economic, regulatory and business aspects of large-scale networks, in a historical and policy context.

What are the mechanisms by which large-scale telecommunications systems such as telephone, cable, wireless and computer networks are deployed over time? What are the costs involved in the initial deployment and expansion, and how do they influence policy? How do planners evaluate and choose between alternative technologies of delivering services? What are the economic justifications for and against government regulation of networked technologies? How do companies charge for services provided over networked systems? What problems do we face as more and more services--such as real-time gaming and interactive television--are added to telecommunications networks, and what are some of the current proposals to solve these problems? These are some of the questions that will be discussed in class.

Students taking this course will be expected to have no more familiarity with telecommunication infrastructure issues and basic economic terms and concepts than will be acquired in COMM 180, and ECON 002 or ECON 014. All additional concepts will be introduced at a sufficiently introductory level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: COMM 180 andECON 002 orECON 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 478 Sports Information (3) Techniques of effective media relations used in a sports information office.

COMM 478 Sports Information (3)

This is an upper-level course designed to prepare students for a specialized form of modern media relations, sports information. Sports information professionals combine skills of both journalists and public relations specialists, so the advanced techniques go beyond those taught in introductory classes such as News Writing and Public Relations Methods.

As the popularity of high-school, college, and professionals sports has exploded, sports information professionals have increasing demands put on them. More and more journalists, working for a variety of publications and broadcasts, cover sports today. Moreover, the growing complexities of modern sports - from the impact of drugs to the enormous salaries of many athletes - means that sports information professionals have to provide more than simple information on athletes, coaches and sporting contest. Through a variety of assignments, the course will provide students with the experience that will prepare them for the demands of being sports information professionals. And it will ground them in the ethical principles that all media relations specialists must follow.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: COMM 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 480 Television News (3) Produce a weekly television newscast.

COMM 480 Television News (3)

This is an upper-level course designed to prepare students to produce all aspects of a television newscast. There is no other course within the College of Communications that has a similar objective. During the first three weeks of the semester, students will learn the operating systems, equipment and various policies and standards established for the weekly newscast. Each Friday for the remainder of the semester, the students will produce the newscast.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: COMM 360, COMM 465 permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 481 Advanced Multimedia Production (3) Advanced work in multimedia production using web authoring, video editing, audio editing, image editing and animation software.

COMM 481 Advanced Multimedia Production (3)

This course builds on the foundations of multimedia production developed in COMM 270 giving students the opportunities to create multimedia website projects. Students will apply advanced multimedia concepts and techniques to website production and demonstrate versatility in multimedia software. Working individually and in teams, students will develop projects for clients using multimedia software, including web authoring, video editing, audio editing, image editing and animation software. These projects will be uploaded to the World Wide Web, and will serve as portfolio materials for the students. This course emphasizes skills development in multimedia and visual media in support of program objective to help students develop cross-media skills and versatility in media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: COMM 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 481 Advanced Multimedia Production (3) Advanced work in multimedia production using web authoring, video editing, audio editing, image editing and animation software.

COMM 481 Advanced Multimedia Production (3)

This course builds on the foundations of multimedia production developed in COMM 270 giving students the opportunities to create multimedia website projects. Students will apply advanced multimedia concepts and techniques to website production and demonstrate versatility in multimedia software. Working individually and in teams, students will develop projects for clients using multimedia software, including web authoring, video editing, audio editing, image editing and animation software. These projects will be uploaded to the World Wide Web, and will serve as portfolio materials for the students. This course emphasizes skills development in multimedia and visual media in support of program objective to help students develop cross-media skills and versatility in media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: COMM 270 orCOMM 260W plus one of the following:COMM 269, COMM 360, COMM 460, COMM 462 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 482 Advanced Communication Workshop (4) Conceptualization, planning, and execution of a visual product on a selected topic utilizing an intensive group project-oriented laboratory approach.

Advanced Communication Workshop (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 484H Emerging Telecommunications Technologies (3) Overview of technology of electronic media and related societal issues.

COMM 484H Emerging Telecommunications Technologies (3)

COMM 484H will introduce the technologies in telecommunications and information processing, with an eye toward giving students the necessary perspective on how these technologies work and how markets develop. The course investigates old, new and prospective technologies primarily through an interactive classroom analysis of incumbent or emerging companies bringing products and services to market. Students will conduct their analysis by examining materials not customarily used by undergraduates including stock prospectuses, company annual reports and Internet searches. The class will consider recent strategic alliances, mergers and acquisitions (whether consummated or not) in the context of whether and how technologies drove the deal.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: COMM 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 484 Emerging Telecommunications Technologies (3) Overview of technology of electronic media and related societal issues.

COMM 484 Emerging Telecommunications Technologies (3)

COMM 484 will introduce the technologies in telecommunications and information processing, with an eye toward giving students the necessary perspective on how these technologies work and how markets develop. The course investigates old, new and prospective technologies primarily through an interactive classroom analysis of incumbent or emerging companies bringing products and services to market. Students will conduct their analysis by examining materials not customarily used by undergraduates including stock prospectuses, company annual reports and Internet searches. The class will consider recent strategic alliances, mergers and acquisitions (whether consummated or not) in the context of whether and how technologies drove the deal.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: COMM 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 485 Analysis of Broadcast-Cable Policy (3) Analysis of current policy issues in Broadcast/Cable. Standards and methods for evaluating telecomm policy processes and outcomes.

Analysis of Broadcast-Cable Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 381 orCOMM 483

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 487 Telecommunication Administration (3) Operation/administration decision-making for broadcasting, broadband, telecommunications, and information firms including sales, marketing, programming, customer service, technology adoption, finance and capital investment.

COMM 487 Telecommunication Administration (3)

Communications 487 is a senior-level capstone course that treats a range of issues in the operation and administration of firms in the telecommunications sector, including local exchange carriers, satellite operators, radio and television stations, local cable system and cable television corporations, cable and broadcast programming companies and related firms in the telecommunications and information industry. Specific areas of emphasis include marketing, programming, customer service, technology adoption, finance and strategic planning.

Electronic media industries, taking advantage of emerging and powerful technologies, are expanding their range of services. At the same time, those services, along with associated distribution systems and general industrial structure, are in a process of convergence. As a result, telecommunications managers are faced with a growing array of problems in re-fashioning existing services and developing and deploying new ones. This course uses a combination of lecture and case study method to address such challenges. Cases drawn from the relevant industries illustrate concepts and principles in the above subject areas, such as programming and marketing, and more generally address the question of how managers respond to ever chancing environments of technology, competition, and regulation. Broadly, the aim is the honing of critical and creative problem solving skills, and the enhancement of collaboration and communication skills.

Within the context of administration and planning, the course also stresses the fiduciary and social responsibilities that adhere to the telecommunication manager's role. Television, radio, telecommunication and Internet professionals have significant influence over media content and infrastructure deployment and must execute their jobs with a keen sensitivity to the social implications of that influence.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: COMM 387

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 488 Writers' Seminar (3) Workshop designed for advanced students interested in professional writing, involving extensive mutual and self-criticism.

COMM 488 Writer's Seminar (3)

This course is designed for advanced students interested in professional writing in the theatre, screen, and media arts. The class work involves submission and extensive revision of a variety of written projects. Revisions are based upon direct feedback from the instructor, as well as mutual crtitiques from classmates. Students will also learn the technique of self-criticism of their writing and in doing so develop a sense of their own writing style and subject matter preferences.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: COMM 230W orCOMM 260W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 489W Media and Information Industries (3) The structure, conduct and performance of firms and industries in the electronic media and information sectors.

COMM 489W Media and Information Industries (3)

The objective is for students to examine and learn how to apply concepts of structure, conduct and performance to firms and industries in the electronic media and information sectors, primarily in North America. Industries include broadcasting television and radio, broadband/cable television, satellite television, videogaming, Hollywood, music recording, home video, advertising, online content and entertainment and sports media. Topics include competition and competitive advantage, mergers and concentration of ownership, strategic behavior, industrial organization, industry finance basics, industry practices in pricing, marketing and distribution, the economic impact of technological change and advances in e-commerce, industry and firm profitability and innovation, and the relationship between Wall Street and media industries. Class time is devoted to lecture, discussion (particularly about research and writing) and student presentations. Students are evaluated on an original research project, performance on tests, homework and contributions to discussion. There may also be online discussion and collaboration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: COMM 387 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 490 Issues in Electronic Commerce: Policy and Implementation (3) Analysis of policy, strategic issues, and implications raised by the rapid growth of electronic commerce over the Internet.

COMM 490 Issues in Electronic Commerce: Policy and Implementation (3)

In recent years, "electronic commerce," in the sense of business being conducted over the Internet, has emerged as a major factor in the U.S. and global economy, with extensive implications for business, governance and public policy. This course is designed to provide communications students with an introduction to the nature and scope of electronic commerce, and the policy, regulatory and legal issues it raises, an overview of the technologies, business implications and applications of electronic commerce and an appreciation of the social implications of the widespread implementation of electronic commerce.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 180 for telecom major; permission of instructor for non-telecom majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 491 International Telecommunications and Trade Policy (3) Development in the law, policy, and business of international telecommunications; emphasis on multilateral forums--International Telecommunications Union and World Trade Organization.

COMM 491 International Telecommunications and Trade Policy (3)

The study of international telecommunications policy requires an interdisciplinary perspective. Students should understand the past and present technological, business, philosophical, geographical and legal environment. Success in either the public or private sectors may depend on one's ability to anticipate and react to future trends and upheavals. This course will provide a forum for students to investigate and debate ongoing or anticipated conflicts in international telecommunications and trade policy. The resulting confrontations may stem from technological innovation, real or perceived changes in the marketplace, or the imperatives of prevailing regulatory, political or economic philosophies. Conflict resolution often results from persuasive advocacy, coalition building, and accommodation of outsiders with new perspectives or entrepreneurial visions, rather that applying legal precedent or treaty interpretations. The course also will examine how various nations have organized and reorganized the telecommunications sector. In this portion, we will consider such developments as privatization, liberation, deregulation and globalization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 490A Convergent Media Seminar (3) This seminar examines media convergence issues, trends, and effects on society through discussions, presentations, and creation of a capstone project.

Convergent Media Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: seventh- or eighth-semester standing and 3 credits ofCOMM 470A, COMM 470B orCOMM 470C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 492 Internet Law and Policy (3) Development in the law, policy, and business of Internet-mediated communications and commerce; emphasis on impact on existing legal, regulatory, and economic models.

COMM 492 Internet Law and Policy (3)

This course will provide a forum for students to investigate and debate ongoing or anticipated conflicts in Internet-mediated telecommunications, information processing and commerce. The resulting confrontations may stem from technological innovation, real or perceived changes in the marketplace, or the imperatives of prevailing regulatory, political or economic philosophies. Conflict resolution often results from persuasive advocacy, coalition building, and accommodation of outsiders with new perspectives or entrepreneurial visions, rather than applying legal precedent or treaty interpretations. Internet mediation has the potential to change how we communicate, educate, inform, entertain, and transact business. Technological and marketplace convergence means that Internet mediation will have a profound impact on many legal, regulatory and economic constructs, i.e., the preexisting templates we use to describe and understand the communications process and impact on individuals and society. The course also will examine the growing body of cases that have addressed aspects of Internet-mediation in each of the following general categories:

* Speech-commercial and political speech, obscenity, forums analysis
* Legal and Regulatory Consequences of Convergence-the juxtaposition of telecommunications and information processing technologies, markets and regulatory regimes
* Governance and regulation of the Internet-whether the need exists for government intervention on such matters as numbering and domain registration
* Intellectual Property Rights-the impact of Internet-mediation on copyright, trademark and patent laws
* Electronic Commerce-the law and policy of Internet-mediated transactions, privacy and encryption concerns
* Equity, Competition Policy and Consumer Protection Concerns-what, if anything, should governments do to remedy market failures

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 493 Entrepreneurship in the Information Age: Senior Seminar (3) Provides students with knowledge/tools to take their innovation/technology idea through the business planning, capital, and operations budgeting processes.

COMM 493 Entrepreneurship in the Information Age: Senior Seminar (3)

COMM 493, an active learning course, provides students with knowledge and tools to take their own idea for a media or communications innovation and determine the feasibility of launching it as a small business. Students bring their own ideas for a communications product or service. They work through the market feasibility, business planning, capital and operations budgeting processes to finally researching and seeking start up capital. The final product produced by each student is a comprehensive business plan suitable for launching a real business. This course is designed for both students plan to pursue careers as entrepreneurs and those who wish to learn more about small business management in the information age. Topics include entrepreneurship, business planning and budgeting, starting and managing a small media or communication technology firm, economic history of media, telecommunications and information innovation, trends and opportunities in media and information sectors, high tech start up legal and employment issues, financing options, overview of venture capital, IPOs and market capitalization, market feasibility analysis. Cases of recent successes and failures in the information and media sectors are used to illustrate principles of business planning, market and financing trends and entrepreneurship. In addition to producing a business plan complete with market feasibility analysis and financial forecast reports, there may also be quizzes and exams. Classroom time is devoted to lecture, project work and discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: COMM 387

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 495A Internship (1-6 per semester/maximum of 6) Supervised practicum with newspapers, broadcasting stations, public relations, and advertising agencies.

Internship (1-6 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: continuing student majors in the College of Communications; departmental approval

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 495 Internship (1-3 per semester/maximum of 6) Supervised practicum with newspapers, broadcasting stations, public relations, and advertising agencies.

Internship (1-3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: continuing student majors in the College of Communications; departmental approval

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497A Music Video Production (3) Students will learn to blend pictures and sound by producing several advanced video pieces utilizing music and sound effects.

Music Video Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497B Diversity Communications (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Diversity Communications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497C Globalization and the Media (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Globalization and the Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497E Campaigns, Elections and the Media (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Campaigns, Elections and the Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497D Media and Government (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Media and Government (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497F Perspectives on American Journalism (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Perspectives on American Journalism (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497I Group PR Projects (3) An incorporation of in-class lessons and on-site activities at a PR agency near campus. Applies PR principles and practice to real-live activities. Students will prepare portfolio materials using actual events and accounts.

Group PR Projects (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497G Joe Paterno: Communications & the Media (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Joe Paterno: Communications & the Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 497K Wireless Communication (3) This course was designed for students who would like to develop a broad perspective of the wireless industry and the various constituents. The course will provide a historical view of the influential people and watershed events that helped shape the wireless industry. In addition, the class will focus on wireless carrier profiles and the correlation between technology, spectrum, and handset providers. The class will also discuss technology evolution considerations and the potential impact WiMAX, Apple and Google may have on wireless devices, products and services.

Wireless Communication (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 498D Convergence Journalism (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Convergence Journalism (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 498B Webcast Production (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Webcast Production (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 498E Big 10 Network (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Big 10 Network (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 499 (IL) Foreign Study--Mass Communications (1-12) Study of mass communication systems and practices in selected foreign countries.

Foreign Study--Mass Communications (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: departmental approval

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications (COMM)

COMM 498G Advanced Radio News (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Advanced Radio News (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Communications-Cl (COMMS)

COMMS 438 Magazine Editing (3) Study and practice of the editing and design of magazines and newsletters.

COMMS 438 Magazine Editing (3)

Prepares students to manage, edit, and design newsletters and magazines. Topics include copyediting, layout and design, and managing serial publication work flows. Students in this course are expected to be proficient writers, as they need a critical eye when editing for writing style, grammar, and punctuation. Students do various assignments that build practical skill level in copyediting, headline and photo caption writing, layout, design, and publication management.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Community and Economic Development (CEDEV)

CEDEV 452 (R SOC 452) Rural Organization (3) Social organization and change in rural communities; use of sociological principles in analysis of rural problems and rural development.

CEDEV (R SOC) 452 Rural Organization (3)

This course combines an introduction to the social theories of communities with real-life examples of applications to understanding community problems and concerns. The focus is on the special circumstances facing small towns and rural communities, but the concepts are applicable in all communities, from urban neighborhoods to suburbs. Topics covered include local community in a global economy, power and decision-making, the role of governments and other social institutions, development of community and the importance of building social infrastructure as well as economic and physical infrastructure, multi community collaboration and building sustainable communities. Those taking the class will gain experience in conducting a case study of a small Pennsylvania community, build skills in working in a team, and gain understanding of the complexity of factors that influence community (and your own) well-being. If your future career involves operating within a community setting this course can increase your knowledge of that setting and how to function within it. And, even if you don't plan on working with communities in your job, you will be living in a community. This course can help you to understand the ways that you can contribute to improving your own quality of life by becoming involved in your community. Grades in this class are based on the community case study report, take-home mid-term and final exams, short team exercises, and class participation. Graduate students taking the course also are required to write reaction papers to three different topics during the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2000
Prerequisite: 6 credits in rural sociology sociology or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Community and Economic Development (CEDEV)

CEDEV 430 (AG EC 430) Principles of Community Economic Development (3) Concepts, strategies, and techniques of local economic analysis, planning, and development; case studies and decision-making exercises.

CEDEV (AG EC) 430 Principles of Economic Development Planning (3)

This course is designed to introduce the issues giving rise to concern for rural and regional economies, and the theories, concepts and tools of rural and regional economic development. The goal is to integrate theory and practice and apply them to economic development problems. Tools are presented in a "how to" manner. Topics include current issues in rural economies, the economic view of rural development; business retention, expansion and location; entrepreneurship and its role in the economy; understanding the local economic structure and the forces of chance; introduction to economic growth theories; export base theory and economic base analysis; the role of labor and capital in development; techniques of market area, central place, shift-share and input-output analysis; policies of local economic development and growth.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: introductory course in economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Community and Economic Development (CEDEV)

CEDEV 470 (R SOC 470) Comparative Community Development (3) Crosscultural community development projects and the problems encountered in each of the different cultural contexts.

CEDEV (R SOC) 470 Comparative Community Development (3)

What are the issues and dynamics of community development in different national and cultural contexts? This course provides a comparative perspective on community and economic development in other countries and cross-cultural contexts. The course sensitizes the student to the character and problems of development projects in other systems. This course is both cross-cultural in content and interdisciplinary in character as the political, economic, cultural, and sociological aspects of community development are addresses. The course emphasizes examination of historic and ongoing community development projects, identification of theories of development which are exemplified by different projects, and examination of different approaches and strategies in cross-cultural or comparative development situations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2000 Ending: Summer 2010
Prerequisite: 6 credits in social or behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 001 (GH;IL) Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.

Introduction to Western Literatures Through the Renaissance (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 001U (GH;IL) Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.

Introduction to Western Literatures Through the Renaissance (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 001U (GH;IL) Introduction to Western Literatures Through the Renaissance (3) Introductory comparative survey of European and American literatures of Ancient through Renaissance periods, considering genre, themes, cultural and literary values.

Introduction to Western Literatures Through the Renaissance (3)

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 002 (GH;IL) Introduction to Western Literatures Since the Renaissance (3) Introductory comparative survey of European and American literatures, post-Renaissance through Modern, considering genre, themes, cultural, and literary values.

Introduction to Western Literatures Since the Renaissance (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 003 (GH;IL) Introduction to African Literatures (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.

CMLIT 003 Introduction to African Literatures (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 003, Introduction to African Literatures, provides an introduction to the wonderful variety of African literary production, from early oral epic traditions, through the colonial/post-colonial period, to recent Nobel Prize winning authors. We will read texts written in English or translated into English from French or African languages, including several recorded from the oral tradition, as well as some texts from the African Diaspora. These literatures come from different geographic and cultural areas of Africa, and are composed in a variety of forms (novel, drama, epic, poetry), and range in date from 2,000 BCE to the colonial period to the modern national era. The focus of the course, however, is on the 20th century. We will also consider the ways in which history, culture and geography impact literary production. African literary and cultural influences on Western traditions may also be explored. Students will be evaluated on some or all of the following: short answer/essay exams, in -class discussion and group work, written assignments, collaborative presentations, and a final comprehensive exam/essay. Writing and speaking will always be included. This course fulfills a requirement for the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement and the Bachelor of Arts Humanities and Other Cultures requirement. It also satisfies the United States and International Competence requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 003U (GH;IL) Introduction to African Literatures (3) Comparative analysis of drama, essay, novel, poetry, and stories from traditional oral forms to contemporary expressions of African literary styles.

Introduction to African Literatures (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 004 (GH;IL) Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.

CMLIT 004 Introduction to Asian Literatures (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 004 is an introduction to Asian cultures through literary readings and other cultural texts (film is often included). No knowledge of Asian languages is needed. Though concentrating on East Asian and modern/contemporary literature, the course allows for the study of race, gender, culture, religion, philosophy, and ethnicity in a comparative, global, and historical perspective. While improving your understanding of difference and diverse cultures, this course incorporates not only works recognized as major, but also lesser known and even marginalized works by Asian writers as we study cultural and social identities and contexts. The course often focuses on fiction, though it includes readings from several literary genres. We will question generalizations about the meaning of "Asian" by showing the wide range of characteristics that can be found in Asian literary productions in different times and places. CMLIT 004 is one of the many choices of survey courses which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities and Other Cultures requirement, and the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 004 (GH;IL) (ASIA 004) Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.

CMLIT 004 Introduction to Asian Literatures (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 004 is an introduction to Asian cultures through literary readings and other cultural texts (film is often included). No knowledge of Asian languages is needed. Though concentrating on East Asian and modern/contemporary literature, the course allows for the study of race, gender, culture, religion, philosophy, and ethnicity in a comparative, global, and historical perspective. While improving your understanding of difference and diverse cultures, this course incorporates not only works recognized as major, but also lesser known and even marginalized works by Asian writers as we study cultural and social identities and contexts. The course often focuses on fiction, though it includes readings from several literary genres. We will question generalizations about the meaning of "Asian" by showing the wide range of characteristics that can be found in Asian literary productions in different times and places. CMLIT 004 is one of the many choices of survey courses which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities and Other Cultures requirement, and the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 004U (GH;IL) Introduction to Asian Literatures (3) Comparative interpretations of narrative, drama, lyric, and other writings from East Asia and other regions, viewed as world literature.

Introduction to Asian Literatures (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 005 (GH;US;IL) Introduction to Literatures of the Americas (3) Comparative interpretation of the oral and written literary traditions of North, Central, and South America.

CMLIT 005 Introduction to Literatures of the Americas (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 005, Introduction to Literatures of the Americas, allows you to explore the great variety of literatures of the Americas, including translations of texts written in Spanish, French, Portuguese, and Amerindian languages, as well as texts originally written in English. Readings include many genres and artistic forms dealing with histories and accounts of "American" issues, such as conquest, nationalism, slavery, diaspora, and immigration. You will also consider the various influences among these traditions in terms of time period and genre. This course investigates the literary and cultural notion of "America," and what it means to be "American," in terms of the entire hemisphere. We will deal with issues of race, ethnicity, class, religion, as well as other vital concerns of identity and "Americanness" as reflected in both oral and written literary traditions through the history of the Americas. At the conclusion of this course, you should be able to understand and make - comparisons among the many "American" literary traditions. This course fulfills requirements for the Comparative Literature major, the World Literature minor, General Education Humanities, Bachelor of Arts Humanities, and General Education United States and International Competency.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 006 (GH;IL) (PHIL 006) Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.

CMLIT (PHIL) 006 Philosophy and Literature in Western Culture (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce students to the various interpretive approaches to literature and philosophy. The class will explore key philosophic themes as these are exhibited in imaginative literature, and in doing so will practice both philosophical interpretation of literature and literary treatment of philosophy. The central themes of this course could include, for example, self-knowledge and self-deception; self-isolation, alienation and community; conflict of moral responsibilities; the use and abuse of language; the meaning of art; the ideal of a "simple life;" normalcy and madness. The class will ask such questions as what counts as literature, what purpose it serves, what is the relationship between literature and ideology, and whether a text can be considered independently from what the author wanted to say in it. Students may be graded by a variety of methods, including exams, papers, and individual and group projects. One example might be a collaborative annotated bibliography project, a collaborative position paper, individual evaluations of position papers, and a comprehensive final exam. This course is a non-major General Education Humanities course. It may be used to fulfill minor requirements in philosophy. This course may be used to fulfill an additional-course requirement in either the minor or the major in Comparative Literature, although it is geared primarily towards non-majors. This course will be offered once a year with an enrollment of 25-200 students depending on location. This course deals with literature and philosophy in the western tradition, and thus helps to complete the range of our other courses on western literature, such as Comparative Literature 001 and 002 (survey courses of Western Literature to the Renaissance, and Western Literature since the Renaissance), and Comparative Literature 401W and 402W (upper level chronological courses on Western Literature). This course differs from those however, by its strong emphasis on philosophical texts.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 010 (GH;IL) World Literatures (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.

**CMLIT 010 The Forms of World Literature: A Global Perspective (3)
(GH;IL)**

(BA) This course meets the Bachelor of Arts degree requirements.

As a one-semester introduction to the range and diversity of world literature from the ancient past to the present, CMLIT 010 is intended to help you read (or listen to) a work of literature from any time or place and to appreciate it more fully--whether it belongs to the more familiar types of literature you may have read in the Western tradition or is a fable, folktale, hero story, play, or narrative from another cultural tradition. You will practice expressing your ideas through written exams and in-class and on-line discussions/activities. Discussion sessions allow interaction with the instructor and with other students in the class.

This course presents a global sampling of masterpieces of world literature. Through active class participation, you will become familiar with various literary genres and become proficient in the analysis of the similarities and differences between texts from many different time periods and cultures. CMLIT 010 is one of the choices of survey courses which can count toward the Comparative Literature major and the World Literature minor. This course also fulfills the General Education humanities requirement, the Bachelor of Arts humanities requirement, and the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 010 (GH;IL) The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.

CMLIT 010 The Forms of World Literature: A Global Perspective (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

As a one-semester introduction to the range and diversity of world literature from the ancient past to the present, CMLIT 010 is intended to help you read (or listen to) a work of literature from any time or place and to appreciate it more fully--whether it belongs to the more familiar types of literature you may have read in the Western tradition or is a fable, folktale, hero story, play, or narrative from another cultural tradition. You will practice expressing your ideas through written exams and in-class and on-line discussions/activities. Discussion sessions allow interaction with the instructor and with other students in the class.

This course presents a global sampling of masterpieces of world literature. Through active class participation, you will become familiar with various literary genres and become proficient in the analysis of the similarities and differences between texts from many different time periods and cultures. CMLIT 010 is one of the choices of survey courses which can count toward the Comparative Literature major and the World Literature minor. This course also fulfills the General Education humanities requirement, the Bachelor of Arts humanities requirement, and the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 010S (GH;IL) The Forms of World Literature: A Global Perspective (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.

CMLIT 010S The Forms of World Literature: A Global Perspective (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

As a one-semester introduction to the range and diversity of world literature from the ancient past to the present, CMLIT 010 is intended to help you read (or listen to) a work of literature from any time or place and to appreciate it more fully--whether it belongs to the more familiar types of literature you may have read in the Western tradition or is a fable, folktale, hero story, play, or narrative from another cultural tradition. You will practice expressing your ideas through written exams and in-class and on-line discussions/activities. Discussion sessions allow interaction with the instructor and with other students in the class.

This course presents a global sampling of masterpieces of world literature. Through active class participation, you will become familiar with various literary genres and become proficient in the analysis of the similarities and differences between texts from many different time periods and cultures. CMLIT 010 is one of the choices of survey courses which can count toward the Comparative Literature major and the World Literature minor. This course also fulfills the General Education humanities requirement, the Bachelor of Arts humanities requirement, and the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 010S (GH;IL) World Literatures (3) The development of literature around the world--from epic, legend, lyric, etc. in the oral tradition to modern written forms.

CMLIT 010S The Forms of World Literature: A Global Perspective (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

As a one-semester introduction to the range and diversity of world literature from the ancient past to the present, CMLIT 010 is intended to help you read (or listen to) a work of literature from any time or place and to appreciate it more fully--whether it belongs to the more familiar types of literature you may have read in the Western tradition or is a fable, folktale, hero story, play, or narrative from another cultural tradition. You will practice expressing your ideas through written exams and in-class and on-line discussions/activities. Discussion sessions allow interaction with the instructor and with other students in the class.

This course presents a global sampling of masterpieces of world literature. Through active class participation, you will become familiar with various literary genres and become proficient in the analysis of the similarities and differences between texts from many different time periods and cultures. CMLIT 010 is one of the choices of survey courses which can count toward the Comparative Literature major and the World Literature minor. This course also fulfills the General Education humanities requirement, the Bachelor of Arts humanities requirement, and the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 011 (GH;IL) The Hero in World Literature (3) The figure of the hero/heroine examined in world literature as a vehicle for expressing social and cultural values.

CMLIT 011 The Hero in World Literature (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine the concept of heroism and of heroes throughout the world in different time periods and different literary genres. We will examine different types of heroes and theories of heroism, as well as gender relations involved in concepts of heroes/heroines, and the roles of anti-heroes, villainous heroes, and the enemies of heroes. Heroes represent the most ideal values of a particular society. By examining heroes revered by a variety of societies, a greater awareness of values both specific to individual cultures and universal across cultures can be reached. Through comparisons of a variety of heroes, literary and social roles in the formulation and manipulation of heroic types can be assessed. The objectives of this course include expanding your awareness of the values of different cultures, examining the consequences of value systems as explored in literature, and increasing your skills of critical analysis on a body of literature designed to encourage you to accept, reject, or question specific ideas of good and evil, proper behavior, and appropriate action within cultural contexts. CMLIT 011 is one of the many choices of survey courses which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, or the United States and International requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 012 (GH;IL) Introduction to World Drama and Performance (3) The power, ethics, and excitement of drama and related forms of performance literature, presented in a global and comparative context.

CMLIT 012 Introduction to World Drama and Performance (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to World Drama will enable students to discover the power and excitement of drama in a global context. Students will encounter a variety of cultural contexts as they observe how playwrights portray local histories and lifestyles, in settings from many parts of the world. The course will offer (1) an introductory overview of concepts and terms associated with understanding drama. It will present (2) traditional dramatic forms such as tragedy, comedy, history play, allegory, Noh, etc., as seen in plays prior to the twentieth century; and (3) recent dramatic forms such as testimonial, other politically engaged plays, drama online or on film, etc., as seen in plays from the twentieth and twenty-first centuries. Attention will be given to (4) the dramatic contributions of multiple cultural groups in the U.S., with African American, Asian American, Latino, and other U.S. plays seen not in isolation, but in relation to world drama. Finally, (5) the course will consider ways in which drama, as a form of world literature, can have an international and intercultural impact, both in earlier periods (for example, the ancient Sanskrit play “Shakuntala,” from India, influenced the German writer Goethe’s play “Faust” in the nineteenth century) and recently, when global circulation and international collaboration are increasingly frequent. Class work will include lectures or presentations by the instructor, presentations by students, web based activities, and focused discussions. Where feasible, attendance at one or more live theatrical performances will be encouraged.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 013 (GH;IL) Virtual Worlds: Antiquity to the Present (3) Virtual worlds from anicent to postmodern, in a comparative and global context that includes literature, film, and online multiplayer games.

CMLIT 013 Virtual Worlds: Antiquity to the Present (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

What are virtual worlds? And why do they speak so intensely to us about the present?

This course puts immensely popular online virtual worlds like World of Warcraft into a historical perspective. Beginning with Homer, students will work through some of the major imaginative worlds of literary history, including those of the Bible, Dante, Shakespeare, Goethe, Lu Xun, Basho, Balzac, and others. We will conclude with two weeks of reading and discussion about the meaning and value of contemporary online virtual worlds.

We will analyze the ways in which virtual worlds represent/reflect on the cultures from which they emerge; their ethical stances and structures; and the alternative imageries
they embody.

Students will be expected to spend at least 10 hours in such worlds as part of the course.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 083S (GH;IL) First-Year Seminar in Comparative Literature (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).

CMLIT 083S First-Year Seminar in Comparative Literature (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

One of the most important trends of our time is the increasing emphasis on internationalism and globalization. This course offers an international, intercultural approach to the study of literature, crossing the boundaries of time, place, nationalities, languages, and cultures. The range of literature taught in Comparative Literature as a discipline draws from every continent of the globe and from the ideas, experiences, and inspiration of women and men across thousands of years.

With an entire world of literature to choose from, the content of the course varies with the expertise and interests of the faculty member. Sample topics include 'Literature and Illness,' 'Literary Reflections of Biblical Themes,' 'The Power of Literature to Change Our Lives,' and 'America Seen Through Foreign Eyes.' Each seminar focuses on a specific topic that highlights the nature of literary study and research, presents debates in the discipline, and opens the way to further investigations. Topics for each semester are posted on the department's website: .

At the end of the seminar, students will be acquainted with representative texts from multiple literatures, with the methods of comparative literature study, and with selected important literary genres, themes, periods, and styles.

This seminar can be used to fulfill the General Education or Bachelor of Arts Humanities requirement, the Intercultural/International Competence requirement, and the first-year seminar requirement. Students will have gained experience in writing, speaking, information synthesis, and international approaches. The seminar will help prepare students for a variety of additional courses in literature and the humanities generally.

In addition to the academic topic of this course, students should gain a general introduction to the University as an academic community, including exploring their responsibilities as members of that community. They should also develop an understanding of the academic tools and resources available to them, including the opportunity to work with faculty and other students who share their academic interests.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 083T (GH;IL) First-Year Seminar in Comparative Literature (3) International topics in literature and culture; each seminar will have a specific topic as announced (see the Comparative Literature Web site).

First-Year Seminar in Comparative Literature (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 100 (GH;IL) Introduction to Comparative Literature (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.

CMLIT 100 Introduction to Comparative Literature (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 100 is an introductory course to the discipline of Comparative Literature. The course is built around a central theme (or series of themes) and the reading assignments are chosen to complement this central concept of the course. Past themes have included "Literatures of the Body," "Mortality and Immortality," "Art and Life," "Personal Narratives The Diary," "Close Encounters Africa and the West," "Knowledge and Power," among others. Through various traditional (books) and non-traditional (film, multimedia, hypermedia) texts from around the world, students will develop the ability to analyze literature in different ways. Students will examine the works both within their individual and diverse cultural contexts, and in their relationship to broad or universal themes that transcend the boundaries of time and place. As an introductory course, CMLIT 100 is intended to lay a solid foundation for further study in any college-level courses on cultures or literature. Through an examination of a wide range of world literature, we will explore the practical aspects of what it means to deal with literary works in a comparative global context. The course is intended to help you develop your analytical and comparative skills and to simultaneously introduce you to a wide variety of interesting world literatures. Students are evaluated on essay exams, in-class discussion, group projects, and a final comprehensive exam/essay. Evaluation may also include web-based activities, on-line discussion and written student journals/reaction papers. Note CMLIT 100 is a required course for students intending to major in Comparative Literature and is recommended for students in other humanities fields. General Education students are also encouraged to enroll. The course fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the General Education United States and International Cultures requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 100 (GH;IL) Reading Across Cultures (3) Comparative approaches (studying international literary periods, themes, genres, etc.) and principles of literary interpretation introduced through readings representing various cultures.

CMLIT 100 Introduction to Comparative Literature (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 100 is an introductory course to the discipline of Comparative Literature. The course is built around a central theme (or series of themes) and the reading assignments are chosen to complement this central concept of the course. Past themes have included "Literatures of the Body," "Mortality and Immortality," "Art and Life," "Personal Narratives The Diary," "Close Encounters Africa and the West," "Knowledge and Power," among others. Through various traditional (books) and non-traditional (film, multimedia, hypermedia) texts from around the world, students will develop the ability to analyze literature in different ways. Students will examine the works both within their individual and diverse cultural contexts, and in their relationship to broad or universal themes that transcend the boundaries of time and place. As an introductory course, CMLIT 100 is intended to lay a solid foundation for further study in any college-level courses on cultures or literature. Through an examination of a wide range of world literature, we will explore the practical aspects of what it means to deal with literary works in a comparative global context. The course is intended to help you develop your analytical and comparative skills and to simultaneously introduce you to a wide variety of interesting world literatures. Students are evaluated on essay exams, in-class discussion, group projects, and a final comprehensive exam/essay. Evaluation may also include web-based activities, on-line discussion and written student journals/reaction papers. Note CMLIT 100 is a required course for students intending to major in Comparative Literature and is recommended for students in other humanities fields. General Education students are also encouraged to enroll. The course fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the General Education United States and International Cultures requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 101 (GH;US;IL) Race, Gender, and Identity in World Literature (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.

CMLIT 101 The Theme of Identity in World Literatures; Race, Gender, and Other Issues of Diversity (3) (GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines issues of race, gender, religions, and ethnicity as expressed in literary, social, and cultural contexts. We will address these questions in works from a variety of traditions and time periods. Literary works from around the world show a wide range of response to the "other" -- idealization of difference as exotic, fear of difference as threat, the desire to suppress difference or force it into conformity, the recognition of difference within ourselves, etc. The scope includes authors who are themselves members of racial, sexual or ethnic groups with which you may be less familiar. You will also consider the question of who and what constitutes identity as perceived by oneself and by others.

CMLIT 101 is one of the many choices of survey courses, which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

In general, this course will be taught in the active-learning mode, featuring in-class discussion, writing projects and web-based activities. Specifically:
-Writing, speaking, self-expression: Students will write essays and/or papers, which require the analysis and comparison of various literary works from the standpoint of identity issues.
-Engagement in collaborative learning and teamwork: Small discussion groups both in-class and on-line will facilitate learning as a group activity. Activities may include group in-class presentations.
-Application of intercultural/international competence: Students will deal with a wide range of texts from around the world and compare/contrast the texts focusing on issues of diversity. This course, by definition, deals directly with issues of inter- and intra-cultural identity.
-Dialogue pertaining to social behavior, community, and scholarly conduct: The discussion of diversity issues is related to students' perception of their own identity and reaction to the notion of the "other." Implicit in this discussion is the issue of "community" creation of the "other" and individual response to the community.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 101 (GH;US;IL) The Theme of Identity in World Literature: Race, Gender, and Other Issues of Diversity (3) Themes of gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.

CMLIT 101 The Theme of Identity in World Literatures; Race, Gender, and Other Issues of Diversity (3) (GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines issues of race, gender, religions, and ethnicity as expressed in literary, social, and cultural contexts. We will address these questions in works from a variety of traditions and time periods. Literary works from around the world show a wide range of response to the "other" -- idealization of difference as exotic, fear of difference as threat, the desire to suppress difference or force it into conformity, the recognition of difference within ourselves, etc. The scope includes authors who are themselves members of racial, sexual or ethnic groups with which you may be less familiar. You will also consider the question of who and what constitutes identity as perceived by oneself and by others.

CMLIT 101 is one of the many choices of survey courses, which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

In general, this course will be taught in the active-learning mode, featuring in-class discussion, writing projects and web-based activities. Specifically:
-Writing, speaking, self-expression: Students will write essays and/or papers, which require the analysis and comparison of various literary works from the standpoint of identity issues.
-Engagement in collaborative learning and teamwork: Small discussion groups both in-class and on-line will facilitate learning as a group activity. Activities may include group in-class presentations.
-Application of intercultural/international competence: Students will deal with a wide range of texts from around the world and compare/contrast the texts focusing on issues of diversity. This course, by definition, deals directly with issues of inter- and intra-cultural identity.
-Dialogue pertaining to social behavior, community, and scholarly conduct: The discussion of diversity issues is related to students' perception of their own identity and reaction to the notion of the "other." Implicit in this discussion is the issue of "community" creation of the "other" and individual response to the community.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 101U (GH;US;IL) Race, Gender, and Identity in World Literature (3) Identity and race, gender and heritage, centrality and marginality, self and other, as expressed in literary works from around the world.

Race, Gender, and Identity in World Literature (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 105 (GH;IL) The Development of Literary Humor (3) Literary humor expressed as satire, comedy, and farce--from ancient times to the present--in an international and multicultural context.

CMLIT 105 The Development of Literary Humor (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 105 is a broadly international course dealing with the nature of comedy and humor in literature. You will read samples from a broad spectrum of humor, including comedy, wit, satire, parody, irony, and farce. Through discussion and writing, you will also examine the techniques through which humor criticizes human nature, analyzes society, and expresses differing world views. The syllabus may be represented chronologically or divided into topics or literary forms that suggest various emphases, functions, and objects of literary humor. This course will provide opportunity to discuss both the widespread, or even universal, aspects of literary humor, and the diversity of literary humor across cultures and time periods. At the conclusion of this course, you should be able to understand and compare various literary forms and social, political, and cultural contexts that define humor and to assess the extent to which literary humor is or is not translatable across cultures or ethnic communities, or other groups. This course fulfills requirements for the Comparative Literature major, the World Literature minor, General Education Humanities, Bachelor of Arts Humanities, and General Education International/Intercultural Competency. Student performance in this course will be measured in a variety of ways, including some or all of the following (always including writing and discussion): -in-class and/or take-home essays/exams -literary diaries or reaction papers -in-class and/or online discussion/participation -individual and/or group in-class presentations/projects -research or topic papers

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 106 (GH;IL) The Arthurian Legend (3) The growth and development of the legend of King Arthur, from medieval Europe to modern Japan.

CMLIT 106 The Arthurian Legend (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to familiarize students with the legends about and surrounding King Arthur and the Round Table fellowship. Through a series of readings, students will survey the development of the legends of Arthur from their beginnings in early medieval Europe to their modern adaptations in many cultures around the world. The Arthurian legend is an ideal vehicle for showing the ways in which literary works capture and express changing value systems in different cultural and historical situations, and thus the course is a good example of comparative (international) approaches to literary study. Classes will discuss the changing cultural' ideals represented, the different characterizations of the central figures, and the literary, techniques employed. Lectures and discussions will be supplemented by overheads, slides, music, and films or film clips dealing with Arthurian themes. Throughout, the course will ask why and how the stories of Arthur and the Round Table fellowship have captured the imagination of artists, political and religious leaders, and readers throughout the ages and around the world. Finally, it will ask how the practical concerns of daily life are developed in this literature-for example, how does this highly imaginative literature address practical concerns such as striking a balance between one's short-term goals and personal gratifications, and one's long-range obligations to other people? Means of evaluation will be selected from the following (always including writing): essay exam questions, short answer and objective questions, reading journals, quizzes, in-class discussion, group projects (including web sites), research and critical papers, and final comprehensive written exam. CMLIT 106 is not required for the Comparative Literature major but may be selected to fulfill one of the course requirements for the major or the World Literature Minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 107 (GH;IL) The Literature of Exploration: Extraordinary Voyages from Antiquity to the Future (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.

CMLIT 107 The Literature of Exploration: Extraordinary Voyages from Antiquity into the Future (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 107 compares the literatures of travel and exploration from ancient times to the future, from narratives of journeys actually experienced through narratives of journeys imagined in the mind. The notion of the journey is broadly defined as encompassing both literal and metaphorical experiences, including travel journals and diaries, epic adventures, quests of introspection, dreams and visions, and depictions of the future. Through reading, discussion, and writing, you will examine and compare the different roles that travel can play in the imaginations of both the individual writers and the cultures from which they come. You will not only explore recurrent themes and timeless topics, but also the ways in which travel writing can both reinforce and subvert the basic value-systems, stereotypes, or other assumptions present in its cultural context. For many writers, traveling elsewhere is a means of evaluating their own societies, as well as a means of recording their responses to encountering real or imagined new places. The journeys of this course, which vary greatly from each other, will also allow you to consider some of the vast unknowns of the individual human mind and imagination. By traveling through this course, you will have the opportunity to develop the analytic reading, thinking, and writing skills necessary for the understanding of a variety of literatures and cultures, as well as the exploration of your own identity as an individual. This course fulfills requirements for the Comparative Literature major, the World Literature minor, General Education Humanities, Bachelor of Arts Humanities, and General Education International/Intercultural Competency. Student performance in this course will be measured in a variety of ways, including some or all of the following (always including writing and discussion): -in-class and/or take-home essays/exams -literary diaries or reaction papers -in-class and/or online discussion/participation -individual and/or group in-class presentations/projects -research or topic papers.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 107 (GH;IL) Exploration, Travel, Migration, and Exile (3) An international selection of journey narratives, from the real to the imaginary; travel narratives as critiques of self and society.

CMLIT 107 The Literature of Exploration: Extraordinary Voyages from Antiquity into the Future (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 107 compares the literatures of travel and exploration from ancient times to the future, from narratives of journeys actually experienced through narratives of journeys imagined in the mind. The notion of the journey is broadly defined as encompassing both literal and metaphorical experiences, including travel journals and diaries, epic adventures, quests of introspection, dreams and visions, and depictions of the future. Through reading, discussion, and writing, you will examine and compare the different roles that travel can play in the imaginations of both the individual writers and the cultures from which they come. You will not only explore recurrent themes and timeless topics, but also the ways in which travel writing can both reinforce and subvert the basic value-systems, stereotypes, or other assumptions present in its cultural context. For many writers, traveling elsewhere is a means of evaluating their own societies, as well as a means of recording their responses to encountering real or imagined new places. The journeys of this course, which vary greatly from each other, will also allow you to consider some of the vast unknowns of the individual human mind and imagination. By traveling through this course, you will have the opportunity to develop the analytic reading, thinking, and writing skills necessary for the understanding of a variety of literatures and cultures, as well as the exploration of your own identity as an individual. This course fulfills requirements for the Comparative Literature major, the World Literature minor, General Education Humanities, Bachelor of Arts Humanities, and General Education International/Intercultural Competency. Student performance in this course will be measured in a variety of ways, including some or all of the following (always including writing and discussion): -in-class and/or take-home essays/exams -literary diaries or reaction papers -in-class and/or online discussion/participation -individual and/or group in-class presentations/projects -research or topic papers.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 108U (GH;IL) Myths and Mythologies (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.

Myths and Mythologies (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 108 (GH;IL) Myths and Mythologies (3) World mythology: myths primarily of non-Western cultures, based on selected areas and traditions around the world.

CMLIT 108 Myths and Mythologies (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course offers a survey of several different cultural traditions as expressed in myth, as well as discussion of myth in its literary, social, geographical, political, and religious contexts. Various theories of the evolution and analysis of myth will be examined. Mythological traditions from around the globe will be compared in order to determine qualities which they share and examine ways in which they are unique. This course will help you see the world in new and exciting ways, based on the wide variety of global myths. At the same time, you will consider the permanent human issues which connect all of these traditions to each other, to the modern world, and to you.

CMLIT 108 is one of the choices of survey courses, which count toward the Comparative Literature major and the World Literature minor. This course also fulfills the General Education humanities requirement, the Bachelor of Arts humanities requirement, the United States and International Cultures requirement, or the B.A. other cultures requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 109 (GH;US;IL) Native American Myths, Legends, and Literatures (3) Myths, legends, and literatures of Native American cultures.

CMLIT 109 Native American Myths, Legends, and Literatures (3)
(GH;GI)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 109, Native American Myths, Legends, and Literatures, will allow you to read many traditional tales and selected works of modern literature representing a variety of American indigenous peoples. We will be examining the ways in which the myths, legends, and literary works reflect the cultural values and religious beliefs of the tribal nations from which they derive. You will learn how to read critically, analyzing symbols, archetypes, and motifs through the comparison of selected tales to others from the same and from different cultures, allowing you to recognize the rich diversity and unique oral traditions of Native American culture. You will also examine various geographical, historical, political, and social conditions which contribute to myth-making. Through the application of various theories of myth analysis, you will also synthesize the information learned about various Native American traditions with a view toward understanding the distinctive identities of Native American cultures, including where applicable their position as minority cultures, and also seeing their participation in universal human beliefs and concerns. Typically, students will be evaluated on any combination of papers, tests, class participation and/or projects, and legend-collection assignment. CMLIT 109 may follow upon CMLIT 108. However, each can be taken separately. CMLIT 109 can serve as a foundation for other courses dealing with the literatures of the Americas or for other courses dealing with minority literatures and cultures. Some students would take CMLIT 109, Native American Myths, Legends, and Literature, to fulfill the three-credit cultural diversity requirement; others would use it for the general education humanities slot. Liberal Arts majors could select it as their "Other cultures" course. CMLIT 109 is not required for the CMLIT major but may be selected to fulfill one of the course requirements for the major or form part of a student's choices for the World Literature minor.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 110 (GH;US;IL) (J ST 131) Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.

CMLIT 110 Jewish Literature: An International Perspective (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 110 will provide an introduction to the multiple worlds of Jewish experience and the different literatures they continue to inspire. Jewish literary creativity has varied widely with the personal and communal experience of writers in many parts of the world, and in many different time periods. Readings usually range from the first Jewish literary text, the Hebrew Bible, to twentieth-century works, including writings about the Holocaust. The course typically includes units such as Jewish writing and culture in Eastern Europe, in the Americas, in Spain during the Middle Ages, and in Israel and the Middle East today. The material may be organized chronologically, thematically, or by regions or languages. Texts that critique or apparently suppress Jewish identity, as well as texts with representations of Jews by writers of other heritages, may be included for comparative purposes. We will include writings by Jewish authors who have written in languages usually associated with Jewish tradition (such as Hebrew and Yiddish) and in other languages (such as Spanish, Arabic, German, English, etc.). Topics discussed in the literature may focus on questions of Jewish identity and continuity, the situation of Jews as a minority people, the immigrant and diasporic experience, representations of the Holocaust, and the establishment of Israeli culture as a mixture of several traditions. We will question generalizations about the meaning of "Jewish" by showing the wide range of characteristics associated with Jewish literary productions, and the great diversity of depictions of Jews and Jewish lifestyles, in different times and places. In addition to our primary focus on literary texts, we may include examples of other cultural productions (film, music, the visual arts, philosophy, etc.). All offerings of the course include writing assignment and discussion in the evaluation methods. The syllabus often includes 2 or 3 midterm exams (with essay questions); a final exam, paper, or project; oral presentations; participation in online discussions. CMLIT 110 counts towards the Comparative Literature major and the World Literature minor. No prior knowledge of Jewish tradition is required, and General Education students are welcome. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 110 (GH;US;IL) Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.

CMLIT 110 Jewish Literature: An International Perspective (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 110 will provide an introduction to the multiple worlds of Jewish experience and the different literatures they continue to inspire. Jewish literary creativity has varied widely with the personal and communal experience of writers in many parts of the world, and in many different time periods. Readings usually range from the first Jewish literary text, the Hebrew Bible, to twentieth-century works, including writings about the Holocaust. The course typically includes units such as Jewish writing and culture in Eastern Europe, in the Americas, in Spain during the Middle Ages, and in Israel and the Middle East today. The material may be organized chronologically, thematically, or by regions or languages. Texts that critique or apparently suppress Jewish identity, as well as texts with representations of Jews by writers of other heritages, may be included for comparative purposes. We will include writings by Jewish authors who have written in languages usually associated with Jewish tradition (such as Hebrew and Yiddish) and in other languages (such as Spanish, Arabic, German, English, etc.). Topics discussed in the literature may focus on questions of Jewish identity and continuity, the situation of Jews as a minority people, the immigrant and diasporic experience, representations of the Holocaust, and the establishment of Israeli culture as a mixture of several traditions. We will question generalizations about the meaning of "Jewish" by showing the wide range of characteristics associated with Jewish literary productions, and the great diversity of depictions of Jews and Jewish lifestyles, in different times and places. In addition to our primary focus on literary texts, we may include examples of other cultural productions (film, music, the visual arts, philosophy, etc.). All offerings of the course include writing assignment and discussion in the evaluation methods. The syllabus often includes 2 or 3 midterm exams (with essay questions); a final exam, paper, or project; oral presentations; participation in online discussions. CMLIT 110 counts towards the Comparative Literature major and the World Literature minor. No prior knowledge of Jewish tradition is required, and General Education students are welcome. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 111 (GH;IL) Introduction to Literatures of India (3) Narrative, lyric, religious, oral, and dramatic literature, as well as film from India studied in translation from a global perspective.

CMLIT 111 Introduction to Literatures of India (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 111 examines readings and cultural texts from India and other parts of South Asia, including both classical and modern texts from a variety of traditions. Readings from languages other than English will be in translation. You will read, discuss, and write about these texts from the viewpoint of race, gender, culture, religion, philosophy, and ethnicity in a comparative, global, and historical perspective. While improving your understanding of difference and diverse cultures, this course incorporates lesser known and even marginalized works by Asian writers in this study of cultural and social identities and contexts. CMLIT 111 will also help you understand the influence of classical texts, as well as classical and modern culture, on recent literary productions of South Asia. You will gain an understanding of different national literatures and cultures, as well as knowledge of the historical, philosophical, and political contexts that produced them. Ideas such as "the other," gender, and Orientalism will also be included in discussions of the texts. CMLIT 111 is one of the many choices of survey courses which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, or the Intercultural/International requirement. Methods of evaluation might include at least 2-3 unit quizzes based on identification/short description and/or 2-3 short essays; in-class discussion; group presentation; use of discussion threads of coursetalk for supplemental discussion; creative project/final essay.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 120 (GH;IL) The Literature of the Occult (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.

CMLIT 120 The Literature of the Occult (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 120 is the study of literatures of the occult. Through readings of creative and critical works, you will develop an enhanced awareness of the variations among cultures and historical periods in accepting, fostering, tolerating or sometimes suppressing-unorthodox traditions. Our range of readings from world literature will show that what is rejected or scorned in one cultural context may be tolerated or even honored in another. You will also explore the social, political, ethical and religious implications of "occult." The course will be designed to compare various manifestations of the occult in literatures from around the globe and throughout history. You will explore issues of difference, and will develop an awareness of the tendency to demonize the 'strange' and 'inaccessible.' Through various texts from around the world, you will develop the ability to analyze literature in different ways. Readings will be examined both within their cultural context, and in relation to widely found or perhaps universal themes of the occult which transcend the boundaries of time and place. CMLIT 120 is one of the many choices of survey courses which count towards the Comparative Literature major and the World Literature minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, or the United States and International Cultures requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 120U (GH;IL) The Literature of the Occult (3) Important literary works dealing with witchcraft, demonology, vampirism, ghosts, and related concepts, from biblical times to present.

The Literature of the Occult (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 122 (GH;US;IL) Global Science Fictions (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.

CMLIT 122 Global Science Fictions (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

A course on science fiction and the fictions of science from an international and interdisciplinary perspective. Includes a history of the idea of science, of its engagement with and by fictional, filmic, dramatic, and poetic narratives, within an explicitly comparative framework that includes material from Europe, the Americas, Asia, and Africa.

Students will develop a theory of genre and its development over time; they will recognize regional, cultural, and historical differences and forms of change that affect the intellectual development of the arts and sciences. They will practice and master these skills through class discussion, short papers, and/or quizzes and exams.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 122U (GH;US;IL) Global Science Fictions (3) A study of the relationships between science, literature, and film, from an international and interdisciplinary perspective.

Global Science Fictions (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 130 (GH;IL) Banned Books: International and Comparative Perspectives (3) The world of banned books, their history, and their politics, studied comparatively and internationally.

CMLIT 130 Banned Books: International and Comparative Perspectives (3)
(GH;IL)

This course examines one of the most documented events in the history of book reception—the banning of books. Bannings provide a useful window onto the myriad functions of culture in social identity formation. In order to understand how and why offense is given and taken, students will learn to place texts in a specific context of their historical production and reception and also to extrapolate connections between disparate moments when taboos were named. Incorporating examples from a range of global systems of censorship, the course examines differences in the modes and effects of repression and the sometimes surprising connections between church and monarchy, fascism and democracy.

This course raises the following questions:
-How has censorship been justified? When, if ever, is censorship justifiable?
-What are the grounds on which censorship can be judged successful or incomplete?
-Who censors? Who is censored?
-What are local categories of censorship? Though books are banned for reasons of blasphemy, sedition, and obscenity in various guises in several cultures, are these global categories?
-How do writers write against a ban? How do they write within it?
-What are the roles of importation, technologies of circulation, and geography in the censorship of texts? How do border-crossings and forms of miscegenation offend?
-Is there a unifying aesthetics to books that offend?

Class work emphasizes discussions, group work, writing exercises, and student presentations. This participatory approach is intended to deepen students' appreciation of the works and the historical, literary, and ethical problems they present. The course will help students understand value systems and historical contexts in which they were produced and in which they caused offense. It will also ask students to draw connections between seemingly unrelated moments of offense in order to assist students in developing both analytical and expressive abilities.

The course is designed to be suitable for all students, whether or not they have previously studied literature or comparative literature.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 131 (GH;IL) Crime and Detection in World Literature (3) Issues of ethics, truth, justice, and social order as embodied in crime and detective literature, presented in comparative contexts.

CMLIT 131 Crime and Detection in World Literature (3)
(GH;IL)

This course studies the origins and development of crime and detective literature from an international and interdisciplinary perspective. Beginning with early Greek tragedies, the course traces literature's investment in issues of crime, violence, detection, forensics, and social justice through a variety of historical and cultural contexts; this may include the classical era, the early modern period, the Enlightenment, the industrial era, and the modern/ contemporary world. Some of the questions addressed may include reigning myths about law and order; the rise of urban societies and mass culture; the construction of the detective figure, the witness, the criminal, and the victim as models of subjectivity; issues of gender and sexual violence; and the nature of justice.

Students will learn about the history of the idea of crime and its relationship with literary form. They will develop ideas about the contribution of literary thinking to ideas of social justice, as well as a theory of genre and its development over time; they will recognize regional, cultural, and historical differences and forms of change that affect the intellectual development of literature and detection alike. They will practice and master these skills through class discussion, short papers, and/or quizzes and exams.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 132 (GH;IL) Nobel Prize Literature (3) Introduction to Nobel Prize winning literature and the culture of the prize in international and historical context.

CMLIT 132 Novel Prize Literature (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will provide an introduction to Nobel prize-winning literature. Students will learn about the authors and their works in cultural and historical context. Readings will cover several genres (such as poetry, drama, short story, and novel) and will include authors from an array of linguistic and cultural traditions (such as African, Latin American, Middle Eastern, European, North American, and Asian). In addition to reading primary literature, students will enrich their understanding of literary history by exploring secondary material such as essays, short biographies, reviews of author’s works, and the authors’ Nobel Prize acceptance lectures. The course will begin by introducing Alfred Nobel, founder of the Nobel Prize, and by surveying the parameters guiding how the prize has been awarded since its inauguration in 1901. Further readings may be organized temporally or thematically, but will be structured so that students develop a global perspective, allowing them to understand the variety of cultural contexts that have inspired the creative works under study.

By examining the primary literature in connection with developing trends in prize culture, students will investigate such topics as pacifism and optimism in international prize culture, narrative and rhetorical techniques, the formation and expression of identity, changing gender roles and social expectations, the development of global Englishes, the emerging notion of world literature, and the changing climates of censorship and freedom of expression.

Class work includes some lecture but emphasizes guided discussions, group work, short writing exercises, and some student presentations. This participatory approach is intended to deepen students’ appreciation of the works, to assist students in developing analytical and expressive abilities, and to encourage students to pursue individual areas of interest by researching cultural norms and historical situations in a range of times and places. Through critical reading, group discussion, short writing exercises, and group presentations, students will hone skills for evaluating modes of cultural production and valuation. Evaluation will be through means such as in-class presentations, short writing assignments or quizzes, and a final exam or final paper.

The course is designed to be suitable for all students generally interested in literature and the globalization of culture. Prior study of literature is not required and all materials will be available in English.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 140 (GH;IL) Literature and the Other Arts: International and Comparative Perspectives (3) A comparative, international examination of the relationship between literature and non-literary art forms.

CMLIT 140 Literature and the Other Arts: International and Comparative Perspectives (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

All around the world, literature and other forms of creative expression are related in many fascinating ways. Writers and artists often find inspiration from each other, and some artists work across a wide spectrum of genres and embody several identities at once. In different times and places, how have writers and artists reacted to critical events or lifecycle experiences? What techniques have writers, artists, composers, and choreographers shared?

In examining a broadly international range of materials, in this course we will consider (1) how artists and writers depict common themes such as nature, death, aging, love, and more; (2) ways in which art and literature relate to each other; and (3) how literature and other arts are influenced by, and in turn exert influences upon, their cultural and social contexts. Using a global perspective, we will examine relationships between literature and a variety of artistic forms, such as painting, photography, comics, film, theatre, opera, music, sculpture, and more.

Students will practice enabling skills for reading across genres, media, and cultures, and for expanding their skills in analyzing and synthesizing information, their awareness of a wide variety of value systems and cultural traditions in different times and places, and their horizons of literature in global contexts. Evaluation methods will typically include class participation, short essays or papers or projects, and exams. This course can be used as a course for the major in Comparative Literature or the minor in World Literature.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 141 (GH;US;IL) Religion and Literature (3) Major religious themes as expressed in literary masterpieces; sacred texts from various cultures read as literature.

CMLIT 141 Religion and Literature (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 141 is an introduction to literature, to religious writing, and to the many ways in which literature draws upon or interacts with religion. Among the many possible relationships between religion and literature are: straightforward dramatization of sacred texts; allegory; expression of mystical experience; exploration, dramatization, and individualization of theological issues; the creation of literature to promote or to meet the needs of piety; and utilization of religious imagery and symbolism as a poetic resource. Readings will include sacred texts, and also literature that draws upon or responds to sacred texts and religious traditions. It may also include avowedly secular literature that shows some relationship to religious tradition, and even literature questioning or critical of specific religious traditions or their adherents. Students will read works from a range of historical periods and world societies, both Western and non-western. Students will be evaluated on essay exam questions, short answer and objective exam questions, reading journals, quizzes, in-class discussion, group projects, research and critical papers, and final comprehensive written exam. CMLIT 141 is not required for the CMLIT major but may be selected to fulfill one of the course requirements for the major or for the World Literature Minor. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 142 (GH;IL) The Psychology of World Literature (3) A comparative, psychological approach to world literature from the perspectives of writer, narrative, character, and reader.

CMLIT 142 The Psychology of World Literature (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores various psychological approaches to the discussion of literature from the perspectives of writer, narrative, character and reader. Can authors, narrators, and fictitious characters be "psychoanalyzed"? To what extent do cultural variants affect a psychological approach to literature? Are there psychological universals that transcend time and culture? How does a an awareness of psychology affect the reader? All of these issues will be discussed and compared with an eye to speculating the ways in which the human mind creates literature and literature impacts the human mind.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 143 (GH;US;IL) Human Rights and World Literature (3) Human rights violations discussed in tandem with their literary representation, presented in a global and comparative context.

CMLIT 143 Human Rights and World Literature (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

“Human rights” refers to basic rights and freedoms to which all humans are entitled, often held to include the right to life and liberty, freedom of thought and expression, and equality before the law. But these ideas have not always been a part of human thought and some scholars believe that without certain forms of literature today’s understanding of human rights would not exist. Through comparative analysis of a variety of human rights storytelling genres that reflect a range of contexts, this course will suggest that it is impossible to understand human rights without also thinking about the stories that create and sustain their idea.

One main premise of this course is that the representation of human rights violations is always a vexed undertaking. It is both urgent and necessary, while also incomplete and inadequate. In order to explore this dilemma, this course focuses on the intersection between human rights advocacy and the various cultural forms that explicitly attempt to participate in human rights discourse. The course will cover a variety of cultural forms such as comic books, movies, photography, novels, testimonials, poetry, plays, etc. that reflect on human rights atrocities such as slavery, the Holocaust, war, dictatorships, apartheid, Genocide, and more.

At the center of the course are questions about aesthetics and ethics. What are the risks and obligations of human rights storytelling and how are these linked to specific cultural forms and aesthetic practices? This course examines a range of human rights stories through a balance of context and close reading, where stories are studied both for what they say and how they say it.

General Education: GH
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 153 (GH;IL) International Cultures: Film and Literature (3) Comparison of narrative techniques employed by literature and film in portraying different cultures, topics may vary each semester.

CMLIT 153 International Cultures Through Literature and Film (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will compare narrative and artistic techniques employed by literature and film in portraying different social and cultural environments, which will range widely around the globe and may include Africa and the Middle East, East Asia, and South America, as well as European and North American examples. Students will view approximately twelve to fourteen films and read five to six novels or other texts such as short stories, plays, and poems. The purpose of this course is to have students examine how the selected artists have developed their intentions and their subject matter in their respective medium, literature or film, and to allow students to study modes of narration across different cultures and media. Through a combination of lectures and comparative discussions, students will examine how narrative components, including plot, genre, environment, character, and point of view are developed in films and fiction from diverse cultures.

The comparative nature of the course allows students to understand, evaluate, and appreciate both the universal and unique qualities of the human condition. The study of narrative technique will help students develop analytical skills in discussing and writing about the literary and cinematic expression of cultural values.

Student performance will be evaluated through means such as midterm and final short answer and essay examinations, a short initial paper (1-2 pages), and a final comparative paper (4-5 pages). The individual instructor may choose to replace or supplement some of these assignments with oral presentations. The examinations and papers will allow the student to demonstrate competency in evaluating and comparing cultures, artists and mediums, and in expressing their ideas.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 153 (GH;IL) International Cultures Through Literature and Film (3) Comparison of narrative techniques employed by literature and film in portraying different cultures; topics may vary each semester.

CMLIT 153 International Cultures Through Literature and Film (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will compare narrative and artistic techniques employed by literature and film in portraying different social and cultural environments, which will range widely around the globe and may include Africa and the Middle East, East Asia, and South America, as well as European and North American examples. Students will view approximately twelve to fourteen films and read five to six novels or other texts such as short stories, plays, and poems. The purpose of this course is to have students examine how the selected artists have developed their intentions and their subject matter in their respective medium, literature or film, and to allow students to study modes of narration across different cultures and media. Through a combination of lectures and comparative discussions, students will examine how narrative components, including plot, genre, environment, character, and point of view are developed in films and fiction from diverse cultures.

The comparative nature of the course allows students to understand, evaluate, and appreciate both the universal and unique qualities of the human condition. The study of narrative technique will help students develop analytical skills in discussing and writing about the literary and cinematic expression of cultural values.

Student performance will be evaluated through means such as midterm and final short answer and essay examinations, a short initial paper (1-2 pages), and a final comparative paper (4-5 pages). The individual instructor may choose to replace or supplement some of these assignments with oral presentations. The examinations and papers will allow the student to demonstrate competency in evaluating and comparing cultures, artists and mediums, and in expressing their ideas.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 184 (GH;IL) (ENGL 184) The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the Nineteenth and Twentieth Century.

The Short Story (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 185 (GH;IL) (ENGL 185) World Novel (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.

CMLIT(ENGL) 185 The Modern Novel in World Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, which is cross-listed with English, students will read examples of the modern novel from around the world. Focusing on novels written outside of America and England, this class will explore the development of the modern novel as a genre across a number of world cultures. As an example, moving from the beginnings of literary modernism (the late nineteenth century) through the early and mid twentieth century, the course will consider works by writers such as the following: Chinua Achebe, Italo Calvino, Albert Camus, Simone deBeauvior, Fyodor Dostoevsky, Isak Dinesen, Marguerite Duras, Natalia Ginzburg, Herman Hesse, James Joyce, Thomas Mann, Gabriel Garcia Marquez, Kenzaburo Oe, and Marcel Proust. This course will address the ways in which the world novels under consideration constitute examples of various literary forms and styles. The class will examine the differences and distances between literary movements such as social realism and magical realism, modernism and postmodernism. The goals of this course will be to hone students' critical reading and writing skills while granting them the ability to think about the modern novel as a distinct genre in a comparative global context. Students will be asked to read a minimum of five to six novels, spending an average of two weeks studying each work. They will be asked to complete at least three writing assignments including at least two kinds of writing such as the essay, essay exam, or semester-long reading journal. This course will prepare students for additional college-level literature courses by helping them to develop the analytical skills necessary to analyze complex written texts. This course fulfills a General Education Humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 185 (GH;IL) (ENGL 185) The Modern Novel in World Literature (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.

CMLIT(ENGL) 185 The Modern Novel in World Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, which is cross-listed with English, students will read examples of the modern novel from around the world. Focusing on novels written outside of America and England, this class will explore the development of the modern novel as a genre across a number of world cultures. As an example, moving from the beginnings of literary modernism (the late nineteenth century) through the early and mid twentieth century, the course will consider works by writers such as the following: Chinua Achebe, Italo Calvino, Albert Camus, Simone deBeauvior, Fyodor Dostoevsky, Isak Dinesen, Marguerite Duras, Natalia Ginzburg, Herman Hesse, James Joyce, Thomas Mann, Gabriel Garcia Marquez, Kenzaburo Oe, and Marcel Proust. This course will address the ways in which the world novels under consideration constitute examples of various literary forms and styles. The class will examine the differences and distances between literary movements such as social realism and magical realism, modernism and postmodernism. The goals of this course will be to hone students' critical reading and writing skills while granting them the ability to think about the modern novel as a distinct genre in a comparative global context. Students will be asked to read a minimum of five to six novels, spending an average of two weeks studying each work. They will be asked to complete at least three writing assignments including at least two kinds of writing such as the essay, essay exam, or semester-long reading journal. This course will prepare students for additional college-level literature courses by helping them to develop the analytical skills necessary to analyze complex written texts. This course fulfills a General Education Humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 187 Comparative Literature Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Comparative Literature Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 189 (GH;IL) (ENGL 189) Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.

CMLIT (ENGL) 189 The Founders of Modern Drama (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT/ENGL 189 will constitute a wide-ranging study of plays by authors often credited with the making of modernist drama. The class will approach these plays from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Ibsen, Strindberg, Chekhov, Shaw, Wilde, Galsworthy, O'Neill, Beckett, and Yeats. Topics under consideration will vary from class to class but may include a chronological introduction to the development of modern drama, a consideration of a principal theme or themes in modern drama through a number of plays, or a consideration of plays in the context of historical events or formal or aesthetic elements. Time allotted for the study of the works under consideration will vary. This class will prepare students for advanced courses in dramatic literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. The course may be used as an English or Comparative Literature major credit or as credit toward the English or Comparative Literature minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 189 (GH;IL) (ENGL 189) The Founders of Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.

CMLIT (ENGL) 189 The Founders of Modern Drama (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT/ENGL 189 will constitute a wide-ranging study of plays by authors often credited with the making of modernist drama. The class will approach these plays from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Ibsen, Strindberg, Chekhov, Shaw, Wilde, Galsworthy, O'Neill, Beckett, and Yeats. Topics under consideration will vary from class to class but may include a chronological introduction to the development of modern drama, a consideration of a principal theme or themes in modern drama through a number of plays, or a consideration of plays in the context of historical events or formal or aesthetic elements. Time allotted for the study of the works under consideration will vary. This class will prepare students for advanced courses in dramatic literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. The course may be used as an English or Comparative Literature major credit or as credit toward the English or Comparative Literature minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 190 (GH;IL) Literary and Cultural Theory: An Introduction (3) A comparative introduction to literary and cultural theory, and its impact on the study of literature.

CMLIT 190 Literary and Cultural Theory: An Introduction (3)
(GH;IL)

This General Education course offers students a broad and international introduction to the history of literary and cultural theory in the humanities, with a particular focus on how that theory has affected and continues to affect the study of literature, and on the critical problems -- of agency and subjectivity, of meaning and interpretation, or self and other -- that it addresses.

Students in this course will learn to navigate the fundamental theoretical and philosophical perspectives that have dominated the humanities and especially literary studies in international contexts over the course of the last two centuries. They will be introduced to major philosophical themes, such as the problems of ideology, the subject, or the aesthetic, and learn how thinkers in a number of different national locations and historical moments have thought about those themes.

Substantial attention will be paid to the *locations* of theory: to the ways in which theory emerges from historically, culturally, nationally and linguistically specific contexts that have shaped it. Substantial attention will also be paid to the ways in which theory has been used to study literature; in some versions of the course one or more literary or cultural proof-texts will be used to illustrate the forms of illumination various theoretical approaches provide.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 199 (IL) Foreign Study--Comparative Literature (3-6) Course offered on comparative literary topics as part of a foreign-study program.

Foreign Study--Comparative Literature (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 295 Internship (1-18) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 300H Honors Thesis (3) Individual projects involving research, reading, and writing; preparation of an honors thesis in comparative literature or world literature.

Honors Thesis (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995
Prerequisite: Participation in the University Scholars program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 399 (IL) Foreign Study--Comparative Literature (3-6) Special course offered on comparative literary topics as part of a foreign-study program.

Foreign Study--Comparative Literature (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 400Y (US;IL) Senior Seminar in Literary Criticism and Theory (3) Discussions of theories of literature, of literary criticism, and particularly of the distinct methods of comparative study; individual projects.

Senior Seminar in Literary Criticism and Theory (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: seventh-semester standing; 18 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 401Y (IL) The Western Literary Heritage I (3) Major literary movements and authors in the literature of the Western world from the beginnings through the early Renaissance.

The Western Literary Heritage I (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 402Y (US;IL) The Western Literary Heritage II (3) Major literary movements and authors in the literature of the Western world from the late Renaissance to the present time.

The Western Literary Heritage II (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature or history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 403 (US) (LTNST 403) Varieties of Latina/o Cultural Expression (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.

CMLIT (LTNST) 403 Varieties of Latina/o Cultural Expression (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides students with a multi-faceted comparative view of Latina/o literature in relation to other forms of cultural expression. First, the course presents a variety of cultural expressions to students in an effort to teach them the different ways that form affects content. Each text will be studied in its historical context as well, thereby providing students with a sense of Latina/o cultural history. Second, this course compares works from within the same genre, allowing students to recognize the ways that Latina/o culture has worked to build identity, to deconstruct identity, and to challenge cultural stereotypes. Such comparison further facilitates comparison of the ways that different cultural forms have been used by diverse Latina/o communities. Third, this course compares cultural forms, allowing students to see how Latina/o poetry affects music or how Latina/o theater affects novels Fourth, this course will include texts that represent a variety of linguistic and national contexts, including many countries in Latin America, thereby allowing students to see the relationship between history, culture, language, geography, and identity. These are all themes that are at the center of both Latina/o Studies and Comparative Literature. A comparative perspective facilitates appreciation of the vast and varied ways that Latina/o communities have used cultural expression. A particular point of contact between Latina/o Studies and Comparative Literature is the influence of hybridity. A central issue explored in this course concerns the intricate connections between multiple ways of expressing identity, in the arts, literature, music, etc., in diverse circumstances, such as locations where Latina/o cultures may be in the mainstream (such as in Latin America) and in the minority (in the U.S.). Drawing upon approaches offered by comparative literature and theories such as post-structuralism, feminism, and post-colonialism, we will examine the complex process through which Latina/o culture has been defined, disseminated, contested, and commercialized. Of particular interest from a comparative perspective are the ways that Latina/o cultures are created through hybridization, processes of mutual borrowing and differentiation, as well as through transnational processes of migration, urbanization, and cultural contact. The course's objective is to show not only how complex societies consolidate a shared culture but also how diverse Latina/o communities have produced a multiplicity of cultures that have been expressed via a broad range of cultural registers. These communities often span vast geographical areas, not only in the U.S. but across the Americas as people continue to look to their countries of origin for artistic inspiration.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 403 (US) (LTNST 403) Latino/a Literature and Culture (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.

CMLIT (LTNST) 403 Varieties of Latina/o Cultural Expression (3) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides students with a multi-faceted comparative view of Latina/o literature in relation to other forms of cultural expression. First, the course presents a variety of cultural expressions to students in an effort to teach them the different ways that form affects content. Each text will be studied in its historical context as well, thereby providing students with a sense of Latina/o cultural history. Second, this course compares works from within the same genre, allowing students to recognize the ways that Latina/o culture has worked to build identity, to deconstruct identity, and to challenge cultural stereotypes. Such comparison further facilitates comparison of the ways that different cultural forms have been used by diverse Latina/o communities. Third, this course compares cultural forms, allowing students to see how Latina/o poetry affects music or how Latina/o theater affects novels Fourth, this course will include texts that represent a variety of linguistic and national contexts, including many countries in Latin America, thereby allowing students to see the relationship between history, culture, language, geography, and identity. These are all themes that are at the center of both Latina/o Studies and Comparative Literature. A comparative perspective facilitates appreciation of the vast and varied ways that Latina/o communities have used cultural expression. A particular point of contact between Latina/o Studies and Comparative Literature is the influence of hybridity. A central issue explored in this course concerns the intricate connections between multiple ways of expressing identity, in the arts, literature, music, etc., in diverse circumstances, such as locations where Latina/o cultures may be in the mainstream (such as in Latin America) and in the minority (in the U.S.). Drawing upon approaches offered by comparative literature and theories such as post-structuralism, feminism, and post-colonialism, we will examine the complex process through which Latina/o culture has been defined, disseminated, contested, and commercialized. Of particular interest from a comparative perspective are the ways that Latina/o cultures are created through hybridization, processes of mutual borrowing and differentiation, as well as through transnational processes of migration, urbanization, and cultural contact. The course's objective is to show not only how complex societies consolidate a shared culture but also how diverse Latina/o communities have produced a multiplicity of cultures that have been expressed via a broad range of cultural registers. These communities often span vast geographical areas, not only in the U.S. but across the Americas as people continue to look to their countries of origin for artistic inspiration.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 404 (IL) Literary Modes of Asia (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.

CMLIT 404 Topics in Asian Literature (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on Asian literature in a comparative and international frame. Different iterations of this course will have different topics as well as different historical or geographic foci, but may include literatures from the countries of East Asia (China, Japan, Korea), Southeast Asia (Thailand, Vietnam, Laos, Indonesia, Cambodia), or South Asia (Bangladesh, India, Pakistan). Because the course is comparative it will highlight relationships between and among literary traditions of Asia, or between Asia and the rest of the world, whether in the fields of poetry, drama, or fictional and non-fictional prose.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 3 credits in literature or related field appropriate to this course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 404 (IL) (ASIA 404) Topics in Asian Literature (3) Selected works from the major poetry, fiction, and drama of such countries as India, China, Japan.

CMLIT 404 Topics in Asian Literature (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on Asian literature in a comparative and international frame. Different iterations of this course will have different topics as well as different historical or geographic foci, but may include literatures from the countries of East Asia (China, Japan, Korea), Southeast Asia (Thailand, Vietnam, Laos, Indonesia, Cambodia), or South Asia (Bangladesh, India, Pakistan). Because the course is comparative it will highlight relationships between and among literary traditions of Asia, or between Asia and the rest of the world, whether in the fields of poetry, drama, or fictional and non-fictional prose.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature or related field appropriate to this course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 405 (US;IL) Inter-American Literature (3) This course examines the development of literature in Canada, the United States, Spanish America, the Caribbean area, and Brazil.

Inter-American Literature (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 406 (IL) Women and World Literature (3) Literature written by women, especially women from non-Western cultures; the spectrum of genres in which women writers have excelled.

Women and World Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature or in women's studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 408 (IL) Heroic Literature (3) Traditional heroes, their traits and adventures; typical themes and examples chosen from the epics and sagas of world literature.

Heroic Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature or folklore

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 410 (IL) Literary Translation: Theory and Practice (3) Emphasizing literary translation, a study of the theoretical and practical problems encountered in the processes of translation, transmission, and interpretation.

CMLIT 410 Literary Translation: Theory and Practice (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the history and practice of literary translation, ranging across space and time to provide a comparative, international perspective. It addresses such issues as the difficulties of literary language; theories of translation and translatability; theories of semantic equivalence; alternative modes of translation including sound- and graph-translation; and the history of important moments of translation in shaping the literary imagination. No second language is required, but students interested in learning how to translate literature may be given assignments allowing them to practice important skills connected to that task.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 18 credits in a foreign language

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 410 (IL) Problems in Translation (3) Emphasizing literary translation, a study of the theoretical and practical problems encountered in the processes of translation, transmission, and interpretation.

CMLIT 410 Literary Translation: Theory and Practice (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the history and practice of literary translation, ranging across space and time to provide a comparative, international perspective. It addresses such issues as the difficulties of literary language; theories of translation and translatability; theories of semantic equivalence; alternative modes of translation including sound- and graph-translation; and the history of important moments of translation in shaping the literary imagination. No second language is required, but students interested in learning how to translate literature may be given assignments allowing them to practice important skills connected to that task.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 18 credits in a foreign language

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 415 (GH;US;IL) World Graphic Novels (3) Critical analyses of form, genre, medium, and discourse of the graphic novel and its historical precedents in an international and comparative context.

CMLIT 415 World Graphics Novels (3)
(GH; US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course considers the graphic novel (also known as graphic fiction, comics, or sequential narrative) as an emergent literary medium and global phenomenon. The course focuses on texts that engage issues of contemporary identity, ethnicity, sexuality, technology, and/or history (personal, family, and national). These graphic novels engage these issues through the medium of text joined with image. This course explores the aesthetic of sequential narrative, its methods of production and consumption, and its place in a contemporary culture of reading. Assigned texts include titles from the United States, France, Japan, Italy, Canada and Norway. All texts will be read in English translation.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 422 (IL) African Drama (3) Traditional and popular drama forms; modern anglophone and francophone drama; nationalism and social criticism in contemporary African drama.

African Drama (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 423 (IL) African Novel (3) From traditional oral narratives to modern autobiograhical, historical, satirical, sociological, and allegorical forms; novelist as social critic.

African Novel (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 429 (ENGL 429) New Media and Literature (3) New media literary genres; critical discussion of creative works in digital media.

New Media and Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 430 (IL) Global Modernisms (3) A comparative investigation of global Modernisms, with an emphasis on the relations between modernism, modernity, and modernization.

CMLIT 430 Global Modernisms (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores and reassesses, comparatively, the ironies, conundrums, paradoxes, and the self-defying and self-engendering strategies of Modernism's relentless activity as aesthetic movement and as complement to modernity. Readings from theoretical texts and literary works across cultural contexts, international traditions, and linguistic frontiers.

Students will learn how to do critical analyses of written texts, and how to analyze and write about the history of aesthetic and particularly literary modernism and the concepts of modernism, modernity, and modernization. Students will leave the course as better critics of literary work and with an increase ability to perform literary and cultural analysis that relies on a solid grasp of relevant historical and theoretical contexts. Grading will involve a combination of class discussion, writing assignments, and exams, depending on class size and instructor preference.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 435 (IL) Cultures of Globalization (3) Cultural and literary effects of the process of globalization, with an emphasis on world literatures and transnationalism.

CMLIT 435 Cultures of Globalization (3 per semester/maximum of 6) (IL)

This course focuses on the cultural and literary effects of the process of globalization, with an emphasis on world literatures and transnationalism. It invites students to think about the ways in which the globalization of culture, politics, and/or the economy affects literary production, and the ways in which such literary features as genre, form, medium, style, and theme in turn reflect and attempt to shape our understanding of the global and its becoming.

The course will have a significant focus on primary material (literature, film, other media) and secondary material (philosophy, journalism, criticism, and so on). It will introduce students to the main theoretical concepts that govern thinking about globalization and global culture, as well as to important literary and cultural texts that articulate those values. It will prepare them for further research in comparative literary studies and in the critical history of globalization.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 3 credits of literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 438 (IL) Fantastic Worlds: International and Comparative Perspectives (3) A comparative, international study of fantastic worlds in literature and visual culture.

CMLIT 438 Fantastic Worlds: International and Comparative Perspectives (3) (IL)

This course will explore a wide range of “fantastic” narrative voices, crossing the boundaries of genres, periods, and nations, through literary and visual texts from the 19th century to contemporary eras, and from Asia to Americas. Students will examine various types of literary techniques and concepts, such as magic realism, grotesque realism, the absurdity, the fantastic, etc., and learn how texts best capture/grasp the
nature of “realities” in their creation of “fantastic” worlds. Students will develop more profound understanding of literatures through global lenses, develop and refine critical thinking, in speech and writing, and comparative methods of literary analysis, and develop communications skills in essays, response papers, class discussions, presentation and research papers.

Instructional objectives:
1) Students will develop more profound understanding of literatures through global lenses
2) Students will develop and refine critical thinking, in speech and writing, and comparative methods of literary analysis
3) Students will develop communications skills in essays, response papers, class discussions, presentation and research papers

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 443 (US;IL) Transatlantic Literature (3 per semester/maximum of 6) Comparative literary and cultural relations across the Atlantic Ocean; may include Europe, Africa, the Americas, and/or the Caribbean.

Transatlantic Literature (3 per semester/maximum of 6)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 443 (US;IL) Literary Relations of Germany with England and America (3-9) Nature and extent of the literary relations of Germany and England; in alternate years, of Germany and America. A reading knowledge of German is recommended but not required. Conducted in English.

Literary Relations of Germany with England and America (3-9)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 446 (IL) Postcolonial Literature and Culture (3) Postcolonial literature and theory in a comparative and international context.

CMLIT 446 Postcolonial Literature and Culture (3 per semester/maximum of 6) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Taking a comparative and transnational approach, this course will provide an advanced introduction to the field of postcolonial literature and theory. Readings will include the foundational anti-colonial writings of the early twentieth century, the postwar literature of decolonization, and the most recent literature on cultures of globalization. Themes to be discussed may include nationalism, subalternity, neocolonial formations, migration, and cultural translation. In general, this course will be taught in the active learning mode, featuring in-class discussion, writing projects, and group presentations.

CMLIT 446 is one of the many courses, which count towards the Comparative Literature major and the World Literature minor.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 448 (IL) Literary Cultures of Buddhism (3) Comparative exploration of various Buddhist literary cultures, from the classical Indian subcontinent to modern movements like the Beats and dalit writing.

CMLIT 448 Literary Cultures of Buddhism (3)
(IL)

This course will provide an in-depth exploration of various cultures of Buddhist literary production. Readings will cover a broad temporal and geographical range. Prior study of Buddhism or literature is not required and materials will be in English. Students will learn about major genres of Buddhist literature, such as sutras (scripture), jtaka (stories of the Buddha’s previous incarnations), hagiography, miracle tales, religiously inspired poetry, and kan meditational riddles. The course will also examine the various forms into which contemporary authors have adapted these materials (such as manga, novels, memoirs, and film). The course, or individual units within the course, will be structured so that students develop an historical perspective, allowing them to understand the literary cultures that gave rise to the works under study.

Class work includes some lecture but emphasizes guided discussions, group work, writing exercises, and some student presentations. This participatory approach is intended to deepen students’ appreciation of the works, to help them understand value systems that may differ from those predominant in western cultures, and to assist students in developing both analytical and expressive abilities.

The course is designed to be suitable for all students generally interested in religious cultures of writing, in Buddhism, or in literature, whether or not they have previously studied in any of these areas. The Comparative Literature major requires a certain number of electives at the 400-level, of which this could be one, depending on its content. Further, the course is designed to count as General Education and as an IL (“International”) course. It will be taught, as feasible, every 2-3 years with an enrollment of 20-30 students. With the addition of supplementary reading and research assignments, the course may also be suitable for certain graduate students. This course would benefit from access to a laptop and digital projector.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 453 (IL) (COMM 453) Narrative Theory: Film and Literature (3) Comparative study of the aesthetics and techniques of film and literature; close analyses of masters of each art form.

Narrative Theory: Film and Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: COMM 150 or 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 449 (IL) Literary Cultures of Islam (3) Comparative discussion of the literary cultures of Islam from the seventh century to the present.

CMLIT 449 Literary Cultures of Islam (3-6)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an advanced introduction to the literary cultures of the Islamic world, from the seventh century to the present. No prior knowledge is required. Works will be read in translation. Students will study the foundational text of Islam, the Quran, as a literary text, and learn about major genres of Islamic literatures (ghazal, masnavi, and maqamah, among others). They will also examine how these genres have been adapted in modern literature and media (novels, memoirs, and film). Supplementary historical readings will be provided to contextualize the primary texts.

CMLIT 449 is one of the many courses which count toward the Comparative Literature major and the World Literature minor.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 455 (IL) Ethics, Justice, and Rights in World Literature (3) Concepts of ethics, justice, and rights, appearing in world literature and/or film.

CMLIT 455 Ethics, Justice, and Rights in World Literature (3) (IL)

The course will consider how literature and culture address common concerns, including morality, justice, equality, and agency from different perspectives, aesthetic styles, and formal constraints. Students will consider how cultural texts, like legal and philosophical texts, have the power to influence politics and society. Literature is important for understanding ethics, justice, and rights because it teaches ways of thinking and of relating to others that are central to social values. How do we develop the commitment to social equity? How do stories develop ideas of altruism, of prejudice, of pathos, and more in their audience? What role does culture play in developing the moral imagination required to think through social crises? Each class will explore one or more interrelated topics through a variety of cultural and philosophical works. Readings might include works by Melville, Shakespeare, Kafka, Glaspell, Morrison, Capote, Garcia Marquez, and others. Topics might include: formalism; the paradoxes of equity; narrative, storytelling, and framing; custom, law and the political order; law, society, and power; interpretation, authority, and legitimacy; punishment, retribution, and redemption; and others. This course will provide an opportunity to think about the law and ethics in a new way, to read engaging works of fiction and non-fiction, and to examine the humanistic and philosophical perspectives that are at the core of the ethical imagination.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 3 credits in the study of literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 459 Topics in Theory (3) Selected topics in this history of theory and literary criticism within a global, comparative context.

CMLIT 459 Topics in Theory (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Covers specific topics in the history and practice literary criticism, cultural and political theory, and the history of ideas, within a comparative context. Introduces students to major issues, ideas, thinkers, schools, or traditions that have shaped the study of comparative literature. Students will learn how to read, think critically about, and write about theoretical texts, and how to analyze literary texts through the lenses of theory.

They will also engage critically with problems of intellectual and literary history and genealogy.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 470 (IL) Old Masters of the Modern Novel (3) Major novels of Joyce, Proust, Kafka, Thomas Mann, Nabokov, and others; their contributions to the art of the novel.

CMLIT 470 The Modern Novel (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the modern novel in a comparative and transnational perspective. It explores the basic connections between the modern period and the novel as a form, noting the rise to prominence of the novel in the modern period, and focuses on several important examples of the genre. Some versions of this course may adopt specific organizing themes, such as the novel and the city, the novel and war, the novel and love, and so on. Other versions may focus on the historical development of the novel over time or on crucial interpretive or narratological issues, including the problems of character, time, or point of view; still others may concentrate on major sub-genres of the modern novel, including realism, magic realism, modernism, and postmodernism.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 470 (IL) The Modern Novel (3) Major novels of Joyce, Proust, Kafka, Thomas Mann, Nabokov, and others; their contributions to the art of the novel.

CMLIT 470 The Modern Novel (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the modern novel in a comparative and transnational perspective. It explores the basic connections between the modern period and the novel as a form, noting the rise to prominence of the novel in the modern period, and focuses on several important examples of the genre. Some versions of this course may adopt specific organizing themes, such as the novel and the city, the novel and war, the novel and love, and so on. Other versions may focus on the historical development of the novel over time or on crucial interpretive or narratological issues, including the problems of character, time, or point of view; still others may concentrate on major sub-genres of the modern novel, including realism, magic realism, modernism, and postmodernism.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 480 (IL) The International Folktale (3) Traditional tales from various parts of the world: their origin, characteristics, forms; their transmission as oral narrative and written literature.

The International Folktale (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature or folklore

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 471 (IL) Poetry and Poetics (3) Theoretical and practical concepts in the comparative, global history of poetry and/or poetics.

CMLIT 471 Poetry and Poetics (3)
(IL)

This course explores theoretical and practical concepts in the history of poetry and/or poetics. Like all comparative literature courses, it pursues this task through discussions of poetry from a wide variety of national or linguistic origins and ranges widely across historical period, medium, and social form, where appropriate.

Students will develop a broad array of interpretive skills appropriate to poetry and poetics; they will acquire a knowledge of a wide variety of poetic forms; they will undertake comparative analyses of poems and poetic structures; they will learn how to think about poetics outside poetry.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 481 (IL) Theory and Techniques of World Folklore (3) Provides essential backgrounds to major folklore approaches and gives direction to the application of the most popular analytic methods.

Theory and Techniques of World Folklore (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 486 (IL) Tragedy (3) Development of tragic drama and its relationship to social background and philosophical theory.

Tragedy (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 487 (IL) Comedy (3) Development of comic drama and its relationship to social background and philosophical theory.

Comedy (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 488 (IL) (ENGL 488) Modern Continental Drama (3) From Ibsen to the drama of today: Strindberg, Chekhov, Hauptmann, Pirandello, Ionesco, Beckett, Genet, and others.

Modern Continental Drama (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 490 Video Game Studies (3) A comparative look at the nature and history of video games as cultural artifacts, from Pond to online role-playing.

CMLIT 490 Video Game Studies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The video game industry is larger than the film industry, and yet the academic study of video games has only just begun. This course is a comparative introduction to the nature and history of video games as cultural artifacts, from Pong to online role-playing. It introduces students to academic discussion on and creative work in new digital forms including hypertexts, video games, cell phone novels, machinima, and more. Students
will learn basic narrative theory, and study its impact on game studies and game production. They will survey major debates over the meaning and value of video games, and review its history from Pong to contemporary games, including online world-based games.

The course extends students' skills in literary interpretation to a variety of new objects, and makes them aware of the role medium plays in aesthetic development and production. Students will leave with a far sharper understanding of how the interpretive
tools used in the humanities can be extended to include new media, and with a sense of the historical role video games have played and will continue to play in global cultural production.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010
Prerequisite: 3 credits in literature

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 491 (IL) Literary Adaptation: International and Comparative Perspectives (3) A comparative, international study of adapations between literature and other media (film, theater, photography, music).

CMLIT 491 Literary Adaptations: International and Comparative Perspectives (3 per semester/maximum of 6) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

From the very first expressions of literary impulses in prehistoric times, and continuing through the present, literary material has been re-used and creatively recycled through processes of adaptation and appropriation, often involving translations not only between languages, but also between media. This course uses a global perspective to explore the processes and aesthetics of adaptations of literary works, including adaptations into other genres or media, such as the visual arts, a film, opera, stage play (or vice versa — adaptations from other media into literature). Drawing upon a broadly international selection of materials, we will explore multiple discourses surrounding adaptation; address the importance of translation and the dynamics between languages, audiences, and texts; study how adaptations address common themes such as race, class, gender, and sexual orientation; discuss international taxonomies of literary genres; and critically assess different cultural notions of authorship, intellectual property, and communal vs. individual ownership. From year to year the works and authors studied in this course may change.

Course objectives include (1) to encourage students to think critically about adaptations within and between cultures and media, in different parts of the world (2) to critically evaluate several of the often conflicting analytical paradigms which characterize the study of literary adaptations; (3) to assess varied approaches to genre in adapted works in different cultural settings; (4) to understand different perspectives on the concept of the author, such as the literary author and the 'author' in theatre studies; (5) to question assumptions about the world, re-examine personal points of view, and understand an expanded international range of ethical and value systems as expressed in literature. For methods of student evaluation, see the syllabus for each section; options include class presentations, response papers, research projects, and exams. This course may form part of the Comparative Literature major, the World Literature minor, and other majors.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010
Prerequisite: 3 credits in literature or other fields relevant to this course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative Literature (CMLIT)

CMLIT 499 (IL) Foreign Study--Comparative Literature (3-6) Advanced courses offered on comparative literary topics as part of a foreign-study program.

Foreign Study--Comparative Literature (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: 18 credits or equivalent in the appropriate foreign language; 6 credits in literature or related field appropriate to this course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 401 (IL) (EDTHP 401) Introduction to Comparative Education (3) Origins, nature, scope, basic literature, and methodology of comparative education. Study of sample topics.

CI ED (EDTHP) 401 Introduction to Comparative and International Education (3) (IL)

The course introduces undergraduate students to global issues in education and provides a survey of schooling practices used in various educational systems around the world. Students will have the chance to create an individual research project that will allow them to explore one country and one global educational issues in depth. Students are required to attend all classes, participate in the discussion sections, and take notes on the films shown. These films play an integral part in the course and provide students with views into classrooms and schools around the world. Students will also have access to international databases and be expected to make use of these databases in developing their projects. Finally, in-class discussions will focus on how comparative educational studies have been used by politicians to influence educational reform around the world.

In this course, we will survey the state of public education in the world today. Each student will focus on one nation and provide a synopsis of educational practice in that nation. We will then move on to focus on global or cross-national issues such as how competition between "core" nations like Singapore and the U.S. drives reform (GOALS 2000 or No Child Left Behind). Other issues will include power differences between north and south, education for democracy, barriers to girls and women's education in developing nations, as well as education and national identity.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 5th semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 440 (EDTHP 440) Introduction to Philosophy of Education (3) Introduction to the examination of educational theory and practice from philosophical perspectives, classical and contemporary.

CI ED (EDTHP) 440 Introduction to Philosophy of Education (3)

The major objective of EDTHP (CI ED) 440, Introduction to Philosophy of Education, is to broaden and deepen the students' understanding of the nature of education. Such a study involves exploring the ends as well as the means of education. It includes both an examination of some of the distinctive or defining characteristics of "educated persons" as well as the different elements of the learning experience (including curricula, pedagogies, and evaluative processes) that encourage the development of such persons. As part of developing an understanding of the educational enterprise, this course will introduce students to some of the important ideas and theories that comprise the rich tradition of educational philosophy. In the design of a course of this nature with constraints established by space, time, and the background of the student, it is necessary to confront the task of making judicious selections from the vast literary wealth accumulated over the centuries. In doing so, the decision made has been to focus primarily on the literary contributions of western philosophers of education. In the interest of making the sample varied and interesting, however, an effort has been made to include writings of some philosophers of education from different cultural contexts. The educational thoughts of A.S. Neill, John Dewey, Eliot Wigginton, Maxine Greene, Paolo Freire, Mohandas Karamchand Ganddhi, David Orr, Ivan Illich, and Wendell Berry, among others, will be explored in this class. The exposure to diverse, rich, and provocative ideas of the educators included for study here will, it is hoped, stimulate students to re-examine and further develop their own philosophy of education into a more comprehensive, coherent, and consistent one.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EDTHP 115

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 444 (WL ED 444) Language, Culture and the Classroom: Issues for Practitioners (3) Critical understanding of cultural linguistic diversity to facilitate the inclusion of English Language Learners in a globalized classroom.

CI ED (WL ED) 444 Language, Culture and the Classroom: Issues for Practitioners (3)

In this course we will focus on the issues of power raised by the use of Standard English as the school language while in its grounds there are an increasing number of students who are using more than one language/dialect to communicate. We will also discuss how language mutates into an exceptional hegemonic/counterhegemonic device central to the problematic regarding school socialization. Finally, we will critically understand teachers' and schools' roles in building a safe classroom where diversity of languages and cultures are welcome and encouraged.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: WL ED 300 orWL ED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 457 (AGECO 457) Principles of Integrated Pest Management (3) Integrated study of pest complexes and their management, emphasizing ecological principles drawing on examples from a range of agricultural, forestry and urban systems. This course is designed for sixth, seventh, and eighth semester and graduate students.

Principles of Integrated Pest Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Must take two or more of the following:ENT 313 and/orPPATH 405 and/orPPATH 318 and/orHORT 238

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 470 (ADTED 470) Introduction to Distance Education (3) An introduction to the history, theory, organization, technologies, and instructional procedures used in American and foreign distance education.

Introduction to Distance Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Comparative and International Education (CI ED)

CI ED 497A (EDTHP 497A) Immigration, Ethnicity and the Schools (3) This class is an introduction to theories and empirical research on various immigrant and race/ethnic groups and their schooling.

Immigration, Ethnicity and the Schools (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEH)

CMPEH 301 Introduction to Microcomputers (2) Basic microcomputer architecture, application, programs, and interfacing.

Introduction to Microcomputers (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: CMPSC 201 junior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEH)

CMPEH 449 VLSI Digital Circuits (3) Modern approaches to using VLSI technology; logic circuits, cell layout and design on CAD systems.

VLSI Digital Circuits (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEH)

CMPEH 472 Microprocessors (4) Principles of microprocessors, hardware architecture, assembly language, programming, interfacing, and applications of microprocessors will be studied.

CMPEH 472 Microprocessors (4)

This course is designed to provide students with strong foundation in microprocessor programming and hardware interfacing both in the classroom and laboratory settings. This course is a required course in the Electrical Engineering BS curriculum and is intended to be taken by students who have completed their digital systems and first electronics course requirements. As such, the course integrates materials from the above undergraduate electrical courses in addition to related math, engineering, and science courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 271, CMPEN 275, E E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 111S Computers and Computer Hardware (1) A brief orientation to University life and resources and an introduction to computers and computer hardware.

CMPEN 111S Computers and Computer Hardware (1)

This course contains two components: an orientation to University life and an introduction to the hardware aspects of computer engineering. In the orientation to University life, students learn about the responsibilities of and expectations on a student including ethical behavior, and explore some of the academic and non-academic resources of the University. In the introduction to computer engineering students learn about some of the fundamental concepts, devices, and methodologies that are involved in the design and use of digital and computer hardware. This exploration begins with a foundation of logic and critical thinking. Logic is examined first from a theoretical problem solving standpoint. The discussion then progresses to an implementation perspective examining how logic devices are created and used. Included is a look at some CAD tools and some logic design laboratory exercises. Using logic as a basic building block, the organization and design of a computer is then examined, ending in an exploration of some of the contemporary methods used to make computers faster and more efficient.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 270 Digital Design: Theory and Practice (4) Introduction to digital systems and their design. Topics include combinational and sequential devices and circuits, modern design tools and design practices.

CMPEN 270 Digital Design: Theory and Practice (4)

CMPEN 270 is a first course in digital systems and digital system's design. It lays the groundwork for many later courses in computer organization and architecture and switching theory. The course includes both a lecture component to introduce important concepts, principles, methodologies and theories and a laboratory component in which the lecture material can be applied and practiced. The course introduces the theoretical foundation for digital systems including number systems, a variety of commonly used codes and Boolean algebra. Combinational devices, logic gates, and sequential devices, latches and flip-flops are introduced along with design techniques, methods and tools. Design criteria and objectives are considered and design trade-offs are examined. Higher level design elements are also examined such as decoders, multiplexers, counters, and registers, and their use in system design. Students are exposed to a variety of design tools and implementation techniques, including schematic capture tools, simulation tools, Hardware Description Languages (HDL) and HDL design tools. Laboratory work includes the design, construction and debugging of a variety of digital circuits, and the use of standard laboratory tools such as the oscilloscope and logic analyzer, and various software design tools.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 271 Introduction to Digital Systems (3) Introduction to logic design and digital systems. Boolean algebra, and introduction to combinatorial and sequential circuit design and analysis.

CMPEN 271 Introduction to Digital Systems (3)

This course introduces students to logic design and digital systems. The course begins with an overview of number systems, base conversions, and binary arithmetic. Boolean algebra is presented and several basic theorems and postulates are introduced. Boolean algebra is then used to model digital devices. Canonical forms for expressing Boolean functions are introduced including sum-of-products and product-of-sum forms.

Basic Small Scale Integrated (SSI) combinational devices are introduced along with a description of their operations characterization, and use. The basic symbols used in a logic diagram/schematic are introduced and the principles involved in reading and creating logic diagrams/schematics are discussed.

A systematic design methodology for combinational circuits is covered, including the concepts of function minimization using Karnaugh maps, handling don't care conditions, and designing multiple output circuits. Medium Scale Integrated (MSI) combinational devices and functions such as multiplexors and decoders are discussed and their use in a variety of applications is explained. Simple programmable logic devices and their use in implementing combinational functions is covered. The process of combinational circuit analysis is discussed and the use and interpretation of timing diagrams is introduced. Binary arithmetic is reviewed along with binary addition and subtraction circuits. Various negative number codes are discussed including 2's complement, l's complement and sign-magnitude representation.

The concept of state and memory is introduced along with various sequential devices including the R-S latch, the D latch and the D, T, and J-K flip-flops. Timing considerations such as set-up and hold times for sequential devices is discussed along with various flip-flop triggering methods. The basic model for a sequential circuit/finite state machine is introduced. A systematic design methodology for creating synchronous sequential circuits is covered including state table/diagram creation, state reduction, state assignment, and circuit implementation. The process of sequential circuit analysis is also described.

Special sequential devices and circuits are introduced including counters and registers. Their use in various applications is highlighted. The course ends with a discussion of memory devices including RAM's and ROM'S.

Throughout the course, students use a schematic capture and design simulation CAD tool to model and test a variety of circuits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Concurrent: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 275 Digital Design Laboratory (1) Introduction to digital design techniques.

Digital Design Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Concurrent: CMPEN 271 ; PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 331 Computer Organization and Design (3) Introduction to major components of a computer system, how they function together in executing a program, how they are designed.

CMPEN 331 Computer Organization and Design (3)

The goals of the course are to introduce students to the major components of a computer system (the data path, the control path, the memory system, the I/O system), how they function together in executing a program, and how they are designed. The relationships between instruction set design, addressing modes, fetch and execute operations, and their impact on the underlying architecture are presented. Students will develop skills both in assembly language programming and in designing architecture components in a hardware description language (VHDL or verilog).

CMPEN 331 is a required course for both computer engineering and computer science majors.

CMPEN 331 requires access to PCs/workstations with commercial hardware description language tools (e.g., Synopsys VSS compiler and simulator) and a modern assembler/debugger (e.g., SPIM MIPS assembler, simulator, and debugger).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPEN 271;CMPSC 121 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 331 Computer Organization and Design (3) Introduction to major components of a computer system, how they function together in executing a program, how they are designed.

CMPEN 331 Computer Organization and Design (3)

The goals of the course are to introduce students to the major components of a computer system (the data path, the control path, the memory system, the I/O system), how they function together in executing a program, and how they are designed. The relationships between instruction set design, addressing modes, fetch and execute operations, and their impact on the underlying architecture are presented. Students will develop skills both in assembly language programming and in designing architecture components in a hardware description language (VHDL or verilog).

CMPEN 331 is a required course for both computer engineering and computer science majors.

CMPEN 331 requires access to PCs/workstations with commercial hardware description language tools (e.g., Synopsys VSS compiler and simulator) and a modern assembler/debugger (e.g., SPIM MIPS assembler, simulator, and debugger).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CMPEN 271 orCMPEN 270;CMPSC 121 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 351 Microprocessors (3) Microprocessor architecture; memory system design; assembly language programming; interrupts; the stacks and subroutines; memory and I/O inter- facing; serial I/O and data communications; microprocessors applications.

Microprocessors (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 271;CMPEN 275

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 352W Embedded Systems Design (3) Design/development of embedded systems for data acquisition, process control, and special-purpose computing systems; peripheral interfacing, serial/parallel communications and bus systems.

CMPEN 352W Microprocessor-based System Design (3)

In this course students learn how to design application specific embedded systems. Embedded systems are increasingly important as they are used in industrial applications, personal computing, and consumer products. Embedded systems are based on microprocessors and microcomputers, but are not intended to be general-purpose computers. In the laboratory students will design, implement, and validate application specific embedded systems. Being a writing-across-curriculum course, students will learn effective techniques of reporting their technical designs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 362 (E E 362) Communication Networks (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.

CMPEN (E E) 362 Communication Networks (3)

CMPEN (E E) 362 is an elective course in both the electrical and computer engineering curricula which provides an overview of the broad field of data and computer communications. First, a general model of the communication task is presented, including the layered concept by which each layer provides services for the layer above. First, the lowest (physical) layer is studied. This involves signal design, Fourier analysis representations, bandwidth concepts, transmission impairments and communication media properties. Then the next higher (link) layer is considered which involves organizing bits into frames, data link and error control methods (including frame sequence numbering and error detection principles). Multiplexing to share a link is studied, including frequency division multiplexing, dedicated time division multiplexing, and statistical time multiplexing.

At the network layer level, there are two categories: broadcast (usually local area) and switching networks. Broadcast and local area network studies include bus, tree and star topologies, Ethernet, optical fiber bus networks, ring networks, and medium access control protocols.

Switching and routing concepts for networks are explained, including both circuit and packet switching, datagrams and virtual circuits. Properties of frame relay and asynchronous transfer mode (ATM) networks are described. Internetworking frame structures, routing and protocols are studied. Also, bridge routing for local networks is described.

At the still higher transport (network end-to-end control) layer, transport protocols, including TCP/EP, are described.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPEN 271;
Concurrent: STAT 301 or STAT 318 or STAT 401 or STAT 414 or STAT 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 362 (E E 362) Communication Networks (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.

CMPEN (E E) 362 Communication Networks (3)

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Switching and routing concepts for networks are explained, including both circuit and packet switching, datagrams and virtual circuits. Properties of frame relay and asynchronous transfer mode (ATM) networks are described. Internetworking frame structures, routing and protocols are studied. Also, bridge routing for local networks is described.

At the still higher transport (network end-to-end control) layer, transport protocols, including TCP/EP, are described.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CMPEN 270 orCMPEN 271
Concurrent: STAT 301 or STAT 318 or STAT 401 or STAT 414 or STAT 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 371 Advanced Digital Design (3) Theory, design, and implementation of digital circuits based on combinational and sequential circuits; implementation of designs using hardware description language.

CMPEN 371 Advanced Digital Design (3)

In this course, students learn advanced concepts in digital design for complex combinational and sequential logic, and learn how to effectively use minimization and synthesis techniques. Contemporary CAD tools and target digital technologies including Complex Programmable Logic Devices (CPLDs and Field Programmable Gate Arrays (FPGAs) are utilized. The use of a hardware-description language for digital design is introduced. In the laboratory portion, students will implement, simulate, and test designs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 271;CMPEN 275;CMPSC 121 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 396 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 411 VLSI Digital Circuits (3) Basic building blocks of CMOS design, design rules, chip planning, layout design, system power and timing, simulation of VLSI structures.

VLSI Digital Circuits (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 371 orCMPEN 471;E E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 416 (E E 416) Digital Integrated Circuits (3) Analyses and design of digital integrated circuit building blocks, including logic gates, flip-flops, memory elements, analog switches, multiplexers, and converters.

CMPEN 416 Digital Integrated Circuits (3)

CMPEN 416 is a technical elective available to electrical and computer engineering students. It is intended for students who wish to specialize in the field of digital circuits. This course introduces the basic concepts involved in the design of digital circuits, which find practical application as logic and memory circuits in computers and other digital processing systems. The course emphasizes integrated circuit process-compatible circuit design techniques in recognition of the amazing synergy that has characterized the relationship between computer circuits and integrated circuit processing technology. This course includes three lectures and a two-hour laboratory each week. The only prerequisite is E E 310, a basic circuits course required for both electrical engineering and computer engineering students.

CMPEN 416 begins with a review of the bipolar junction transistor (BJT) device and proceeds into the more advanced Ebers-Moll device model. This is followed by an examination of a series of BJT-based saturating and non-saturating digital circuits of ever increasing complexity illustrating the evolution of the modern bipolar logic circuit families. The next phase of the course reviews the metal oxide semiconductor field effect transistor (MOSFET) and proceeds along the same path taken for the bipolar transistor circuits. Various MOSFET logic circuit families are introduced and analyzed. Computer semiconductor memory circuits are considered next. Both BJT and MOSFET versions of both static and dynamic read-write and read-only memories are considered. The cell array, memory addressing circuits, and sense amplifier designs are all examined in detail. This is followed by the related subject of programmable logic arrays, the final topic.

The emphasis of the laboratory component of the course is to compare the performance of representatives of each class of circuits to computer simulations of the same circuits. Parameters such as input-output voltage transfer characteristics, noise margins, and propagation delays are evaluated by building and measuring laboratory models. Most of the laboratory exercises require the student to evaluate a specified circuit, but the final exercise requires the student to design a circuit to meet a predefined set of specifications, then to prove that the design meets the requirements by measuring the circuit performance. Students are required to write a formal engineering report detailing the results of each laboratory exercise.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 417 (E E 417) Digital Design Using Field Programmable Devices (3) Field programmable device architectures and technologies; rapid prototyping using top down design techniques; quick response systems.

CMPEN (E E) 417 Digital Design Using Field Programmable Devices (3)

Field Programmable Devices, such as Field Programmable Gate Arrays (FPGAs) and Complex Programmable Logic Devices (CPLDs) are widely used for rapid prototyping and quick response-time designs. The objective of this course is to introduce the student to digital design using Field Programmable ICs, and to provide an understanding of the underlying technologies and architectures of these Integrated Circuits.

The course begins by introducing design alternatives for modern electronic systems identifying and classifying alternative system solutions, and evaluating when particular design solutions are optimal. These alternatives include microprocessors, microcontrollers, off-the-shelf digital ICs, Programmable logic ICs (FPGAs and CPLDs), and various forms of Application Specific Integrated Circuit (ASIC) designs. A homework assignment requires the student to quantitatively evaluate the cost, complexity, packaging, and time-to-market issues for a complex system design specification.

Next, the underlying Field Programmable Logic IC architectures and technologies are studied in detail. Following a broad survey of available programmable IC vendors and on-chip programming technologies (and their cost/performance trade-offs), several specific case studies are presented in the class. The first is the Xilinx XC4000xl line, because of the target boards used in the CAD laboratory component for this class. The initial lab portions of the class help the students to specify their design using various forms of design entry tools and also allows them to see how their design map on to the underlying FPGA architecture. The students also learn the underlying algorithms used by the design software they use in their Labs.

Next, the systematic top-down method for specifying complex designs using VHDL is introduced. Students are given a supporting homework assignment to develop high-level behavioral models for a simple digital system to reinforce this segment of the course. VHDL behavioral synthesis is now introduced as a preferred path to go from high-level system behavior to actual implementation on the FPGA. The strengths and weaknesses of synthesis are discussed, as are the emerging CAD tool trends. Additional VHDI-based homework assignments reinforce behavioral design and synthesis using commercial CAD tools.

The final segment of the class covers special topics that identify current trends in digital system architecture and programmable logic design. These include such topics as partially reconfigurable architectures and dynamic reconfiguration techniques, system design for testability, and field programmable analog arrays. Applications of FPGAs in special purpose computing environments such as signal processing, Java acceleration and image processing are also introduced. In the laboratory, student design project assignments explore larger and more complete system specifications of such things as controllers, CPU and memory design, and signal processing blocks. These assignments reinforce the lecture content as the students model, synthesize and implement their digital designs on the target Xilinx FPGA boards.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 431 Introduction to Computer Architecture (3) Introduction to computer architecture. Memory hierarchy and design, CPU design, pipelining, multiprocessor architecture.

CMPEN 431 Introduction to Computer Architecture (3)

This course will introduce students to the architecture-level design issues of a computer system. They will apply their knowledge of digital logic design to explore the high-level interaction of the individual computer system hardware components. Concepts of sequential and parallel architecture including the interaction of different memory components, their layout and placement, communication among multiple processors, effects of pipelining, and performance issues, will be covered. Students will apply these concepts by studying and evaluating the merits and demerits of selected computer system architectures.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331 orCMPEN 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 431H Honors Introduction to Computer Architecture (3) Honors course in principles of computer architecture: memory hierarchies and design, I/O organization and design, CPU design and advanced processors.

CMPEN 431H Introduction to Computer Architecture (3)

This course will introduce students to the architecture-level design issues of a computer system. They will apply their knowledge of digital logic design to explore the high-level interaction of the individual computer system hardware components. Concepts of sequential and parallel architecture including the interaction of different memory components, their layout and placement, communication among multiple processors, effects of pipelining, and performance issues, will be covered. Students will apply these concepts by studying and evaluating the merits and demerits of selected computer system architectures.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 441 Operating Systems (3) Resource management in computer systems. Process scheduling, memory management, file system design, I/O management, Unix operating system.

Operating Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 454 (E E 454) Fundamentals of Computer Vision (3) Introduction to topics such as image formation, segmentation, feature extraction, matching, shape recovery, object recognition, and dynamic scene analysis.

CMPEN 454 Fundamentals of Computer Vision (3)

CMPEN 454 is an introduction to computer vision. The goal of computer vision is to make computers understand and interpret visual information. Computer vision systems bring together imaging devices, computers, and sophisticated algorithms for solving problems in areas such as industrial inspection, medicine, document analysis, autonomous navigation, and remote sensing. The course involves both pedagogical written assignments and computer projects.

The beginning of the course gives an overview of computer vision and introduces low level image analysis techniques for binary images. Binary vision systems are useful when the silhouette of imaged objects convey enough information to recognize them. Examples can be found in optical character recognition, chromosome analysis and recognition of industrial parts. Moreover, many techniques developed for binary systems can be applied to gray level or color images. Next, the course covers image segmentation and contours. These topics are the foundation of most computer vision techniques. For an image to be correctly interpreted, it must be partitioned into regions that correspond to distinct objects or parts of objects. First, region based techniques such as thresholding, split and merge, region growing and texture analysis are introduced. Next, edge based techniques using gradient and Laplacian operators are discussed. Finally, contour representations and curve approximations linking edges into region boundaries are studied.

Next, depth from vision, with emphasis in stereo vision, is considered. Calculating distances to and among various points in the scene is important in many computer vision tasks such as inspection, robot manipulation, and autonomous navigation. In this part of the course the geometry of stereo systems and how to obtain depth maps from stereo image pairs is studied. Also, alternative 3D imaging sensors such as laser based range finders and radars are discussed.

Following stereo, the topic of computer vision is broaden to understand sequences of images over time. In this section techniques using information on spatial and temporal changes are used to design computer vision systems capable of coping with moving and changing objects, changing illumination and changing viewpoints. Visual motion is important primarily for two reasons. First, motion is a very important cue to understand the scene structure. Second, biological systems do use motion to infer properties of the surrounding world with very little a priori knowledge.

Finally, the topic of 3D object recognition is discussed. Object recognition entails two main issues: object identification and object localization. Identification determines the objects being imaged while localization determines their position in the world and with respect to the sensors. This topic builds upon all the different techniques discussed until this point.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 230 orMATH 231;CMPSC 121 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 455 (E E 455) Digital Image Processing (3) Overview of digital image processing techniques and their applications, image sampling, enhancement, restoration, and analysis; computer projects.

CMPEN (E E) 455 An Introduction to Digital Image Processing (3)

E E/CMPEN 455, a technical elective available to both electrical and computer engineering seniors and graduate students, discusses many current techniques for processing and manipulating digital images. The course involves both pedagogical written assignments and computer projects.

The beginning of the course gives an overview of digital image processing systems and digital image fundamentals. During this unit, important elements of human visual perception are reviewed; these ideas help motivate many of the computer-based techniques described in subsequent units. Also, the standard model for a digital image, in addition to the concepts of sampling and quantization, are described. Finally, basic topological concepts between digital image pixel are discussed.

The next unit considers image transform analysis, with a primary focus on Fourier-based techniques. The one-dimensional Fourier transform is reviewed, and then two-dimensional Fourier transform analysis is discussed. To bridge the gap from the continuous world to the digital world, the sampling theorem is introduced. Next, the Discrete Fourier Transform and its properties are described. Fourier-based filtering techniques, such as the ideal low-pass and Butterworth filters are then introduced. The Fast Fourier Transform is also discussed. Finally, the Discrete Cosine Transform, used later in JPEG and MPEG, is introduced.

The next unit discusses techniques for image enhancement and segmentation. These techniques include point-based techniques based on histogram analysis. They also involve linear and nonlinear mask-based methods for noise reduction and region sharpening. Further, techniques of mathematical morphology, which involve an application of set-theoretic concepts to image processing, are described. Finally, image segmentation methods, based on edge detection and thresholding, are described.

The final unit considers the concept of image compression. Techniques for image encoding and decoding are discussed. A brief model of the encoding-decoding process is described. Next, compression techniques, such as run-length encoding and Huffman coding, are described. Finally, the multimedia image-compression methodologies, JPEG and MPEG, are discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 353 orE E 350;CMPSC 121 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 461 Communication Networks (3) Data transmission, encoding, link control techniques, network architecture, design, protocols, and multiple access.

Communication Networks (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 271;E E 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 471 Logical Design of Digital Systems (3) Basic switching theory and design of digital circuits, including combinational, synchronous sequential, and asynchronous sequential circuits.

Logical Design of Digital Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 471H Honors Logical Design of Digital Systems (3) Honors course in basic switching theory and design of digital circuits, including combinational, synchronous sequential and asynchronous sequential circuits.

Honors Logical Design of Digital Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 472 Microprocessors and Embedded Systems (3) Microprocessors: architecture, design, assembly language, programming, interfacing, bus structure, and interface circuits and their use in embedded systems.

CMPEN 472 Microprocessors and Embedded Systems (3)

In this course students should learn about the operation and design of microprocessor-based systems, including both hardware and software aspects with an emphasis on real time control environments and embedded systems. After completing the course, students should be able to develop, write and debug programs in a microprocessor's assembly language and use standard assembly language program development tools. They should also be able to interpret and analyze basic microprocessor system hardware.

This course is a senior level elective for students in computer engineering and computer science.

The course requires the use of general department computing facilities consisting of UNIX workstations running the appropriate program development tools.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 472H Honors Microprocessors and Embedded Systems (3) Honors course in microprocessors: architecture, design, assembly language, programming, interfacing, bus structure, and interface circuits and their use in embedded systems.

Honors Microprocessors and Embedded Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 473 Microcomputer Laboratory (3) Design of digital systems using microprocessors.

CMPEN 473 Microcomputer Laboratory (3)

This laboratory course provides senior students with both theory and practice in designing, implementing, and debugging microprocessor-based systems. Students are guided through a series of projects in which they design, develop, and implement all of the components in a microprocessor based single-board system. After completing the course students will be able to design microprocessor based systems, including both software and hardware design. Students will also be able to use standard system design tools including standard laboratory equipment.

This course is a senior level elective for computer engineering majors. CMPEN 472 is a prerequisite for this course.

The course requires the use of a design laboratory including standard test equipment such as an oscilloscope, logic analyzer and signal generator as well as a PC with appropriate design software and a microprocessor or EPROM emulation system.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 475 Functional Verification (3) Introduce concepts, methods, and technology for effective functional verification of modern electronic systems.

CMPEN 475 Functional Verification (3)

Verifying design correctness of increasingly complex system-on-chip designs poses a major challenge to the semiconductor industry. Functional or logic errors in a chip design that are not identified early in the design phase can dramatically increase a project's overall cost and schedule. Further, design verification is consuming an ever-increasing portion of IC development time and cost. As much as 70% of effort in a complex IC design project is now attributed to verification.

This course will cover five key aspects of verification: an introduction to verification; a detailed description of simulation-based dynamic verification; formal verification; verification methodologies and advanced techniques; and case studies. First, the course will place verification in the context of the chip design process and introduce the verification cycle. Then, it will cover essential methodology principles and introduce the first hands-on example. It will also delve into various topics in dynamic verification, including the basic constructs of stimuli, monitors, checkers, observations categories, assertions, and test benches. Various case studies on actual industry and research designs will be provided.

The course will be supplemented by lab-assignments that provide hands-on experience to experiment with methodologies taught in lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 481 Computer Engineering Project (3) Group or individual design projects in the area of computer engineering.

Computer Engineering Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 480 Computer Engineering Design (3) Engineering design and modeling, engineering economy, project planning, capstone project selections, and technical communication skills.

CMPEN 480 Computer Engineering Design (3)

This course prepares senior computer engineering students for industrial engineering design and project management. It covers the engineering design process, project planning and evaluation, engineering ethics, and engineering economy. In addition, students select, specify, and start their capstone design project, which is completed, in the follow-up course, CMPEN 481. Students are expected to carry out a group design project that is on par with industrial expectations. Upon completion of this course a student should have a solid understanding of the engineering design process, a clear capstone project description, should have completed some preliminary design work, and be adequately prepared to complete the project in CMPEN 481.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 352W;CMPEN 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 482W Computer Engineering Project Design (3) Computer engineering design project, project management, documentation, reporting, and group and individual communication skills.

CMPEN 482W Computer Engineering Project Design (3)

The two principle goals of CMPEN 482W are (1) to introduce the fundamentals of systems engineering and systems engineering management, and (2) to develop written and oral communication skills. The course explores the process of translating a problem statement into an effective and economical computer system that meets the needs of the customer. Topics include a comparison of popular process models, analysis and derivation of requirements, requirements allocation and flow down, the work breakdown structure, object-oriented analysis and modeling, the design and development of the user interface, reliability engineering, scheduling, costing, and ethics. Communication skills are developed through oral presentations and a sequence of writing assignments, beginning with a description of requirements and leading to a final design document.

CMPEN 482W is not a prerequisite for any other course.

CMPEN 482W requires access to PCs or Unix workstations having a C++ compiler. Other specialty hardware or software may be required on a semester-by-semester basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310;E E 353;CMPSC 473;ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering (CMPEN)

CMPEN 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 005 Engineering Methods in Engineering Technology (1) Introduction to experimental and computer methods in engineering technology; applications of experimental concepts through student involvement in computer exercises.

CMPET 005 Engineering Methods in Engineering Technology (1)

Engineering Methods in Engineering Technology is a follow-on computer skills course to EET 002S. Its purpose is to teach EET students how to use computers to help solve technical problems. The course begins by focusing on the use of the mathematical and graphing capabilities of spreadsheet programs to help analyze and present technical data. This is followed by investigation of more sophisticated problem-solving and analytical software such as Mathcad, Matlab, Mathmatica, etc. (depending upon availability). Finally, the basic electronic simulations introduced in EET 002S are extended to include more sophisticated circuit analyses using PSpice, Electronic Workbench, etc. In all cases, the problem studied in CMPET 005 are typical of the applications that will be seen in future technology classes and in the engineering technology field. In some cases, again depending on availability of the software, students are exposed to the capabilities of modern 4th generation programming languages such as Visual Basic, LabView, HPVee, etc.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 101, MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 117 Digital Electronics (3) Fundamentals of digital circuits, including logic circuits, boolean algebra, Karnaugh maps, counters, and registers.

CMPET 117 Digital Electronics (3)

Digital Electronics covers fundamentals of both combinatorial and sequential digital logic circuits. Basic topics include Boolean algebra, binary codes, Boolean logic simplification and minimization theorems, and Karnaugh maps. Combinatorial and sequential logic topics include the theory and operation of arithmetic circuits, registers, counters, multiplexers, encoders/decoders, all major types of flip-flops, A-D and D-A conversions, counters, and memory systems. The course focuses primarily on small and medium scale devices using TTL logic with some use of MOS devices. Significant emphasis is placed on the use of manufacturers' data books to define device operating characteristics.

CMPET 117 is generally taken concurrently with CMPET 120, which is a digital electronics laboratory course. The lab exercise in CMPET 120 are coordinated with the CMPET 117 lecture material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EET 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 120 Digital Electronics Laboratory (1) Laboratory study of digital electronics circuits.

CMPET 120 Digital Electronics Laboratory (1)

Digital Electronics Laboratory is a one credit laboratory that meets for a single 2-hour session each week. It is normally taken concurrently with CMPET 117. The lab exercises in CMPET 120 expose students to the digital devices that are described in the CMPET 117 lecture course and give them an opportunity to observe and understand their operation in practical terms. The exercises cover basic logic gate functions using AND, OR, NOT, NAND, and NOR devices. Students also investigate the operation of flip-flops, adder circuits, binary counters, shift registers, encoders and decoders, and memory units. Often, students are required to complete a digital design project as part of the CMPET 120 course. Many faculty also require selected labs to be submitted as formal reports. Digital simulation software is also commonly used in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EET 105
Concurrent: CMPET 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 211 Embedded Processors and DSP (3) Introduction to micro-controllers and embedded controllers with applications, including concepts of digital signal processing.

CMPET 211 Embedded Processors and DSP (3)

CMPET 211 provides students with a basic understanding of microprocessors and microcontrollers with an emphasis on integrated embedded control of real world applications. The course provides a background in micro-processor/controller architecture, presents the operation and application of microcontroller peripherals, and introduces assembly language and higher level structured programming language. This can be a structured language such as C++ or PIC Basic. The intent is to introduce the students to a more powerful programming language capable of developing algorithms for embedded control of real world processes. Students will learn the analog to digital (ADC) and digital to analog (DAC) process and understand the resolution and aliasing consequences of these conversions.

With the ADC and DAC material mastered, the course will then introduce students to basic applications of Digital Signal Processing (DSP), such as digital filtering and noise reduction. Simple discrete Fourier transforms can be covered along with sampling theory and digital aliasing.

Although some of the mathematical theory underlying DSP techniques, such as Fourier and Hilbert Transforms, digital filter design and signal compression, can be fairly complex, the numerical operations required to actually implement these techniques are relatively simple and will be shown. DSP chips and applications will be covered to illustrate how to carry out such operations incredibly fast and efficiently.

Topics covered include:
- Microprocessor, microcontroller, and embedded system architecture
- Microcontroller peripherals
- Assembly Language Syntax and Programming
- Structured Programming and Algorithms
- Input and Output interfacing
- ADC and DAC conversions
- Sampling and DSP

The course will emphasize the concepts, principles, procedures, and programming models used by engineers and technologists to design, develop and implement digital control for real world instrumentation. Particular emphasis will be given to embedded controllers for process control.

Lectures will be supported by laboratory exercises in which the student will develop, assemble, download, and run programs on the target processor. Programming activities will focus on the development of algorithms for control of real world processes. Students will be required to prepare written laboratory reports outlining the program documentation. Reports will be graded based both on their technical quality and their grammatical and professionalism.

Students in CMPET 211 will be required to use computers in both class and laboratory exercises to develop and test their programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: CMPET 117, CMPET 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 241 Advanced Microprocessor Systems (4) Development of an understanding of microprocessor principles and systems through a study of current 8- and 16-bit microprocessors.

Advanced Microprocessor Systems (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 240 Microprocessor Interfacing (5) Examination of the devices used in microprocessor systems to communicate with external digital and analog systems.

Microprocessor Interfacing (5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 210;CMPET 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 242 Microprocessor Systems Design and Analysis (3) Experience in designing, constructing, and testing a complete microcomputer system and its practical application to control.

Microprocessor Systems Design and Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 301 Algorithmic Processes for Electrical Systems (3) Algorithms, languages, notations and applications of object- and procedure- oriented languages to electrical and electronic problem solving.

CMPET 301 Algorithmic Processes for Electrical Systems (3)

Algorithmic Processes for Electrical Systems is a required course for junior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. It is essential for Electrical Engineering Technology students to acquire a working knowledge of a computer language commonly used in practice. This course will prepare the student to analyze a problem and implement a structured procedural design and also an object-oriented design. This course is a follow-up course to CMPET 005 and CMPET 211, and prepares the student for several more advanced courses in the program related to computer analysis of circuits and systems.

This course covers properties of algorithms and languages, software development process, notations for describing algorithms, applications of object- and procedure-oriented languages to electrical and electronic problem solving, high-level language programming, integrated development environment, and structured programming. Laboratory exercises parallel lecture material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 211
Concurrent: MATH 141 or MATH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 355 Intermediate Microprocessors and Microcomputers (3) Microprocessor architecture and assembly language programming. Hardware and software of basic microprocessors. Input/output structure in microcomputers.

CMPET 355 Intermediate Microprocessors and Microcomputers (3)

Intermediate Microprocessors and Microcomputers is a required course for junior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. This course builds upon prerequisite digital logic, microprocessors and electronics courses. It includes microprocessor architecture and assembly language programming, hardware and software of basic microprocessors, and input/output structure in microcomputers.

The course covers a review of number systems, digital logic, computer architecture, software development process; the microcontroller, specifications, block diagrams; assembly language programming; jump, loop and call instructions; I/O port programming, addressing modes, arithmetic instructions and programs, logic instructions and programs, single-bit instructions and programs, counter/timer programming, serial communication, interrupts programming, real world interfacing, and bus interfacing to external memory. Laboratory exercises parallel lecture material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 221, CMPET 301, EET 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 333 Computer Networking (3) Introduction to Local Area Networks (LANs) and Wide Area Networks (WANs), including transmission mediums, protocols, topologies, software, and hardware.

CMPET 333 Computer Networking (3)

The purpose of the course is to understand the principles of networking as applied to local area networks (LANs) and wide area networks (WANs). The students learn internetworking models such as the OSI seven-layer, Ethernet, and Cisco three-layer models. Network topologies and various connectivity devices are investigated to form networks. Cisco IOS is introduced and console port and web interfaces are used for configuring Cisco devices. Subnetting is discussed and Cisco switches and routers are used for the implementation of LANs and WANs. Various protocols such as ARP, ICMP, IP, and TCP are presented and a software protocol analyzer is utilized. Applications such as file-sharing and remote data collection are investigated. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 216, CMPET 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 400 Computer Architecture, Organization, and Design (4) Instruction sets, formating, sequencing, and addressing modes; central processing unit design; computer peripheral, I/O, memory organization, and computer communications.

Computer Architecture, Organization, and Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 403

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 401 Data Communication and Networking (3) Signal representations, communication techniques, interfacing, serial and parallel communication, modems, error detection, LAN and WAN protocols.

CMPET 401 Data Communication and Networking (3)

This course is designed to provide the students with a foundation in signal presentation, communication techniques, serial and parallel communication, modems, and other interfacing methods. The networking technologies for local and wide area networks are also studied in detail. The range of topics covered depends on students' background. Topics: Part 1. (2 weeks) Overview: Introduction Protocols and Architecture; Part 2. (9 weeks) Data Communications: Data Transmission Media Data encoding Communication techniques Data Link Control Multiplexing; Part 3. (4 weeks) Local and Wide Area Networks: LAN and WAN protocols Switching techniques Bridges and routers High speed networks Internetworking Internet resources. Grading: 2 exams 40%, Final Project 20%, Assignments 20%, Final 20%. This course is a required course in the Computer Engineering Technology Option of the Electrical Engineering Technology BS curriculum.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CSE 271 orEE T 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 402 Data Communication and Networking Laboratory (1) Network operating systems, LAN and WAN protocols, serial and parallel communications, modems, FAX, and other interfacing methods.

Data Communication and Networking Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent:CMPET 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 403 Switching Circuit Design (4) Analysis and design of advanced combinational and sequential circuits using IC logic devices and PLD's while promoting the use of software development tools.

CMPET 403 Switching Circuit Design (4)

This course is designed to enhance students' abilities to analyze and design complex digital systems. The course will include the following topics:
1. Review of combinational circuits' analysis and design using, karnaugh maps with up to six variables and Quine-McCluskey method
2. Advanced combinational logic analysis and design with MSI logic circuits
3. Hazard in digital systems
4. Review of analysis and design of synchronous finite state machines (Moore and Mealy methodologies)
5. Synchronous sequential logic design using One-hot finite state machines
6. State reduction for completely and incompletely specified circuits/systems
7. Analysis and design of asynchronous sequential circuits/systems
8. Logic circuit testing and testable design
9. Introduction to Hardware Description Language

Grades will be based on two exams (38%), final exam (38%), laboratory assignments and final project (20%), along with homework assignments and quizzes (4%). This course is a technical elective in the Electrical Engineering Technology BS curriculum and is intended to be taken by students who have completed their first digital systems course requirements. As such, the course integrates materials from the above undergraduate electrical course in addition to related math, engineering, and science courses. No special facilities are required for this course other than laboratories available to the Electrical Engineering Technology Program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 271 orEET 117;CMPEN 275 orEET 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 412 Microcomputers (4) Design, architecture, programming, and interfacing of microprocessors, enhanced by lab experiments.

CMPET 412 Microcomputers (4)

E E T 412 is an intermediate course in microprocessor architecture, programming, and interfacing. It details the inner workings of a contemporary microprocessor, including its registers, busses, external connections, instruction set, and its available support devices for memory management, data transfer, clocking and interfacing. It includes a laboratory in which students program in machine language, assembly language, and high level language. Labs also teach students to interface a microprocessor to the user keyboard, the user display, floppy and hard disk drives, and external serial and parallel devices. E E T 412 is intended as an intermediate course, offered to students who have already had some exposure to microprocessor systems, microcomputer architecture, and low-level computer programming. Grading for the course will be based on performance on homework assignments (25%), in-class exams (50%), and laboratory exercises (25%). At the student's option, an additional project in research, programming or interfacing may be undertaken, and would be graded in lieu of one exam (15-20%). Students will be required to use a text editor to write programs, a high-level compiler, an assembler and a linker to compile programs, and a symbolic debugger to diagnose programs. Students will also be required to construct and debug interface circuits using electronic breadboards and test instruments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 271 orEET 117;CMPEN 275 orEET 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 457 Software Engineering (3) Application of modern techniques in software development, including program design based on new methods and tools.

CMPET 457 Software Engineering (3)

Software engineering is a required course for senior-level students pursuing the computer engineering technology (CET) option in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. Topics of the course include application of modern techniques in software development including program design based on current methods and tools. The purpose of this course is to stress a rigorous and systematic approach to embedded software development that represents current best practices and is widely accepted by business, industry and regulatory agencies governing embedded software. This includes proper planning and implementation.

Knowledge of generally accepted core standards and guidelines is stressed, including safety planning, hazards analysis, software management planning, requirements specification, design documents, coding, test plans, test specifications, test logs, test reports, design reviews, structured code walk-throughs, verification and validation, and reporting. The Unified Modeling Language (UML) is introduced and followed, including the components of UML, class diagrams, object diagrams, use-case diagrams, state diagrams, sequence diagrams, activity diagrams, collaboration diagrams, component diagrams, and deployment diagrams. Object oriented concepts include classes, abstraction, inheritance, polymorphism, encapsulation, message sending, associations, and aggregation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CMPET 355

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Engineering Technology (CMPET)

CMPET 456 Advanced Microprocessors, High Level Interfacing (3) Operating systems; systems programming; high-level application programming; high-level hardware and software protocols; serial and parallel digital communications.

CMPET 456 Advanced Microprocessors, High Level Interfacing (3)

Advanced Microprocessors, High Level Interfacing is a required course for senior-level students pursuing the computer engineering technology (CET) option in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. Topics of this course include operating systems, systems programming, high-level application programming, high-level hardware and software protocols, serial and parallel digit communications.

The purpose of this course is to extend and augment the topics covered in the earlier computer oriented courses, and build upon the foundations established there. It covers large scale embedded systems along with the related hardware and software design considerations. It is organized around a few intensive projects that cover the breadth of the material. The need for operating systems is discussed, as well as their important features including system services, command processing, device drivers, interrupt handling, memory and device management, system libraries, dynamic linking, virtual memory, multitasking, and inter-task communication. Unique considerations of real time operating systems are reviewed, such as throughput, task blocking, semaphores and special services. The gray area between operating systems and application programming known as systems programming is addressed, including standardization, generalization, choice of language, and make-buy decision issues.

A large part of the course is spent on high-level application programming. Topics include structured programming, user-written functions, data structuring and packetizing, and use of commercial libraries and other intellectual property.

Protocols based on current technology such as EPP, RS232, RS485, IIC, DeviceNet, USB, IEEE488, IEEE1394, are covered. Binary and character-based data transfer is discussed, along with communication layers and error detection, correction, and recovery issues. Serial and parallel communication topics include analysis and evaluation of the pros and cons of each protocol, debugging, monitoring, timing, and throughput.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CMPET 355

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 311 Introduction to Computing Concepts (3) Computing concepts for information processing and computer technologies associated with information management; microcomputer applications, programming in modern language support concepts.

CINSY 311 Introduction to Computing Concepts (3)

This course serves to introduce computing concepts to students. Students are introduced to various components of computer hardware and software, and issues of information systems management and processing. They will be introduced to computer programming, including problem solving and algorithm design, through the use of a state-of-the-art programming language.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 408 Introduction to Object-Oriented Programming and Design (3) An introduction to object-oriented design and program development; application of concepts will occur using a programming language.

CINSY 408 Introduction to Object-Oriented Programming and Design (3)

Students will study object-oriented design and program development. Application of concepts will occur using a programming language. Students will gain an understanding of object design concepts as related to an object-oriented language and will have hands-on experience in designing and implementing object-oriented programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: CINSY 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 406 Microcomputer Technology and Application (3) Introduction to fundamental components of microcomputer technologies and applications.

Microcomputer Technology and Application (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: CINSY 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 410 Hypertext Markup Language (3) The study of WEB applications using HTML; course will cover basic design and applications for the WEB.

CINSY 410 Hypertext Markup Language (3)

Students are introduced to the Internet and World-Wide WEB. Hypertext Markup Language (HTML) is used to understand the WEB and to comprehend development techniques for the WEB. Hands-on applications enhance understanding and prepare students for careers as WEB developers or WEB masters. Both individual and team hands-on projects are an integral part of the course. Students will also learn basic principles of good design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: CINSY 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 411 Topics in Computer Information Systems (3) Covers new trends and concepts in information/processing technology and their applications and impact on computer information systems.

Topics in Computer Information Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: permission of program coordinator

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 421 Multimedia Technologies (3) Introduces multimedia technologies and concepts; various applications of multimedia technologies will be introduced

Multimedia Technologies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: CINSY 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 425 Graphical Interface Design and Applications (3) Study of interface design with special emphasis on design for information system applications; application concepts will occur using programming language.

CINSY 425 Graphical Interface Design and Applications (3)

This course includes topics related to the design of interfaces with special emphasis on design for information systems applications. The application of concepts studied will occur using a programming language. Students will gain an understanding of interface design concepts as related to information systems, have hands-on experience in designing interfaces, and learn an appropriate programming language that facilitates graphical user interface principles and design. Exams will be given to test student comprehension and several projects will be used to develop skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: CINSY 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 427 WEB Programming (3) Introduction to WEB design, programming, applications, and techniques for WEB development.

CINSY 427 Web Programming (3)

Students will build upon their knowledge of HTML and WEB page design. The course introduces a programming language that is designed for Web page development. Hands-on applications enhance understanding and prepare students for careers as WEB developers or WEB masters. Both individual and team hands-on projects are an integral part of the course. The overall objective is that students develop expertise in programming WEB applications. Design principles, leading to effective applications, are integrated into course content.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: CINSY 311, CINSY 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 436 File Management and COBOL (3) Creation and maintenance of sequential and direct access files, report writing and other advanced programming techniques.

File Management and COBOL (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: CINSY 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 431 Business Programming with COBOL (3) Introduction to the syntax and grammer of COBOL language with emphasis on applications to business data processing.

Business Programming with COBOL (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: CINSY 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 441 Data Communications (3) Introduces data communications concepts, evolution, and applications. Computer networking methods and their components will be covered in this course.

Data Communications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: CINSY 431 or permission of program coordinator

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 446 Database Management (3) Designed to provide students with explanation, comparison of techniques, methodology of systems, limitations, application of various database management systems.

Database Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: CINSY 408, CINSY 431 or 3 credits in programming

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 451 Applied Software Project (3) A project in the design, specification, and programming of a system in an application area.

Applied Software Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: permission of program coordinator

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Information Systems (CINSY)

CINSY 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 097A Creating Web Pages with HTML and JavaScript (3) Creating web pages with HTML and JavaScript.

Creating Web Pages with HTML and JavaScript (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 097A Creating Web Pages with HTML and JavaScript (3) Creating web pages with HTML and JavaScript.

Creating Web Pages with HTML and JavaScript (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 097A Creating Web Pages with HTML and JavaScript (3) Creating web pages with HTML and JavaScript includes HTML, JavaScript, FT Telnet, basic Linux commancs, editor and other Linux features. Experience may wave coruse with department approval.

Creating Web Pages with HTML and JavaScript (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 097A Creating Web Pages with HTML and JavaScript (3) Creating web pages with HTML and JavaScript includes HTML, JavaScript, FT Telnet, basic Linux commancs, editor and other Linux features. Experience may wave coruse with department approval.

Creating Web Pages with HTML and JavaScript (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 097A Creating Web Pages with HTML and JavaScript (3) Creating web pages with HTML and JavaScript includes HTML, JavaScript, FT Telnet, basic Linux commancs, editor and other Linux features. Experience may wave coruse with department approval.

Creating Web Pages with HTML and JavaScript (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2011 Ending: Fall 2011 Future: Fall 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 100 Computer Fundamentals and Applications (3) Introduction to computer fundamentals and applications to data processing environments.

Computer Fundamentals and Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: 2 entrance units in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 101 (GQ) Introduction to C++ Programming (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.

Introduction to C++ Programming (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: 2 entrance units in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 102 Introduction to VB Programming (3) Problem solving in M I S environment; high-level language programming; control structures, functions, parameters, recursion, arrays, records/structures; verification; debugging; documentation.

Introduction to VB Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 2 entrance units in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 101S (GQ) Introduction to C++ Programming (3) Properties of algorithms, languages, and notations for describing algorithms, applications of a procedure-oriented language to problem solving. A student may receive credit for only one of the following courses: CMPSC 101, 201C, 201F, CSE 103.

Introduction to C++ Programming (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 2 entrance units in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 109 Introduction to Data Processing with COBOL (3) Study of the COBOL programming language and its applications in industry.

CMPSC 109 Introduction to Data Processing with COBOL (3)

CMPSC 109 is an introductory COBOL course, designed particularly for students in the Management Information Systems major at Behrend, but also appropriate for students in other Business majors and students from any major with an interest in programming in a data processing environment. The course assumes no prior study in programming.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits of programming

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 121 (GQ) Introduction to Programming Techniques (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.

Introduction to Programming Techniques (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2008 Ending: Summer 2010
Prerequisite: 2 entrance units in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 111S Logic for Computer Science (1) An introduction to logic and its application to problem solving and computer science.

CMPSC 111S Logic for Computer Science (1)

Computer Science provides the fundamental tools for analyzing problems and designing solutions to these problems which can be implemented on a computer. Logic plays an important role in this process, from a general-purpose tool for reasoning about knowledge to a special-purpose language for specifying the behavior of programs and designing hardware. This course examines the role of logic in problem solving and its application to computer science and computer engineering. Example problems will be drawn from a variety of sources, including brain teasers, puzzles, and mathematics. We will show how these problems and their solutions apply to real problems involving computers. We will also explore a number of the important areas of computer science and computer engineering including Boolean and Digital Logic, Designing Arithmetic Hardware, Cryptography and Security Programming Languages, Networking and Wireless Communication, Artificial Intelligence, and Computer Ethics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 121 (GQ) Introduction to Programming Techniques (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.

Introduction to Programming Techniques (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 or prerequisite or concurrentMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 121H (GQ) Introduction to Programming Techniques (3) Design and implementation of algorithms. Structured programming. Problem solving techniques. Introduction to a high-level language, including arrays, procedures, and recursion.

Introduction to Programming Techniques (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 or prerequisite or concurrentMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 122 Intermediate Programming (3) Object-oriented programming, recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), the basics of algorithmic analysis, and an introduction to the principles of language translation.

Intermediate Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 200 (GQ) Programming for Engineers with MATLAB (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.

CMPSC 200 Programming for Engineers with MATLAB (3)

CMPSC 200 is a service course offered to engineering and science majors. The course teaches basic programming concepts including: algorithm development, data types, number representation, control structures, functions, plotting and basic numerical analysis techniques. The course enables students to develop computer programs in MATLAB to solve simple engineering problems. The basic numerical analysis techniques covered in the course include matrix operations, systems of equations, solving equations, roots, curve fitting, interpolation, numerical integration and ordinary differential equations.

Students analyze physics-based and engineering problems; develop algorithms to solve the problems; implement the algorithms in the MATLAB programming environment; and produce informative output in both numerical and graphical form. The general programming concepts learned in the course are commonly found in most programming language environments. The problem-solving skills learned in the course can be utilized in upper-level engineering and science courses.

The lecture portion of the course gives students the conceptual and syntactical background needed for the successful completion of practical programming assignments during the laboratory portion of the course. The laboratory instruction involves hands-on programming by individual students or student teams assisted by a teaching assistant and/or instructor

Evaluation methods may include examinations, in-class labs, and programming projects. The course is generally held in a STEC room where each student has access to a computer. The course will be offered during the Spring semester.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 140
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 201 (GQ) Programming for Engineers with C++ (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.

Programming for Engineers with C++ (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: MATH 140
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 201S (GQ) Programming for Engineers with C++ (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.

Programming for Engineers with C++ (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 140
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 203 (GQ) Introduction to Spreadsheets and Databases (4) Design, use, and programming of spreadsheets and data bases with applications from a range of disciplines.

Introduction to Spreadsheets and Databases (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: 2 entrance units in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 202 (GQ) Programming for Engineers with FORTRAN (3) Development and implementation of algorithms in a procedure-oriented language, with emphasis on numerical methods for engineering problems. A student may receive credit for only one of the following courses: CMPSC 101, 102, 200, 201, or 202.

Programming for Engineers with FORTRAN (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: MATH 140
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 221 Object Oriented Programming with Web-Based Applications (3) This course will continue with object-oriented programming and will introduce graphics, virtual machines, programming language concepts and web-based programming using Java.

CMPSC 221 Object Oriented Programming with Web-Based Applications (3)

CMPSC 221 introduces graphics, virtual machines, programming language concepts and web-based programming using Java. Topics include object oriented design, event-handling methods, Web technologies, virtual machines, graphical user interfaces, API programming. This course uses Java as the object oriented computer language to complement the C++ computer language from the previous programming course in preparing computer science and computer engineering majors to meet immediate demands in solving computational problems.

CMPSC 221 is the third course in a 3-course uninterrupted programming sequence. This course extends the understanding of basic paradigms and concepts in computer science and computer engineering with a second course of object oriented design, classes and subclasses. Web technologies, client-server computing, common gateway interface (CGI) programs, client-side scripts, and Java applets are just a few of the concepts presented in the third course that stresses the principles of graphical user interfaces (GUI). The 3-course programming sequence reinforces fundamental, intermediate and advanced levels of sophistication in both C++ classes and Java classes with GUI in the third course of the uninterrupted programming sequence.

CMPSC 221 develops web-based object oriented programming and design including the concepts of net-centric computing. CMPSC 221 includes the concepts of a virtual machine and intermediate code generation (Java-specific). The course covers the creation of a program employing (GUI) user interface features: text box, list box, radio buttons, and check boxes to name a few. Another program to be written is a server-side program which will translate a client request into a database query, execute it, and resultant data. Other topics cover issues of security, permissions and file management with regard to a client/server system.

CMPSC 221 programming assignments in Java requires an understanding of the entire process of client/server development. A small-group semester project must be successfully completed within time-lines by following these steps: interface prototyping, program design, implementation of both client and server programs, unit testing, and documentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 297A Web Programming Seminar (1) Introduction to creating dynamic web page and team projects learning and using web-based programming languages.

Web Programming Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 221;CAS 100A orCAS 100B (concurrently) or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 297E Introduction to Programming for the Web (3) The over goal of this course is designed to teach you how to create your first Windows applications using Visual Basic 2008, and the .NET Framework 3.5 How to master essential Visual Basic programming skills like structured exception handling, string handling, and event handling. Learning how to write data validation routines to creating bulletproof applications Discovering essential .NET classes, such as Math, Array, and StringBuilder, and the typed collection classes. How to gain the debugging skills to track down elusive coding errors How to create and use business and database classes so your applications are object-oriented.

Introduction to Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 297E Introduction to Programming for the Web (3) The over goal of this course is designed to teach you how to create your first Windows applications using Visual Basic 2008, and the .NET Framework 3.5. How to master essential Visual Basic programming skills like structured exception handling, string handling, and event handling. Learning how to write data validation routines to creating bulletproof applications. Discoverng essential .NET classes, such as Math, Array, and StringBuilder, and the typed collection classes. How to gain the debugging skills to track down elusive coding errors. How to create and use business and database classes so your applications are object-oriented.

Introduction to Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 297E Introduction to Web Programming (3) This course introduces the student to PHP programming.

Introduction to Web Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 302 Intermediate VB Programming (3) OO programming, visual programming, classes, objects, ADTs, inheritance, recursion, regular expressions, user-defined controls, documentation, testing, verification, productivity tools.

Intermediate VB Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 311 Introduction to Systems Programming (3) Unix system programming in C; organization of programs and data; program analysis and support tools; software standards; common system functions.

CMPSC 311 Introduction to Systems Programming (3)

System Programming concerns the development of software components and methods for their combination, independent of any particular application. This course will provide information and experience required to understand, design and implement components of large software systems.

In general, students should be able to evaluate design alternatives according to standard practice, specifications, performance analysis, robustness, etc. To concentrate attention, we investigate one system and one programming language in detail, through demonstration programs, short- and long-term programming assignments. The specific system is Unix, a family of operating systems forming a complete standardized programming environment based on the idea of software tools. The specific language is C, which is widely used for operating system implementations, and which forms the basis for the C++ and Java languages studied in the prerequisite courses. This will help students understand operating system services available to application programmers, and provide a firm ground for study of operating systems in general.

There are several themes of the course:

(1) Understand computer systems, especially low-level influences on high-level goals. This includes the machine-level representation of programs and data structures; the memory hierarchy and its impact on performance; access to stored information via file systems, and access to other computer systems via networks.

(2) Understand existing system software and software standards, especially the UNIX toolset. This includes preparing a program (editors, static analysis, development environments); running a program (compilers and interpreters, assembler, linker, loader, debugger, profiler, tracer); controlling parts of a program (memory management, threads); communication between programs (within one system using signals, between systems using sockets and communication protocols); and combinations of software tools with scripting languages.

(3) Understand "real code", such as selections from the Linux operating system kernel and GNU utilities and libraries, and through comparative selections from Solaris, Linux, and Mac OS X.

(4) Understand system performance, including experiments on program performance and optimization techniques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 313 Assembly Language Programming (3) Program design, addressing modes, subroutines, parameter passing, stacks, bit manipulation, text processing, DOS functions, macros, I/O, high level language interfaces.

CMPSC 313 Assembly Language Programming (3)

This is a course in assembly language programming for IBM PCs and compatibles. Students will gain experience writing efficient, well-documented programs that are easily maintained. The course investigates the architecture and instruction set of a typical microcomputer based on the Intel 80x86 microprocessors. Topics include the basic structure of computers, the internal behavior of computers, program design, testing, debugging, machine architecture, addressing, BCD and binary arithmetic, subroutines and parameter passing, stacks, text processing, bit manipulation, DOS functions, macros, I/O routines, high level language interfaces and the assembly process.

This course is important because assembly language is often used in programs where small size or fast execution is critical. Knowledge of assembly language is also useful in debugging programs written in high level languages. It also helps bridge the gap between hardware and high level languages.

After successfully completing CMPSC 313, the student should be able to: explain the 80x86 architecture, including registers and segment:offset addressing; describe different ways data are represented in a computer and work with binary and hexadecimal numbers; describe the functions of an assembler; implement program designs in 80x86 assembly language, including: writing, documenting, testing and debugging a program in PC assembly language; manipulating strings; coding basic algorithms such as searching and sorting in assembly language; calling and passing parameters to subroutines; utilizing DOS functions; and interfacing with a high level language; explain how the underlying hardware affects software design and performance; appreciate the factors that contribute to program efficiency.

Students will be evaluated on homework (35% of grade), semester exams (35%), and a final comprehensive exam (30%).

The major only requires that a student have experience with assembly language programming. This course is intended for students who have not had any experience with assembly language programming before entering the program. It will also serve as an elective. The material learned in this course is beneficial in understanding concepts in the required courses CMPSC 422, CMPSC 472, and CMPSC 460, as well as in the elective courses CMPSC 428 and CMPSC 470.

No special facilities are required for this course. The software necessary is available in the computer labs or for students to use at home. This course will be offered once per year, with an expected enrollment of 55.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 312 Computer Organization and Architecture (3) Data representation, digital logic, instruction set/control logic, machine/ assembly languages, advanced architectures, memory hierarchy, I/O devices, overall system design.

Computer Organization and Architecture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 121 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 335 Fundamentals of Communication Networks (3) Introduction to the composition of communciation networks, including trans- mission mediums and protocols, transfer methods, topologies and software, and communications hardware.

Fundamentals of Communication Networks (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits of programming

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 360 Discrete Mathematics for Computer Science (3) Discrete mathematics and foundations for modern computer science. Topics include sets, relations, logic, algorithms, graphs, finite state machines and regular expressions.

Discrete Mathematics for Computer Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Concurrent: CMPSC 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397A Intermediate Programming for the Web (3) Covers forms, databases, email, cookies, oft-used libraries.

Intermediate Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397A Intermediate Web Programming (3) Covers forms, databases, email, cookies, oft-used libraries.

Intermediate Web Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397A Intermediate Programming for the Web (3) Covers forms, databases, email, cookies, oft-used libraries.

Intermediate Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397A Intermediate Programming for the Web (3) Covers forms, databases, email, cookies, oft-used libraries.

Intermediate Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397B Advanced Programming for the Web (3) Covers forms, databases, email, cookies, oft-used libraries.

Advanced Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: CSE 297A andCSE 297C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397B Advanced Programming for the Web (3) Covers forms, databases, email, cookies, oft-used libraries.

Advanced Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: CSE 297A andCSE 297C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397B Advanced Programming for the Web (3) Covers forms, databases, email, cookies, oft-used libraries.

Advanced Programming for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2011 Ending: Summer 2011 Future: Summer 2011
Prerequisite: CSE 297A andCSE 297C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397C SQL Databases for the Web (3) This overview of the course teaches you the concepts and terms for working with relational database and SQL. It also teaches you the knowledge of the following: How to use the Management Studio to work with a SQL Server database Master the SQL that you will use every day Learn how to design and create a database Master advanced SQL features.

SQL Databases for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 397C SQL Databases for the Web (3) This overview of the course teaches you the concepts and terms for working with relational database and SQL. It also teaches you the knowledge of the following: How to use the Management Studio to work with a SQL Server database Master the SQL that you will use every day Learn how to design and create a database Master advanced SQL features.

SQL Databases for the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 402 UNIX and C (3) UNIX operating system, functions, libraries, programming style, operators and variables, data types, control statements, pointers, arrays, strings, lists, input/output, macros.

CMPSC 402 Unix and C (3)

The primary goal of the course is to provide students with sufficient information to enable them to write structured and readable C programs for realistic applications. In particular, after completing the course students should be familiar with and be able to use pointers and dynamic memory management techniques.

A secondary goal is for the students to be fluent in using the Unix operating system, particularly those parts needed for program development.

Students will be evaluated on midterm and final exams, and four to five problem sets. The exams will be worth 50% of the total grade and the problem sets will be worth the remaining 50%.

This course is an elective in the computer science (COMP) BS program. Students in other programs generally use it as an elective. Students cannot take this course after having taken CMPSC 422.

No special Facilities, are needed for this course. The course will usually be offered once a year with an expected enrollment of 30-40.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 121 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 402 UNIX and C (3) UNIX OS including file system, utilities, and shell scripting; C programming, including I/O, pointers, arrays, dynamic memory, macros, and libraries.

CMPSC 402 Unix and C (3)

The primary goal of the course is to provide students with sufficient information to enable them to write structured and readable C programs for realistic applications. In particular, after completing the course students should be familiar with and be able to use pointers and dynamic memory management techniques.

A secondary goal is for the students to be fluent in using the Unix operating system, particularly those parts needed for program development.

Students will be evaluated on midterm and final exams, and four to five problem sets. The exams will be worth 50% of the total grade and the problem sets will be worth the remaining 50%.

This course is an elective in the computer science (COMP) BS program. Students in other programs generally use it as an elective. Students cannot take this course after having taken CMPSC 422.

No special Facilities, are needed for this course. The course will usually be offered once a year with an expected enrollment of 30-40.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 409 Advanced Data Processing with COBOL (3) Introduction to advanced COBOL features, file structures, and programming techniques and information processing.

Advanced Data Processing with COBOL (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 109

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 425 Advanced Object-Oriented Programming (3) Advanced object-oriented programming paradigm, exception handling, application programming interface, secure programming, network programming, threads and synchronization.

CMPSC 425 Advanced Object-Oriented Programming (3)

The primary goal of this course is to introduce advanced object-oriented programming and network programming concepts. The course emphasizes an in-depth study of object-oriented programming paradigm including advanced topics in:
* Inheritance: abstract classes, interfaces, multiple inheritance, and protected members
* Polymorphism: inheritance hierarchies, type hierarchies, dynamic dispatch, superclass method invocation, multiple inheritance vs multiple types,
* Application programming interface: GUI programming, event dispatch/handling, nested classes, and other utility classes,
* Exception handling: throwing and catching exceptions
* Network programming and security: client-side and server-side application development, threads and synchronization, ports and communication protocols, application security policies, encryption and digital signatures, code signatures

The study of these topics should provide a solid basis for students to draw on in a course on object-oriented design or courses requiring a higher level programming language.

Topics, and approximate time allotted to topics, include:
* Object Oriented Programming Paradigm (7 weeks)
o Object orientation: objects, classes, abstract classes, interfaces, inheritance
o Polymorphism: inheritance hierarchy, type hierarchy, multiple inheritance, multiple types
o Exception handling
* Application Programming Interface (3 weeks)
o Graphical User Interface (GUI) Programming
o Event dispatch/handline in GUI
o Other utility classes
* Introduction to Network Programming (3 weeks)
o Client-server architecture, threads, synchronization
o Understanding ports
o Connection using Transmission Control Protocol (TCP)
o Connection using User Datagram Protocol (UDP)
o Connection using Uniform-Resource Locator (URL)
* Introduction to Secure Programming (2 weeks)
* Network Security
o Application security policies
o Encryption and digital signatures
o Code signatures

After taking this course, the student should be able to:
1. Describe encapsulation and information hiding
2. Describe inheritance, overloaded and overridden methods, polymorphism, and dynamic binding
3. Describe multiple inheritance, multiple types, inheritance hierarchy, and type hierarchy
4 Design, develop, and test applications in an object-oriented programming language, including event-driven, client-side network-based applications with a simple graphical user interface threads, and synchronization techniques
5. Understand network security issues that arise in network-based applications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: CMPSC 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 426 Object-oriented Design (3) Object-oriented design methodologies and programming.

CMPSC 426 Object-Oriented Design (3)

The primary goal of this course is to study the object-oriented design paradigm, including modeling languages, classes and objects, the inheritance relationship, polymorphism, and software engineering topics relating to object-oriented design. Study of this topic should provide a solid understanding of object-orientation for students to use in studying diverse topics such as operating systems, software engineering, and database design.

Grades will be based on a mid-term exam, a final exam, and five homework assignments. Grades will be determined from weighting exam scores as 50% of the total grade and homework as 50% of the total grade.

This course is an elective for students in the BS COMP program. The course builds on topics learned in earlier object-oriented programming courses.

No special facilities are needed for this course. The course will be offered once per year with an expected enrollment of 30 to 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 422

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 426 Object-oriented Design (3) Object-oriented analysis and design; design patterns such as creational, structural, and behavioral patterns; UML; and unified process.

CMPSC 426 Object-Oriented Design (3)

The primary goal of this course is to study the object-oriented design paradigm, including modeling languages, classes and objects, the inheritance relationship, polymorphism, and software engineering topics relating to object-oriented design. Study of this topic should provide a solid understanding of object-orientation for students to use in studying diverse topics such as operating systems, software engineering, and database design.

Grades will be based on a mid-term exam, a final exam, and five homework assignments. Grades will be determined from weighting exam scores as 50% of the total grade and homework as 50% of the total grade.

This course is an elective for students in the BS COMP program. The course builds on topics learned in earlier object-oriented programming courses.

No special facilities are needed for this course. The course will be offered once per year with an expected enrollment of 30 to 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 425, CMPSC 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 428 Introductory Ada and Program Design (3) Structured program design using Ada; strong typing, data abstraction, packages, subprograms, separate compilation, visibility, exceptions, generic units.

CMPSC 428 Introductory Ada and Program Design (3)

Ada is a modern language with a broad field of use, appropriate for both technical and administrative applications. Ada is also a standardized language with strong support internationally; most other languages are found in different versions and dialects for different computers. Excellent programming craftsmanship depends on excellent tools, and the programmer's most important tool is the programming language used. Students should find Ada to be an extremely good programming environment and should discover that developing and implementing object-oriented programs in such a rich language provides benefits that will carry well into their careers.

After successfully completing CMPSC 428, the student should be able to: use Ada to develop programs, from the initial problem statement to the final implementation, using top-down design and structured programming principles; test programs written in Ada; use appropriate data structures and language constructs when developing programs written in Ada; use operators, operands, expressions, and statements in the development of Ada programs; use the various control structures inherent in the Ada language; use the data types inherent in the Ada language; create generic types, subprograms, and packages; create and use complex data types; describe the software engineering goals of understandability, modifiability, reliability, efficiency, and portability; describe the software engineering concepts of data abstraction, modularity, information hiding, and completeness; implement exception handling in Ada programs; develop concurrent programs in Ada using multiple tasks.

Students will be evaluated on homework (35% of grade), semester exams (35%), and a final comprehensive exam (30%).

This course is an elective in the computer science (COMP) BS curriculum. This course is intended for juniors or seniors. The material learned in this course is beneficial in understanding programming concepts covered in the required courses CMPSC 462, CMPSC 460 and CMPSC 422, as well as in the elective course CMPSC 470. This course is also a prerequisite for the elective course CMPSC 429.

No special facilities are required for this course. The software necessary is available in the computer labs or for students to use at home. This course will be offered once per year, with an expected enrollment of 40.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 121 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 428 Programming in Ada (3) Structured program design using Ada; strong typing, data abstraction, packages, subprograms, separate compilation, visibility, exceptions, generic units.

CMPSC 428 Introductory Ada and Program Design (3)

Ada is a modern language with a broad field of use, appropriate for both technical and administrative applications. Ada is also a standardized language with strong support internationally; most other languages are found in different versions and dialects for different computers. Excellent programming craftsmanship depends on excellent tools, and the programmer's most important tool is the programming language used. Students should find Ada to be an extremely good programming environment and should discover that developing and implementing object-oriented programs in such a rich language provides benefits that will carry well into their careers.

After successfully completing CMPSC 428, the student should be able to: use Ada to develop programs, from the initial problem statement to the final implementation, using top-down design and structured programming principles; test programs written in Ada; use appropriate data structures and language constructs when developing programs written in Ada; use operators, operands, expressions, and statements in the development of Ada programs; use the various control structures inherent in the Ada language; use the data types inherent in the Ada language; create generic types, subprograms, and packages; create and use complex data types; describe the software engineering goals of understandability, modifiability, reliability, efficiency, and portability; describe the software engineering concepts of data abstraction, modularity, information hiding, and completeness; implement exception handling in Ada programs; develop concurrent programs in Ada using multiple tasks.

Students will be evaluated on homework (35% of grade), semester exams (35%), and a final comprehensive exam (30%).

This course is an elective in the computer science (COMP) BS curriculum. This course is intended for juniors or seniors. The material learned in this course is beneficial in understanding programming concepts covered in the required courses CMPSC 462, CMPSC 460 and CMPSC 422, as well as in the elective course CMPSC 470. This course is also a prerequisite for the elective course CMPSC 429.

No special facilities are required for this course. The software necessary is available in the computer labs or for students to use at home. This course will be offered once per year, with an expected enrollment of 40.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 430 Database Design I (3) Relational database model, query languages, integrity, reliability, and normal forms for design.

CMPSC 430 Database Design I (3)

The main goal of this course is to explore the relational database model, with special emphasis on the design and querying of relational databases. Secondary goals include exploration of the mathematical basis for relational databases and exploration of the relationship of database to the rest of computer science. Study of these topics should improve student skills in programming, modeling the structure of data and using and administering databases.

Grades will be based on midterm and final exams totaling 250 points, and 10 - 12 homework assignments totaling approximately 200 points. Grades will be based directly on percentage of the total points received from those listed.

This course is an elective for students in the BS COMP program and is required for admission into the MS COMP program. The course builds on concepts learned in earlier programming, data structure and discrete mathematics courses.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 60 - 70 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462;MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 430 Database Design (3) Relational database model, query languages, integrity, reliability, normal forms for design.

CMPSC 430 Database Design I (3)

The main goal of this course is to explore the relational database model, with special emphasis on the design and querying of relational databases. Secondary goals include exploration of the mathematical basis for relational databases and exploration of the relationship of database to the rest of computer science. Study of these topics should improve student skills in programming, modeling the structure of data and using and administering databases.

Grades will be based on midterm and final exams totaling 250 points, and 10 - 12 homework assignments totaling approximately 200 points. Grades will be based directly on percentage of the total points received from those listed.

This course is an elective for students in the BS COMP program and is required for admission into the MS COMP program. The course builds on concepts learned in earlier programming, data structure and discrete mathematics courses.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 60 - 70 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 431W Database Management Systems (3) Database system concepts: file organizations and retrieval algorithms; the three data models (relational, hierarchical, and network) and their database implementations.

Database Management Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 221;ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 431 Database Management Systems (3) Database system concepts: file organizations and retrieval algorithms; the three data models (relational, hierarchical, and network) and their database implementations.

Database Management Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 221;ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 436 Communications and Networking (3) Data transmission, basic signaling, data encoding, error control, communication protocols, security, network topologies, routing, switching, internetworking, emerging high speed networks.

CMPSC 436 Communications and Networking (3)

This course introduces the elements and architecture of computer and data communication networks, demonstrates the fundamental principles of computer networking, and provides experience in the practical use of current networking technology. Topics in this course include: data communications (basic signaling, data transmission, data encoding, errors and error control), communications architecture and protocols (communication protocols, internetworking, transport protocols, layered network architecture, network security) and computer networks (WANs, LANs, network topologies, internetworking, routing and switching strategies and emerging high speed networks).

After taking CMPSC 436, students should be able to:

1) understand the fundamentals of networking concepts and terminology

2) define and contrast the classifications local area network (LAN), metropolitan area network (MAN), and wide area network (WAN)

3) name and describe basic networking elements

4) define the roles of clients, servers, and peers as they relate to computer networks

5) define the term "protocol" and explain how it relates to computer networks

6) identify specific network management areas and describe the organizational issues relating to each of them

Students will be evaluated on homework (35% of grade), semester exams (35%), and a final comprehensive exam (30%).

This course is an elective in the computer science (COMP) BS curriculum. This course is intended to be taken by second semester juniors or seniors.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 60.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 438 Computer Network Architecture and Programming (3) Network architectures, communication protocols, internetworking, network security, client-server computing, web application development, programming with APIs.

CMPSC 438 Computer Network Architecture and Programming (3)

This course introduces the elements and architecture of computer and data communication networks, demonstrates the fundamental principles of computer networking, and provides practical experience in the network application development. This course will provide an overview of computing network architectures and programming that are essential knowledge for many professionals working in computer science and information systems fields. This course is Students will gain hands-on experience developing a range of network programming, including the development of client and server-side web applications, and the use of remote procedure calls.

After taking this course, the student should be able to:

1. Understand the fundamentals of networking concepts and terminology
2. Name and describe basic networking elements
3. Define the term "protocol" and explain how it relates to computer networks
4. Describe the functions of the first four layers of the ISO reference model
5. Define the roles of clients, servers, and peers as they relate to computer networks
6. Design and build client-server web-based applications
7. Implement a distributed systems using distributed object framework

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: CMPSC 312, CMPSC 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 437 Network Operations and Management (3) Study of local area network (LAN) and wide area network (WAN) topologies, operations, and management.

Network Operations and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 335

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 441 Introduction to Artificial Intelligence (3) History of AI, problem solving, search techniques, knowledge representation, LISP, learning.

CMPSC 441 Artificial Intelligence (3)

The primary goals of this course are (1) to provide the students with an introduction to Artificial Intelligence concentrating on some fundamental areas of AI, and (2) to provide the students with a working knowledge of LISP so that they can investigate some basic problems in AI using LISP as a vehicle language.

Grades will be based on five homework assignments, worth 60% of the total grade, and two exams (a midterm and a final), worth 40% of the total grade.

This is an elective course in the BS COMP program.

No special facilities are needed for this course.

This course is offered once a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 122 or equivalent;CMPSC 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 442 Artificial Intelligence (3) Introduction to the theory, research paradigms, implementation techniques, and philosophies of artificial intelligence.

Artificial Intelligence (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122 or equivalent
Concurrent: CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 441 Artificial Intelligence (3) Problem solving, search techniques including local search and genetic algorithms, knowledge representation, planning, learning, and neural networks.

CMPSC 441 Artificial Intelligence (3)

The primary goals of this course are (1) to provide the students with an introduction to Artificial Intelligence concentrating on some fundamental areas of AI, and (2) to provide the students with a working knowledge of LISP so that they can investigate some basic problems in AI using LISP as a vehicle language.

Grades will be based on five homework assignments, worth 60% of the total grade, and two exams (a midterm and a final), worth 40% of the total grade.

This is an elective course in the BS COMP program.

No special facilities are needed for this course.

This course is offered once a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 122;MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 443 Introduction to Computer and Network Security (3) Introduction to theory and practice of computer security with an emphasis on Internet and operating system applications.

Introduction to Computer and Network Security (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 473, CMPEN 362

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 446 Computer Vision (3) Image formation, segmentation, filtering, edge detection, texture analysis, shape from shading, color, stereo matching, and dynamic scene analysis.

Computer Vision (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 230 orMATH 231;CMPSC 121 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 450 Concurrent Scientific Programming (3) Problems of synchronization, concurrent execution, and their solution techniques. Design and implementation of concurrent software in a distributed system.

Concurrent Scientific Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 121, CMPSC 201 orCMPSC 202;MATH 220;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 451 (MATH 451) Numerical Computations (3) Algorithms for interpolation, approximation, integration, nonlinear equations, linear systems, fast FOURIER transform, and differential equations emphasizing computational properties and implementation. Students may take only one course for credit from CSE/MATH 451 and CSE/MATH 455.

Numerical Computations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits of programming;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 452 Numerical Analysis I (3) Algorithm efficiency and accuracy, function interpolation and polynomial approximation, numerical differentiation and integration, initial-value problems, and approximation of eigenvalues.

CMPSC 452 Numerical Analysis I (3)

General principles for evaluating the accuracy and efficiency of floating point algorithms; methods for solving single equations and systems of linear equations, function interpolation and polynomial approximation, numerical differentiation and integration, initial-value problems, approximation of eigenvalues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 121 or equivalent;MATH 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 455 (MATH 455) Introduction to Numerical Analysis I (3) Floating point computation, numerical rootfinding, interpolation, numerical quadrature, direct methods for linear systems. Students may take only one course for credit from CMPSC (MATH) 451 and CMPSC (MATH) 455.

Introduction to Numerical Analysis I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 220;MATH 230 orMATH 231 ; and 3 credits of programming

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 452 Numerical Analysis (3) Algorithm efficiency and accuracy, function interpolation and polynomial approximation, numerical differentiation and integration, initial-value problems, and approximation of eigenvalues.

CMPSC 452 Numerical Analysis I (3)

General principles for evaluating the accuracy and efficiency of floating point algorithms; methods for solving single equations and systems of linear equations, function interpolation and polynomial approximation, numerical differentiation and integration, initial-value problems, approximation of eigenvalues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 456 (MATH 456) Introduction to Numerical Analysis II (3) Polynomials and piecewise polynomial approximation; matrix least square problems; numerical solution of eigenvalue problems; numerical solutions of ordinary differential equations.

Introduction to Numerical Analysis II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 455

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 457 Computer Graphics Algorithms (3) Graphics systems/hardware, color models, transformations, projections, clipping, hidden line/surface removal, aliasing, parametric curves/surfaces, 3D modeling animation.

CMPSC 457 Computer Graphics Algorithms I (3)

Concepts and techniques needed to draw geometrical objects with a discrete device: Coordinate systems, clipping, curves and regions, geometric transformations, parallel and projective projections, hidden line and surface removal, animation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 122;MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 457 Computer Graphics Algorithms I (3) Coordinate systems, clipping, curves and regions, geometric transformations, parallel and projective projections, hidden line and surface removal, interactive techniques, animation.

CMPSC 457 Computer Graphics Algorithms I (3)

Concepts and techniques needed to draw geometrical objects with a discrete device: Coordinate systems, clipping, curves and regions, geometric transformations, parallel and projective projections, hidden line and surface removal, animation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 422;MATH 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 458 Fundamentals of Computer Graphics (3) Fundamentals of computer graphics: input/output devices, transformation, projection, clipping, hidden line/surface elimination.

Fundamentals of Computer Graphics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 311;MATH 220;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 459 Scientific Visualization (3) Visualization techniques for data analysis and presentation. Applying visualization and perceptual theory. Using extending platform independent visualization software.

CMPSC 459 Scientific Visualization (3)

Visualization of scientific data and processes has always been important for gaining insights into scientific phenomena. Historically, such visualization has taken place in the scientist's imagination and was then rendered in drawings, graphs and diagrams. The rapid advance of computer technology, and in particular, computer graphics, has made new tools available to the scientist to aid in the interpretation and communication of scientific information. In this course students will study a variety of computer graphics, scientific visualization, and virtual reality techniques and apply them to scientific visualization projects. The projects will be drawn from all of the sciences and the resulting projects will then be available to faculty and students to use as tools in their disciplines.

The prerequisites for this course are CMPSC 122. Students will apply the writing skills gained in ENGL 202C and refine them in the context of scientific writing. They will also have the opportunity to apply the knowledge and skills gained in CMPBD 360 and its predecessors, CSE 103 and CSE 120 within the context of a significant natural science or mathematical visualization problem. Software and languages used in this course will change as the discipline of scientific visualization evolves. Currently, programming will be done in C++ and Java; VRML and other virtual reality languages, and scientific specialty languages such as IDL, muPad, xpp, Mathematica, Maple, etc. Projects initiated in this course can form the basis for further development as a 494 research project.

The course will take advantage of a variety of computing platforms available at Behrend including Windows NT and Unix.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 460 Principles of Programming Languages (3) Design and implementation of high level programming languages and survey of language paradigms including imperative, functional, and object-oriented programming.

CMPSC 460 Principles of Programming Languages (3)

The primary topics of this course include run-time systems for imperative programming languages and aspects of the object-oriented, functional and declarative paradigms that have applications in industrial software development. Study of these topics should improve student skills in programming, debugging and problem solving.

Students will be evaluated on midterm and final exams, and homework. Exams will total 250 points and homework will total approximately 200 points. Grades will be based directly on percentage of the total points received from those listed.

This course is currently an elective for students in both the BS COMP and MS COMP programs. When the new requirements for the BS COMP (proposed in this package) become effective, CMPSC 460 will be a required course for the BS COMP program. The course builds on concepts learned in earlier programming, design and computer organization courses.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 30 - 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 312;CMPSC 462;CMPSC 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 460 Principles of Programming Languages (3) Design and implementation of high level programming languages and survey of programming language paradigms.

CMPSC 460 Principles of Programming Languages (3)

The primary topics of this course include run-time systems for imperative programming languages and aspects of the object-oriented, functional and declarative paradigms that have applications in industrial software development. Study of these topics should improve student skills in programming, debugging and problem solving.

Students will be evaluated on midterm and final exams, and homework. Exams will total 250 points and homework will total approximately 200 points. Grades will be based directly on percentage of the total points received from those listed.

This course is currently an elective for students in both the BS COMP and MS COMP programs. When the new requirements for the BS COMP (proposed in this package) become effective, CMPSC 460 will be a required course for the BS COMP program. The course builds on concepts learned in earlier programming, design and computer organization courses.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 30 - 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 312;CMPSC 462;CMPSC 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 461 Programming Language Concepts (3) Fundamental concepts of programming language design, specifications, and implementation; programming language paradigms and features; program verification.

Programming Language Concepts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 221;CMPSC 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 462 Data Structures (3) Asymptotic notations, lists, stacks, queues, trees, balanced trees, self- adjusting data structures, hash tables, priority queues, bionomial heaps.

CMPSC 462 Data Structures (3)

The primary goals of this course are (1) to provide the students with a set of basic data structures useful in the design of efficient algorithms, and (2) to provide the students with the ability to design and analyze new data structures as needed to solve problems. The secondary goal of this course is to introduce basic algorithm analysis techniques to prepare the students for the follow up course CMPSC 463, Design and Analysis of Algorithms.

Grades will be based on five homework assignments, worth 60% of the total grade, and three exams (two midterms and a final), worth 40% of the total grade.

This is a required course in the BS COMP program. It is also a prerequisite for a number of other courses in the COMP program such CMPSC 463, 460, 430, etc.

No special facilities are needed for this course.

This course is usually offered once a year. On occasions, as sufficient demand exists, it will be offered twice a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 122 or equivalent;
Concurrent: MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 461H Honors Programming Language Concepts (3) Honors course in fundamental concepts of programming language design, specification, and implementation; programming language paradigms and features; program verification.

Honors Programming Language Concepts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 462 Data Structures (3) In-depth theoretical study of data structures such as balanced trees, hash tables, priority queues, B-trees, binomial heaps, and Fibonacci heaps.

CMPSC 462 Data Structures (3)

The primary goals of this course are (1) to provide the students with a set of basic data structures useful in the design of efficient algorithms, and (2) to provide the students with the ability to design and analyze new data structures as needed to solve problems. The secondary goal of this course is to introduce basic algorithm analysis techniques to prepare the students for the follow up course CMPSC 463, Design and Analysis of Algorithms.

Grades will be based on five homework assignments, worth 60% of the total grade, and three exams (two midterms and a final), worth 40% of the total grade.

This is a required course in the BS COMP program. It is also a prerequisite for a number of other courses in the COMP program such CMPSC 463, 460, 430, etc.

No special facilities are needed for this course.

This course is usually offered once a year. On occasions, as sufficient demand exists, it will be offered twice a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 360
Concurrent: MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 463 Design and Analysis of Algorithms (3) Recurrences, algorithms design techniques, searching, sorting, selection, graph algorithms, NP-completeness, approximation algorithms, local optimization algorithms.

CMPSC 463 Design and Analysis of Algorithms (3)

The primary goals of this course are (1) to provide the students with fundamental techniques for designing and analyzing algorithms, and (2) to introduce some techniques for dealing with inherently intractable problems.

Grades will be based on five homework assignments, worth 60% of the total grade, and three exams (two midterms and a final), worth 40% of the total grade.

This is a required course in the BS COMP program.

This course is usually offered once a year. On occasion, as sufficient demand exists, it will be offered twice a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 462
Concurrent: MATH 414 or STAT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 463 Design and Analysis of Algorithms (3) Recurrences, algorithms design techniques, searching, sorting, selection, graph algorithms, NP-completeness, approximation algorithms.

CMPSC 463 Design and Analysis of Algorithms (3)

The primary goals of this course are (1) to provide the students with fundamental techniques for designing and analyzing algorithms, and (2) to introduce some techniques for dealing with inherently intractable problems.

Grades will be based on five homework assignments, worth 60% of the total grade, and three exams (two midterms and a final), worth 40% of the total grade.

This is a required course in the BS COMP program.

This course is usually offered once a year. On occasion, as sufficient demand exists, it will be offered twice a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462;MATH 315 ; some knowledge of basic probability

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 464 Introduction to the Theory of Computation (3) Computability/Complexity: finite automata, regular & context-free languages, Turing machines, Church-Turing Thesis, undecidability, reducibility, completeness, time/space complexity, P versus NP.

CMPSC 464 Introduction to the Theory and Computation (3)

CMPSC 464 introduces students to an essential part of theoretical computer science: how to define abstract mathematical models of computational devices (automata), how to characterize their computational power by studying the family of languages that they can recognize (formal languages), and what the limitations of even the most powerful computational devices are (computability). The course studies regular languages by means of deterministic and nondeterministic finite-state automata and regular expressions; it studies context-free languages through the use of context-free grammars and pushdown automata; and it studies computability by means of Turing machines and recursive and recursively-enumerable languages. The unsolvability of the halting problem for Turing machines is proved by a diagonalization argument, and this result is then used to show that various problems about languages are unsolvable, such as the problem of determining whether two context-free grammars generate the same language.

Finally, the concept of computational complexity is introduced, and the classes P and NP are defined. (Informally, the former class consists of problems that can be solved computationally in a manageable amount of time, and the latter consists of problems for which a proposed solution can be verified in a manageable amount of time.) The concept of an NP-complete problem is defined, and some specific problems are proved to be values to the variable of a Boolean formula that will make the formula true).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 465 Data Structures and Algorithms (3) Fundamental concepts of computer science: data structures, analysis of algorithms, recursion, trees, sets, graphs, sorting.

Data Structures and Algorithms (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 360 orMATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 466 Combinatorics and Graph Theory (3) An introduction to combinatorics and graph theory, with emphasis on applications and their organization for solution on digital computers.

Combinatorics and Graph Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 467 (MATH 467) Factorization and Primality Testing (3) Prime sieves, factoring, computer numeration systems, congruences, multiplicative functions, primitive roots, cryptography, quadratic residues. Students who have passed MATH 465 may not schedule this course.

Factorization and Primality Testing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 360 orMATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 468 Theory of Automata, Languages, and Computability (3) Language theory: regular and context-free languages; computability: Turing machines, halting problem, undecidable language problems; complexity theory: NP-complete problems.

Theory of Automata, Languages, and Computability (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122;MATH 315, MATH 311W orCMPSC 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 469 Formal Languages with Applications (3) Regular, context free, and recursive languages; notations for language specification and applications.

CMPSC 469 Formal Languages with Applications (3)

The primary goal of this course is to explore formal language theory, including regular, context free and recursively enumerable languages. Notations for specifying these languages (regular expressions, finite automata, context free grammars and turing machines) are emphasized. Applications of these languages, including pattern recognition, scanning, parsing, specification of programming language syntax and Unix shell programming, are also discussed. Study of these topics should provide a solid theoretical basis for students to draw on in studying diverse areas such as algorithm analysis, complexity theory and compiler construction.

Grades will be based on 2 midterm exams and a final exam, and 5 - 10 homework assignments. Grades will be determined from weighting exam scores as 60% of the total grade, and homework as 40% of the total grade.

This course is required for students in the BS COMP program and is a prerequisite for CMPSC 470 and MA SC 505 (a required course in the MS COMP program). The course builds on concepts learned in earlier programming and discrete mathematics courses, and provides the theoretical background needed for compiler construction.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 70 - 80 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 122 or equivalent;MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 469 Formal Languages with Applications (3) Regular, context free, recursive, and recursively enumerable languages; associated machine models; applications.

CMPSC 469 Formal Languages with Applications (3)

The primary goal of this course is to explore formal language theory, including regular, context free and recursively enumerable languages. Notations for specifying these languages (regular expressions, finite automata, context free grammars and turing machines) are emphasized. Applications of these languages, including pattern recognition, scanning, parsing, specification of programming language syntax and Unix shell programming, are also discussed. Study of these topics should provide a solid theoretical basis for students to draw on in studying diverse areas such as algorithm analysis, complexity theory and compiler construction.

Grades will be based on 2 midterm exams and a final exam, and 5 - 10 homework assignments. Grades will be determined from weighting exam scores as 60% of the total grade, and homework as 40% of the total grade.

This course is required for students in the BS COMP program and is a prerequisite for CMPSC 470 and MA SC 505 (a required course in the MS COMP program). The course builds on concepts learned in earlier programming and discrete mathematics courses, and provides the theoretical background needed for compiler construction.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 70 - 80 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 360;MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 470 Compiler Construction (3) Programming language structure, basic automata theory, design of a complier, scanning and parsing, semantic processing (including type checking), code generation, and error detection.

CMPSC 470 Compiler Construction (3)

The primary topics of this course are areas of compiler construction that are applicable both in building compilers and in many other areas of computer science. Both the concepts and the implementation of these techniques will be emphasized. Study of these topics should improve student skills in programming, debugging and software engineering.

Students will be evaluated on midterm and final exams, a multistage compiler construction project, and homework. Exams will total 250 points, the project will total approximately 200 points and homework will total approximately 200 points. Grades will be based directly on percentage of the total points received from those listed.

This course is an elective for students in both the BS COMP and MS COMP programs. The course builds on concepts learned in earlier programming, data structure and computer organization courses.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 20 - 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 312;CMPSC 462;CMPSC 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 470 Compiler Construction (3) Compiler design and implementation; scanning, parsing, semantic analysis, optimization (including static analysis), code generation, garbage collection, and error detection.

CMPSC 470 Compiler Construction (3)

The primary topics of this course are areas of compiler construction that are applicable both in building compilers and in many other areas of computer science. Both the concepts and the implementation of these techniques will be emphasized. Study of these topics should improve student skills in programming, debugging and software engineering.

Students will be evaluated on midterm and final exams, a multistage compiler construction project, and homework. Exams will total 250 points, the project will total approximately 200 points and homework will total approximately 200 points. Grades will be based directly on percentage of the total points received from those listed.

This course is an elective for students in both the BS COMP and MS COMP programs. The course builds on concepts learned in earlier programming, data structure and computer organization courses.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 20 - 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 312;CMPSC 425;CMPSC 462;CMPSC 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 471 Introduction to Compiler Construction (3) Design and implementation of compilers; lexical analysis, parsing, semantic actions, optimization, and code generation.

Introduction to Compiler Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 472 Operating System Concepts (3) Process management, synchronization, deadlocks, memory management, virtual memory, CPU and process scheduling, file systems, disk scheduling, security, protection, distributed systems.

CMPSC 472 Operating Systems Concepts (3)

A course on operating systems is an essential part of a computer science education. This course is intended as an introduction to study the concepts, structure and mechanisms that underlie operating systems. A tremendous range and variety of computer systems exist for which operating systems are designed. Rather than focus on individual operating systems, this course discusses the key mechanisms of modern operating systems, the types of design trade-offs and decisions involved in operating system design and the context within which the operating system functions.

After completing CMPSC 472 the student should be able to:

(1) describe and understand the four major components of an operating system: process management (including synchronization, scheduling, mutual exclusion, deadlocks and concurrency), input/output (including disk scheduling and disk 1/0), memory management (including virtual memory, paging, segmentation and addressing) and management of the file systems

(2) describe and understand how a centralized operating system functions

(3) describe and understand the various components of an operating system

(4) describe the various goals of protection and the security problem in general

(5) compare centralized operating systems with distributed operating systems

Students will be evaluated on homework (35% of grade), semester exams (35%), and a final comprehensive exam (30%).

This course is required in the computer science (COMP) BS curriculum. It is intended for seniors to take this course in their fall semester. This course is also an admission requirement for the (COMP) MS program.

No special facilities are required for this course. The software necessary is available in the computer labs or for students to use at home. This course will be offered once per year, with an expected enrollment of 80.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 312;CMPSC 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 472 Operating System Concepts (3) Theoretical and practical issues of operating systems design and implementation, process management, concurrent programming, memory management, scheduling, I/O, and security.

CMPSC 472 Operating Systems Concepts (3)

A course on operating systems is an essential part of a computer science education. This course is intended as an introduction to study the concepts, structure and mechanisms that underlie operating systems. A tremendous range and variety of computer systems exist for which operating systems are designed. Rather than focus on individual operating systems, this course discusses the key mechanisms of modern operating systems, the types of design trade-offs and decisions involved in operating system design and the context within which the operating system functions.

After completing CMPSC 472 the student should be able to:

(1) describe and understand the four major components of an operating system: process management (including synchronization, scheduling, mutual exclusion, deadlocks and concurrency), input/output (including disk scheduling and disk 1/0), memory management (including virtual memory, paging, segmentation and addressing) and management of the file systems

(2) describe and understand how a centralized operating system functions

(3) describe and understand the various components of an operating system

(4) describe the various goals of protection and the security problem in general

(5) compare centralized operating systems with distributed operating systems

Students will be evaluated on homework (35% of grade), semester exams (35%), and a final comprehensive exam (30%).

This course is required in the computer science (COMP) BS curriculum. It is intended for seniors to take this course in their fall semester. This course is also an admission requirement for the (COMP) MS program.

No special facilities are required for this course. The software necessary is available in the computer labs or for students to use at home. This course will be offered once per year, with an expected enrollment of 80.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 312;CMPSC 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 474 Operating System & Systems Programming (3) Operating Systems overview and principles; processes and signals; concurrency and synchronization; memory and file management; client-server computing; scripts; systems-programming.

Operating System & Systems Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122;CMPSC 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 473 Operating Systems Design & Construction (3) Design and implementation of computer operating systems; management of various system resources: processes, memory, processors, files, input/output devices.

Operating Systems Design & Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 311;CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 479 Language Translation (3) Design and implementation of compilers, lexical analysis, syntax/semantic analysis, optimization, and code generation.

Language Translation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 484 Computer Science Senior Project I (2) Computer science capstone project with documentation emphasis.

CMPSC 484 Computer Science Senior Project I (2)

This course is phase one preparation for completing a design for a project to serve as the capstone to the computer science degree program. The course provides instruction and specification of a simulated real-world work environment and associated activities to employ and integrate computer science concepts. Technical instruction and delivered products will be required.

Students enrolled in the program will: 1) produce a design for a significant senior project using a cooperative, team approach, 2) present concepts, progress, and products to and interact with peer and faculty review boards. The course will: 1) provide the student with an opportunity to work in a team environment designed around sound development practice, 2) present to students current team organization and management techniques, 3) describe various forms of written communication targeted to different audiences, and 4) reinforce the technical knowledge attained through the computer science curriculum.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 202C;CMPSC 221;CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 483W Software Design Methods (3) Applications of scientific knowledge and methods in the design and construction of computer software using engineering concepts.

Software Design Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 221;CMPSC 465;ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 485W Computer Science Senior Project II (3) Computer science capstone project with documentation emphasis.

Computer Science Senior Project II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 484

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 487W Software Engineering and Design (3) Requirements analysis, specification, design, expectation and testing strategies, development handling, development libraries, approaches to project management, and documentation.

CMPSC 487W Software Engineering and Design (3)

The primary goal of this course is to familiarize students with the wide variety of techniques and methodologies used in software engineering to assist in the development of large software systems. Issues discussed include the human factors involved in developing software, models of the software development process, the use of formal methods in software engineering, software validation and verification, and software maintenance.

A second goal is to help students understand the importance of written communication in software engineering, and to provide opportunities for students to improve the quality of their writing - specifically in describing software systems. The primary means of accomplishing this goal is a semester long project in which students write requirements for a large software system. In writing these requirements, students describe the system for non-technical readers (clients and users) and specify it for technical readers (other system developers).

A final goal is to emphasize the role of teams in software development. Modern software systems are simply too large to reasonably be produced by one person, so the ability to work as part of a team is vital. To support achieving this goal, techniques and tools for working in groups are discussed in the course, and students work on the semester project in teams.

Students will be evaluated on midterm and final exams, a semester project and homework. Exams will total 250 points, the project will total approximately 200 points and homework will total approximately 50 points. Grades will be based directly on percentage of the total points received from those listed.

This course is a required course in the computer science (COMP) BS curriculum, and is intended to be taken by seniors as the capstone course for the major. As such, the course integrates material from many (potentially all) of the undergraduate computer science courses. This course is also available as an elective for students in the MS COMP program.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 50 - 70 students (20 - 30 per section).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 462;MATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 487W Software Engineering and Design (3) Software development process, life cycle; requirements analysis, specification, design, prototyping, testing, project management, and documentation.

CMPSC 487W Software Engineering and Design (3)

The primary goal of this course is to familiarize students with the wide variety of techniques and methodologies used in software engineering to assist in the development of large software systems. Issues discussed include the human factors involved in developing software, models of the software development process, the use of formal methods in software engineering, software validation and verification, and software maintenance.

A second goal is to help students understand the importance of written communication in software engineering, and to provide opportunities for students to improve the quality of their writing - specifically in describing software systems. The primary means of accomplishing this goal is a semester long project in which students write requirements for a large software system. In writing these requirements, students describe the system for non-technical readers (clients and users) and specify it for technical readers (other system developers).

A final goal is to emphasize the role of teams in software development. Modern software systems are simply too large to reasonably be produced by one person, so the ability to work as part of a team is vital. To support achieving this goal, techniques and tools for working in groups are discussed in the course, and students work on the semester project in teams.

Students will be evaluated on midterm and final exams, a semester project and homework. Exams will total 250 points, the project will total approximately 200 points and homework will total approximately 50 points. Grades will be based directly on percentage of the total points received from those listed.

This course is a required course in the computer science (COMP) BS curriculum, and is intended to be taken by seniors as the capstone course for the major. As such, the course integrates material from many (potentially all) of the undergraduate computer science courses. This course is also available as an elective for students in the MS COMP program.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 50 - 70 students (20 - 30 per section).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 202C, CMPSC 425, CMPSC 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 494H Senior Honors Thesis (1-6) Supervised Honors thesis research in computer science and engineering.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: approval of a thesis adviser in the department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experience, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 497A Secure Programming (3) Secure software design principles/practice, common threats, applied cryptograph, trust management, input validation, OS-/programming language- specific issues, software validation.

Secure Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 463

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 497B Applications Programming (3) Development of application software for computing devices including smart phones and tablet computers.

Applications Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CMPSC 311;CMPSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 497B Machine Learning (3) Machine learning is a subfield of AI that studies how a computer system can learn from data. It is a key tool for automating tasks that are typically done by humans. This course will provide an introduction to this field.

Machine Learning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 497E Contest Problems (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Contest Problems (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science (CMPSC)

CMPSC 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Computer Science and Engineering (CSE)

CSE 297E Introduction to Web Programming (3) This course introduces the student to PHP programming.

Introduction to Web Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Corporate Communication (CC)

CC 401 Corporate, Non-Profit, and Government Public Relations (3) Explores issues affecting profit and non-profit public relations, including crisis management, consumer and employee affairs, environmental problems and global concerns.

CC 401 Corporate, Non-Profit, and Government Public Relations (3)

This course examines closely the function of public relations in all three settings and allows students practice by exposing them to simulations, case studies, and a public relations consulting project.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Corporate Communication (CC)

CC 402 The Media and Public Relations (3) Publicity strategies involving a variety of media resources.

CC 402 Media Relations (3)

This courses focuses on understanding the different requirements, styles, and techniques of various media and on writing and preparing public relations materials for the media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Corporate Communication (CC)

CC 403W Studies in Public Relations (3) Capstone course for the major in Corporate Communication; focuses on case studies in public relations: problems and solutions.

CC 403W Studies in Public Relations (3)

This is the capstone course in Corporate Communication that develops students' abilities to analyze public relations situations, to devise strategies to accomplish the organization's goals, and to write materials effectively in a variety of situations for many audiences.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Corporate Communication (CC)

CC 495A Internship in Corporate Communication (3) Internship in a business or agency appropriate for a major in Corporate Communication.

CC 495A Internship in Corporate Communication (3)

Communications experience in businesses or agencies that may include activities in writing, media production, planning, public relations, advertising, employee relations, or training.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MKTG 310 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counseling Psychology (CNPSY)

CNPSY 254 (US) Understanding Discrimination: An Educational and Employment Perspective (3) Study of the effects of educational and employment discrimination on United States social groups/identities.

CNPSY 254 Understanding Discrimination: An Educational and Employment Perspective (3) (US)

This is an undergraduate course designed to acquaint class participants with discrimination that is present in the United States, particularly as it relates to employment and education, and to provide participants with experiential and skill building activities that will allow them to serve as social justice allies for members of these populations.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counseling Psychology (CNPSY)

CNPSY 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counseling Psychology (CNPSY)

CNPSY 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counseling Psychology (CNPSY)

CNPSY 497A Observational Research (1-3) Counseling psychology research, including observation of at-risk families and use of a variety of coding systems to study parenting processes, and self/emotion regulation in children and adults, and supervised on an individual basis.

Observational Research (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counseling Psychology (CNPSY)

CNPSY 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 100 Effective Career Decision-Making (3) Examination of internal and external factors that contribute to career development to assist students undecided about major or career.

CN ED 100 Effective Career Decision-Making (3)

CN ED 100 teaches students career decision-making skills by closely examining internal factors, the world of work, and decision-making styles and strategies. The premise of this course is that career decisions are greatly enhanced by: (1) considering personal traits such as interests, values, abilities, decision-making styles and other factors; (2) gathering information about the world of work and education; and (3) integrating knowledge about the self and the world through an on-going process. Learning the career decision-making process is empowering and skills learned in the course can be valuable throughout life as individuals encounter crossroads that may prompt career changes. CN ED 100 is intended for students who are undecided about their major and career selection. The course format consists of lectures, discussions, and experiential learning activities designed to help students analyze their personal traits and to relate their traits to career theories, occupational fields and work settings. Self-assessment activities include reflective writing, use of established career assessment inventories, and completion of various activities. Diverse information is shared on majors and occupations as well as information gathering strategies. Students more closely discuss their career development and progress in formal small group sessions, facilitated by career counseling professionals. Five classes of the semester are devoted to these meetings.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297A Special Topics: Study Skills (2) This course is designed to assist students with their study skills. Topics to be covered include test taking, reading comprehension, studying, exam preparation, academic writing, and other related topics.

Special Topics: Study Skills (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297B Special Topics: Academic Writing (3) This course is designed to assist students with the different styles, formats, and requirements of acadmic writing across the disciplines.

Special Topics: Academic Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297C Special Topics: Mentoring Project (2) This course is designed to assist students with their leadership and interpersonal relationship skills. Also covered are topics relative to character building and critical thinking, both within the classroom setting and outside.

Special Topics: Mentoring Project (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297D Special Topics: Academic Success (3) This course is designed to prepare students with the skills, personal vision, and motivation to achieve their academic and personal goals.

Special Topics: Academic Success (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297E Leadership and Diversity (3) This course is designed to prepare students to meet the challenges of becoming and being leaders within a diverse context.

Leadership and Diversity (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297G Freshman Experience I (2) This course is designed to help entering students in their transition from high school to college. This course will help new students to develop and utilize effective educational strategies.

Freshman Experience I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297F Orientation Leader Training (2) The purpose of this course is to facilitate learning opportunities and experiences, which will provide students with the knowledge, attitudes and skills necessary to become effective Orientation Leaders.

Orientation Leader Training (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 297I Freshman Experience (1) Developing effective learning strategies while exploring critical issues related to the transition from high school to college.

Freshman Experience (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 301 Student Organization Management (2) Exploration and development of leadership and group process skills necessary for effectively managing student organizations in higher education settings.

Student Organization Management (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 302 The Role of the Resident Assistant: Theory and Practice (3) An analysis of the various roles of the resident assistant, including interpersonal facilitator, disciplinarian, program developer, and activities facilitator.

The Role of the Resident Assistant: Theory and Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 303 Career Search Strategies for Educators (1) An aid in preparing students with information helpful for entry into education and alternative job markets.

Career Search Strategies for Educators (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 305 Managing Student Community Service Organizations (3) Philosophy, principles, and practices of community service organizations and their leadership for students.

Managing Student Community Service Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: limited to leaders of student organizations

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 304 Education of the Peer Assistant (3) Student development theories: skill development in listening, informing, and referring culturally diverse peers in individual and group situations.

Education of the Peer Assistant (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: limited to students selected as peer assistants or similar positions

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 397A UPAC Training (2) Training on the student activity fee, legal issues, viewpoint neutraility, purposeful programming, ethics and integrity.

UPAC Training (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 401 Foundations of Chemical Dependency Counseling (3) An overview of diagnosis and assessment, models for chemical dependency prevention, counseling, and recovery; contexts of chemical dependency treatment.

Foundations of Chemical Dependency Counseling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: 3 credits in general psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 404 Group Procedures in Guidance and Counseling (3) The nature and functioning of groups in educational and agency settings. Provides prospective counselors with experience in the group process.

Group Procedures in Guidance and Counseling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: 6 credits in counselor education; 6 credits in psychology sociology or individual and family studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 407 Introduction to Vocational Rehabilitation in Employee Counseling (3) Use of rehabilitation counseling skills in industrial employee counseling settings; case study and handling; resources for training.

Introduction to Vocational Rehabilitation in Employee Counseling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: 6 credits in individual and family studies psychology or sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 415 Counseling Adults (3) Roles of counselors and counseling in the resolution of educational and career problems and opportunities of adults.

Counseling Adults (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: COM S 448, HD FS 249, HD FS 445 orSOC 435

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 416 Interpersonal Relationships and Alcohol and Other Drugs (AOD) Dependency (3) This course examines families with chemically dependent members, dynamics, appropriate interventions, and treatment.

Interpersonal Relationships and Alcohol and Other Drugs (AOD) Dependency (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CN ED 401 orRHS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 421 Counseling Strategies for Preventing Chemical Dependency (3) Examines helping professional's role in primary and secondary prevention of substance abuse, and related problems like delinquency, suicide, and pregnancy.

Counseling Strategies for Preventing Chemical Dependency (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: CN ED 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 420 Chemical Dependency: Youth at Risk (3) Study of youth who are at-risk of developing chemical dependency including the characteristics and factors related to chemical dependency.

Chemical Dependency: Youth at Risk (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: CN ED 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 422 Foundations of Addictions Counseling (3) Study of the fundamental principles of counseling individuals with a wide variety of addictions.

CN ED 422 Foundations of Addictions Counseling (3)

Students explore the fundamental principles of addictions counseling from a wide range of perspectives. These include the psychopharmacological aspects of alcohol and abusable drugs, along with theories and assessments of addictive disorders. Many treatment models are considered, and are examined in the context of individual, group, and family therapy perspectives. The course also addresses the research literature on codependence, COA's AA and other 12-step programs, dual diagnosis, relapse, prevention, and multicultural and gender issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: a minimum of 12 hours of coursework in sociology psychology education or family studies.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 423 Student Assistance Programs (3) Exploration of early stages of adolescent "at-risk" behavior and skills for student assessment and intervention within schools and communities.

Student Assistance Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: CN ED 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 430 Couples and Family Counseling (3) The theory and practice of counseling with couples and families emphasizing family development and major intervention approaches.

CN ED 430 Couples and Family Counseling (3)

Students study the theory and practice of couples and family counseling with an emphasis on models of family development and major approaches to intervention with couples and families. Systemic models of family intervention are emphasized as well as the study of other historically important and contemporary approaches to couples and family therapy. The course blends didactic and experiential learning.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: A minimum of 12 hours of coursework in sociology psychology education or family studies.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 431 Counseling and Teaching Youth at Risk (3) This course is focused on how to counsel and/or teach youth at risk for a variety of social, emotions, and educational problems.

CN ED 431 Counseling and Teaching Youth at Risk (3)

This course is designed to provide participants with an overview of information focused on counseling and teaching youth at-risk. Emphasis will be placed on identifying youth-at-risk for depression, suicide, eating disorders, pregnancy, AIDS, use and/or abuse of alcohol and drugs, homelessness, gang membership, difficulties related to sexual orientation, and several other at-risk behaviors. Ideas for primary, secondary and tertiary prevention from individual, family, school and community perspectives will also be presented. The course provides a varied format structured to include lecture/discussion, audio-visual presentations, participant self-evaluation of their own at-risk behaviors, role-plays and small group discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: A minimum of 12 hours of coursework in sociology psychology education or family studies.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 470 Workshop in Studies in Counselor Education (1-6) No description.

Workshop in Studies in Counselor Education (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 432 Ethical, Legal, and Professional Issues in Counseling (3) Examination of the current ethical and legal issues related to professional counselors and counseling.

CN ED 432 Ethical, Legal, and Professional Issues in Counseling (3)

Participants explore an overview of ethical and legal issues related to the professional practice of counseling. Topics include responsibility, competence, public statements, confidentiality, professional relationships, licensing and other regulatory programs, and research. The course emphasizes clinical strategies relevant to legal and ethical issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: A minimum of 12 hours of coursework in sociology psychology education or family studies.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 497A Counseling without Borders (1-3) Intensive emersion experience designed to address theoretical and experiential understandings of multicultural counseling through interactions in Turkey.

Counseling without Borders (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 498A (WF ED 498D) Facilitating Career Development (3) Students acquire relevant competencies to assist others in planning and managing careers. Upon successful completion, students may apply for the GCDF certification.

Facilitating Career Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 498A (WF ED 498B) Facilitating Career Development (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Facilitating Career Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Counselor Education (CN ED)

CN ED 498A (WF ED 498A) Facilitating Career Development (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Facilitating Career Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 012 (GS) (CRIM 012, SOC 012) Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.

CRIMJ (CRIM /SOC) 012 Criminology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Criminology is the study of the causes of criminal behavior. As such this course is an introduction to the topic with special focus on the major theories explaining criminal behavior including differential association, anomie, control theory and labeling theory. A key focus of the class is examining the most recent scientific research testing the basic theories. The students learn the various research techniques that have been used to study criminal behavior including crime statistics such as the Uniform Crime Report that serves as a monitor on crime trends. Several important areas of study that link understanding criminal behavior and its distribution across the social system are investigated including age, gender, race and ethnicity. One goal of the course is to promote a more complete understanding of crime and how it is enmeshed in human social life. The course concludes by using the knowledge base generated in the course to study the link of our understanding of criminal behavior and the emerging crime control policies of the past few decades. Finally, the course reviews the impact and effectiveness of some of these policies.

Throughout the course, the lectures as well as the readings emphasize the complexity of explaining human behavior and criminal behavior in particular. One aspect of the course is the use of a term paper on the objective and subjective availability of crime to the student. This paper emphasizes the complexity of the student's social life and the role that these factors may have on whether they have engaged in criminal behavior and their analysis of the causes of their criminal behavior. This project personalizes the various theories and helps the student understand the importance of their social environment in whether they have or will engage in crime.

Discussion and questions are encouraged in all sections. Sections of this course may include group research projects, debates, and library or internet-based research. Along with personal contact, students have the opportunity to communicate with teaching assistants and faculty members via e-mail. Writing assignments, along with in-class examinations, are required in all sections.

This course meets a General Education requirement in the Social and Behavioral Sciences for non majors, is required for the CLJBA and CLJBS majors, and may be used in the SOC majors and minors.

The Sociology Department at University Park offers one or two large-enrollment versions of this course (up to 350 students) every semester. Other campuses offer smaller sections (Abington--40, Fayette--50, and Berks and Wilkes Barre--25) each semester.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 012S (GS) (CRIM 012, SOC 012) Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.

Criminology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 013 (GS) (SOC 013) Juvenile Delinquency (3) Juvenile conduct, causes of delinquency, current methods of treatment; organization and function of agencies concerned with delinquency.

Juvenile Delinquency (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 083S (GS) (CRIM 083S) First-Year Seminar in Criminal Justice (3) Critical approaches to issues in criminal justice and criminology.

CRIMJ (CRIM) 083S First-Year Seminar in Criminal Justice (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

Each section of this course will be limited to 20 students who will be instructed by an experienced faculty member. Each section will focus on a well-defined body of scholarship that addresses a relatively specific topic while at the same time providing an opportunity to broadly survey existing knowledge in the discipline. For example, some sections may address very broad questions that encompass the entire field, such as criminal justice policy, issues related to social justice, or explanations of crime. Other sections may focus on justice system responses to certain types of crime, such as violent crime, white collar crime, organized crime, or transnational crime. Finally, some sections may take a comparative and international approach, and consider how justice systems are administered or how patterns of crime vary in a range of countries and jurisdictions. Each section will emphasize the development of discussion writing, and analytical skills and will give students the opportunity to work individually and in small groups. Students can expect to gain a general introduction to the University as an academic community and to explore their responsibilities as members of that community. They will also become familiar with the learning tools and resources available to them, and they will be able to establish relationships with faculty and other students who share their academic interests. This course fulfills a general education or Bachelor of Arts requirement in the social/behavioral sciences. A section of the course will be offered once a year. Students will write essays in class or out of class, engage in classroom discussion and group exercises, and make presentations.

Faculty Member Proposing Course: Thomas S. Bernard

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 100 (GS) (CRIM 100) Introduction to Criminal Justice (3) Overview of the criminal justice system, including legal foundations, processing and correction of offenders, extent and types of crime, victims.

CRIMJ (CRIM) 100 Introduction to Criminal Justice (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an overview of the criminal justice system in the United States. Topics to be covered include: the extent of crime in the United States; competing and complementary goals of the criminal justice system; sources of criminal law; the history and development of the system; the functions of police, attorneys, courts and correctional agencies; the interactions between different parts of the system; and the impact of crime on the victim. Students are evaluated on two exams (20% each), two written assignments (30%), and a final exam (30%). This course is a prescribed course in the CLJBA, CLJBS, ADM J BS and ADM J BA majors, and it is also a prerequisite for most 400-level courses in Crime, Law, and Justice.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 200 Introduction to Security and Loss Control (3) A general introduction to the field of private security and asset protection.

CRIMJ 200 Introduction to Criminal Justice (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on a body of scholarship addressing the critical issues, policies, and complexities of the criminal justice system. It includes specific topics on key components of the system while demonstrating the intra-relationships of the system. Students will be provided numerous opportunities to broadly survey the concept of justice as well as investigate comparative issues on a governmental level and internationally. Students will also focus on specific social and justice system challenges such as substance abuse, family violence, minorities and justice, street crime, corrections for adults and juveniles, sentencing patterns, and ethics. Students will also analyze the global impact of criminality as they study transnational crime and the challenges faced by the collaboration of nations. Students will be required to familiarize themselves with electronic web sites, refereed journals, and national and international events for class discussion, research, and writing assignments. Students will learn how to comprehend legal decisions and legal procedures. By the end of the course students will be expected to integrate the information of the semester into comparisons and critical evaluation of the criminal justice system components. Frequency of enrollment: Every semester with 35 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 113 (US) (CRIM 113) Introduction to Law (3) Introduction to law in society with a focus on criminal law, judicial code, laws of sentencing and corrections, criminal procedure.

CRIMJ (CRIM) 113 Introduction to Law (3)

Introduction to the law is designed to provide CLJ majors with an introductory level of knowledge of the criminal law, and other legal codes such as the Judicial Code, laws of corrections, probation and parole, and the rules of criminal and appellate procedure. The course will serve as a gateway course to taking more advanced criminology and criminal justice courses. CRIMJ (CRIM) 113 is one of the Prescribed Courses in the CLJ curriculum and is used as a prerequisite for many 400 level courses including CRIM 467 AND 469. Students will be evaluated on three exams consisting primarily of objective (multiple choice) questions and short answer questions.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 201 Legal and Ethical Issues in Private Security (3) Detailed examination of legal issues and ethical considerations in private sector security.

CRIMJ 201 American Legal System (3)
(US)

The American Legal System studies jurisprudence as power, culture, social control, political reform, justice for the underserved and underrepresented, security for the powerful elites, and the economic sustainability of a global environment. This course requires students to consider law as a living institution as well as a mechanical monster devoid of concern for racism and classism. Students are then required to focus on the realities of law and the consequences of promoting social and economic reform. How do we determine the ethics of the process with the ethics of those who practice law or work within the process? Do we want local courts to address our conflicts or would we rather wait for the Supreme Court to initiate a prescriptive or descriptive decision? Do we want case law ruling our lives or statutory law? How do we resolve the issues of voter turnout at elections with the politicalization of Supreme Court and Appellate Justice selection? Where do we place the study of private law (property, family, tort, probate, and corporate law) with the study of public law (constitutional, criminal, and administrative law)? What is common to both and how do we gain an understanding through research and writing about similar legal objectives? Where do we place the study of intellectual property and technology? This course focuses on the price of justice, its timeliness, and the unintended consequences of both sound and poor legal decisions. Do we want the Supreme Court to engage in constitutional policymaking or remand the decisions to the lower courts and in some cases the disputing parties? These issues are also addressed looking at international and cultural issues as they combine ethnicity, religion, environment, economic development, gender and ritual. How do we resolve immigration issues in light of recent violence? Documentaries, case studies, problem based learning, day to day social interaction, and popular films provide numerous activities for discussion, analysis, and integration in writing and for discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 210 Policing in America (3) Police organization and operations in America.

Policing in America (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 220 Courts and the Prosecution Process (3) Purpose and function of criminal courts in society, organization, jurisdiction and staffing; prosecution, adjudication, and sentencing of offenders.

Courts and the Prosecution Process (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 221 Issues in the American Criminal Justice System (3) Examination of the models of the criminal process, functions of the justice system, and approaches to crime and punishment.

Issues in the American Criminal Justice System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 230 Corrections in America (3) Punishment and treatment of sentenced offenders, correctional institution organization, staffing, inmates, and subcultures.

Corrections in America (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 234 Fundamental Techniques of Scientific Criminal Investigation (3) Traditional and innovative technical approaches utilized by law enforcement scientists; capabilities and limitations of technical techniques highlighted.

CRIMJ 234 Fundamental Techniques of Scientific Criminal Investigation (3)

This course is designed to introduce students to the fundamental methods by which scientific-criminal investigations are pursued. Course objectives focus upon a familiarity with various strategies and techniques of scientific criminal investigation within the law enforcement context so that students may understand both the potentials and limitations of such methods. The course maintains a focus upon traditional methods of scientific criminal investigation as well as examination of scientific developments that have altered investigation in recent years. While this course cannot produce expertise in the more sophisticated technologies of criminal investigation, it serves as a basic introduction to the field. As such, it is designed to give an overview of various possibilities, so that students completing the course will have a general grasp of the various strategies and techniques that are available for criminal investigation and will be in a position to call upon the necessary and appropriate expertise when the occasion arises. The course design alerts students to many of the limitations of the various strategies and techniques of scientific criminal investigation, equipping, them to judge the validity of various findings and to assess the qualifications, and methods employed by different experts. The course gives special attention to strategies and tactics of interrogation and to means of' corroborating interrogation data with scientific data obtained from other investigative techniques. The course provides an introduction to various techniques of' fingerprinting, including ink pads and dusting techniques, as well as several techniques for bringing out latent fingerprints, with an emphasis on the careful collection and preservation of this evidence. It will introduce methods of drug testing, including techniques for insuring the validity of specimens and basic chemical analysis kits currently available for drug testing, with an emphasis on the careful collection and preservation of this evidence. It demonstrates and provides practical experience in breathalyzer utilization, as well as other investigative techniques for assessing driver impairment resulting from excess alcohol intake. It provides a basic introduction to DNA technology to the point of equipping students with a fundamental understanding of DNA evidence, including probabilities associated with various findings. Throughout the course, there is special stress on the concept of crime scene investigation, including strategies for cordoning off crime scenes and restricting contamination of evidence, basic crime scene mapping, and analysis of evidence such as blood splattering, foreign objects, unusual markings, hair and fiber samples, and other aspects of evidence. Finally, the course stresses preparation of investigative reports, with an emphasis upon clarity of presentation, attention to relevant details, preparation for presentation of evidence in court, and careful and concise writing.

Faculty Member Proposing Course: Richard A. Ball

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 240W Field Research in the Criminal Justice (4) Field research and observational strategies appropriate to the identification, investigation, and analysis of research questions in criminal justice.

CRIMJ 240W Field Research in Criminal Justice (4)

Administration of Justice majors who are interested in completing an internship must first complete CRIMJ 240W. As augmented, this course attempts to introduce students to research strategies appropriate to the identification, investigation, and analysis of research questions in the administration of justice, while also providing intensive training in the use of various investigative strategies and intensive training in analysis of findings derived from such research, as well as preparation for an internship and extensive writing experience. As augmented, it will involve additional writing assignments by which students will demonstrate their ability to identify researchable questions, lay out their investigative strategies in written form and produce in writing analyses of their findings and conclusions, with recommendations for policy if appropriate. Considerable time is devoted to strategies for identification of research questions. Students will be required to perform an analysis of a setting in administration of justice, locate and specify aspects of the setting that require systematic research in order to explicate the setting or provide information on problems that might be solved by various administrative approaches or promising programs, projects or policies that might be adopted by other agencies. The course will provide an overview of field research methods appropriate to investigation of administration of justice issues such as those identified earlier. The course will include introduction to the theory and rationale of field research in the social sciences and considerable training and experience in field research methods across several different areas of methodology. The overview of field research methods introduces students to the variety of field methods that are available to researchers in administration of justice. Students will then proceed to an understanding of the issues associated with the theoretical perspectives and epistemological assumptions underlying the various field methods examined in the preceding overview. Here attention will be given to the assumptions upon which each research method is built and the strengths and weaknesses of each method. As augmented, this course is designed to require students to take special account of the weaknesses of the various methods and learn how to counter these weaknesses by augmenting the research strategy by complementary methods where appropriate. As augmented, the course is designed to teach students the reasons for use of various methods as well as the methods themselves. Because this course places such emphasis on data collection, and because research is best learned by doing it, the course is further augmented with additional research exercises. Students are required to spend additional time in the field research exercises beyond that required for a 3-credit course, completing as much as 20 hours of participant observation for sharpening their observational skills, as 10 hours of focus group work, with much of this effort aimed at sharpening their ability to interpret communications from several different sources with respect to the same events, and as 20 hours of interviewing, using several different interviewing techniques. These efforts concentrate upon developing students' ability to elicit information from interviewees and cross-validate the information through a variety of interview techniques. Students must complete several papers demonstrating their ability to organize their research finding and present them in understandable form. The research writing elements in this course include development of hypotheses, preparation of a research proposal, development of literature reviews, description of research settings, and preparation of research bibliographies. Finally, this course is designed to serve as a bridge in preparation for a successful internship experience. As such, it must succeed in teaching students how to develop and conduct a research study on their own before graduation

Faculty Members Proposing Course: Lisa Morris and Richard A. Ball

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 241 (PUBPL 241) Computer Applications in Public Affairs/Criminal Justice (3) Introduction to computer applications for criminal justice and public affairs agencies.

CRIMJ (PUBPL) 241 Computer Applications in Public Affairs (3)

The student will gain a working knowledge of microcomputer and Internet applications to utilize them in course and/or job functions. The class will be treated primarily as a lab. The purpose is to make the student familiar with popular computer applications in current use. Applications covered include: Word Processing (Microsoft Word); Spreadsheet (Microsoft Excel); Presentation Package (Microsoft PowerPoint); Database (Microsoft Access). Internet Applications include: email - Webmail; World Wide Web Browser - Netscape Communicator and Internet Explorer; and creating a Homepage.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 250W (CRIM 250W) Research Methods in Criminal Justice (4) Fundamental concepts of social science research including design, measurement, sampling, and interpretation of the study of crime, law, and justice.

Research Methods in Criminal Justice (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 260 (GQ) Statistical Analysis for the Social Sciences (3) Methods of collection, presentation, and analysis of quantitative data in the social science; procedures, interpretation, and application.

CRIMJ 260 Statistical Analysis for the Social Sciences (4)

This course covers the theory and methodology of statistical analysis. This course includes mathematical calculation of Univariate and Bivariate models, including mean, mode median, variance and standard deviation, Crosstabs with Chi-Square, Independent and Paired Samples t-tests, Anova and Tukey's H.S.D, Correlation and Regression. It also makes use of SPSS and publically available data sets to examine univariate data, and test hypotheses at both the bivariate and multivariate level. Students become familiar with the calculations behind the analysis, and engage in the analysis and reporting of actual data.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 2 units of High School Algebra andCRIMJ 100 or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 290 Introduction to Internship Experience (1) Planning and preparation for field experience in a criminal justice agency setting.

Introduction to Internship Experience (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 ; Prerequisite or concurrent:CRIMJ 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 300H Honors Seminar: Issues and Trends in Criminal Justice (3-6) Discussion of various, specific criminal justice topics, such as discretionary decision-making, due process, equal protection, violence, and recidivism.

Honors Seminar: Issues and Trends in Criminal Justice (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: fifth-semester standing and admission to Schreyers Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 301H Honors Seminar: Ideology and Criminal Justice (3-6) Discussion of the ideological, political, and historical nature of criminal justice. Punishment, deterrence, social control, incarceration will be examined.

Honors Seminar: Ideology and Criminal Justice (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: fifth-semester standing and admission to Schreyers Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 302H Honors Thesis (4-8) Research paper in an area of Criminal Justice arranged with the Honors Committee.

Honors Thesis (4-8)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 300H, CRIMJ 301H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 304 Security Administration (3) Interdisciplinary analysis of security and loss prevention; its administration, role in crime control and prevention, and relationship to criminal justice.

Security Administration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 311 Forensic Science II (3) Continuation of CRIMJ 310 including statistical analysis of data from crime scene.

CRIMJ 311 Forensic Science II (3)

Presentation of techniques, the principles underlying the techniques, skills and limitations of the modern crime laboratory for student who has no background in the forensic sciences form the basis of the course. The nature of physical evidence is emphasized along with limitations that technology and knowledge impose on its individualization and characterization. Particular attention is paid to the meaning and role of probability in interpreting the individual significance of scientifically evaluated evidence. Major, lecture topics include the following: The Crime Scene; Physical Evidence; Physical Properties of Glass, Soil, and Plastics; Organic Analysis; Inorganic Analysis; the Microscope; Hairs, Fibers, and Paints; Drugs; Forensic Toxicology; Forensic Aspects of Arson and Explosion Investigation; Forensic Serology; Forensic Anthropology; DNA; Finger Prints; Fire Arms; Tool Marks and Other Impressions; Document and Voice Examination; and Forensic Science on the Internet. To understand the techniques used in crime scene analysis hands-on activities as formal experiments in the laboratory setting form part of the course. The specific objectives of the laboratory components of the courses are: 1) To provide a first set of laboratory experiments for criminal justice and general science students who have had little or no previous science laboratory experience. 2) To show beginning students in criminal justice and general science the significance of physical evidence at the scene of a crime. 3) To demonstrate what happens to physical evidence when it is sent to the laboratory so that students will know what is needed, how much is needed, and how to prepare 4) To educate the student in basic laboratory practices so that they can ask and/or answer questions more intelligently in a court of law. And probably most important, to educate students so that they will not unintentionally destroy physical evidence at a crime scene, and will in fact try to preserve it for the trained forensic scientist. The experiments are designed to provide students with an overview of what can be done as a prelude to making them potential professional forensic scientists/criminologists. The proposed courses are meant for students majoring in the Administration of Justice Programs and should augment their knowledge of criminology and reinforce approaches utilized by law enforcement scientists. Students will carry out hands on experiments in biology, chemistry and physics in a dedicated laboratory setting. Use of instrument to analyze specimens and gather/interpret data using computers and statistical techniques form part of the course. Students will be graded based on their understanding of the principles involved in selecting and using specific laboratory techniques and on the quality of results of their laboratory experience. It is anticipated that the course will be offered once a year, first part during fall semester and the second part during the following semester. Since laboratory space and instruments are limited class size will not exceed fifteen.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 310 Forensic Science I (3) Presentation of the techniques, skills, and limitations of modern crime laboratory.

CRIMJ 310 Forensic Science I (3)

Presentation of techniques, the principles underlying the techniques, skills and limitations of the modern crime laboratory for student who has no background in the forensic sciences form the basis of the course. The nature of physical evidence is emphasized along with limitations that technology and knowledge impose on its individualization and characterization. Particular attention is paid to the meaning and role of probability in interpreting the individual significance of scientifically evaluated evidence. Major, lecture topics include the following: The Crime Scene; Physical Evidence; Physical Properties of Glass, Soil, and Plastics; Organic Analysis; Inorganic Analysis; the Microscope; Hairs, Fibers, and Paints; Drugs; Forensic Toxicology; Forensic Aspects of Arson and Explosion Investigation; Forensic Serology; Forensic Anthropology; DNA; Finger Prints; Fire Arms; Tool Marks and Other Impressions; Document and Voice Examination; and Forensic Science on the Internet. To understand the techniques used in crime scene analysis hands-on activities as formal experiments in the laboratory setting form part of the course. The specific objectives of the laboratory components of the courses are: 1) To provide a first set of laboratory experiments for criminal justice and general science students who have had little or no previous science laboratory experience. 2) To show beginning students in criminal justice and general science the significance of physical evidence at the scene of a crime. 3) To demonstrate what happens to physical evidence when it is sent to the laboratory so that students will know what is needed, how much is needed, and how to prepare 4) To educate the student in basic laboratory practices so that they can ask and/or answer questions more intelligently in a court of law. And probably most important, to educate students so that they will not unintentionally destroy physical evidence at a crime scene, and will in fact try to preserve it for the trained forensic scientist. The experiments are designed to provide students with an overview of what can be done as a prelude to making them potential professional forensic scientists/criminologists. The proposed courses are meant for students majoring in the Administration of Justice Programs and should augment their knowledge of criminology and reinforce approaches utilized by law enforcement scientists. Students will carry out hands on experiments in biology, chemistry and physics in a dedicated laboratory setting. Use of instrument to analyze specimens and gather/interpret data using computers and statistical techniques form part of the course. Students will be graded based on their understanding of the principles involved in selecting and using specific laboratory techniques and on the quality of results of their laboratory experience. It is anticipated that the course will be offered once a year, first part during fall semester and the second part during the following semester. Since laboratory space and instruments are limited class size will not exceed fifteen.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 320 (PUBPL 320) Statistical Analysis for the Social Sciences (4) Methods of collection, presentation, and analysis of quantitative data in the social science; procedures, interpretation, and application.

CRIMJ (PUBPL) 320 Statistical Analysis for the Social Sciences (4)

Public Policy/Criminal Justice 320 Statistical Analysis for the Social Sciences
covers the theory and methodology of statistical analysis. This course includes
mathematical calculation of Univariate and Bivariate models, including mean, mode median, variance and standard deviation, Crosstabs with Chi-Square, Independent and Paired Samples t-tests, Anova and Turkey's H.S.D, Correlation and Regression. It also makes use of SPSS and publically available data sets to examine univariate data, and test hypotheses at both the bivariate and multivariate level. Students become familiar with the calculations behind the analysis, and engage in the analysis and reporting of actual data.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 345 Criminal Justice and the Community (3) Justice agencies and the community's crime prevention and participation strategies; community involvement in policy development.

Criminal Justice and the Community (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 389 Gangs and Gang Behavior (3) The history, structure, and practices of gangs in America as well as societal reaction to them.

CRIMJ 389 Gangs and Gang Behavior (3)

This class takes a look at gangs: their history, structure, activities, and practices-as well as law enforcement practices targeting gangs and gang members. This class examines the following types of gangs: Outlaw Motorcycle Gangs, Supremacists and Militias, Skinheads, African-American, Latino, and Asian Gangs. It also addresses relatively recent phenomena in gang involvement: (1) the rise of the independent girl gang; (2) middle class suburban gangs (Goths); and, (3) anti-drug and anti-sex Straight-Edge gangs. Both the positive and negative functions of gangs are examined critically through a comparison of conventional and non-conventional youth activities. It concludes with an examination of emerging trends in gang development and activities, including the link between street gangs and organized crime. This course complements CRIMJ 403-Juvenile Law and Justice and is recommended for students wishing to pursue a career in juvenile intervention. It consists of three examinations (objective and subject measures), three traditional essays (out-of-class), and four directed asynchronous message board essays (using ANGEL course management software). This course will be offered annually with a projected enrollment of 25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 406 (SOC 406, CRIM 406) Sociology of Deviance (3) Theory and research concerning behaviors and lifestyles viewed as significant departures from a group's normative expectations.

CRIMJ (CRIM/SOC) 406 Sociology of Deviance (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Sociology of Deviance focuses on the theory and research in social construction of social norms, the violation of norms, and social reaction to the violation of norms. The course focuses on the role of social structure and power in the definition of deviance, on structural, cultural, and social psychological processes involved in deviant behavior, and the dynamics of social reaction to deviance. The course includes some content focusing on criminal deviance, but also emphasizes non-criminal deviance, as well as the role of social movements and social change in constructing and contesting deviance definitions. CRIMJ/SOC/CRIM 012 and CRIM/CRIMJ 250W are prerequisites. This course may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. It would fulfill one of the 400-level requirements in the "Crime" component of the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with the Deviance and Criminology specialization. The evaluations methods will include written assignments on course readings (25%), research papers (25%), and/or essay-style exams (50%). This course will be offered once a year with 25-40 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100 andCRIMJ 113 andCRIMJ 230 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 407 (US) (CRIM 407) Victimology (3) This course will explore the legal, emotional, and social responses to the process of victimization by offenders and third parties.

CRIMJ 407 Victimology (3)
(US)

Victimology studies the victim-offender relationship. Victimization is analyzed using the Bible, Anglo-Saxon Law, Common Law, and legal precedent as a historical development of the status of "victim." Cultural changes during the 1950s and 1960s resulted in the reemergence of the victim and the designation of social services and community awareness for victims. Social scientific studies of the status of unique groups analyzed victimizations according to demographics and socioeconomic status. Political viability of victims in terms of restitution and community response are viewed in terms of Census data, the Department of Justice's National Crime Victimization Survey and The Uniform Crime Reports, Morbidity Reports, Emergency Room Reports, and the Insurance Industry Reports. The above data is evaluated in terms of age, race, education, socioeconomic status, and gender. The development and merging of culture, sub-cultural liaisons, social relationships, leisure activities, and routine transactions are reviewed as they apply to personal and unique group victimizations. Comparative issues and transnational crime are addressed under the format of globalization, gender, economics, and cultural mores. Interdisciplinary evaluation of Victimology considers psychology, medicine, sociology, criminal justice, legal studies, and mass media. Documentaries, case studies, problem based learning, and popular films provide numerous activities for discussion, analysis, and integration in writing and for discussion.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 408 Police Administration (3) Principles of administration as they relate to a police organization; and policy development.

CRIMJ 408 Legal Aspects of Law Enforcement (3)

This course is one of the law enforcement offerings directed at students interested in pursuing a career in the field. This course builds upon legal courses and the police administration course. It is intended to challenge students to comprehend the complexities of working within a litigious society where policing is often the target of simultaneous praise and criticism. Research is introduced to allow students to consider alternatives to conflicts and the court's interpretation of the efficacy and constitutionality of such efforts. Civil liberties, use of force, use of technology, and communications have played significant roles challenging public safety. The consistent expansion of the role of law enforcement presents complexities that are often different according to the jurisdiction and community sentiment. Issues of hiring, training, education, accreditation, force, and racial profiling are the basis for assignments, research, and directed projects and class discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIM 100 andCRIMJ 210 orCRIM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 410 The Pennsylvania Court System (3) Tracing the steps of criminal cases through the investigative stage, arrest, trial, sentencing and appellate review in Pennsylvania.

The Pennsylvania Court System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: CRIMJ 100, CRIMJ 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 412 (SOC 412, CRIM 412) Crime, Social Control, and the Legal System (3) Legal and extralegal control; public opinion on crime; criminal justice and correctional processes; legal sanctions; control strategies. Field trip.

Crime, Social Control, and the Legal System (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 012, CRIMJ 013 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 413 (CRIM 413, SOC 413) Advanced Criminological Theory (3) This course provides an in-depth look at theories of crime and examines influential empirical studies designed to these theories.

CRIMJ (CRIM/SOC) 413 Advanced Criminological Theory (3)

Advanced criminological theory is intended to extend and deepen students' knowledge of core ideas in criminology. The course has four main emphases: 1) learning major schools of thought in criminology, 2) learning about the uses and construction of theory, 3) learning about approaches to integrating criminological theories, and 4) exploring how criminological concerns are grounded in and interrelated with core issues in sociology. The course is offered once a year with 50 seats per offering. CRIMJ/CRIM/SOC 012 is a prerequisite. Students will be evaluated on research or analytical papers, written assignments on course readings, and/or in-class essay-style exams. This course may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. It would fulfill one of the 400-level requirements in the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with a Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 012, CRIMJ 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 414 (SOC 414, CRIM 414) Criminal Careers and the Organization of Crime (3) Research on and theory of criminal careers and crime organizations, emphasizing recruitment and disengagement; offender characteristics and lifestyles; policy implications.

Criminal Careers and the Organization of Crime (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 012 orCRIMJ 013 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 415 (PUBPL 415) Drug Control Policy in Comparative Perspective (3) Examines the history of drug control policy in the United States; comparisons and contrasts with other countries' experiences.

CRIMJ (PUBPL) 415 Drug Control Policy in Comparative Perspective (3)

This course focuses on the history of drug control policy in the United States and the internationalization of drug prohibition. We also examine the experience of other countries with drug use, abuse and control, including alternative regulatory policies in Western Europe. This class is both historical and comparative in orientation: in tracing the roots of drug prohibition, and examining the experience of other countries, we seek to enrich our understanding of American style drug control and the feasibility of alternative approaches.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: CRIMJ 200 orPL SC 001 orPL SC 014 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 421 (CRIM 421) Violent Crime in the United States (3) The impact of violent crime on victims, their families, and communities; the police process as it relates to violent crime.

CRIMJ (CRIM) 421 Violent Crime (3)

This course will examine the nature, frequency, and causes of violence, generally and of assault, robbery, rape, and homicide, specifically. Several different theoretical and research perspectives are reviewed, including biological, psychological, social, and cultural. The course also examines individual and societal responses to violence. Students are evaluated on three objective exams (25% each) and a series of short assignments (25%). CRIM/CRIMJ 421 may be used by both CLJBA and CLJBS degree candidates to satisfy a 400-level course requirement in the major. This course will be offered twice a year with 60 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 420 Criminal Law and Procedure (3) Common law and statutory crimes; constitutional rights of accused persons, liability of criminal justice professionals.

Criminal Law and Procedure (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 421W Violent Crime in the United States (3) The impact of violent crime on victims, their families, and communities; the police process as it relates to violent crime.

Violent Crime in the United States (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 422 (CRIM 422) Victimization (3) Examines the history, how victimization is measured/studied in social sciences, public policy implications of victimization movement in U.S.

CRIMJ (CRIM) 422 Victimization (3)

Victimology has emerged as an important area of study for the social sciences and an important arena for policy development. This course will familiarize students with the historical development of the research into victimization and the importance of the victims' movement to public policy. Areas explored will include the relationship between victim and offender, the cultural images of victims and their impact on the victim and the response of the criminal justice system to them, and how research has attempted to measure victimization. Students will be evaluated on three exams and a term paper. This course will be offered once a year with 40 seats per offering. The course will be one of the supporting courses where the student must select 6 credits at the 400 level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 423 (US) (WMNST 423, CRIM 423) Sexual and Domestic Violence (3) Legal, sociological, and psychological perspectives on sexual and domestic violence.

CRIMJ (CRIM/WMNST) 423 Sexual and Domestic Violence (3) (US)

This course investigates violence against women, specifically domestic, sexual, and relationship violence. Students will examine some of the legal, sociological, and psychological perspectives about sexual, domestic, and relationship violence as well as the social and cultural roots of violence against women. Students will also gain an understanding of the experiences of victims of domestic and sexual violence as well as the issues presented by perpetrators. Students will be evaluated based on performance on exams, and two research papers. CRIMJ/CRIM/WMNST 423 is a supporting course in both the WMNST major and minor as well as a supporting course in the CLJ major. It may also be used to satisfy a GI requirement. This course is offered fall and spring semester with an enrollment of 60 students each semester.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 424 (CRIM 424) Drugs and Crime (3) Analysis of international narcotics trafficking in the twentieth century.

CRIMJ (CRIM) 424 Drugs and Crime (3)

The course examines narcotics trafficking across the world from a geopolitical and social science perspective. The course explores the history and policy of international narcotics trafficking, social science explanations of the narcotics trade, and the successes and failures of policy efforts to stop the narcotics trade. Students will be evaluated on the basis of exams, quizzes, and homework assignments. This course is one of several advanced level courses students in the CLJ major may choose from to meet 400-level requirements. This course will be offered twice a year with 60 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 424W Drugs and Crime (3) Analysis of international narcotics trafficking in the twentieth century.

Drugs and Crime (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 426 Special Offender Types (3-6) Study of special offender types; relationships with criminal justice system (drug abuse, victimless crime, white collar crime considered different semesters).

Special Offender Types (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in Criminal Justice or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 425 (CRIM 425) Organized Crime (3) This course examines organized crime in terms of historical antecedents, structure, related theories, and policy issues.

CRIMJ (CRIM) 425 Organized Crime (3)

This course will provide students with a historical and theoretical overview of organized crime. Students will gain an understanding of the structure of organized crime as well as an understanding of the businesses associated with traditional and nontraditional organized crime groups. The course will also provide students with a detailed analysis of state and federal laws and policies regarding organized crime. Students will be evaluated by two mid-term exams (25% each), an essay final exam (40%), and class participation (10%). Crime, Law, and Justice students may use this course to satisfy a 400-level course requirement in the Bachelor of Arts and Bachelor of Science majors. This course will be offered twice a year with 60 seats per offering. This course will be one of the supporting courses from which students are required to select six credits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 430 Alternatives to Incarceration (3) Control and treatment of offenders in the community, probation and parole organizations, diversion programs, innovative sentences, supervision techniques.

CRIMJ 430 Criminal Law (3)

This course introduces students to the system of "criminal justice" as defined and interpreted by the Supreme Court as well as lower courts. Students study the judicial process, the intricacies of opinion formation, the nature and extent of judicial power, the willingness of the courts to hear appeals, and the reality of criminal sanctioning and procedure. The adversarial process, the willingness of the courts to hear appeals, and the conflicting opinions of the court introduce students to the lack of conformity that is part of upholding Constitutional rights. Court attitudes and how the changing system is studied through stare decisis and case briefing. Particular cases and issues are critiqued such as capital punishment of the mentally ill, juveniles, and those who are mentally challenged. The tension between justice versus law is studied through cases, evaluation of court behavior , and changing attitudes towards racial inequities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 andCRIMJ 113 andCRIMJ 230 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 432 (CRIM 432) Crime and the American Court System (3) This course examines the American court system including structure and the way courts process offenders with special focus on sentencing.

CRIMJ (CRIM) 432 Crime and the American Court System (3)

CRIM/CRIMJ 432, Crime and The American Court system, studies the courts from the lower courts to the Supreme Court and the various actors that play important roles in the functioning of the courts. First, the course studies the jurisdictions of the various courts and their organization in various state systems as well as the federal courts as well as the organization of state and federal administrative offices that manage the courts including the training of judges and the preparation of the court budget. Subsequent to the development of the basic understanding of the court jurisdiction and organization, the class studies the roles of the key actors in the day-in and day-out operation of the courts. In the spotlight are judges, prosecutors and defense attorneys although the role of the probation officers and clerk of courts are also intertwined with the processing of defendants. Of particular importance in this component of the course is the development of what is referred to as the court community and the focal concerns and goals that the court must consider as it processes cases. An, understanding of court community and focal concerns serves as crucial context for understanding the role of public policy as it attempts to shift or change the decision making of the court. One important dynamic of this course is the understanding that the court, although functioning as an institution to provide a neutral field on which accusations of criminality are to be played out, operates similarly to other organizations in that they are to be efficient (move cases with minimum overhead) and to be effective (provide justice, and protect the public). How the courts balance these competing demands and the informal processes that emerge in the processing of defendants is the key focus of the class. Finally, the course explores the attempts to reform the courts from the sentencing reforms such as determinate sentencing, mandatory minimums including "3 strikes" and sentencing guidelines. These issues highlight the political context of the courts and adaptability of the courts to attempts to change their values, and decisions. Students will be evaluated on attendance and participation, two papers, and two essay exams. This course will be offered twice a year with 60 seats per offering. This course serves as one core 400-level course in the major. Each student must take two of the five core 400-level courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 431 Offender and Prisoner Rights (3) The identification of correctional problems and the setting of objectives as reflective of court rulings, legislative change, and administrative law.

Offender and Prisoner Rights (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100, CRIMJ 113, CRIMJ 230 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 433 Computer Security (3) Introduction to computer security for Administration of Justice majors, designed to create an educated user of computer security services.

CRIMJ 433 Computer Security (3)

The course is designed to introduce Administration of Justice students to major issues surrounding computer security and some of the means of dealing with these issues, not to train providers of computer security services. Thus, the course is not a computer science course that would require a technical background and some expertise in computer technology but an Administration of Justice course that is intended to produce educated users of computer security expertise who can assist such technical experts in developing computer security policy. Students will learn the rudiments of telecommunications, including local area networks, wide area networks and the Internet. They develop a basic knowledge of the history of information security, types and techniques of attacks on computers, and the legal issues surrounding security policy, including the nature of risk management, encryption, access controls, firewalls, and intrusion detection and response. The course will provide students with strategies for implementing effective security policies once they are developed and will provide them with a fundamental knowledge of several key topics of computer security, including issues such as identity theft and electronic fraud, intellectual property theft and industrial espionage, cyberterrorism, pornography, and Internet gambling. Within the Administration of Justice program, this course is closely related to "Introduction to Security and Loss Control," which is a general introduction to the field of private security, and "Legal and Ethical Issues in Private Security," which involves a detailed examination of legal issues and ethical considerations in private security, as well as to "Electronics in Criminal Justice," which has been taught as a Special Topics course. The course in Computer Security provides an introduction to the most rapidly growing issues in private security as well as to computer security issues in the public sector, including those surrounding international terrorism. The course should also be direct interest to students majoring in IST and Business as well as to Administration of Justice students seeking to develop a background in security administration. Student progress will be evaluated primarily through examinations on each of the four segments into which the course is divided, with the examination for the fourth segment integrated into the final examination. Additional assessment will be based on a series of brief quizzes throughout the course, a group presentation dealing with one of the selected topics in computer security to be studied during the last segment of the course, and a term paper. The course will be offered biennially.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: IST 110 or bothMIS 103 andMIS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 439 (PL SC 439) The Politics of Terrorism (3) Analysis of political terrorism as a violent alternative for peaceful change and traditional warfare in the nuclear age.

The Politics of Terrorism (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100 orPL SC 014 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 441 (US) (CRIM 441) The Juvenile Justice System (3) Historical and contemporary view of the juvenile justice system. Focus on analyzing components of the system, their interactions, processing, and handling of youths.

CRIMJ (CRIM) 441 Delinquency and Juvenile Justice (3)

This course examines delinquency and the juvenile justice system from a variety of viewpoints. It looks at the problems the system is expected to address, how the problems have changed through the ages, how the current juvenile justice system developed, and the programs used to prevent and control delinquency and their effectiveness. By the end of the course, students should be able to think critically about the research and issues in the field. Evaluation methods include exams, brief writing assignments and a longer paper on policy issues. Students will be evaluated through brief written assignments, a term paper, a mid-term essay, and essay final. This course will be offered twice a year with 60 seats per offering. Students in the major may select CRIM (CRIMJ) 441 as one of several required courses in either the BA or BS program. This course is one of the core courses in the curriculum from which students must choose six credits from five core courses offered. It also serves as one of the supporting courses in the curriculum from which the students must take six credits at the 400-level.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 441W The Juvenile Justice System (3) Historical and contemporary view of the juvenile justice system. Focus on analyzing components of the system, their interactions, processing, and handling of youths.

The Juvenile Justice System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 450W Senior Seminar (3 per semester/maximum of 6) Capstone course exploring past, current and future developments in criminal justice.

Senior Seminar (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIM 100 and sixth semester standing or permission of program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 451 (US) (CRIM 451) Race, Crime, and Justice (3) This course focuses on the significance of race, class, and ethnicity to criminal justice processing and criminal offending.

CRIMJ (CRIM) 451 Race, Crime, and Justice (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This class is designed to explore the relationship between the criminal justice system and racial minorities in the United States. Students will examine theoretical issues of race and justice, as well as empirical understandings of the relationship between race, crime, and the criminal justice system. Students will endeavor to understand some of the economic, political, and sociological reasons why racial minorities are over-represented in the criminal justice system. Students will also explore normative issues of justice and equity in broader social interactions that influence and are influenced by crime and the criminal process.This course may be used towards the additional courses requirements for the CLJ BS/BA and ADM J degrees. It will also satisfy the Intercultural/International competence (GI). Students will be evaluated by a midterm and final exam, a term paper and class participation. This course will be offered twice a year with 60 seats per offering.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 453 (US) (WMNST 453, CRIM 453) Women and the Criminal Justice System (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.

CRIMJ (CRIM/WMNST) 453 Women and the Criminal Justice System (3) (US)

The course will examine the role of women in the criminal justice system and look at the issues related to women as offenders, victims of crime, and as professionals in the system. Students will gain an understanding of the issues concerning women in the criminal justice system, examine how societal arrangements affect women as offenders, victims, and criminal justice professionals, and better understand the overlooked problems faced by women in the criminal justice system. Students will be evaluated on the basis of exams, presentations, and papers. CRIMJ/CRIM/WMNST 453 is a supporting course for both WMNST and CLJ majors, as well as the WMNST minor. This course may also be used to satisfy a GI requirement. This course will be offered twice a year with 60 seats per offering.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 460 History and Function of Criminal Justice Components (3) Historical development of criminal justice system components (police, courts, corrections) related to formulation and function of the state.

History and Function of Criminal Justice Components (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 462 Comparative Criminal Justice Systems (3) A comparison of American and selected foreign justice systems to illustrate the variety of possible responses to crime.

Comparative Criminal Justice Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 465 Ethics in Criminal Justice (3) Ethical behavior in the criminal justice system.

Ethics in Criminal Justice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 467 (SOC 467, CRIM 467) Law and Society (3) Law and society studies the social origins of law and legal systems; occupational careers, and decision-making of legal officials.

CRIMJ (CRIM/SOC) 467 Law and Society (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Law and society teaches students' knowledge of key concepts and core ideas about the role of law in society. The course will cover the basics of key legal philosophies, major social science theories of law and society, research in law and society, the structure of the legal profession, and vital contemporary issues involving the role of law in society. CRIM/CRIMJ 113 and CRIM/CRIMJ 250W are prerequisites. The evaluations methods will include written assignments on course readings, and essay-style exams. Law and Society may be counted toward the credits required for the B.A. and B.S. in Crime, Law and Justice. It would fulfill one of the 400-level requirements in the "Law" component of the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with the Deviance and Criminology specialization. This course will be offered once a year with 25-40 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIMJ 113 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 471 (B LAW 471) Legal Rights, Duties, Liabilities of Criminal Justice Personnel (3) Civil law issues within a justice agency and between criminal justice agencies and members of the public.

Legal Rights, Duties, Liabilities of Criminal Justice Personnel (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 469 (HIST 469) Drugs and Drug Policy in the United States (3) Examines the history and dimensions of drug use and analyzes the impact of drug policy.

CRIMJ (HIST) 469 Drugs and Drug Policy in the United States (3)

For nearly a century, the United States has been waging its version of a hundred years' war on drugs, spending billions of dollars and incarcerating thousands of offenders while failing to significantly reduce the use of illicit drugs. This course examines drug use in a historical context while addressing the changing nature and dimension of drug use, including the pharmacology of drugs, patterns of drug use, and sentencing policies. Because drug control is inextricably linked to social, political, and public policy, the course will provide the student with a foundation for critical thinking and rational decision making relative to the efficacy of the various drug control initiatives. Since drugs seemingly permeate every level of American society and directly or tangentially touch most Americans' lives, issues such as drug testing in the workplace, the use of drug courier profiles, legalized medical marijuana, and needle exchange programs are evaluated. Students will be expected to learn the pharmacology of various drugs, the history of drug use in the United States since the colonial era, the evolution of federal drug agencies, and acquire knowledge about contemporary drug issues. They also will be expected to develop and strengthen their critical thinking skills as they assess the consequences of implementing particular anti-drug policies and their impact on reducing the use of illicit drug use. An example of the evaluation methods would be: students will be evaluated on the basis of three exams and four "think pieces" (requiring students' critical responses to an assigned topic) scheduled throughout the semester. Class attendance also will influence the grade.

Faculty Member Proposing Course: John C. McWilliams

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: CRIMJ 100 orHIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 473 (B LAW 473) Criminal Procedure and Evidence in the Business Community (3) Law of evidence and proof, constitutional constraints on police procedures (arrest, search, etc.) in society and the business community.

Criminal Procedure and Evidence in the Business Community (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 482 (CRIM 482) Seminar, Criminal Justice Agency Administration (3) Relates organizational and public policy management approaches to police, courts, and correctional institutions.

CRIMJ (CRIM) 482 Seminar, Criminal Justice Agency Administration (3)

In this course, you will learn about the nature of criminal justice organizations, individual and group behavior within the system, and the issues involved in reforming the system. This course will NOT teach you how to become an administrator in the criminal justice system, but hopefully will teach you about the issues and theories surrounding organizations and reform-and most importantly, teach you to think and communicate (in both written and verbal form). After taking this course, you should have a more accurate perception of criminal justice organizations and have a better understanding of the complexity surrounding the administration and management of these organizations. The evaluation methods will include a research paper, two essay midterms, and an essay final. Criminal Justice Agency Administration may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. This course will be offered three times a year with 40 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 489W Victimology: Predatory Crime (3) This course uses medical, social scientific and legal research to study the complexities of predatory crime.

CRIMJ 489W Victimology: Predatory Crime (3)

This course builds upon CRIMJ 407, Victimology. Students are directed toward the development of forensic knowledge, crime scene analysis, comprehension of predatory injuries, films, and current serial crimes to initiate research and critical thinking. Issues such as gender, family abuse, protective services, trends in victim selection, and societal responses provide numerous opportunities for learning communities and interaction with other classes. The use of WEB based assignments and Department of Justice information encourages students to expand their research skills for writing assignments, short research papers, and legal research. The course also uses graphic slides to introduce students to the reality of physical and sexual child abuse, sexual assault, and homicide. Students are expected to review anatomy and use proper terminology when speaking about predatory behavior, victimization injuries, and psychological issues. Crime classification is introduced using the Federal Bureau of Investigation Manual and the DSM IV is used to classify aberrant behavior. Research completed by leaders in the field are assigned readings and special topics such as female serial killers, angels of death, spree killers, and terrorism provide a basis for class discussions and projects. The course also includes the "high crime low-war" classification of international terrorism and concepts of lethality of attack.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: CRIMJ 407

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 494 Research Topics (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

CRIMJ 494. Research Topics

This common course will focus on specific research issues. Issues to be covered will be social violence, legal issues, and impact on crime control. Students will study the design and implementation of topical issues as they address specific issues. The course will add to the diversity offerings within the criminal justice program.

Facult member proposing course: M. A. DuPont-Morales

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 494H Research Topics (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Topics (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 495 Internship in Criminal Justice (3-12) Experience with a criminal justice agency coordinated through readings and discussion.

Internship in Criminal Justice (3-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall ourside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 499 (IL) Foreign Studies (6) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (6)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminal Justice (CRIMJ)

CRIMJ 497D (PSYCH 497D, WMNST 497D, SOC 497D) Family & Justice (3) Examination of the relationship between the family and the criminal justice system in which the family operates.

Family & Justice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 012 (GS) (CRIMJ 012, SOC 012) Criminology (3) Explanations and measurements of crime; criminal law; characteristics of criminals and victims; violent property, white-collar, organized, and sexual crimes.

CRIM (CRIMJ /SOC) 012 Criminology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Criminology is the study of the causes of criminal behavior. As such this course is an introduction to the topic with special focus on the major theories explaining criminal behavior including differential association, anomie, control theory and labeling theory. A key focus of the class is examining the most recent scientific research testing the basic theories. The students learn the various research techniques that have been used to study criminal behavior including crime statistics such as the Uniform Crime Report that serves as a monitor on crime trends. Several important areas of study that link understanding criminal behavior and its distribution across the social system are investigated including age, gender, race and ethnicity. One goal of the course is to promote a more complete understanding of crime and how it is enmeshed in human social life. The course concludes by using the knowledge base generated in the course to study the link of our understanding of criminal behavior and the emerging crime control policies of the past few decades. Finally, the course reviews the impact and effectiveness of some of these policies.

Throughout the course, the lectures as well as the readings emphasize the complexity of explaining human behavior and criminal behavior in particular. One aspect of the course is the use of a term paper on the objective and subjective availability of crime to the student. This paper emphasizes the complexity of the student's social life and the role that these factors may have on whether they have engaged in criminal behavior and their analysis of the causes of their criminal behavior. This project personalizes the various theories and helps the student understand the importance of their social environment in whether they have or will engage in crime.

Discussion and questions are encouraged in all sections. Sections of this course may include group research projects, debates, and library or internet-based research. Along with personal contact, students have the opportunity to communicate with teaching assistants and faculty members via e-mail. Writing assignments, along with in-class examinations, are required in all sections.

This course meets a General Education requirement in the Social and Behavioral Sciences for non majors, is required for the CLJBA and CLJBS majors, and may be used in the SOC majors and minors.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 012H (GS) (SOC 012H) Criminology (3) Explanations and measurements of crime; criminal law; characteristics of criminals and victims; violent property, white-collar, organized, and sexual crimes.

Criminology (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 100 (GS) (CRIMJ 100) Introduction to Criminal Justice (3) Overview of the criminal justice system, including legal foundations, processing and correction of offenders, extent and types of crime, victims.

CRIM (CRIMJ) 100 Introduction to Criminal Justice (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an overview of the criminal justice system in the United States. Topics to be covered include: the extent of crime in the United States; competing and complementary goals of the criminal justice system; sources of criminal law; the history and development of the system; the functions of police, attorneys, courts and correctional agencies; the interactions between different parts of the system; and the impact of crime on the victim. Students are evaluated on two exams (20% each), two written assignments (30%), and a final exam (30%). This course is a prescribed course in the CLJBA, CLJBS, ADM J BS and ADM J BA majors, and it is also a prerequisite for most 400-level courses in Crime, Law, and Justice.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 083S (CRIMJ 083S) First-Year Seminar in Criminal Justice (3) Critical approaches to issues in criminal justice and criminology.

CRIM (CRIMJ) 083S First-Year Seminar in Criminal Justice (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

Each section of this course will be limited to 20 students who will be instructed by an experienced faculty member. Each section will focus on a well-defined body of scholarship that addresses a relatively specific topic while at the same time providing an opportunity to broadly survey existing knowledge in the discipline. For example, some sections may address very broad questions that encompass the entire field, such as criminal justice policy, issues related to social justice, or explanations of crime. Other sections may focus on justice system responses to certain types of crime, such as violent crime, white collar crime, organized crime, or transnational crime. Finally, some sections may take a comparative and international approach, and consider how justice systems are administered or how patterns of crime vary in a range of countries and jurisdictions. Each section will emphasize the development of discussion writing, and analytical skills and will give students the opportunity to work individually and in small groups. Students can expect to gain a general introduction to the University as an academic community and to explore their responsibilities as members of that community. They will also become familiar with the learning tools and resources available to them, and they will be able to establish relationships with faculty and other students who share their academic interests. This course fulfills a general education or Bachelor of Arts requirement in the social/behavioral sciences.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 113 (US) (CRIMJ 113) Introduction to Law (3) Introduction to law in society with a focus on criminal law, judicial code, laws of sentencing and corrections, ciminal procedure.

CRIM (CRIMJ) 113 Introduction to Law (3)

Introduction to the law is designed to provide CLJ majors with an introductory level of knowledge of the criminal law, and other legal codes such as the Judicial Code, laws of corrections, probation and parole, and the rules of criminal and appellate procedure. The course will serve as a gateway course to taking more advanced criminology and criminal justice courses. CRIMJ (CRIM) 113 is one of the Prescribed Courses in the CLJ curriculum and is used as a prerequisite for many 400 level courses including CRIM 467 AND 469.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or smal-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 250W (CRIMJ 250W) Research Methods in Criminal Justice (4) Fundamental concepts of social science research including design, measurement, sampling, and interpretation of the study of crime, law, and justice.

Research Methods in Criminal Justice (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 312 Introduction to Forensic Science in the Criminal Justice System (3) This course introduces the student to the role in the criminal justice system and the legal context of forensic evidence.

Introduction to Forensic Science in the Criminal Justice System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 395 Internship in Criminal Justice (1-9) Field experience focusing on the student's major interest within the area of criminal justice.

Internship in Criminal Justice (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 407 (CRIMJ 407) Victimology (3) This course will explore the legal, emotional, and social responses to the process of victimization by offenders and third parties.

Victimology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 406 (CRIMJ 406, SOC 406) Sociology of Deviance (3) Theory and research concerning behaviors and lifestyles viewed as significant departures from a group's normative expectations.

CRIM (CRIMJ/SOC) 406 Sociology of Deviance (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Sociology of Deviance focuses on the theory and research in social construction of social norms, the violation of norms, and social reaction to the violation of norms. The course focuses on the role of social structure and power in the definition of deviance, on structural, cultural, and social psychological processes involved in deviant behavior, and the dynamics of social reaction to deviance. The course includes some content focusing on criminal deviance, but also emphasizes non-criminal deviance, as well as the role of social movements and social change in constructing and contesting deviance definitions. CRIMJ/SOC/CRIM 012 and CRIM/CRIMJ 250W are prerequisites. This course may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. It would fulfill one of the 400-level requirements in the "Crime" component of the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with the Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 412 (CRIMJ 412) Crime, Social Control, and the Legal System (3) Legal and extralegal control; public opinion on crime; criminal justice and correctional processes; legal sanctions; control strategies. Field trip.

Crime, Social Control, and the Legal System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 012, CRIM 013 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 413 (SOC 413, CRIMJ 413) Advanced Criminological Theory (3) This course provides an in-depth look at theories of crime and examines influential empirical studies designed to these theories.

CRIM (CRIMJ/SOC) 413 Advanced Criminological Theory (3)

Advanced criminological theory is intended to extend and deepen students' knowledge of core ideas in criminology. The course has four main emphases: 1) learning major schools of thought in criminology, 2) learning about the uses and construction of theory, 3) learning about approaches to integrating criminological theories, and 4) exploring how criminological concerns are grounded in and interrelated with core issues in sociology. The course is offered once a year with 50 seats per offering. CRIMJ/CRIM/SOC 012 is a prerequisite. Students will be evaluated on research or analytical papers, written assignments on course readings, and/or in-class essay-style exams. This course may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. It would fulfill one of the 400-level requirements in the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with a Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 012, CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 421 (CRIMJ 421) Violent Crime (3) Examines the nature and causes of violence. Several theoretical perspectives are reviewed including biological, psychological, social, and cultural.

CRIM (CRIMJ) 421 Violent Crime (3)

This course will examine the nature, frequency, and causes of violence, generally and of assault, robbery, rape, and homicide, specifically. Several different theoretical and research perspectives are reviewed, including biological, psychological, social, and cultural. The course also examines individual and societal responses to violence. CRIM/CRIMJ 421 may be used by both CLJBA and CLJBS degree candidates to satisfy a 400-level course requirement in the major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 414 (CRIMJ 414, CRIM 414) Criminal Careers and the Organization of Crime (3) Research on and theory of criminal careers and crime organizations, emphasizing recruitment and disengagement; offender characteristics and lifestyles; policy implications.

Criminal Careers and the Organization of Crime (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SOC 012 orSOC 013 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 422 (CRIMJ 422) Victimization (3) Examines the history, how victimization is measured/studied in social sciences, public policy implications of victimization movement in U.S.

CRIM (CRIMJ) 422 Victimization (3)

Victimology has emerged as an important area of study for the social sciences and an important arena for policy development. This course will familiarize students with the historical development of the research into victimization and the importance of the victims' movement to public policy. Areas explored will include the relationship between victim and offender, the cultural images of victims and their impact on the victim and the response of the criminal justice system to them, and how research has attempted to measure victimization. The course will be one of the supporting courses where the student must select 6 credits at the 400 level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 424 (CRIMJ 424) Drugs and Crime (3) Analysis of international narcotics trafficking in the twentieth century.

CRIM (CRIMJ) 424 Drugs and Crime (3)

The course examines narcotics trafficking across the world from a geopolitical and social science perspective. The course explores the history and policy of international narcotics trafficking, social science explanations of the narcotics trade, and the successes and failures of policy efforts to stop the narcotics trade. Students will be evaluated on the basis of exams, quizzes, and homework assignments. This course is one of several advanced level courses students in the CLJ major may choose from to meet 400-level requirements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 423 (US) (CRIMJ 423, WMNST 423) Sexual and Domestic Violence (3) Legal, sociological, and psychological perspectives on sexual and domestic violence.

CRIM (CRIMJ/WMNST) 423 Sexual and Domestic Violence (3) (US)

This course investigates violence against women, specifically domestic, sexual, and relationship violence. Students will examine some of the legal, sociological, and psychological perspectives about sexual, domestic, and relationship violence as well as the social and cultural roots of violence against women. Students will also gain an understanding of the experiences of victims of domestic and sexual violence as well as the issues presented by perpetrators. Students will be evaluated based on performance on exams, and two research papers. CRIMJ/CRIM/WMNST 423 is a supporting course in both the WMNST major and minor as well as a supporting course in the CLJ major. It may also be used to satisfy a US requirement.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 425 (CRIMJ 425) Organized Crime (3) This course examines organized crime in terms of historical antecedents, structure, related theories, and policy issues.

CRIM (CRIMJ) 425 Organized Crime (3)

This course will provide students with a historical and theoretical overview of organized crime. Students will gain an understanding of the structure of organized crime as well as an understanding of the businesses associated with traditional and nontraditional organized crime groups. The course will also provide students with a detailed analysis of state and federal laws and policies regarding organized crime. Students will be evaluated by two mid-term exams (25% each), an essay final exam (40%), and class participation (10%). Crime, Law, and Justice students may use this course to satisfy a 400-level course requirement in the Bachelor of Arts and Bachelor of Science majors. This course will be one of the supporting courses from which students are required to select six credits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 430 American Correctional System (3) Study of corrections from probation, intermediate punishment, adult and juvenile correctional institutions to parole.

CRIM 430 American Correctional System (3)

This course examines the correctional system from the sentencing decision to reentry or release from the correctional system. The course focuses on the choices that decision-makers face in sentencing, classification and responding to violations by offenders as well as the problems that offenders face as they confront their treatment/punishment. As part of the analysis the course explores the persistent conflicting expectations that society imposes on our correctional system and the effectiveness of the system in rehabilitating, deterring and incapacitating offenders. This course expands on the brief introduction of the topic in CRIM/CRIMJ 100 and relies on the student's understanding of social science research developed in CRIM/CRIMJ 250W to critically analyze what we know about corrections. This course provides the opportunity for students to study in depth a major component of the criminal justice system and is one of five classes students may select from to meet a major core course requirement.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 429 Seminar in Criminal Behavior (3-4 per semester/maximum of 7) This course explores the study of the application of criminological theories to our understanding of various forms of criminal behavior.

CRIM 429 Seminar in Criminal Behavior (3-4/maximum of 7)

The course is intended to provide in the curriculum an avenue for the faculty to offer special focus courses on emerging forms of criminal behavior. For example, during the past several years the criminal justice system has had to respond to new forms of criminal behavior that have developed as we have developed new technologies. Recent use of the Internet as a means of committing crime has been the focus of federal and state legislation. Thus, societies have developed new forms or new means to old forms of criminal behavior through the use of technology. CRIM 429 will provide the faculty with the opportunity to develop special criminal behavior topic courses on offenses such as these and many other topics on our understanding and ability to explain criminal behavior. The course can satisfy 400 level requirements for the students in the CLJ major. This course will evaluate the students using a combination of written assignments and oral presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 432 (CRIMJ 432) Crime and the American Court System (3) This course examines the American court system including structure and the way courts process offenders with special focus on sentencing.

CRIM (CRIMJ) 432 Crime and the American Court System (3)

CRIM/CRIMJ 432, Crime and The American Court system, studies the courts from the lower courts to the Supreme Court and the various actors that play important roles in the functioning of the courts. First, the course studies the jurisdictions of the various courts and their organization in various state systems as well as the federal courts as well as the organization of state and federal administrative offices that manage the courts including the training of judges and the preparation of the court budget. Subsequent to the development of the basic understanding of the court jurisdiction and organization, the class studies the roles of the key actors in the day-in and day-out operation of the courts. In the spotlight are judges, prosecutors and defense attorneys although the role of the probation officers and clerk of courts are also intertwined with the processing of defendants. Of particular importance in this component of the course is the development of what is referred to as the court community and the focal concerns and goals that the court must consider as it processes cases. An, understanding of court community and focal concerns serves as crucial context for understanding the role of public policy as it attempts to shift or change the decision making of the court. One important dynamic of this course is the understanding that the court, although functioning as an institution to provide a neutral field on which accusations of criminality are to be played out, operates similarly to other organizations in that they are to be efficient (move cases with minimum overhead) and to be effective (provide justice, and protect the public). How the courts balance these competing demands and the informal processes that emerge in the processing of defendants is the key focus of the class. Finally, the course explores the attempts to reform the courts from the sentencing reforms such as determinate sentencing, mandatory minimums including "3 strikes" and sentencing guidelines. These issues highlight the political context of the courts and adaptability of the courts to attempts to change their values, and decisions. This course serves as one core 400-level course in the major. Each student must take two of the five core 400-level courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 433 Sentencing (3) This course studies sentencing from prosecutorial charging decisions through revocation of probation, and the complex goals and responsibilities at sentencing.

CRIM 433 Sentencing (3)

This course focuses on the key decision in our court system--sentencing. The course covers the historical development of sentencing both within the United States and internationally as a backdrop to the reform efforts of the late 20th Century. The course explores how sentencing has changed from a judge-based discretionary system to a system where numerous restrictions to judicial discretion have been imposed by state and federal legislatures. Students will be evaluated on two essay exams (midterm and final) with the midterm worth 20 and the final 30 percent of the grade. A research analysis paper will be required that will be completed in three stages. The first stage will be the setting forth of a research problem and a scheme for analyzing the data (10%). The second stage will be an oral presentation of the findings (20%). The final stage will be a written term paper on the project (20%). This course will be used by CLJ majors as one of the six credits of 400-level elective credits required in the major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 441 (US) (CRIMJ 441) Delinquency and Juvenile Justice (3) Course examines delinquency and the juvenile justice system including delinquency's nature, causes, and prevention and the processing of juveniles.

CRIM (CRIMJ) 441 Delinquency and Juvenile Justice (3)

This course examines delinquency and the juvenile justice system from a variety of viewpoints. It looks at the problems the system is expected to address, how the problems have changed through the ages, how the current juvenile justice system developed, and the programs used to prevent and control delinquency and their effectiveness. By the end of the course, students should be able to think critically about the research and issues in the field. Evaluation methods include exams, brief writing assignments and a longer paper on policy issues. Students will be evaluated through brief written assignments, a term paper, a mid-term essay, and essay final. This course will be offered twice a year with 60 seats per offering. Students in the major may select CRIM (CRIMJ) 441 as one of several required courses in either the BA or BS program. This course is one of the core courses in the curriculum from which students must choose six credits from five core courses offered. It also serves as one of the supporting courses in the curriculum from which the students must take six credits at the 400-level.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 435 Policing in America (3) This course will focus on current, historical, theoretical, and research issues surrounding law enforcement in the United States.

CRIM 435 Policing in America (3)

This course is designed to provide a basic knowledge of the structure of policing in America and to explore findings from research considering police behavior. Students will examine and discuss controversial issues relating to policing in American society. Current trends in policing philosophies and strategies will be identified and their effectiveness will be debated. The relationship between police and citizens will be stressed. CRIM 435 can be used to satisfy a core 400-level course requirement in the CLJBA and CLJBS majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 449 Seminar in Criminal Justice (3-4 per semester/maximum of 7) Examines criminal justice decision-making and operation such as the role of contemporary movements in law enforcement, the courts and corrections.

CRIM 449 Seminar in Criminal Justice (3-4 per semester/maximum of 7)

This course is intended to provide the justice component of the curriculum with an ability to study special aspects, particularly emerging responses of the criminal justice system to criminal behavior. For example in recent years the criminal justice system has developed or expanded drug courts, boot camps, 3-strikes legislation, and intermediate punishments and it is now shifting its focus toward responding to terrorism. CRIM 449 will provide the faculty with the opportunity to develop seminars to focus on criminal justice issues such as these. This course can satisfy 400 level requirements for the students in the majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 113, CRIM 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 451 (US) (CRIMJ 451) Race, Crime, and Justice (3) This course focuses on the significance of race, class, and ethnicity to criminal justice processing and criminal offending.

CRIM (CRIMJ) 451 Race, Crime, and Justice (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This class is designed to explore the relationship between the criminal justice system and racial minorities in the United States. Students will examine theoretical issues of race and justice, as well as empirical understandings of the relationship between race, crime, and the criminal justice system. Students will endeavor to understand some of the economic, political, and sociological reasons why racial minorities are over-represented in the criminal justice system. Students will also explore normative issues of justice and equity in broader social interactions that influence and are influenced by crime and the criminal process.This course may be used towards the additional courses requirements for the CLJ BS/BA and ADM J degrees. It will also satisfy the United States Cultures and International Cultures requirement.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 453 (US) (CRIMJ 453, WMNST 453) Women and the Criminal Justice System (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.

CRIM (CRIMJ/WMNST) 453 Women and the Criminal Justice System (3)
(US)

The course will examine the role of women in the criminal justice system and look at the issues related to women as offenders, victims of crime, and as professionals in the system. Students will gain an understanding of the issues concerning women in the criminal justice system, examine how societal arrangements affect women as offenders, victims, and criminal justice professionals, and better understand the overlooked problems faced by women in the criminal justice system. Students will be evaluated on the basis of exams, presentations, and papers. CRIMJ/CRIM/WMNST 453 is a supporting course for both WMNST and CLJ majors, as well as the WMNST minor. This course may also be used to satisfy a US requirement.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 467 (CRIMJ 467, SOC 467) Law and Society (3) Law and society studies the social origins of law and legal systems; occupational careers, and decision-making of legal officials.

CRIM (CRIMJ/SOC) 467 Law and Society (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Law and society teaches students' knowledge of key concepts and core ideas about the role of law in society. The course will cover the basics of key legal philosophies, major social science theories of law and society, research in law and society, the structure of the legal profession, and vital contemporary issues involving the role of law in society. CRIM/CRIMJ 113 and CRIM/CRIMJ 250W are prerequisites. The evaluations methods will include written assignments on course readings, and essay-style exams. Law and Society may be counted toward the credits required for the B.A. and B.S. in Crime, Law and Justice. It would fulfill one of the 400-level requirements in the "Law" component of the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with the Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIMJ 113 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 469 Seminar in the Law (3-4 per semester/maximum of 7) The focus of this seminar is the law such as the laws of sentencing, appellate course decisions and their impact.

CRIM 469 Seminar in Law (3-4 per semester/maximum of 7)

This seminar explores topics related to the law and will vary from semester to semester depending on current events, faculty research and other areas of study related to the criminal law. Evaluation methods will vary depending on the focus of the seminar, however, student evaluations will rely on techniques such as writing and presentations to enhance student presentation skills as well as evaluate their understanding of the course material. Students may take this course twice. This course serves as one of the supporting courses from which students must select 6 credits at the 400-level. It also serves as one of the additional courses from which students must select 18 credits under the Legal Studies Option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 480H Research Topics in Crime, Law, and Justice (1) Students are exposed to a variety of research topics related to crime, law, and justice.

CRIM 480H Research Topics in Crime, Law, and Justice (1)

This one-credit seminar is intended for Scholars in the fall semester of their third year who intend to complete their Honors thesis in Crime, Law, and Justice. Students are exposed to a wide variety of research topics related to crime, law, and justice. The specific topics depend on the interests of the students and on the current research being conducted by the faculty of the Crime, Law, and Justice program. Students read and summarize research reports, engage in discussions with Crime, Law, and Justice faculty, and attend lectures by visiting scholars. At the conclusion of the seminar, students select a research topic for their honors thesis and a CLJ faculty member to supervise that thesis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CLJ major and admission to the Schreyer Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 481H Information Literacy in Crime, Law, and Justice (1) Students are exposed to a variety of information sources related to crime, law, and justice.

CRIM 481H Information Literacy in Crime, Law, and Justice (1)

This one-credit seminar is intended for Scholars in the spring semester of their third year who intend to complete their honors thesis in Crime, Law, and Justice. This course surveys the structures of information, patterns of information retrieval, and the resources and technologies used to research topics related to crime, law, and justice. Students complete a series of assignments involving information retrieval and the effective use of information technologies. This includes working with their faculty supervisor and collecting information on the topic they have selected for their honors thesis. At the conclusion of the class, students present a research proposal for their honors thesis, including a review of the relevant literature and a schedule for completing the thesis during their fourth year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CLJ 480H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 482 (CRIMJ 482) Seminar, Criminal Justice Agency Administration (3) Relates organizational and public policy management approaches to police, courts, and correctional institutions.

CRIM (CRIMJ) 482 Seminar, Criminal Justice Agency Administration (3)

In this course, you will learn about the nature of criminal justice organizations, individual and group behavior within the system, and the issues involved in reforming the system. This course will NOT teach you how to become an administrator in the criminal justice system, but hopefully will teach you about the issues and theories surrounding organizations and reform-and most importantly, teach you to think and communicate (in both written and verbal form). After taking this course, you should have a more accurate perception of criminal justice organizations and have a better understanding of the complexity surrounding the administration and management of these organizations. Criminal Justice Agency Administration may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 490 Crime Policy (3) This course focuses on criminal justice policy and the factors that influence policy development and implementation.

CRIM 490 Crime Policy (3)

This class will study crime and criminal justice in the context of law and the development and implementation of public policy. The course will focus on the politics of law and social control by exploring the construction of crime as a social problem, fundamental aspects of the policy development and implementation process, the legal interpretation of public policy, and the role of federal, state, and local governments in crime control. Students will be evaluated on essay exams and a term paper. This course is intended to be a capstone course for advanced undergraduates. The course will draw on the broad range of course work that students will have taken prior to taking this course to develop a course that takes what we know about crime, the law and the justice system and focus on public policy as it relates to these areas. The course may be used toward the six credits required at the 400 level under Additional Courses or as one of the courses under the Legal Studies Option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100, CRIM 113, CRIM 250W 6 credits of 400-level CRIMJ courses and 7th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Criminology (CRIM)

CRIM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 195 Early Observation Experience for Teacher Preparation (1-2 per semester/maximum of 2) Early observational work in educational settings with a variety of age/grade levels.

Early Observation Experience for Teacher Preparation (1-2 per semester/maximum of 2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 200 Peer Tutoring (1) Prepares students to develop successful practices as a peer tutor.

Peer Tutoring (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 280 Introduction to Teaching English to English Language Learners (3) Introductory English language teaching, and pedagogical strategies with English Language Learners.

C I 280 Introduction to Teaching English to English Language Learners (3)

CI 280 focuses on the development of foundational knowledge to successfully assist English language learners in U.S. school contexts. The basic premise of the course is that teachers play an important role in creating a positive classroom learning environment and bringing school success for English language learners. This course is designed to develop essential dispositions, skills, and knowledge for teacher education students to fulfill their important role.

Course objectives are to understand culture, language, learning contexts, and pedagogy. Culture focuses on a) socio-cultural characteristics of English language learners, b) how English language learners' cultural communication and learning styles affect the learning process, c) how English language learners' cultural values affect their academic achievement and language development, d) negative effect of cultural bias in instruction, materials and assessments, and e) the importance of developing cross-cultural competence in interactions with colleagues, administrators, school and community specialists, students and their families.

Language focuses on a) knowledge of language systems, structures, functions, and variation, b) the process of acquiring first and second language and literacy skills, c) the connection between oral and written language in school contexts, and d) the differences between academic and social language and the importance of developing both to succeed in U.S. schools. Learning contexts focus on understanding the characteristics of school and classroom contexts that support English language learners' successful learning. This topic extends to the discussion of laws and regulations that affect teaching of English language learners. Pedagogy focuses on understanding key principles of linguistically responsive teaching for English language learners. Students will study these four major course topics through course readings, class discussions, and cultural explorations of their own and others' cultures while engaging in individual, social, and experiential learning opportunities.

Students will demonstrate their understanding of the course content by completing a multi-genre paper, a learning portfolio, and a curriculum-based test. Multi-genre paper will provide students with an opportunity to explore their own culture and the culture of a local immigrant group through a thematic collection of various types of writings. A curriculum-based test will provide students with an opportunity to demonstrate their learning of language. Learning portfolio will provide students with an opportunity to document evidence of their own learning in various classroom activities and reflect on their learning throughout the semester. Considering that participation of classroom discussions and activities is an important source of developing content knowledge in the course, attendance will be required. (400 words)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 280 (GH) Introduction to Teaching English to English Language Learners (3) Introductory English language teaching, and pedagogical strategies with English Language Learners.

C I 280 Introduction to Teaching English to English Language Learners (3)

CI 280 focuses on the development of foundational knowledge to successfully assist English language learners in U.S. school contexts. The basic premise of the course is that teachers play an important role in creating a positive classroom learning environment and bringing school success for English language learners. This course is designed to develop essential dispositions, skills, and knowledge for teacher education students to fulfill their important role.

Course objectives are to understand culture, language, learning contexts, and pedagogy. Culture focuses on a) socio-cultural characteristics of English language learners, b) how English language learners' cultural communication and learning styles affect the learning process, c) how English language learners' cultural values affect their academic achievement and language development, d) negative effect of cultural bias in instruction, materials and assessments, and e) the importance of developing cross-cultural competence in interactions with colleagues, administrators, school and community specialists, students and their families.

Language focuses on a) knowledge of language systems, structures, functions, and variation, b) the process of acquiring first and second language and literacy skills, c) the connection between oral and written language in school contexts, and d) the differences between academic and social language and the importance of developing both to succeed in U.S. schools. Learning contexts focus on understanding the characteristics of school and classroom contexts that support English language learners' successful learning. This topic extends to the discussion of laws and regulations that affect teaching of English language learners. Pedagogy focuses on understanding key principles of linguistically responsive teaching for English language learners. Students will study these four major course topics through course readings, class discussions, and cultural explorations of their own and others' cultures while engaging in individual, social, and experiential learning opportunities.

Students will demonstrate their understanding of the course content by completing a multi-genre paper, a learning portfolio, and a curriculum-based test. Multi-genre paper will provide students with an opportunity to explore their own culture and the culture of a local immigrant group through a thematic collection of various types of writings. A curriculum-based test will provide students with an opportunity to demonstrate their learning of language. Learning portfolio will provide students with an opportunity to document evidence of their own learning in various classroom activities and reflect on their learning throughout the semester. Considering that participation of classroom discussions and activities is an important source of developing content knowledge in the course, attendance will be required. (400 words)

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 281 Basic Instructional and Other Teaching Resources/Strategies in English as Second Language (3) Basic instructional materials, resources, activities and strategies that develop language learning with English Language Learners.

C I 281 Basic Instructional and Other Teaching Resources/Strategies in English as Second Language (3)

This course focuses on basic uses and their rationales for using instructional and related resources for developing ESL. This knowledge enables the educator to help assist in the implementation of ESL programs. In addition, this course focuses on areas such as: instructional materials and media to address the educational needs of English Language Learners (ELLs). Here, the objectives are to assist in the usages of these instructional resources and to learn how to provide follow-up for nurturing social as well as cognitive academic language with ELLS. A variety of techniques are surveyed and the school paraprofessional has opportunities to team and practice them with teacher guidance to meet specific instructional needs of ELLS. In learning and practicing various strategies, the educator assists in their modifications and adaptations with ELLs in "pull-out" and "pull-in" programs including small group work. The CALLA model is used and the paraprofessional learns how to assist the teacher in using it with ELLS. CALLA is functional and practical with content subjects such as reading and mathematics. These instructional materials, resources, adaptations and CALLA model overview ways of supporting multi-cultural perspectives via varied curricula.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 283 Essentials of Cultural and Linguistic Understandings in ESL Classrooms (3) Essentials of culturally and linguistically diverse to facilitate collaboration in schools and communities for English Language Learners.

C I 283 Essentials of Cultural and Linguistic Understandings in ESL Classrooms (3)

This course focuses on essentials of developing and nurturing collaboration with culturally and linguistically diverse (CLD) students and families in schools and communities. Baseline behaviors and attitudes of CLD students and families and of mainstream society are examined. Reasons for immigrating or migrating to the United States aspirations and patterns of assimilation and acculturation are introduced. In order to promote educator's understandings in working effectively with CLD students and families, the basics of Supreme Court and state legal decisions are examined. Helping to build collaborations between paraprofessionals and classroom personnel, other school staff and families for benefit of ELL learners and their families are described.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 282 Introduction to Evaluating Culturally and Linguistically Diverse ESL Students and Programs (3) Introductory multiple techniques for evaluating ESL students and programs.

C I 282 Introduction to Evaluating Culturally and Linguistically Diverse ESL Students and Programs (3)

This course provides basic knowledge of assessment tools and practices for educators. For general understandings for ELLS, selected basic terms used in assessment are overviewed and examples provided in classroom contexts. Characteristics and examples of assessment types are given for both curricular and instructional purposes. Paraprofessionals are trained to help administer and score multiple types of assessments. The essentials of linking assessment with instruction is demonstrated at classroom and school program levels. They are shown how to assist in monitoring ESL student proficiencies over short and longer time periods. Basic assessment adaptations required by the Pennsylvania Department of Education are explained. In addition, the hows of helping to promote school understandings and to nurture participation of culturally and linguistically diverse families of ELL students are covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 295 Introductory Field Experience for Teacher Preparation (1-3 per semester/maximum of 6) Selected observation of schooling situations with small group and tutorial participation.

Introductory Field Experience for Teacher Preparation (1-3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: second-semester standing Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm
Concurrent: EDTHP 115 and/or EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 295A Introductory Field Experience for Early Childhood Education (1-3) Selected observations and individual and small group tutoring in early childhood, elementary school, and education related, community settings.

C I 295A Introductory Field Experience for Early Childhood Education (1-3)

CI 295A is designed to enable students interested in early childhood education as a potential major and career to gain experience observing and assisting in a variety of school and community settings. Students will be engaged in observing as well as tutoring individual children and small groups of children in pre-kindergarten settings as well as in kindergarten through fourth grade settings. As students have not yet been exposed to methods of instructional planning and delivery, their tutoring of individuals and small groups will be carried out under the direct supervision of a professional teacher. Through their observation and participation in these educational settings, students will develop an awareness of observation as a tool for understanding and analyzing educational environments, teaching and learning. They will develop an understanding of the nature of participant observation as well as a variety of frameworks and strategies that can be used for observation as well as the skills necessary to communicate observations professionally and ethically.

Engaging in extended observations in educational settings provides students with an opportunity to enrich and deepen their understanding of a variety of educational concepts that they will encounter in prerequisite or concurrent courses including child development, English language learning and development, principles of human learning, individual differences in human ability including special needs students, cultural diversity, and contemporary issues in education and their impact on childhood educational settings.
Finally, CI 295A will provide an opportunity for students to examine childhood education as a future career. They will be introduced to notions of teaching in general as a career as well as to specialized aspects of teaching in both pre-kindergarten and elementary school settings. Students will examine their own biographies as learners and the implications of their biographies for the development of a teacher identity and the potential suitability of childhood education as a career. Students will also be engaged in examining a variety of codes for professional and ethical conduct for educators. Through examining, critiquing and synthesizing these various articulations of professionalism, students will begin the development of a personalized code of ethical, and professional conduct.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: second semester standing
Concurrent: HD FS 229 or C I 280 or EDPSY 014 or EDTHP 115 or SPLED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 295B Introductory Field Experience in Middle Level Education (1-3) Selected observations and individual and small group tutoring in early childhood, elementary school, and education related, community settings.

C I 295B Introductory Field Experience for Middle Level Education (1-3)

CI 295B is designed to enable students interested in middle level education (Grades 4 to 8) as a potential major and career to gain experience observing and assisting in a variety of school settings. Students will be engaged in observing as well as tutoring individual children and small groups of children in middle level educational settings. As students have not yet been exposed to methods of instructional planning and delivery, their tutoring of individuals and small groups will be carried out under the direct supervision of a professional teacher.

Through their observation and participation in these educational settings, students will develop an awareness of observation as a tool for understanding and analyzing educational environments, teaching and learning. They will develop an understanding of the nature of participant observation as well as a variety of frameworks and strategies that can be used for observation as well as the skills necessary to communicate observations professionally and ethically.

Engaging in extended observations in educational settings provides students with an opportunity to enrich and deepen their understanding of a variety of educational concepts that they will encounter in prerequisite or concurrent courses including child development, English language learning and development, principles of human learning, individual differences in human ability including special needs students, cultural diversity, and contemporary issues in education and their impact on middle level educational settings.

Finally, CI 295B will provide an opportunity for students to examine middle level education as a future career. They will be introduced to notions of teaching in general as a career as well as to specialized aspects of teaching in both pre-kindergarten and elementary school settings. Students will examine their own biographies as learners and the implications of their biographies for the development of a teacher identity and the potential suitability of middle level education as a career. Students will also be engaged in examining a variety of codes for professional and ethical conduct for educators. Through examining, critiquing and synthesizing these various articulations of professionalism, students will begin the development of a personalized code of ethical, and professional conduct.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: second semester standingHD FS 229 or equivalent
Concurrent: C I 280 EDPSY 014 EDTHP 115 HD FS 229 or SPLED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 295C Rural School Seminar (3) Selected observation of schooling situations with small group and tutorial participation.

Rural School Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: second-semester standing Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm
Concurrent: EDTHP 115 and/or EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 295D Philadelphia Urban Seminar (3) Selected observation of schooling situations with small group and tutorial participation.

Philadelphia Urban Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: second-semester standing Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm
Concurrent: EDTHP 115 and/or EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 297A Computers in the Classroom (1) This course is designed to introduce pre-service teachers to instructional hardware and software.

Computers in the Classroom (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 297E Teacher Training for BISCI 3 TAs (2-5) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Teacher Training for BISCI 3 TAs (2-5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 400 Introduction to Research Literature (3) Introduction to research literature and methodology; stress on interpretation, sources, and research reporting.

Introduction to Research Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1981
Prerequisite: student teaching or teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 405 (EDLDR 405) Strategies in Classroom Management (3) Managing and coping with disruptive student behavior in instructional settings so that they support the teaching/learning process.

C I (EDLDR) 405 Strategies in Classroom Management (3)

This course has been designed to engage students in in-depth examination of the process of creating and sustaining a classroom learning community that fosters and enables success for all children. Emphasis is placed on understanding a variety of theoretical models of classroom management as well as observing and studying individual children to develop a better understanding of their needs. The result should be the development of a coherent set of beliefs concerning the creation of classroom learning environments that support learners and meet their individual needs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: teaching experience or supervised practicum experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 408 Methods of Teaching Basic Skills (4-6) Strategies and materials for teaching basic skills in the elementary and secondary schools.

Methods of Teaching Basic Skills (4-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EDPSY 010 orPSYCH 212;EDPSY 014;SPLED 105 orSPLED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 412W Secondary Teaching (3) Study of the teacher's responsibilities, steps in planning instruction, and various strategies for implementing and assessing teaching.

Secondary Teaching (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: C I 295, EDPSY 014, EDTHP 115

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 494H Research Techniques in Curriculum and Instruction (1-3) Examination, application, assessment, and presentation of research modes and techniques in Curriculum and Instruction. Limited to University scholars in the College of Education.

Research Techniques in Curriculum and Instruction (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: second-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495A Clinical Application of Instruction--Early Childhood Education (3) Practicum situation for demonstration of selected instructional strategies and management skills acquired in professional training. To be offered only for Satisfactory/Unsatisfactory grading.

Clinical Application of Instruction--Early Childhood Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C I 295, EDPSY 014, EDTHP 115 . Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm
Concurrent: regular professional methods courses in area of certification.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495B Clinical Application of Instruction--Elementary and Kindergarten Education (3) Practicum situation for demonstration of selected instructional strategies and management skills acquired in professional training. To be offered only for Satisfactory/Unsatisfactory grading.

Clinical Application of Instruction--Elementary and Kindergarten Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C I 295, EDPSY 014, EDTHP 115 . Offical clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm
Concurrent: MTHED 420 SCIED 458 SS ED 430W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495C Clinical Application of Instruction--Secondary Education (3) Practicum situation for demonstration of selected instructional strategies and management skills acquired in professional training. To be offered only for Satisfactory/Unsatisfactory grading.

Clinical Application of Instruction--Secondary Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C I 295, EDPSY 014, EDTHP 115 . Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm
Concurrent: C I 412 and special methods course(s) in area of certification

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495D Practicum in Student Teaching--Elementary and Kindergarten Education (12) Full-time classroom instruction in early childhood and elementary education. Students supervised by University personnel and practicing teachers. No concurrent courses other than C I 495F permitted.

Practicum in Student Teaching--Elementary and Kindergarten Education (12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C I 495A orC I 495B ; a grade of C or higher in all specified and professional courses. Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495E Practicum in Student Teaching--Secondary Education (15) Full-time classroom instruction in secondary education. Students supervised by university personnel and practicing teachers. No concurrent courses permitted.

Practicum in Student Teaching--Secondary Education (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C I 495C seventh-semester standing and grade of C or higher in all specified and professional courses. Official clearances required. See: http://www.ed.psu.edu/preservice/clearance.htm

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 495F Professional Development Practicum (3) Instruction concurrent with student teaching practicum. Students focus on the solution of instructional problems identified at the practicum site.

Professional Development Practicum (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: Official clearances required. See: http:www.ed.psu.edu/preservice/clearance.htm
Concurrent: C I 495D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497B Elementary Education Disciplinary Block (12) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Elementary Education Disciplinary Block (12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497B Elementary Education Disciplinary Block (12) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Elementary Education Disciplinary Block (12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497C Mental Health Issues in the Classroom (3) Course provides opportunities for students to explore impact curriculum, teaching methods, family involvement and teacher-child & child-child interactions have on mental health of all individuals in classroom.

Mental Health Issues in the Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497C Language Learning Abroad (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Language Learning Abroad (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497D Preparing for Overseas Student Teaching (1) The Overseas Student Teaching Seminar intends to equip students with knowledge and tools for a successful student teaching experience abroad.

Preparing for Overseas Student Teaching (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497D Preparing for Overseas Student Teaching (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Preparing for Overseas Student Teaching (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 497E (A ED 497E, HIST 497E) Consuming Child (3) Explores linkages between new ideas about childhood and commercial/media culture since the Enlightenment through sponsored guest presentations and readings.

Consuming Child (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 498A Classroom Instruction that Works (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Classroom Instruction that Works (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 498A Instructional Supervision and Coaching for Mentor Teachers (3) This course is designed for all teachers and administrators in local school districts who are interested in learning about the process for mentoring novice and preservice teachers.

Instructional Supervision and Coaching for Mentor Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 498B Curriculum and Instruction That Engages and Motivates Adolescent Learners (3) Course explores both the cultures of curriculum and the value of importance of curriculum research.

Curriculum and Instruction That Engages and Motivates Adolescent Learners (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Instruction (C I)

C I 498B Curriculum and Instruction that Engages and Motivates Adolescent Learners (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Curriculum and Instruction that Engages and Motivates Adolescent Learners (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Supervision (C & S)

C & S 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Supervision (C & S)

C & S 401 Measurement and Evaluation of Instruction, K-12 (3) Developing tests used for appraising academic growth of students, application of specific evaluative activities associated with student progress.

Measurement and Evaluation of Instruction, K-12 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: EDTHP 115 or Education Theory and Policy selection;EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Supervision (C & S)

C & S 471 Workshop in Selected Studies in Supervision (1-6) Intensive work on selected current problems in supervision.

Workshop in Selected Studies in Supervision (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: 12 credits in education and teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Supervision (C & S)

C & S 470 Workshop in Selected Studies in Curriculum (1-6) Intensive work on selected current problems in curriculum.

Workshop in Selected Studies in Curriculum (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: 12 credits in education and teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Curriculum and Supervision (C & S)

C & S 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 100 (GA;US;IL) Dance Appreciation (3) Explore dance as a vital, communicative and performing art, reflecting social values and cultural beliefs.

DANCE 100 Dance Appreciation (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

An introduction to dance as a vital, communicative and performing art reflecting social values and cultural beliefs. Through a combination of lectures, video samples, and active participation in scheduled movement classes, lecture demonstrations and live performances, this course will examine a wide range of dance across cultures and time periods.

Students will learn to identify the key components of movement: time, space, shape and effort. Once identified, these elements will become the building blocks for further analysis and understanding of the myriad forms of movement that can be called dance.

Emphasis will be placed on the integration of dance within various cultural belief systems and the relationship between dance and cultural identity. The influence of social and political values as they relate to the development of specific dance forms will also be examined.

Students will be graded on their ability to clearly and intelligently articulate their observations and analysis through participation in threaded discussions and on-line quizzes. Students will also be graded on their level of participation in scheduled movement classes, lecture demonstrations and attendance at live performances. The mid term and final exams will assess the students ability to integrate and synthesize the experiential components of the course.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 101 Dance and Rhythmic Fundamentals (1) Fundamental components of rhythm, dance movement, and technique.

Dance and Rhythmic Fundamentals (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 231 Beginning Ballet I (1.5) An introduction to the techniques of ballet.

DANCE 231 Beginning Ballet I (1)

In DANCE 231, the student will learn the basics of ballet. These include the structure of a ballet class and the required focus and behavior of the successful student, as well as the fundamental positions and vocabulary of movement characteristic of ballet. The course is designed for any beginning student of ballet and, in particular, to instruct the first-year BFA Music Theatre candidate with a foundation of technique to support their success in the prescribed sequence of dance courses in that major.

The student will be introduced to alignment exercises from the Zena Rommett floor barre technique and the Pilates technique to develop strength and flexibility in their execution of dance. The course also is designed to help the student develop greater physical self-awareness and discipline.

The student's grade is determined by their attendance, attitude, and progress. More than three absences or lateness will affect the grade. Their attitude should be positive, receptive to correction, and exhibit an eagerness to work, and their progress should reflect growth in their abilities to perform the choreography and to know the terms used. The student will be required to identify and explain the meaning of the terms used in class, as well as perform choreography with confidence and a sense of character.

This course serves as a prerequisite for DANCE 232. Together, these two semesters satisfy requirements for the BFA Music Theatre option and can also fulfill optional requirements for the Dance Minor. For the BFA Music Theatre candidates: part of the final exam for this course will be a performance juried by members of the School of Theatre Performance Faculty. Their evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance course sequence.

Required dress for this course for women is black leotard, pink or tan tights, pink ballet shoes and for men is black tights, white t-shirt, black ballet shoes, and dance belt. Belts, suspenders, leg warmers are optional. Sweat clothes are not to be worn. All hair must be secured so that it cannot fly into the face.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: admission into Musical Theatre Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 232 Beginning Ballet II (1.5) A continuation of Beginning Ballet I to augment technical proficiency.

DANCE 232 Beginning Ballet II (1)

DANCE 232 allows the student who has successfully completed DANCE 231 to continue broadening their knowledge of fundamental movements in ballet. The barre warm-up and the center floor work is more demanding and challenges the student to learn the combinations of movement quicker. Choreography is more complex, involving more different kinds of turns, large jumps, and adding beats to the petit allegro. Adagios are longer and demand more stamina to sustain. The ability to communicate character and mood through dance is emphasized more strongly.

The student will deepen their knowledge of the Zena Rommett floor barre techniques and Pilates techniques to develop more strength and flexibility. The development of increased self-awareness and discipline is stressed.

The student's grade is determined by their attendance, attitude, and progress. Also, to supplement their understanding of the variety of ways ballet can be performed, the student is required to write two papers, expressing their reactions to two different dance concerts viewed during the semester. Classical ballet concerts are preferred, but the student is encouraged to consult the instructor concerning a performance they are interested in viewing. Dates will be designated for the completion of these papers. No late papers will be accepted.

Attendance is mandatory; more than three absences or lateness will affect the grade. The attitude should be positive, receptive to correction, and exhibit an eagerness to work, and the student's progress should reflect growth in their ability to perform the choreography and to know the terms used. The student will be required to identify and explain the meaning of the terms used in class, as well as perform choreography with confidence and a sense of character.

Students enrolling in this course should have successfully complete DANCE 231 or have received the permission of the instructor.

For the BFA Music Theatre candidate, this course serves as a prerequisite for DANCE 241, Beginning Jazz I. Part of the final exam for this course will be a performance juried by members of the School of Theatre Performance Faculty. Their evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance course sequence.

Required dress for this course for women is black leotard, pink or tan tights, pink ballet shoes and for men is black tights, white t-shirt, black ballet shoes, and dance belt. Belts, suspenders, leg warmers are optional. Sweat clothes are not to be worn. All hair must be secured so that it cannot fly into the face.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 241 Beginning Jazz I (1.5) An introduction to the techniques of Jazz dance.

DANCE 241 Beginning Jazz I (1)

DANCE 241 is an introduction to basic jazz techniques. The course is designed for any beginning student with an interest in jazz dance, those who are BFA Music Theater candidates, and Dance Minors. The work will include awareness of space as related to the barre, floor, other dancers, and environment. The student will learn basic jazz dance vocabulary as well as the awareness of space to stage elements such as audience, direction, focus, and energy.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences or lateness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). Students are responsible for learning and executing all material taught in class.

This course serves as a prerequisite for DANCE 242. Together, the two semesters of jazz satisfy requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: Jazz shoes, t-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Jazz shoes, leotard and tights (possible character shoes).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 242 Beginning Jazz II (1.5) A continuation of Beginning Jazz I to augment technical proficiency.

DANCE 242 Beginning Jazz II (1)

DANCE 242 allows the student who has successfully completed DANCE 241 to continue to broaden their knowledge of beginning jazz dance. The course will emphasize a broader dance vocabulary and more complex dance combinations. The repetition and rehearsal techniques will be reinforced and intensified. The ability to communicate character and setting through dance is strongly emphasized.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences and lateness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). Students are responsible for learning and executing all material taught in class.

Students enrolling in this course should have successfully completed DANCE 241 or have permission of the instructor. JAZZ 242 satisfies requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: Jazz shoes, t-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Jazz shoes, leotard and tights (possible character shoes).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 251 Beginning Tap I (1.5) An introduction to the technique of tap dance.

DANCE 251 Beginning Tap I (1)

DANCE 251 is an introduction to basic tap techniques. The course is designed for any beginning student with an interest in tap dance, those who are BFA Music Theater candidates, and Dance Minors. The work will include awareness of space, sound, rhythm, and tempo. The work will also introduce counting, executing rhythm, and developing confidence for a beginner level tap dancer. The student will learn basic tap vocabulary as well as the awareness of space and stage elements such as audience, direction, focus, and energy.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences or lateness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). Students are responsible for learning and executing all material taught in class.

This course serves as a prerequisite for DANCE 252. Together, the two semesters of jazz satisfy requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: tap shoes, or hard soled shoes with taps attached. T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: tap shoes, leotard and tights (possible character tap shoes). The clothing must allow movement, and still be able to distinguish an outline of the dancer's body.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 252 Beginning Tap II (1.5) A continuation of Beginning Tap I to augment technical proficiency.

DANCE 252 Beginning Tap II (1)

DANCE 252 allows the student who has successfully completed DANCE 251 to continue to broaden their knowledge of beginning tap dance. The course will emphasize a broader dance vocabulary and more complex dance combinations. The repetition and rehearsal techniques will be reinforced and intensified. The ability to communicate character and setting through dance is strongly emphasized.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences or lateness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). They are responsible for learning and executing all material taught in class.

Students enrolling in this course should have successfully completed DANCE 251 or have permission of the instructor. Tap DANCE 252 satisfies requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: tap shoes, or hard soled shoes with taps attached. T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: tap shoes, leotard and tights (possible character tap shoes). The clothing must allow movement, and still be able to distinguish an outline of the dancer's body.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 261 (GA) Beginning Modern Dance I (1.5) Introduction to modern dance as an art form; development of dance technique and composition; teaching methods for improvisational skills.

DANCE 261 Beginning Modern Dance I (1.5)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

DANCE 261 is an introduction to Modern Dance. The course is designed for any student with an interest in Modern Dance and Dance Minors. This class explores the use of weight, time, space, and energy in relation to a release based modern dance technique. There is emphasis placed upon the development of a personal movement vocabulary, experimentation, and self-expression. Modern dance is grounded in somatic practices with importance placed upon finding organic or efficient ways to engage the body in movement.

The students grade is based upon attendance, participation, attitude, progress, keeping a dance journal, setting dance goals, doing a mid-semester self evaluation, and attending a mid-semester "check-up" with the instructor. More than three absences (excused or unexcused) will automatically drop the final grade one letter. Students should demonstrate an opening and willing attitude in every class situation. Students are responsible for learning and executing all material taught in class.

This class serves as a prerequisite for DANCE 262. Together these two semesters serve as core technique classes for all dance minors.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 262 Beginning Modern Dance II (1.5) A continuation of Beginning Modern Dance I to augment technical proficiency and to further comprehension of choreographic methods.

DANCE 262 Beginning Modern Dance II (1.5)

DANCE 262 is a continuation of Beginning Modern Dance I. The course is designed for any student with an interest in Modern Dance and Dance Minors. This class explores the use of weight, time, space, and energy in relation to a release based modern dance technique. There is emphasis placed upon the development of a personal movement vocabulary, experimentation, and self-expression. Modern dance is grounded in somatic practices with importance placed upon finding organic or efficient ways to engage the body in movement.

The students grade is based upon attendance, participation, attitude, progress, keeping a dance journal, setting dance goals, doing a mid-semester self evaluation, and attending a mid-semester "check-up" with the instructor. More then three absences (excused or unexcused) will automatically drop the final grade one letter. Students should demonstrate an opening and willing attitude in every class situation. Students are responsible for learning and executing all material taught in class.

Beginning Modern Dance I and Beginning Modern Dance II serve as core technique classes for all dance minors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 261

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 270 (GHA) Introduction to Bartenieff Fundamentals (3) Physical and theoretical approach to movement: facilitates efficiency, and expression through dynamic alignment, mobility, kinesthetic awareness; reduce physical injuries.

Introduction to Bartenieff Fundamentals (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 281 Introduction to African Dance and Culture (1) An introduction to African dance based in a holistic approach integrating music, movement, drama, costume, and vocalization.

Introduction to African Dance and Culture (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 280 Dance Improvisation (1) Introduction to the concepts and techniques of dance improvisation.

Dance Improvisation (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: DANCE 261

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 282 Mojah Fusion Dance (1.5) Mojah introduces intermediate/advanced level dance students to a unique dance technique that blends Horton, Dunham, West African and jazz movements in one form.

DANCE 282 Mojah Fusion Dance (1.5)

DANCE 282 is an introduction to the Mojah dance form. Moja is a Swahili term meaning one. Mojah fuses various forms to create a unique style of modern African dance that blends Horton, Dunham, West African and jazz movements into one form. The objectives of the course include: learning/executing Mojah terminology and technique; and learning/executing the techniques from which Mojah is derived. Mojah is a dance course and is directly related to other dance courses, theatre/arts courses and African American studies courses. Student grades are based on attendance, participation, willingness to learn, progress, and the ability to receive corrections. Students will also be evaluated by their performance on dance quizzes and dance projects given throughout the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: DANCE 231, DANCE 241 orDANCE 261

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 283 Beginning Hip Hop Dance (1) Beginning Hip Hop dance introduces the student to Hip Hop culture through dance, free expression with the body/freestyle and choreography.

DANCE 283 Beginning Hip Hop Dance (1)

Hip Hop dance is designed for students with an interest in Hip Hop dance/culture. This class introduces students to Hip Hop through movement that includes freestyle dancing, locomotive movements, and choreography. In addition, this class includes lecture sessions and discussions about Hip Hop culture and its role in society. This course seeks to introduce students to a culturally significant art form, enhance mind/body awareness, and provide practical opportunities for students to apply skills learned in class via performances. This course is directly related to dance, theatre, African American history and other arts based and humanities based courses. Students will be evaluated on their attendance, participation in class, willingness to learn, and the effort put forth in class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 297A Intro to Dance History: Ballet History 1580-1900 (2) Dance history lecture course covering the history of Ballet from 1580-1900.

Intro to Dance History: Ballet History 1580-1900 (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 297B Contemporary Movement Lab II (3) An exploration of contemporary dance techniques focusing on movement composition as a vehicle of expression.

Contemporary Movement Lab II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 297C Ivyside Dance Ensemble (1-3) Rehearsal and performance of dance repertoire, with focus on contemporary modern dance technique.

Ivyside Dance Ensemble (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 331 Intermediate Ballet I (1.5) A continuation of the course work established in Beginning Ballet II.

DANCE 331 Intermediate Ballet I (1)

Dance 331 allows the student who has had a solid introduction to the fundamental movements and style of ballet to develop more strength and flexibility in their technique. The pace of the class is faster. Choreography is more complex and taught more quickly. The student is expected to know the elements that constitute a ballet class and is ready to embrace seriously the study of the skill and artistry required to perform ballet. The student is expected to be able to execute a double pirouette and simple beats in petit allegro. Interpretation of choreography taught for exams is emphasized more strongly than in the previous courses.

The student's grade is determined by their attendance, attitude and progress. One reaction paper to a viewed concert of ballet performance is required. The attitude should be positive, receptive to correction, and exhibit an eagerness to work, and the student's progress should reflect growth in their abilities to perform the choreography and to know the terms used. The student will be required to identify and explain the meaning of the terms used in class, as well as perform choreography with confidence and a sense of character.

Required dress for the course for women is black leotard, pink or tan tights, pink ballet shoes and for men it is black tights, white T-shirt, black ballet shoes, and dance belt. Belts, suspenders, leg warmers are optional. Sweat clothes are not to be worn. All hair must be secured so that it cannot fly into the face.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 301 Movement Analysis (2) Introduce student to principles of practical and abstract movement analysis to determine individual physical limitations and potentials.

Movement Analysis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 332 Intermediate Ballet II (1.5) A continuation of the course work established in Intermediate Ballet I.

DANCE 332 Intermediate Ballet II (1)

Dance 332 allows the student who has a strong background in the basics of ballet technique to be challenged with more difficult movements and choreography and to develop a more mature approach to healthy alignment. The Zena Rommett floor barre and the Pilades techniques will be explored with more emphasis than in the beginning semesters of ballet study. The student is expected to know the terms used in ballet in French, their meaning, and how to execute them. The student should be able to perform choreography with a sense of character and style, as well as strong technique.

The student's grade is determined by their attendance, attitude and progress. One reaction paper to a viewed concert of ballet performance is required. The attitude should be positive, receptive to correction, and exhibit an eagerness to work, and the student's progress should reflect growth in their abilities to perform the choreography and to know the terms used.

Required dress for the course for women is black leotard, pink or tan tights, pink ballet shoes and for men it is black tights, white T-shirt, black ballet shoes, and dance belt. Belts, suspenders, leg warmers are optional. Sweat clothes are not to be worn. All hair must be secured so that it cannot fly into the face.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 341 Intermediate Jazz I (1.5) A continuation of the course work established in DANCE 242, Beginning Jazz II.

DANCE 341 Intermediate Jazz I (1)

Dance 341 allows the student who has successfully completed Beginning Jazz II to continue to broaden their knowledge of Intermediate Jazz Dance. The purpose of this course is to improve the beginner's knowledge of jazz dance. Technique will be stressed, but performance and interpretation will be emphasized with the following in mind: to develop character, mood and ability to improvise and choreograph Jazz Dance. A variety of choreographed dances ranging from pop, jazz, to musical theatre styles will be taught.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. A positive attitude and maintaining proper discipline and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). They are responsible for learning and executing all material taught.

Jazz Dance 341 satisfies the requirement for the BFA Music theatre option and fulfills one of the requirements for the Dance Minor. The BFA musical theatre student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may enroll into the next level of the performance sequence.

The required dress for men: Jazz shoes, T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Jazz shoes, leotard and tights (possible character shoes).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 351 Intermediate Tap I (1.5) A continuation of the course work established in DANCE 252, Beginning Tap II.

DANCE 351 Intermediate Tap I (1)

Dance 351 allows the student who has successfully completed Beginning Tap II to continue to broaden their knowledge of Tap Dance. The work will include expanding the student's knowledge of Tap vocabulary, rhythm, tempo, and counting. The work introduces audition techniques from the dancer's perspective and expands the awareness of proper rehearsal discipline. Professional conduct and behavior is now cultivated into a useful marketing tool. Material is taught faster and with greater detail to reinforce audition techniques and equate professional challenges. Audition classes will be held at the instructor's discretion.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. A positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). They are responsible for learning and executing all material taught.

Jazz Dance 351 satisfies the requirement for the BFA Music Theater option and fulfills one of the requirements for the Dance Minor. The BFA musical theatre student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: Tap shoes, or hard-soled shoes with taps attached. T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Tap shoes, leotard and tights (possible character tap shoes). The clothing must allow movement and still be able to distinguish an outline of the dancers body.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 342 Intermediate Jazz II (1.5) A continuation of the course work established in DANCE 341, Intermediate Jazz I.

DANCE 342 Intermediate Jazz II (1)

Dance 342 allows the student who has successfully completed Intermediate Jazz Dance I to continue to broaden their knowledge of Jazz Dance. The purpose of this course is to continue to improve the dancer's technical aspect of Jazz Dance. Combinations will be taught at a faster pace. Techniques will be stressed, but performance and interpretation will be emphasized with the following in mind: to develop character, mood and the ability to improvise and choreograph Jazz Dance. A variety of challenging choreographed dances ranging from pop, jazz, to musical theatre styles will be taught which the student will be expected to perform.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. A positive attitude and maintaining proper discipline and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). They are responsible for learning and executing all materials taught.

Jazz Dance 342 satisfies the requirement for the BFA Music Theater option and fulfills one of the requirements for the Dance Minor. The BFA musical theatre student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: Jazz shoes, T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Jazz shoes, leotard and tights (possible character shoes).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 352 Intermediate Tap II (1.5) A continuation of the course work established in DANCE 351, Intermediate Tap I.

DANCE 352 Intermediate Tap II (1)

Dance 352 allows the student who has successfully completed Intermediate Tap I to continue to broaden their knowledge of Advanced Tap Dance. The student's vocabulary will broaden and combinations will become more complex. The repetition and rehearsal techniques will be reinforced and intensified. The ability to communicate character and setting through dance is strongly emphasized. Material is taught faster and with a greater detail to reinforce audition techniques and equate professional challenges.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. A positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). They are responsible for learning and executing all material taught.

Jazz Dance 352 satisfies the requirement for the BFA Music Theater option and fulfills one of the requirements for the Dance Minor. The BFA musical theatre student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: Tap shoes, or hard-soled shoes with taps attached. T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Tap shoes, leotard and tights (possible character tap shoes). The clothing must allow movement and still be able to distinguish an outline of the dancers body.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 362 Intermediate Modern Dance II (1.5) A continuation of Modern Dance I to augment technical proficiency.

DANCE 362 Intermediate Modern Dance II (1.5)

DANCE 362, Intermediate Modern Dance II, continues to build on the technical foundation from Intermediate Modern Dance I in relation to a release-based modern dance technique. This intermediate level class centers on developing a strong technical foundation in modern dance. Along with technique, students should develop greater flexibility, strength, and alignment. The concepts of weight, time, energy, and space are central to the class. The body as a tool of expression and communication and using dance as a language is stressed.

The student's grade is based on attendance, participation, attitude, progress, keeping a dance journal, setting dance goals, doing a mid-term and end-of-term self evaluations, and attending a "check-up" with the instructor. More then three absences (excused or unexcused) will automatically drop your final grade one letter. Students should demonstrate an open and willing attitude in every class situation. Students are responsible for learning and executing all material taught in class.

This class serves as a prerequisite for DANCE 461.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 361 Intermediate Modern Dance I (1.5) Development of techniques and principles of modern dance on the intermediate level.

DANCE 361 Intermediate Modern Dance I (1.5)

DANCE 361, Intermediate Modern Dance I, continues to build on the technical foundation from Beginning Modern I and Beginning Modern II in relation to a release-based modern dance technique. This intermediate level class centers on developing a strong technical foundation in modern dance. Along with technique, students should develop greater flexibility, strength, and alignment. The concepts of weight, time, energy, and space are central to the class. The body as a tool of expression and communication and using dance as a language is stressed.

The student's grade is based on attendance, participation, attitude, progress, keeping a dance journal, setting dance goals, doing a mid-term and end-of-term self evaluations, and attending a "check-up" with the instructor. More than three absences (excused or unexcused) will automatically drop your final grade one letter. Students should demonstrate an open and willing attitude in every class situation. Students are responsible for learning and executing all material taught in class.

This class serves as a prerequisite for DANCE 362.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 262

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 371 Music Theatre Dance--Style I (1.5) A practical study of dance styles from the 1890'S to the 1990'S.

DANCE 371 Music Theatre Dance Styles I (1)

DANCE 371 allows the student who has successfully completed two semesters of ballet (DANCE 231 and 232), two semesters of jazz (DANCE 241 and 242), and two semesters of Music Theatre Studio (THEA 223 and 224) to expand their capabilities of combining their skills of dancing and acting through the use of different stylistic approaches. In this semester, the BFA Music Theatre candidate will study and perform choreography characteristic of Vaudeville, Charleston, Ragtime, Ballet, Folk/Ethnic and elements of Modern and Jazz. In particular, Agnes deMille's use of ballet and Jerome Robbins' use of Ballet/Jazz/Modern will be studied.

The goals of the course include enabling the student to fell confident in identifying, performing, and competing in the professional audition venue using these styles. Also, the student should deepen their understanding of how the use of varied dance styles contributes to the development of character and/or the furthering of plot in Music Theatre.

The student's grade is determined by their attendance, attitude, progress, performance in the final semester showing, and the completion of two projects. Attendance is mandatory--more than three absences or lateness will affect the grade. The attitude should reflect the focus and enthusiasm characteristic of a professional. Progress will be assessed through frequent performance "quizzes". The mid-term and final showings will be video-taped and examined as a class. The two projects consist of a paper and one minute of original choreography.

In the paper, the student will analyze the use of the different styles used by Agnes deMille in one viewed musical, such as OKLAHOMA or CAROUSEL. A date will be assigned for the completion of the paper. No late papers will be accepted. In their original choreography, the student, using a Balletic style and vocabulary, should exhibit their understanding of how to use dance to portray a character in a specific situation or mood. The student should consult the Instructor concerning their creative ideas. The choreography will be performed for the class by the student.

Successfully completing DANCE 371 is the prerequisite for DANCE 372. Part of the final exam for this course will be a performance juried by members of the School of Theatre Performance Faculty. Their evaluation will help to determine whether the student may be allowed to enroll into the next level of the performance course sequence.

Required dress for this course is: men - tights or dance pants, t-shirt, dance belt, ballet and jazz shoes -- women - tights, dance pants, leotards, and ballet, jazz, and character shoes, with rubbered soles. Dance sneakers are not appropriate for warm-ups and certain combinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: THEA 224

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 380 Dance Programming (2) Theoretical and practical experiences in dance production and implementation of dance programs in various environments.

Dance Programming (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 372 Music Theatre Dance--Style II (1.5) A continuation of course work established in Music Theatre Dance Style I.

DANCE 372 Music Theatre Dance Styles II (1)

DANCE 372 allows the student who has successfully completed DANCE 371 to continue broadening their understanding and expanding their performance skills of different stylistic approaches to choreography. In this course the student will study and perform choreography using stronger Jazz and Folk/Ethnic/Social influences. In particular, the works of Jerome Robbins, Ron Field, Michael Bennett, and Bob Fosse will be studied. The goals of the course include enabling the student to feel confident in identifying, performing, and competing in the professional audition venue using these styles. Also, the student should deepen their understanding of how the use of varied dance styles contributes to the development of character and/or the furthering of plot in Music Theatre.

The student's grade is determined by their attendance, attitude, progress, performance in the final semester showing and the completing of two projects. Attendance is mandatory --more than three absences or lateness will affect the grade. The attitude should reflect the focus and enthusiasm characteristic of a professional. Progress will be assessed through frequent performance "quizzes". The mid-term and final showings will be video-taped and examined as a class. The two projects consist of a paper and one minute of original choreography.

In the paper, the student will analyze the use of the different styles used by a choreographer in one viewed musical. The student may choose from the movie musicals of Jerome Robbins, Michael Kidd, or Bob Fosse. A date will be assigned for the completing of the paper. No late papers will be accepted. In their original choreography, the student should exhibit their understanding of how to use elements of a jazz style to portray a character in a specific situation or mood. The choreography will be performed for the class by the student.

Required dress for his course is: men- tights or dance pants, t-shirt, dance belt, ballet or jazz shoes -- women - tights, dance pants, leotards, and ballet, jazz and character shoes, with rubbered soles. Dance sneakers are not appropriate for warm-ups and certain combinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 371

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 381 Dance Composition I (2) Introduction to the basic principles and craft of choreography.

DANCE 381 Dance Composition I (2)

This course is an introduction to the basic principles and craft of the art of choreography. The students will work with the principles and craft of choreography through practical methods to foster and enhance the creative process with relation to the solo form.

Each student will develop an understanding of the architectural strengths of the proscenium stage and how best to use these for the solo form; gain knowledge of professional working methods through the exploration and use of the choreographic tools; develop an individual vocabulary through improvisational and choreographic elements; gain a knowledge of the craft for original creative expression; and demonstrate an overall understanding of the course by choreographing an original solo work as a culminating project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 382 Dance Composition II (1) A continuation of the principles and craft of Dance Composition I.

Dance Composition II (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: DANCE 381

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 385 Leadership Practicum: Dance (1) Supervised experiences in teaching and assisting with the teaching of dance techniques.

Leadership Practicum: Dance (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: DANCE 362

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 431 Advanced Ballet I (1.5) An advanced ballet training course.

DANCE 431 Advanced Ballet I (1)

DANCE 431 allows the student who has successfully completed DANCE 232, or who has interviewed with the Instructor concerning their previous training in ballet, to develop greater profiency in performing ballet. The barre work continues to emphasize proper alignment, supported by exercises using the Zena Rommett floor barre technique and the Pilates technique, and the floor work moves more quickly then in the beginning levels of study. The student will learn more complex steps requiring greater strength and coordination, and the class will move at a faster pace, thus enabling the student to learn choreography more quickly. The student will also develop their ability to communicate character and mood through their dancing. More advanced ballet terminology will be taught, and the student will learn the French terms, their English meanings, be able to identify the steps and perform them.

DANCE 431 can satisfy one of the two semesters of advanced dance study required by the BFA Music Theatre degree option and can satisfy requirements for the Dance Minor.

The student's grade is determined by their attendance, attitude, and progress. Attendance is mandatory. More than three absences or lateness will affect the grade. The attitude should reflect a serious focus on improving their abilities with a positive approach to applying corrections to their dancing. Their progress will be assessed through observation of their classroom work and especially the video-taped performances of their mid-term and final exam choreography. There will be a final showing at the end of the semester with an invited audience. The exams will also include an oral section, covering the terms used in class.

Required dress for class is -- for men, dance belt, black tights, white t-shirt, and black ballet shoes, and for women, pink or tan tights, leotard, and pink ballet shoes. All hair must be pulled back and secured away from the face. No sweat clothes may be worn, but leg warmers, belts, and suspenders are optional.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 432 Advanced Ballet II (1.5) A continuation of Advanced Ballet I to augment technical proficiency.

DANCE 432 Advanced Ballet II (1)

DANCE 432 allows the student who has successfully completed DANCE 431, or who has interviewed with the Instructor concerning their previous dance training, to challenge themselves further in the study of ballet. The barre work continues to emphasize proper alignment, supported by exercises using the Zena Rommett floor barre technique and the Pilates technique. The center work expands on some of the vocabulary taught in DANCE 431, requiring more confidence, strength, and stamina in different ways of turning and jumping, as well as adagio work. The student will learn more complex steps requiring greater strength and coordination, and the class will move at a faster pace, thus enabling the student to learn choreography more quickly. The student will also develop their ability to communicate character and mood through their dancing. More advanced ballet terminology will be taught, and the student will learn the French terms, their English meanings, be able to identify the steps and perform them.

DANCE 432 can satisfy one of the two semesters of advanced dance study required by the BFA Music Theatre degree option and can satisfy requirements for the Dance Minor.

The student's grade is determined by their attendance, attitude, and progress. Attendance is mandatory. More than three absences or lateness will affect the grade. The attitude should reflect a serious focus on improving their abilities with a positive approach to applying corrections on their dancing. Their progress will be assessed through observation of their classroom work and especially the video-taped performances of their mid-term and final exam choreography. There will be a final showing at the end of the semester with an invited audience. The exams will also include an oral section, covering the terms used in class.

Required dress for class is - - for men, dance belt, black tights, white t-shirt, and black ballet shoes, and for women, pink or tan tights, leotard, and pink ballet shoes. All hair must be pulled back and secured away from the face. No sweat clothes may be worn, but leg warmers, belts, and suspenders are optional.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 442 Advanced Jazz II (1.5) A continuation of Advanced Jazz I to augment technical proficiency.

DANCE 442 Advanced Jazz II (1)

DANCE 442 allows the student who has successfully completed DANCE 441 to continue to broaden their knowledge of advance jazz dance. The purpose of this course is to improve capability through learning and performing more challenging choreography at a faster pace. Technique will be stressed, but performance and interpretation will be emphasized with the following standard in mind: to develop character, mood, and ability to improvise and choreograph jazz dance. A variety of choreographed dances ranging from pop, jazz, to musical theaters styles will be taught. Students are responsible for learning and executing all material taught in class.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences or lateness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework).

Students enrolling in this course should have successfully completed DANCE 441 or have permission of the instructor. JAZZ 442 satisfies requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: Jazz shoes, t-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: Jazz shoes, leotard and tights (possible character shoes).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 441 Advanced Jazz I (1.5) An advanced course in the techniques of jazz dance.

DANCE 441 Advanced Jazz I (1)

DANCE 441 allows the student who has successfully completed DANCE 242 to continue their study of jazz technique and performance. The focus of the course is to improve capability through learning and performing more challenging choreography at a faster pace. Eight combinations of choreography are taught, to music of various types -- pop, jazz, and musical theatre. Performing with confidence and a sense of character will be emphasized. The student will also become familiar with the fundamentals of the Pilates technique to improve alignment, strength, and flexibility. The student will also be given opportunities to develop confidence in improvisation.

DANCE 441 enables the BFA Music Theatre candidate to satisfy one semester of advanced level dance training. For the Dance Minor and other students of dance, it provides challenges in technical execution and a greater range of jazz styles.

The student's grade will be determined by their attendance, attitude, and progress at learning quickly and performing the dance combinations, as well as the completion of two projects. Attendance is mandatory; more than three absences or lateness will affect the grade. The attitude should be focused, positive, receptive to correction, and eager. Progress will be assessed in frequent performance "quizzes". The mid-term and final exams will be video-taped and viewed by the class. The two projects consist of paper and one minute of original choreography.

The paper should consist of the student's personal analysis of jazz dancing and their abilities, based on their past and present experience. The choreography should reflect work learned in class and be performed to instrumental music. The student will perform their choreography for the class.

Required dress for DANCE 441 consists of dance belt, dance pants, t-shirt and jazz shores for men and tights and leotard, jazz and character shoes for women. Dance sneakers are not appropriate for warm-ups and certain combinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 242

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 451 Advanced Tap I (1.5) An advanced course in the techniques of tap dance.

DANCE 451 Advanced Tap I (1)

DANCE 451 allows the student who has successfully completed DANCE 251 and 252, or has permission of the instructor, to continue to broaden their knowledge to tap dance. The work will include expanding the student's knowledge of tap vocabulary, rhythm, tempo and counting. The work introduces audition techniques from the dancer's perspective and expands the awareness of proper rehearsal discipline. Professional conduct and behavior is now cultivated into a useful marketing tool. Material is taught faster and with greater detail to reinforce audition techniques and equate professional challenges. Audition classes will be held at the instructor's discretion.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences or lateness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). Students are responsible for learning and executing all material taught in class.

Students enrolling in this course should have successfully completed DANCE 251, 252 or have permission of the instructor. Tap DANCE 451 satisfies requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: tap shoes, or hard soled shoes with taps attached. T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: tap shoes, leotard and tights (possible character tap shoes). The clothing must allow movement, and still be able to distinguish an outline of the dancer's body.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 461 Advanced Modern Dance I (1.5) Development of dance technique and movement combinations on the advanced level.

DANCE 461 Advanced Modern Dance I (1.5)

DANCE 461 is Advanced Modern Dance. This class continues the technique foundation from DANCE 261 & 262 of exploring the use of weight, time, space, and energy in relation to a release-based modern dance technique. DANCE 461 also works with focus, style, and performance techniques. Students should gain greater technical proficiency , flexibility, strength, and alignment. Understanding and demonstrating the different uses of weight and the concept of grounding is essential. Students should begin to develop as an individual mover (personal artistic voice) and gain greater confidence in using the body as a tool of expression and communication.

The student's grade is based upon attendance, participation, attitude, progress, keeping a dance journal, setting dance goals, doing a mid-semester and end of term self-evaluations, and attending 2 "check-ups" with the instructor. More then three absences (excused or unexcused) will automatically drop the final grade one letter. Students should demonstrate an opening and willing attitude in every class situation. Students are responsible for learning and executing all material taught in class.

This class serves as a prerequisite for DANCE 462. Together these two semesters serve as core technique classes for all dance minors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 262

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 452 Advanced Tap II (1.5) A continuation of Advanced Tap I to augment technical proficiency.

DANCE 452 Advanced Tap II (1)

DANCE 452 allows the student who has successfully completed DANCE 451 to continue to broaden their knowledge of advanced tap dance. The course will emphasize a broader dance vocabulary and more complex dance combinations. The repetition and rehearsal techniques will be reinforced and intensified. The ability to communicate character and setting through dance is strongly emphasized. Material is taught faster and with greater detail to reinforce audition techniques and equate professional challenges.

The student's grade will be based on attendance, attitude, and progress of learning and performing dance combinations. More than three absences or tardiness will affect the grade. Maintaining a positive attitude, proper discipline, and willingness to work and learn are essential. The student is required to perform individual rehearsal hours (as homework). Students are responsible for learning and executing all material taught in class.

Students enrolling in this course should have successfully completed DANCE 451 or have permission of the instructor. Tap DANCE 452 satisfies requirements for the BFA Music Theater option and the Dance Minor. The BFA Music Theater student will be juried by the School of Theatre Performance Faculty as a part of their final grade. The jury will consist of a showing of the pieces taught in class. This evaluation will help to determine whether the candidate may be allowed to enroll into the next level of the performance sequence.

The required dress for men: tap shoes, or hard soled shoes with taps attached. T-shirt or muscle shirt, dance belt, Jazz pants or tights. For women: tap shoes, leotard and tights (possible character tap shoes). The clothing must allow movement, and still be able to distinguish an outline of the dancer's body.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 451

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 462 Advanced Modern Dance II (1.5) A continuation of Advanced Modern Dance I to augment technical proficiency.

DANCE 462 Advanced Modern Dance II (1.5)

DANCE 462 is a continuation of Advanced Modern Dance I. This class continues the technique foundation from DANCE 261, 262, and 461 of exploring the use of weight, time, space, and energy in relation to a release based modern dance technique. DANCE 462 also works with focus, style, and performance techniques. Students should gain greater technical proficiency, flexibility, strength, and alignment. Understanding and demonstrating the different uses of weight and the concept of grounding is essential. Students should begin to develop as an individual mover (personal artistic voice) and gain greater confidence in using the body as a tool of expression and communication.

The student's grade is based upon attendance, participation, attitude, progress, keeping a dance journal, setting dance goals, doing a mid-semester and end of term self-evaluations, and attending 2 "check-ups" with the instructor. More than three absences (excused or unexcused) will automatically drop the final grade one letter. Students should demonstrate an opening and willing attitude in every class situation. Students are responsible for learning and executing all material taught in class.

DANCE 461 and 462 serve as core technique classes for all dance minors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 482 Introduction to Laban Movement Analysis (3) Observe and analyze movement elements by exploring concepts of Body, Effort, Shape, and Space to increase personal communication and expression.

Introduction to Laban Movement Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 480 Choreographic Projects (2) Choreographic practicum experiences for concert performances.

DANCE 480 Choreographic Projects (2)

This course is a forum for choreographic practicum experiences for concert performances. This course will provide an opportunity to students to develop their artistic and creative abilities in the field of dance. The student will create a group choreographic work to be presented in concert dance. This course will cover skills for advanced group dances, the creative process, selection of music of dance, costuming for dance, lighting for dance, rehearsal techniques, performance techniques, and organizational/leadership skills.

Each student will submit a written proposal of the dance s/he intends to create, specifying the number of dancers, choreographic intent, and movement phrases as well as ideas for music, costumes, and lighting. The student will complete one choreographic dance to be performed in concert, which is presented each semester. The student must attend technical week prior to the concert, use past choreographic experiences gained from compositional study and be responsible for organizing weekly rehearsals. The student is required to hand in a self-evaluation paper reflecting on the original proposal and completed dance, and to maintain a journal throughout the semester documenting the choreographic process.

This course will be offered fall semester with an enrollment of 10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: DANCE 381

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 484 (US;IL) Dance History (3) Survey of dance history concerning perspectives of culture, race, and gender with a focus on Nineteenth and Twentieth centuries.

Dance History (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 485 Contemporary Dance Repertory (1-2) An advanced dance course in the choreographic process with emphasis on original choreography in performance.

DANCE 485 Contemporary Dance Repertory (1-2)

This is an advanced dance course in the choreographic process with emphasis on original choreography. The instructor will create an original dance on students enrolled in this course which will provide the student with performance experience in a live dance concert. The student will learn original choreography, experience and assist in the choreographic process, participate in discussions concerning choreography, performance and style. The student will keep a journal and complete written assignments which demonstrate cognitive understanding of the artistic process.

Each student will demonstrate proper rehearsal protocol and behavior, execute the choreography at a level suitable for concert performance, show an understanding of the choreographic process through written work, demonstrate growth as a dancer and artist through performance and written work and participate fully in a concert performance of the dance work created in class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 487 Advanced Hip Hop Dance (1.5) Advanced Hip Hop Dance reinforces and expands concepts from Beginning Hip Hop Dance. Free expression of the body, freestyle, and choreography are emphasized.

DANCE 487 Advanced Hip Hop Dance (1.5)

Advanced Hip Hop Dance is designed for the serious minded dance student with an interest in Hip Hop dance/culture. This class provides an intensive study of dance, choreography and culture. As in Beginning and Intermediate Hip Hop Dance, freestyle dancing, locomotive movements, and choreography are emphasized. In addition, this class includes lecture sessions and discussions about Hip Hop culture and its role in society. By the end of this course students should be able to articulate why Hip Hop is a culturally significant art form and choreograph and perform a Hip Hop dance combination. This course also enhances mind/body awareness, and provides choreographic and performance opportunities. This course is directly related to dance, theatre, African American studies and other arts based and humanities based courses. Students will be evaluated on their attendance, participation in class, willingness to learn, and the effort put forth in class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: DANCE 283

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dance (DANCE)

DANCE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dickinson Scl Of Law (LAWUN)

LAWUN 381 Equal Rights (2) This course examines cases interpreting the Equal Protection guarantees of the Fifth and Fourteenth Amendments to the United States Constitution.

LAWUN 381 Equal Rights (2)

The Equal Rights course examines the Equal Protection guarantees of the Fifth and Fourteenth Amendments to the U.S. Constitution. Students will examine cases decided by the U.S. Supreme Court establishing three standards of review to determine whether government action uses impermissible criteria to classify individuals. Specifically, the course will focus on government discrimination on account of race, gender, sexual orientation, alienage, and poverty, as well as discrimination that affects fundamental rights such as voting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dickinson Scl Of Law (LAWUN)

LAWUN 380 Constitutional Law of Religion (2) This course examines the Establishment Clause and the Free Exercise Clause of the First Amendment.

LAWUN 380 Constitutional Law of Religion (2)

T'he Constitutional Law of Religion addresses the Establishment and Free Exercise Clauses of the First Amendment of the United States Constitution. Students will examine cases decided by the U.S. Supreme Court that establish tests to evaluate whether state action violates these clauses. These cases are organized along three thematic lines: (1) the regulation of religious activity; (2) the funding of religious activity; and (3) the treatment of religion in the government's culture-shaping activities, such as public schools. Students will study these cases in the broader context of social, economic, political, and cultural forces that have shaped the Court's interpretive approaches to the constitutional text.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dickinson Scl Of Law (LAWUN)

LAWUN 382W Legal Writing (3) Intensive writing, editing, and oral advocacy course focusing on drafting legal memoranda and briefs.

LAWUN 382W Legal Writing (3)

Legal writing is designed to help students interested in attending law school improve their writing and team how lawyers draft memoranda evaluating the merits of their clients' cases and draft briefs to present their clients' arguments to the court. Students will receive extensive comments on their drafts and will revise their work to produce a polished final version. Students also will study oral advocacy and will engage in a mock oral argument.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 100 The Profession of Dietetics (1) Introduction to the profession and exploration of the roles and responsibilities of dietetic professionals.

The Profession of Dietetics (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 101 Food Safety and Sanitation (1-3) Principles and procedures to insure food safety, using hazard analysis, critical control processes to manage a quantity food service sanitation systems.

Food Safety and Sanitation (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 102 Introduction to Dietary Management (1) Introduction to the profession and exploration of the roles and responsibilities of the dietary manager.

Introduction to Dietary Management (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 105 Introduction to School Food Service (2) History of school food service programs and exploration of management opportunities, methods, and concepts of various food service systems.

Introduction to School Food Service (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 204 Marketing of Child Nutrition Programs (3) Theories and applications of marketing principles to the design of consumer- oriented school foodservice and child nutrition services.

Marketing of Child Nutrition Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 195 Field Experience in Community Dietetics (3) Planning, preparation, and field experiences in community dietetic programs.

Field Experience in Community Dietetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: NUTR 151 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 205 Human Resource Management in Food Service Operations (3) Theories and principles of supervision and training food service employees for overall operational effectiveness.

Human Resource Management in Food Service Operations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 250 (HRIM 250) Principles of Quantity Food Production (3) Principles and methods of quantity food production including preparation techniques, quality control and evaluation, and cost control.

D S M (HRIM) 250 Principles of Quantity Food Production (3)

This course provides an understanding of basic food preparation principles including physical and chemical properties of food, preparation methods and equipment use for managers in restaurant and non-commercial food service operations. Main topics include sensory evaluation, food service equipment, standardized recipes, *mise en place*, cooking methods for principal food groups, menu development, food presentation, convenience foods, seasonings and flavorings, baking principals and current topics related to special diets and new developments in the food supply. Students will develop an understanding of control measures to insure food quality, nutrient retention and achievement of budgetary goals. The objective of this course includes developing a framework for a student to apply organizational skills to the food production worksite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 260 Management and Analysis of Quantity Food (4) Principles of management applied to menu planning, purchasing, food and labor costing, and analysis for the institutional food service setting.

Management and Analysis of Quantity Food (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: D S M 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 275 Cost Control in Institutional Foodservice (3) Analysis and application of revenue management and cost control principles in institutional foodservice systems.

D S M 275 Cost Control in Institutional Foodservice (3)

This course is designed for current and future foodservice operators/managers who want to learn the financial side of managing a foodservice operation in order to be able to compete in a challenging and tight market. Foodservice managers must be able to recognize and react appropriately to pertinent financial information and trends and to control costs in today's competitive environment. This course provides the knowledge and tools needed to understand basic foodservice accounting, to analyze financial reports, to conduct break-even point analysis and control food and labor costs in the institutional foodservice operation. Techniques for analyzing and controlling food and labor costs in non-commercial foodservice operations are presented through a variety of case studies and applied activities. The topics typically include:

- analysis of basic financial reports.
- elements and analysis of labor costs.
- productivity analysis and methods of increasing productivity and decreasing labor costs.
- food cost control procedures, including purchasing, receiving, storage and issuing controls, precosting and menu analysis.
- analysis of cost ratios.
- use of break-even point analysis to evaluate revenue and expenses.
- recognizing financial trends requiring action.
- internal financial controls and management information systems in cost control.

Evaluation methods include quizzes, examinations, project and case study assignments.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: D S M 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 280 (NUTR 280) Current Issues in Community Dietetics (3) Current issues impacting community dietetics programs with emphasis on the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Current Issues in Community Dietetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: D S M 195

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 281 (NUTR 281) Facilitated Discussion in Community Dietetics (2) Principles and methods of designing, implementing, and evaluating facilitated discussion to provide effective nutrition education.

Facilitated Discussion in Community Dietetics (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: D S M 280

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 295A Field Experience in Foodservice Management (1-4) Supervised experience in a foodservice operation: analysis of food service systems.

D S M 295A Field Experience in Foodservice Management (1-4)

DSM 295A is designed to provide an opportunity for students to apply theories and knowledge learned in D S M 260 Management & Analysis of Quantity Food in a real life setting in order to develop the competencies related to managing the preparation and service of quality food in a non-commercial setting. The course objectives include: 1. gaining experience in supervising the production and service of food that meets nutrition guidelines, cost parameters, and consumer acceptance; 2. participating in facility management including equipment selection and design of work units; 3. conducting a food preference survey and evaluating results in order to assess consumer needs and wants; 4. translating nutrition guidelines into menus for a target population; 5. participating in the procurement and inventory management of food and supplies for a food service unit; 6. participating in quality improvement, including systems and customer satisfaction for dietetic service; 7. participating in organizational change and planning and goal-setting processes. To complete the DSM 295A assignments students must be working in a hospital, nursing home, retirement facility or a school foodservice operation where they complete directed assignments under the supervision of a Registered Dietitian or a qualified mentor approved by the Dietetic Food Systems Management Program. The foodservice operation serves as the learning environment where students develop skills related to the planning, operation, and evaluation of a foodservice operation in an institutional setting. The course assignments are designed to develop problem solving and critical thinking skills as well. Students will complete a minimum of 40 hours of supervised practice in the foodservice setting and complete a minimum of six written assignments per credit. Students enrolled for 2-4 credits will spend 40 hours per credit in the practice setting and complete more in-depth projects and written reports related to the course objectives. Evaluation methods: students will be required to submit a written report, using guidelines provided by the course instructor, at the completion of each module/assignment. These written reports will be evaluated by the course instructor. In addition, the student's mentor will evaluate the student's performance using an evaluation form designed by the course instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: prerequisite or concurrent:D S M 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 295W Professional Staff Field Experience (4) Methods of, and practice in, the client-oriented dietetic systems.

Professional Staff Field Experience (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: D S M 195, D S M 205, D S M 260;NUTR 151 orNUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Dietetic Food Systems Management (D S M)

D S M 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 451 Instruction in Early Childhood Education Derived from Development Theories (3) Curriculum and instruction for early childhood education; program practice with pluralistic theoretical foundations for early childhood education.

Instruction in Early Childhood Education Derived from Development Theories (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229, HD FS 428, HD FS 429 orPSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 452 Approaches to Contemporary Early Childhood Education Programs (3) Description and analysis of early childhood programs; cycles, trends, progressions in early childhood education.

Approaches to Contemporary Early Childhood Education Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: E C E 451

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 453 parent Involvement in Home, Center, and Classroom Instruction (2-3) Parent involvement, programs, and methodologies that strengthen bonds between home and community for educators of children.

parent Involvement in Home, Center, and Classroom Instruction (2-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: 6 credits in education

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 454 (HD FS 454) Development and Administration of Child Service Programs (3) Planning, administering, and evaluating child service programs at several administrative levels using methods from relevant disciplines.

Development and Administration of Child Service Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: HD FS 453;C I 295 orHD FS 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 479 The Young Child's Play as Educative Processes (3) Young child's play as educative processes and uses of materials in curricular settings are examined.

The Young Child's Play as Educative Processes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: E C E 451;HD FS 229 orHD FS 429 orPSYCH 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 497A E C E Projects (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

E C E Projects (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 498A Engaging Cultural Context in a Pre-K Setting (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Engaging Cultural Context in a Pre-K Setting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Early Childhood Education (E C E)

E C E 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 002 (GN) The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution of the earth's biosphere, geosphere and hydrosphere.

EARTH 002 Gaia - The Earth System (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

EARTH 002 is a broad introduction to the Earth and to the forces and processes that shape the present-day global environment. The course focuses on global-scale changes, both natural and human-induced. These include: global climate change, destruction of stratospheric ozone, and tropical deforestation, species extinction, and the loss of biodiversity.

The discussion of these modern environmental issues occupies about 40% of the course. Unlike other "environmental" courses, this one sets these issues in the context of the long-term evolution and natural variability of the Earth systems. Thus, the course is structured around three major themes--the issues of global change, time scales of change, and understanding the Earth as a system.

By the end of this course, we expect students to:

1) Recognize that:

- the Earth operates as a complex system,

- there is considerable interaction between the different components of this system (e.g. atmosphere, oceans, solid Earth, and biota),

- changes in one part of the system can be expected to impact all others to a greater of lesser degree.

2) Develop an understanding of how the Earth system operates at the global scale, and the consequences this has for regional variability.

3) Understand how this system has evolved through time.

4) Understand how to use systems and graphical analyses to predict system response to perturbations.

As a result of this course, we expect students to:

1) Synthesize this information to better appreciate the complexity of modern global change issues.

2) Be in a position to make more informed judgments on the nature and seriousness of these issues.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 002L (GN) The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution of the earth's biosphere, geosphere and hydrosphere.

The Earth System and Global Change (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 002P (GN) The Earth System and Global Change (0) An interdisciplinary introduction to the processes, interactions and evolution evolution of earth's biosphere, geosphere and hydrosphere.

The Earth System and Global Change (0)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 002S (GN) The Earth System and Global Change (3) An interdisciplinary introduction to the processes, interactions and evolution evolution of the earth's biosphere, geosphere and hydrosphere.

EARTH 002S Gaia - The Earth System (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

EARTH 002S is a broad introduction to the Earth and to the forces and processes that shape the present-day global environment. The course focuses on global-scale changes, both natural and human-induced. These include: global climate change, destruction of stratospheric ozone, and tropical deforestation, species extinction, and the loss of biodiversity.

The discussion of these modern environmental issues occupies about 40% of the course. Unlike other "environmental" courses, this one sets these issues in the context of the long-term evolution and natural variability of the Earth systems. Thus, the course is structured around three major themes--the issues of global change, time scales of change, and understanding the Earth as a system.

By the end of this course, we expect students to:

1) Recognize that:

- the Earth operates as a complex system,

- there is considerable interaction between the different components of this system (e.g. atmosphere, oceans, solid Earth, and biota),

- changes in one part of the system can be expected to impact all others to a greater of lesser degree.

2) Develop an understanding of how the Earth system operates at the global scale, and the consequences this has for regional variability.

3) Understand how this system has evolved through time.

4) Understand how to use systems and graphical analyses to predict system response to perturbations.

As a result of this course, we expect students to:

1) Synthesize this information to better appreciate the complexity of modern global change issues.

2) Be in a position to make more informed judgments on the nature and seriousness of these issues.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 100 (GN) Environment Earth (3) Natural processes and their relationship to anthropogenic influences. General principles of global cycles and the role they play in natural hazards, global warming, ozone depletion, etc.

EARTH 100 Environmental Earth Science (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

"Environment Earth" is designed to generate a student's interest in natural processes and the effects humans have on these processes. In addition, students are encouraged to think critically about environmental problems and discover the complexity of these issues. An emphasis on the discrepancies between political rhetoric, media reporting and scientific data provides students the opportunity to evaluate conflicting arguments for themselves.

The goals of this course are (1) to develop students' understanding about our Earth and human effects on natural resources, (2) to foster the ability to critically evaluate scientific arguments, and (3) to practice expressing reasoned opinions on complex problems. To achieve these goals, grades are based on examinations, homework assignments, written reports and oral presentations.
Exams use a traditional multiple choice format and are based on the lecture and readings. However, questions are designed to test a student's knowledge of the principles and interrelationships discussed rather on memorization of facts and terms. Homework assignments are given on approximately a weekly basis. Questions cover the most important concepts of the text and lecture and encourage consistent reading to complement lectures. These exercises have two purposes. First, the short answer nature of questions provides practice in writing logical, concise paragraphs while ensuring the student understands key concepts. Second, assurance that students are reading chapters concurrent with the lecture topics allows the instructor to interact with the class more effectively during class discussions. Two written reports are given to test a student's ability to comprehend scientific articles and explain the science and its implications for environmental policy. A wide variety of topics are suggested based mainly on newspaper and magazine articles on environmental issues, but students can select almost any topic related to the environment with prior instructor approval. Students must then research the science behind the media coverage via library and web-based resources. The class web site (http://www.geosc.psu.edu/People/Faculty/FacultyPages/Kubicki/earIOO.html) is designed to facilitate searches related to course topics. Papers are judged based on the clarity of writing, the quality of scientific data included, and discussion of the implications of the research. Oral presentations debating two sides of environmental issues will be conducted. Small teams (4-5 students) will be assigned one side of an issue and each member will participate in a debate against another team. These debates will develop students' speaking and team-building, skills. Although each student will be responsible for a section of the debate, factual research will be carried out as a group to present the best overall case.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 101 (GN;US) Natural Disasters: Hollywood vs. Reality (3) Analysis of the causes and consequences of natural disasters; comparison of popular media portrayal of disasters with perspective from scientific research.

EARTH 101 Natural Disasters: Hollywood vs. Reality (3)
(GN;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course investigates a variety of natural hazards and disasters. We will use the popular media as a starting point for discussions and development of tools for analyzing the causes of disasters. Using excerpted segments of "disaster films" in conjunction with scientific treatments, we can identify the causes, consequences and public perceptions of natural hazards. Small group discussions and cooperative research held "real time" in the classroom will be a major component of this course. The goal is to help students develop both an understanding of natural hazards and disasters, and enhance their understanding of scientific approaches to problem solving.

During the course approximately four to five topics selected from the list of volcanoes,, earthquakes, hurricanes, tornadoes, flooding, bolloid (e.g., asteroid) impacts, and tsunami (tidal waves) will be covered. For each topic, we will incorporate the following activities: (a) short edited excepts from disaster movies (or equivalent) of approximately 10 minutes each; (b) discussions by small groups of students (approximately 10 per group) to identify scientific issues to be addressed; (c) development of scientific background and tools via faculty lectures, tutorials, and library or web-based activities; (d) cooperative learning activities by small student groups--each group working together to address one of the identified scientific issues; (e) group presentations of results of the cooperative learning activity; and (f) individual writing activities producing focused reports on specific scientific issues. A typical topic will be covered in three weeks (six class meetings) with approximately 50 percent of the time (in class) allotted to group activities and discussion; lecturing by the faculty will involve approximately 25 percent of the time, with the remaining 25 percent of the time used for video and Wed-based presentations.

Grades will be based on participation in "breakout" group discussions and cooperative activities, writing assignments ((two to three pages each) associated with each topic, and an annotated "disaster diary" of natural disasters which have occurred during the course. Each writing assignment will be aimed at a client audience (e.g., municipal government, businesses, or the general public) and written to explain the exposure to natural hazards or potential for disaster faced by the client.

This course has no prerequisites and should be accessible to all students. Through cooperative activities students can benefit from the range of expertise brought to the course by their colleagues and thus address scientific issues beyond the reach of any individual.

General Education: GN
Diversity: US
Bachelor of Arts: Natural Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 100H (GN) Environment Earth (3) Natural processes and their relationship to anthropogenic influences. General principles of global cycles and the role they play in natural hazards, global warming, ozone depletion, etc.

Environment Earth (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 103 (GN) Earth in the Future: Predicting Climate Change and Its Impacts Over the Next Century (3) Climate predictions for the coming century are utilized to examine potential impacts on regions, sectors of society, and natural ecosystems.

EARTH 103 Earth in the Future: Predicting Climate Change and It's Impacts Over the Next Century (3) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The United States is actively working on national assessment of the impacts of the climate change predicted to occur over the next century. The U.S. National Assessment has developed three major documents, an Overview written for Congress, a Foundation document giving the sources of information and their interpretation, and a series of regional (e.g. Northeast, Midwest, etc) and sector (water, health, agriculture, forests, and coastlines) reports. These reports present an exceptional opportunity to connect advances in the natural sciences to society. The course has four major objectives: (1) to gain an understanding of climate science and of the possible scenarios of how climate may change in the future. [the basis for these scenarios and their limitations will be an important element]; (2) to analyze the linkages between climate and major human and natural systems (e.g. agriculture, human health, water, coastal ecosystems, and forests), necessary to assess the potential impacts of climate change; (3) to demonstrate that the impacts of climate change, and the way in which society responds, is dependent on factors such as age, economic capability, lifestyle (e.g. urban vs. rural), generational differences, and cultural differences; and (4) to understand the different types of responses that humans may have to climate change, including adaptations to change and possible mechanisms to mitigate the factors that are forcing change to occur.

The course includes smaller enrollment computer laboratory/discussion sessions designed to (1) provide hands-on data analysis and interpretation and the exploration of climate linkages to natural and human systems; (2) promote discussion and formal debate around key issues; and (3) develop tools to assess class perceptions of vulnerabilities and appropriate responses. Several of these elements will be developed with a team or group approach. Grading will be based primarily on a student record, or portfolio, stemming from a combination of lab exercises, written material, and debate materials. Tests on lecture material will be a secondary evaluation mechanism. This course fulfills a Natural Sciences General Education requirement, as well as course requirements for the Earth major. It provides a natural partner to Earth-as-a-System (Earth 002) that focuses on Earth system concepts and the scientific evidence for a changing planet throughout Earth history and into the future.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 106 (GN) The African Continent: Earthquakes, Tectonics and Geology (3) Study of earthquakes and seismic waves to learn about the geology and plate tectonics of the African continent.

EARTH 106 Shaking Up Africa: The Geology and Tectonics of Africa (3) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Earthquakes are natural phenomena that can cause immense human suffering because of intense ground shaking, and are consequently of great societal importance. Earthquakes are also important because the seismic waves that generate the ground shaking provide scientists with important information about Plate Tectonics and geology, in particular information about the structure and composition of our planet and how the insides of the planet are deforming. In this course, earthquakes in Africa and the seismic waves they generate are used to help students to learn about the geology of Africa and how the earth beneath the African continent is being deformed by Plate Tectonics.

EARTH 106 is designed in four modules. Modules, in turn, are divided into weekly lessons. Offered in a "hybrid" format, each weekly lesson includes a single face-to-face class meeting, complemented by online reading assignments, self-check learning activities, and discussions. The online, hands-on learning activities are similar to the labs conducted in similar courses that are offered solely in face-to-face environment, including the manipulation of geographic data, map reading exercises, and rock and mineral identification activities. They are designed to help students learn skills and knowledge that they then apply to a course project. While the weekly lesson activities involve working with seismic data from East Africa, the course project requires students, working in small groups, to apply their skills and knowledge to another geographic area of the African continent. In addition to the weekly lesson activities and the course project, students are required to complete weekly quizzes that assess comprehension of the online reading assignments. Quizzes that come at the end of a module also assess the skills and knowledge addressed in the lesson learning activities for that module.

This course is a general education offering in natural sciences (GN) and is open to all students regardless of academic major.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 105 (GN;IL) (AAA S 105) Environments of Africa: Geology and Climate Change (3) Significant natural features of Africa as related to human endeavor; case studies include the Nile, climate change, and natural resources.

EARTH (AAA S) 105 Environments of Africa: Geology and Climate History (3)
(GN;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

"Environments of African: Geology and Climate History" investigates the interrelationships between geology, hydrology, land use and human development in several areas of Africa. We focus primarily on regions north of the equator, although there is a brief segment on South Africa mining. Specific topics include the Nile River (sources of the Nile, agricultural practices, effects of damming the Nile, hydropolitics), the Sahara and Sahel (salt mines, climate change, drought, water resources), and natural resources and their role in politics (gold, diamonds, oil, and gas). The theme of climate change cuts across the entire semester. The quantitative and analytical components of the course involve working through a combination of map exercises and data manipulations (flood stage, groundwater age, rainfall and temperature records). Writing exercises are conducted both individually (essays, analysis of readings) and in collaborative teams (climate change analysis). Readings for the course come from the popular scientific literature; current refereed research journals, and transcribed oral histories of African people. Faculty lectures will comprise ~30% of the course, and student presentations ~20%, with the remainder of the time devoted to in-class collaborative exercises. There are no pre-requisites for this course. It will be offered annually with a maximum enrollment of 100 students.

The goals of the course are to (1) introduce the scientific study of Africa; (2) develop quantitative and scientific reasoning skills; (3) explore the relationship between human society and the natural world. The topics that we explore (e.g., global climate change, allocation of limited water resources) are important political issues that affect people in developed and developing countries throughout the world. It is crucial that the next generation of citizens be informed as to how scientific data is obtained, presented, and interpreted by scientists as well as politicians. Students will work individually and (more commonly) in teams to analyze real data from natural African systems, and will then report their findings to the class both orally and in writing. Examples of the data sets include 100-year records of monthly rainfall and temperature from stations throughout the continent, fossil suites from ancient lake cores in the modern Sahara, and historical writings of Nile flood levels from pre-Biblical times. Through these exercises students will gain an appreciation of the scope of geological time and change, and will be able to incorporate this new long-term perspective into identification and resolution of modern quesitons.

General Education: GN
Diversity: IL
Bachelor of Arts: Natural Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 111 (GN;US) Water: Science and Society (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.

EARTH 111 Water: Science and Society (3)
(GN;US)

The Earth is often called "The Blue Planet", a reference to the fact that over two-thirds of its surface is covered by water. Despite its apparent abundance, water is a valuable and limited resource; less than 2.5% of the water on the planet is fresh, and only one third of that is potable. And that's not all - the small fraction of Earth's ware that is useable to humans is distributed very unevenly. As a result, conflicts over water occur from the local level, for example: pitting rancher against developer - to the global level, at which nations square off against one-another in war and use water as a mechanism for imposing sanctions. The dire situation in some regions has spurred numerous research and technological endeavors, such as water desalinization, genetic engineering of crops, and major overhauls of agricultural practice.

In this course, we will explore the relationships between water and human populations, with emphasis on water resources and quality in the Western U.S., and how these have shaped history and modern politics. We will focus first on developing the scientific underpinnings of water's unique properties, behavior, movement, occurrence, and quality. With this background, we will then discuss key issues relating to modern and historical conflicts, human impacts on the natural world, and human engineering accomplishments driven by our thirst for this valuable resource. We will discuss historical examples from the American West, specifically the development of water resources in Colorado and California. We will also explore modern and historical conflicts between stakeholders. Major themes will include political and economic conflicts over (1) water resources - for example, balancing agricultural and urban demands in the American west in the Denver and Los Angeles metropolitan areas, (2) water quality - for example, considering the impact of economically profitable human activities on water quality and transmission of disease, and (3) human impacts on natural processes, specifically connecting human activity with our cultural history of water use and exploration in the American West. Our approach is to include a substantial component of student-initiated learning. The course will include critical evaluation and discussion of assigned reading and films, a series of laboratory exercises and field trips to illustrate concepts and stimulate discussion, and a major research paper.

General Education: GN
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 111U (GN;US) Water: Science and Society (3) Investigation of water behavior and occurence, its relevance to life, human activities, politics, and society.

Water: Science and Society (3)

General Education: GN
Diversity: US
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 240 Coral Reef Systems (3) The geography, geology, and chemistry of coral reef ecosystems; threats to reef environments; and techniques for reef surveying and monitoring.

EARTH 240 Coral Reef Systems (3)

The course introduces students to coral reef environments, past and present. It describes the processes that control the distribution, growth, and morphology of reefs and introduces students to the complexity of the coral reef ecosystem. The course emphasizes the role that reefs play in the natural environment and examines their importance to society both globally (e.g. in terms of biodiversity and its potential benefits) and locally in terms of, for example, food supply and tourism. We then look at the natural disturbances (such as disease, storms, sea surface temperature variations) that affect the reef, as well as ways in which reefs are threatened from human impacts, with an emphasis on global climate change and the long-term outlook for reef survival.

Students will work in groups to research elements of the system, first at a global scale, and then focusing specifically on one region -- the Bahamas platform. Students will look at the history of the Bahamas platform and its relationship to the present nature and distribution of coral reefs. They will then examine these in the context of their social, cultural, and economic importance to local communities. A third component of the course will concentrate on the identification of vertebrate and invertebrate species and substrate conditions that are important indicators of reef health. There will then be a one-week field trip to a coral reef system to conduct reef surveys. The surveys follow the Reef Check protocol (a volunteer, community-based monitoring protocol designed to measure the health of coral reefs on a global scale). Reef Check is administered out of the University of California at Los Angeles.

The coral reef surveys will be conducted on scuba and the field trip and participation in the survey are required elements of the course. Students who are not scuba certified will be given the opportunity to obtain open water scuba certification as part of the course, through Penn State's Science Diving Program is a member of the American Academy of Underwater Sciences). There will be an additional charge for the scuba certification course and the field trip.

Student assessment will be through group presentations, term papers, and their contribution to the field program. The course satisfies part of the field requirement for the University's Marine Science Minor and serves as an introduction to the Science Diving Program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: Prerequisite or concurrent:KINES 045 or Nationally Recognized Scube Certification

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 150 (GN) Dinosaur Extinctions and Other Controversies (3) Dinosaur extinctions and other major and controversial events in the history of life.

EARTH 150 Dinosaur Extinctions and Other Controversies (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

One of the most dramatic developments in the Earth sciences is the suggestion that extinction of the dinosaurs was caused by a meteorite impact. Evidence for and against this controversial idea is just one of the subjects addressed by this course, dealing broadly with the history of our planet, the evolution of life upon it, and the sometimes rocky development of our understanding of Earth history. In addition to dinosaur extinction, we will discuss issues relating to catastrophic vs. gradual theories about the Earth's history, fossils and the history of life, and mass extinctions, including whether or not we're in the middle of one now. How are scientific discoveries made? What distinguishes a scientific argument from a non-scientific one? What roles do social and historical factors play in the construction and acceptance of scientific theories? Questions such as these will permeate the course. Readings will include selected texts by leading scientists, with supplements from the primary scientific literature, including current discoveries published in Science and Nature.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 400 Earth Sciences Seminar (3) Interdisciplinary study of environmental problems in the earth sciences.

Earth Sciences Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing in the Earth major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 402 Evolution of the Atmosphere and Oceans (3) A quantitative journey through the history of atmospheric and oceanic composition and the earth's climate.

Evolution of the Atmosphere and Oceans (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 140, PHYS 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 497A Modeling the Earth System (3) A quantitative introduction to the evolution of Earth's biosphere, atmosphere, and hydrosphere, with emphasis on the carbon cycle and climate.

Modeling the Earth System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: MATH 140 orMATH 110 orMATH 083, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth Sciences (EARTH)

EARTH 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 101 (US;IL) Resource Wars (3) "Resource Wars" presents an analysis of natural resources and how competition for them shapes national and international cultures and geopolitics.

EM SC 101 Resource Wars (3)
(US;IL)

The faculty of the College of Earth and Mineral Sciences are uniquely qualified to teach “Resource Wars”, a course that presents an analysis of natural resources and how competition for them shapes contemporary and historical culture and geopolitics. “Resource wars” will examine the extent to which the Gulf War of 1991, the explosive conflict between the United States and Islamic extremists, and present engagement in Iraq are manifestations of a foreign policy that comes from a desire for resource security. While the current Iraq war is the most recent manifestation of the clash between US and IL cultures, there are many examples of past resource wars in world history. Although the present conflict in the Middle East is about petroleum, past conflicts involve the entire spectrum of natural resources from gold and diamonds to rubber and tea to water, clean air, and living space. Class discussion will meld the technical aspects of discovery and extraction with its impact on society from a cultural and geopolitical points of view (US & IL).

Technical analysis starts with the geology of the natural resource. The extraction, harnessing, or mining of that natural resource and resource transportation come next. The use of that natural resource as a material follows. Of course, short term and long climatic instability may play roles. The human elements (US & IL) involved in the trading and development of the resource lead to both armed interstate conflicts and intrastate disputes. Cultural questions might include how the digital age impact resource control and trade, how global resource distribution impacts energy security and utilization, and how international resource competition impacts the climate. Ultimately, the class is led to an understanding about how scarcity has impacted cultures throughout human history (US & IL).

The tentative plan is that each lecture period consists of two parts starting with a moderator (the lead faculty member throughout the entire semester) who summarizes the resource under discussion in a 10-15 minute introduction. Then, appropriate EMS faculty will offer detailed accounts of their particular expertise. This format requires two 75-minute classes per week (30 per semester).

The moderator shall be responsible for grading the class including the discussion and written responses in a large classroom format (50+ students) taught in one lecture hall. Active learning shall include discussion sessions with a wireless response pad technology for in-class interaction between student and instructor.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 100S (GWS) Earth and Mineral Sciences First-Year Seminar (3) Writing, speaking, and critical thinking skills applied to topics of general interest in Environmental and Materials Science.

EM SC 100S Earth and Mineral Sciences First-Year Seminar (3)
(GWS;FYS)

The EMS First-Year Seminar is designed to encourage students to begin the important process of "thinking for a living." The primary focus of the seminar is to promote critical reading and thinking skills, and to help students develop effective written and oral arguments. Students learn the importance of reading, sharing ideas and collaborating, through independent and group research, discussion and debate.

We want our students to think about some of the major issues facing the world today, the role that science and technology have played in defining and addressing these issues, the way in which present-day thinking has been shaped by the past, and the development of scientific thought. The Seminar's content focuses on communication skills, but these are addressed within the context of issues relevant to the disciplines represented in EMS. As such, the discussions range across topics such as the Earth and its resources; scientific and technical aspects of global habitability; development of the advanced materials necessary for sustaining and advancing civilization in the 21st century; and the social, economic, and political factors that shape and constrain society's view of the Earth system.

Students undertake three to five major writing projects throughout the semester, as well as several smaller one to two paragraph written assignments. Grades are determined from their performance on the written papers, oral presentations, and in-class participation.

The Seminar is a required course for all EMS first-year students at the University Park campus and, together with English 015 and either English 202 or Speech Communications 100, will satisfy the Writing and Speaking requirements of General Education.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 121 (GN) Minerals and Modern Society (3) Production and use of mineral resources in modern society with an emphasis on the interrelationships and their effect on the Earth system.

Minerals and Modern Society (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 150 (GN;IL) (S T S 150) Out of the Fiery Furnace (3) A history of materials, energy and man, with emphasis on their interrelationships. For nontechnical students.

Out of the Fiery Furnace (3)

General Education: GN
Diversity: IL
Bachelor of Arts: Humanities and Natural Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 300 Professional e-Portfolio Development (1 per semester) Design, creation and critique of on-line portfolios for personal and professional development. This course is for second-, third-, and fourth- year EMS students.

EM SC 300 Professional e-Portfolio Development (1 per semester; maximum of 4)

The EM SC 300 course on Professional e-Portfolio Development is intended to help second-, third-, and fourth-year undergraduate students in the College of Earth and Mineral Sciences adopt proactive, strategic approaches to planning their Penn State careers and developing professional and personal goals for life after graduation. As a vehicle for reflective learning and professional development, the course will require each student to design, create, and maintain an on-line portfolio that contains evidence of his or her curricular and co-curricular activities. The course will be team-taught with faculty and staff members of Penn State's Office of Career Services, who will provide students with career assessment sessions, videotaped mock interviews, and one-on-one consultation with alumni career coaches. In addition, students will develop or improve the information design and technology skills needed to become active producers, rather than passive consumers, of Web-based information. EM SC 300 will serve as a career-oriented follow-on to EM SC 100S, the EMS First Year Seminar. The course will be offered every Spring semester for one credit. Students and instructors will meet for one two-hour session each week in a technology classroom in which all students have access to networked personal computers. Students will be allowed to take the course up to four times. Within each course section, students will be working in groups based upon the extent of their previous experience in the class. Repeat students will be expected to mentor first-time students. For example, experienced students may be asked to demonstrate advanced skills, provide technical support, and help conduct mock interviews (under the supervision of Career Services staff and intems). Student performance will be evaluated on the basis of participation, skills improvement, fulfillment of individual course goals, the ability to offer and accept constructive criticism, and collaboration (helping fellow students to achieve their goals).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 302 Orientation to Energy and Sustainability Policy (1) Orientation to goals of the Energy and Sustainability Policy program and resources available to help students succeed.

EM SC 302 Orientation to Energy and Sustainability Policy (1)

EM SC 302 provides an orientation to the goals of the Energy and Sustainability Policy (ESP) degree program, helping students to successfully prepare for the five program learning outcomes. The course is conducted as a group seminar, with topics that are designed to provide an initial understanding of program outcomes: energy industry knowledge, global perspective, analytical skills, communication skills, and sustainability ethics. Students are expected to actively participate in discussions and work hands-on with online tools in activities that will allow them to gain an understanding of what it means to successfully participate as an ESP student in different educational and course contexts. Students are evaluated based on active class participation, written assignments, and class presentations. This course is intended to be taken during the first semester after being admitted to the ESP program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 420 (SOC 420, S T S 420) Energy and Modern Society (3) Technology and economics of energy resources, production, and consumption; environmental factors, exhaustion, new technology.

Energy and Modern Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 440 Science Diving (3) Advanced scuba diving skills applied to underwater research.

EM SC 440 Science Diving (3)

EM SC 440 is a three credit intermediate science diving course for students already holding a basic and second level open water scuba diving certification from an internationally recognized certification agency (e.g. PADI, NAUI, CMAS, YMCA, SSI etc.). Students must have a minimum of 20 logged dives beyond their basic open water certification dives by the start of the course. Scientific diving is concerned with the observation of underwater phenomena and the acquisition of scientific data. This course introduces students to some of the basic skills and techniques used in scientific diving, following the standards established by the American Academy Underwater Sciences (AAUS) -- with a significant emphasis on diver safety. The course covers theoretical aspects of the physics of diving, dive physiology, and underwater environments. There is a strong emphasis on diver safety with theoretical and practical training in cardiopulmonary resuscitation, diving-related first aid, accident management and dive rescue. The course will cover advanced recreational diving techniques, including deep diving and enriched air (nitrox) diving. The course will also introduce students to a variety of scientific diving skills including underwater navigation, mapping, data collection and analysis, and underwater photography. The course will include classroom sessions, pool sessions, and open water dives. Both the classroom-sessions and the open water dives will be split between skills development and their application in research settings. The research will involve a variety of projects (e.g. fish surveys, lake sediment sampling for climate reconstruction, underwater mapping) - the exact nature of which will vary depending on the areas of expertise of the faculty involved. Each government or university underwater research program certifies its own divers based on standards that, at a minimum, conform to those of the AAUS. Successful completion of the course will allow you to apply for science diver certification from the Penn State Science Diving Program. Certification is also dependent on a medical examination at the discretion of the University Dive Safety Officer; it is not automatically offered on completion of the course. The course is usually offered once a year in the summer or fall semesters and will involve several day trips (usually at weekends) to various river, lake, and quarry locations within the state. There will be an additional fee charged to cover the costs of the open water dives and administrative charges for recreational dive certifications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: basic and second level open water scuba certification from an internationally recognized certification agency and a minimum of 20 additional logged dives beyond the basic certification dives.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 468 Computational Thinking in Earth Systems (3) Development and application of computational protocols used in earth sciences.

EM SC 468 Computational Thinking in Earth Systems (3)

This course will introduce students on how to think a problem through and put the computer and information technology to good use in solving the problem. It will take them through the process of stating, defining and refining the problem and reading it for computer solution. They will be taken through the exciting journey of developing solution protocol, coding it into a language that the computer compiler can understand, to understanding the place of graphics and graphical-user-interface (GUI) in solving and interpreting solutions. It will provide them with a solid base in the art of linking the solution engine with the userinterface. They will develop simple GUI using some of the packaged tools available. In essence, this course will bridge the gap between the mindset of a scientist/engineer and the rapidly developing information technology and teach them how to take full advantage of the latter in problem solving.

The problem-solving approach will be used as the basis for achieving the instructional objectives. In this approach, students will be full partners in their own learning process. Participation and team approach to problem solving will be the mode of operation. The performance of the students will be measured through a combination of in-class assignments, projects, midterm and final examinations. In any case, performance will be based on the level of competence attained by the student in the use of computer to solve practical problems relating to earth systems.

Although no prerequisite is needed for this course, the students will be expected to contribute problems from their own discipline so as to afford the class the opportunity to conduct a multi-disciplinary solution. This will provide an effective platform for the students to learn how to function in a multi-disciplinary team oriented approach to problem solving.

This course is being offered as part of the Information Sciences and Technology (IST) minor in the College of Earth and Mineral Sciences in the category of additional courses.

The computational facilities available within the College of Earth and Mineral Sciences will adequately support this course. Most of the application software needed are already licensed to the University and are widely available on the Campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 470W Undergraduate Collaborative Research in Earth and Materials Sciences (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.

Undergraduate Collaborative Research in Earth and Materials Sciences (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 470Y (IL) Undergraduate Collaborative Research in Earth and Materials Sciences (3-6) Interdisciplinary research seminar involving students in the process of discovery, writing, and debate on issues of broad interest to Earth and Materials Sciences.

Undergraduate Collaborative Research in Earth and Materials Sciences (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Earth and Mineral Sciences (EM SC)

EM SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 002 (GS) Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.

ECON 002 Introductory Microeconomic Analysis and Policy (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Economics is the study of how people satisfy their wants in the face of limited resources. One way to think about economics is that it is a consistent set of methods and tools that is valuable in analyzing certain types of problems related to decision--making, resource allocation, and the production and distribution of goods and services. There are two main branches of economics, microeconomics, and macroeconomics. Macroeconomics is concerned with economy--wide factors such as inflation, unemployment, and overall economic growth. Microeconomics deals with the behavior of individual households and firms and how government influences that behavior; it is the subject of this course.

More specifically, ECON 002 is an introduction to microeconomic analysis and policy. The principal objective of the course is to enable students to analyze major microeconomic issues clearly and critically. Students will be introduced to the methods and tools of economic analysis, and these analytical tools will be applied to questions of current policy interest. Learning these methods and tools and applying them to interesting policy questions and issues is sometimes called "thinking like an economist." An important goal of this course is to take each student as far down the road of "thinking like an economist" as possible.

A variety of mechanisms are used to assess student performance. These evaluation methods typically include exams, quizzes, homework assignments, and group projects.

ECON 002 is an introductory course in economics and as such, serves as a prerequisite for several microeconomics--oriented 300--level courses. It is also a required course for all majors and minors in economics, and meets requirements for a General Education (GS) or Bachelor of Arts social science course.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 002H (GS) Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.

Introductory Microeconomic Analysis and Policy (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 004 (GS) Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.

ECON 004 Introductory Macroeconomic Analysis and Policy (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Economics is the study of how people satisfy their wants in the face of limited resources. One way to think about economics is that it is a consistent set of methods and tools that is valuable in analyzing certain types of problems related to decision-making, resource allocation, and the production and distribution of goods and services. There are two main branches of economics, microeconomics, and macroeconomics. Microeconomics deals with the behavior of individual households and firms and how that behavior is influenced by government. Macroeconomics is concerned with economy-wide factors such as inflation, unemployment, and overall economic growth; it is the subject of this course.

More specifically, ECON 004 is an introduction to macroeconomic analysis and policy. The principal objective of the course is to enable students to analyze major macroeconomic issues clearly and critically. Students will be introduced to the methods and tools of economic analysis, and these analytical tools will be applied to questions of current policy interest. Broadly, the course focuses on the determination of national income, on unemployment, inflation, and economic growth in the context of a global economy, and on how monetary and fiscal policy, in particular, influence the economy. Learning the methods and tools of economics and applying them to interesting policy questions and issues is sometimes called "thinking like an economist." An important goal of this course is to take each student as far down the road of "thinking like an economist" as possible.

A variety of mechanisms is used to assess student performance. These evaluation methods typically include exams, quizzes, homework assignments, and group projects.

ECON 004 is an introductory course in economics, and as such, serves as a prerequisite for 300-level courses in intermediate macroeconomic analysis, international economics, and money and banking. It is also a required course for all majors and minors in economics, and meets requirements for a General Education or Bachelor of Arts Social Science (GS) course.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 002H (GS) Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.

Introductory Microeconomic Analysis and Policy (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 004H (GS) Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.

Introductory Macroeconomic Analysis and Policy (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 004H (GS) Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.

Introductory Macroeconomic Analysis and Policy (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 014 (GS) Principles of Economics (3) Analysis of the American economy, emphasizing the nature and interrelationships of such groups as consumers, business, governments, labor, and financial institutions. Students who have passed ECON 002 or 004 or are registered in the College of Business Administration may not schedule this course.

Principles of Economics (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 083S (GS) First-Year Seminar in Economics (3) Experiments in microeconomic principles.

ECON 083S First-Year Seminar in Economics (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

The principal objective of the course is to engage students in active learning of macroeconomic principles, by using economic experiments to exploit the natural curiosity of students about economic affairs. Through these experiments, students will have an opportunity to ponder the questions, rather than simply being given answers. By the end of the course, students should have a good grasp of basic principles of microeconomics, and they will also have learned how to carry out and prepare written reports of laboratory experiments in economics. Students will work in teams, do analyses of the data generated by the in-class experiments, and prepare written reports of these analyses in lab reports. They will also be assigned homework to be done in the same groups and designed to help them solidify the ideas that they have explored. The textbook for the course will be Bergstrom and Miller, Experiments in Economic Principles (1997), which includes 13 experiments covering the topics identified in the previous section.

The course provides an introduction to macroeconomic principles based on laboratory experiments, with students who serve to conduct the experiments and also serve as participants. As such, it constitutes an excellent introduction to a major branch of economics. The course also will be a general education and Bachelor of Arts social/behavioral sciences course.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 102 (GS) Introductory Microeconomic Analysis and Policy (3) Methods of economic analysis and their use; price determination; theory of the firm; distribution.

ECON 102 Introductory Microeconomic Analysis and Policy (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Economics is the study of how people satisfy their wants in the face of limited resources. One way to think about economics is that it is a consistent set of methods and tools that is valuable in analyzing certain types of problems related to decision--making, resource allocation, and the production and distribution of goods and services. There are two main branches of economics, microeconomics, and macroeconomics. Macroeconomics is concerned with economy--wide factors such as inflation, unemployment, and overall economic growth. Microeconomics deals with the behavior of individual households and firms and how government influences that behavior; it is the subject of this course.

More specifically, ECON 002 is an introduction to microeconomic analysis and policy. The principal objective of the course is to enable students to analyze major microeconomic issues clearly and critically. Students will be introduced to the methods and tools of economic analysis, and these analytical tools will be applied to questions of current policy interest. Learning these methods and tools and applying them to interesting policy questions and issues is sometimes called "thinking like an economist." An important goal of this course is to take each student as far down the road of "thinking like an economist" as possible.

A variety of mechanisms are used to assess student performance. These evaluation methods typically include exams, quizzes, homework assignments, and group projects.

ECON 002 is an introductory course in economics and as such, serves as a prerequisite for several microeconomics--oriented 300--level courses. It is also a required course for all majors and minors in economics, and meets requirements for a General Education (GS) or Bachelor of Arts social science course.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 104 (GS) Introductory Macroeconomic Analysis and Policy (3) National income measurement; aggregate economic models; money and income; policy problems.

ECON 104 Introductory Macroeconomic Analysis and Policy (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Economics is the study of how people satisfy their wants in the face of limited resources. One way to think about economics is that it is a consistent set of methods and tools that is valuable in analyzing certain types of problems related to decision-making, resource allocation, and the production and distribution of goods and services. There are two main branches of economics, microeconomics, and macroeconomics. Microeconomics deals with the behavior of individual households and firms and how that behavior is influenced by government. Macroeconomics is concerned with economy-wide factors such as inflation, unemployment, and overall economic growth; it is the subject of this course.

More specifically, ECON 004 is an introduction to macroeconomic analysis and policy. The principal objective of the course is to enable students to analyze major macroeconomic issues clearly and critically. Students will be introduced to the methods and tools of economic analysis, and these analytical tools will be applied to questions of current policy interest. Broadly, the course focuses on the determination of national income, on unemployment, inflation, and economic growth in the context of a global economy, and on how monetary and fiscal policy, in particular, influence the economy. Learning the methods and tools of economics and applying them to interesting policy questions and issues is sometimes called "thinking like an economist." An important goal of this course is to take each student as far down the road of "thinking like an economist" as possible.

A variety of mechanisms is used to assess student performance. These evaluation methods typically include exams, quizzes, homework assignments, and group projects.

ECON 004 is an introductory course in economics, and as such, serves as a prerequisite for 300-level courses in intermediate macroeconomic analysis, international economics, and money and banking. It is also a required course for all majors and minors in economics, and meets requirements for a General Education or Bachelor of Arts Social Science (GS) course.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 106 Statistical Foundations for Econometrics (3) Basic statistical concepts used in economics. Topics include probability distributions, expectations, estimation, hypothesis testing, correlation, and simple regression. Students who have completed ECON 306 may not schedule this course.

Statistical Foundations for Econometrics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 302 (GS) Intermediate Microeconomic Analysis (3) Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools.

Intermediate Microeconomic Analysis (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 302H (GS) Intermediate Microeconomic Analysis (Honors) (3) Allocation of resources and distribution of income within various market structures, with emphasis on analytical tools.

ECON 302H Intermediate Microeconomic Analysis (Honors) (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

There are two branches within the discipline of economics: microeconomics, focused on the behavior of individual economic actors (consumers, firms, and government) and macroeconomics, focused on economic aggregates (e.g., inflation, unemployment, aggregate economic growth). There are four core courses in economics that are required of all majors and minors: introductory and intermediate courses in microeconomics and macroeconomics. This course is the upper-level core course in microeconomic analysis.

Students will learn, at a deeper level than that covered in the beginning microeconomics course (ECON 002), and with extensive use of calculus, about supply and demand, consumer theory, the theory of the firm, market structure and market power, factor markets, and extensions to consider uncertainty, missing markets, and limited information. Students will develop their analytical skills for analysis of microeconomic issues. These skills, in turn, will be required for a substantial number of 400-level microeconomics-oriented courses.

This course is a follow-on to the introductory course in microeconomic analysis, its prerequisite, going more deeply into the material covered in that introductory course in microeconomic analysis, and making extensive use of calculus. It is, in turn, a prerequisite for a large number of microeconomics-oriented courses at the 400 level. This honors version is designed to provide the opportunity for stronger students to pursue this key course at a more rigorous and in-depth level.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: ECON 002 andMATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 304 (GS) Intermediate Macroeconomic Analysis (3) Analysis of forces that determine the level of aggregate economic activity.

Intermediate Macroeconomic Analysis (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: ECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 304H (GS) Intermediate Macroeconomic Analysis (Honors) (3) Analysis of forces that determine the level of aggregate economic activity.

ECON 304H Intermediate Macroeconomic Analysis (Honors) (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

There are two branches within the discipline of economics: microeconomics, focused on the behavior of individual economic actors (consumers, firms, and government) and macroeconomics, focused on economic aggregates (e.g., inflation, unemployment, aggregate economic growth). There are four core courses in economics that are required of all majors and minors: introductory and intermediate courses in microeconomics and macroeconomics. This course is the upper-level core course in macroeconomic analysis.

Students will learn, at a deeper level than that covered in the beginning macroeconomics course (ECON 004), and with extensive use of calculus and economic models, about the measurement and structure of the national economy, long-run economic performance and the factors that influence it, business cycles and macroeconomic policy, and the environment and institutions that are pertinent to macroeconomic policy. Students will develop their analytical skills for analysis of macroeconomic issues. These skills, in turn, will be required for several 400-level macroeconomics-oriented courses.

This course is a follow-on to the introductory course in macroeconomic analysis, its prerequisite going more deeply into the material covered in that introductory course in macroeconomic analysis, and making extensive use of calculus and formal models. It is, in turn, a prerequisite for a number of macroeconomics-oriented courses at the 400 level. This honors version is designed to provide the opportunity for stronger students to pursue this key course at a more rigorous and in-depth level.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: ECON 004 andMATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 306 Introduction to Econometrics (3) The implementation of statistical techniques to analyze data and address economic questions. Econometric results are produced and assessed.

Introduction to Econometrics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ECON 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 323 (GS) Public Finance (3) Contemporary fiscal institutions in the United States; public expenditures; public revenues; incidence of major tax types; intergovernmental fiscal relations; public credit.

Public Finance (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 315 (GS) Labor Economics (3) Economic analysis of employment, earnings, and the labor market; labor relations; related government policies.

Labor Economics (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 333 (GS) International Economics (3) Why nations trade, barriers to trade, balance of payments adjustment and exchange rate determination, eurocurrency markets, and trade-related institutions.

International Economics (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: ECON 002, ECON 004 orECON 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 351 Money and Banking (3) Money, credit, commercial and central banking, financial intermediaries, treasury operations, monetary theory and policy, and foreign exchange. Students who have already taken Econ. 451 may not schedule this course.

Money and Banking (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 342 (GS) Industrial Organization (3) Industrial concentration, size, and efficiency of business firms, market structure and performance, competitive behavior, public policy and antitrust issues.

Industrial Organization (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 370 (GS) Comparative Economic Development (3) Problems of growth and development in non-industrialized countries and in economies in transition; institutions and economic development.

Comparative Economic Development (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: ECON 002 orECON 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 390 Statistical Foundations for Econometrics (3) Basic statistical concepts used in economics. Topics include probability distributions, expectations, estimation, hypothesis testing, correlation, and simple regression. Students who have completed ECON 490 may not schedule this course.

ECON 390 Statistical Foundations for Econometrics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Statistics is the science of using a limited amount of quantitative information to make inferences about the underlying, unknown world. ECON 390 is the first of a two-course sequence that introduces students to statistical analysis in the context of problems drawn primarily from economics and business. Starting from basic principles, ECON 390 develops a few key results that are essential for basic statistical analysis and are crucial background for the more advanced topics covered in ECON 490 and beyond.

The first part of the course will cover concepts related to probability - a way of determining the likelihood that a specific random event occurs - and provide many examples of the use of probabilistic reasoning. Using probability, we can describe random variables, and how they may be represented by probability distributions of either discrete or continuous type. next, we will discuss sampling from a population and the distributions of certain values that we can calculate from a sample, particularly the mean and variance. This leads us to the question of estimation - how to best use the evidence from a sample to inform us about the value of the unknown parameters of a population. Whether the result of any estimation is "important" in a statistical sense is addressed by hypothesis testing - the use of data as evidence in helping confirm or reject hypotheses an economist might have as to how the world works. Finally, time permitting, the course will synthesize many of the above ideas in introducing the most basic features of linear regression, which is the main focus of ECON 490, and is the fundamental tool of empirical economics (not to mention many other fields).

We will use techniques from high school-level algebra extensively in the course. The vast majority of homework and exam questions will involve analytical applied problem solving. While certain topics from introductory Calculus are alluded to from time to time in order to justify some important results, student work will not require Calculus.

Evaluation of student performance will be based on a combination of exams (two midterms and a final, counting for 65% of the overall course grade), homework assignments (15%), in-class exercises (10%), and attendance (10%).

The course is required for the B.S. in economics and an elective for the B.A. in economics.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2009 Ending: Fall 2010
Prerequisite: MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 397 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 397B Economics as a Career (1) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Economics as a Career (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 400M Honors Seminar in Economics (3-12) Readings, discussion, and oral and written reports on selected topics in economics.

Honors Seminar in Economics (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1993
Prerequisite: ECON 302, ECON 304 fifth-semester standing admission into Honors program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 401 History of Economic Thought (3) Survey of economic ideas from Greco-Roman times to the present.

History of Economic Thought (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 403W The Economics of Arts and Entertainment (3) Supply and demand of creative goods and services; industry structure; role of information; policy issues.

ECON 403W The Economics of Arts and Entertainment (3)

This course surveys the economics aspects of media, art, and culture. Utilizing the latest work from economic journals, students will look at the world of pop culture through an economic lens. The course is divided into four sections: 1) supply and demand, 2) industry structure, 3) the role of information, and 4) policy. The supply and demand section will consider the nature of creative goods, the supply of varying types of creative goods, and word of mouth demand. The industry structure considers the impact of economics of scale and trade, production networks, power, and bargaining. The role of information looks at the role of reviews, peer-sharing, and the impact of star power on artistic industries. The policy section will consider intellectual property rights; ethnic, racial, and gender equity in the performing arts; public financing of art; and the economic effect of concerts on geographic areas.

The primary objective of this course is to look at the world of pop culture through the lens of economics, and use the tools of economic analysis to analyze the economics of artistic industries. Students will develop their analytical skills in the course. In addition, since this is a writing-intensive seminar, students will also develop their skills in writing in economics.

This course is one of a series of writing-intensive 400-level seminars in seven broad areas of economics. This course is an applied microeconomics course. The course will count both toward the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 302 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 402 Decision Making and Strategy in Economics (3) Development and application of the tools for decision making under uncertainty and for game theoretic analysis of economic problems.

Decision Making and Strategy in Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: ECON 302;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 404 Current Economic Issues (3) An analytical survey of significant problems of current economic policy and the application of economic analysis to important social issues.

Current Economic Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2001
Prerequisite: ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 405 Seminar in Economic Analysis (3) Development and application of tools of economic analysis; recent analytical developments; policy problems. Primarily for senior-year economics majors.

Seminar in Economic Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1981
Prerequisite: ECON 302, ECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 404W Current Economic Issues (3) An analytical survey of significant problems of current economic policy and the application of economic analysis to important social issues.

Current Economic Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1993
Prerequisite: ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 406W The Economics of Social Conflict (3) Economic theory of the resolution of social conflicts: social choice theory, voting, noncooperative games, voluntary trade, and allocation by force.

ECON 406W The Economics of Social Conflict (3)

This course is devoted to the economic theory of the resolution of social conflicts. The first two-thirds of the course will cover economic models of social choice, majority rule, and voluntary trade. The latter part of the course will focus on the emerging theory of allocation by force.

The course is an advanced writing-intensive seminar in which students will learn about economic theories of social conflict. it is one of a series of 400-level seminars in each of seven broad areas of economics, and this course constitutes a seminar in microeconomic theory. The course counts toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 andMATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 407W Political Economy (3) Applications of the tools of game theory to analyze topics in collective decision making.

ECON 407W Political Economy (3)

The course covers two main topics. First, the course will analyze elections as a mechanism to aggregate preferences of the electorate. It will be shown that elections provide a good tool to strike a compromise between all members of the electorate if the scope of disagreement in the electorate is one-dimensional. A simple model of taxation in which citizens' preferences over tax rates are "one-dimensional" in the above sense will be developed. This model will be used to predict how tax rates in democratic countries change with the income distribution. It will be shown next that no satisfaction mechanism of preference aggregation exists in a slightly more general model of taxation. This result is a special case of the famous Impossibility Theorem by Arrow.

Secondly, conditions will be given under which elections are a good mechanism to aggregate information that is spread throughout the electorate. It turns out that theories of information aggregation yield a convincing theory about abstention. A model in which the less informed voters delegate the decision to the more informed voters by simply abstaining will be discussed. The discussion of political debates and the media will be framed in terms of an information aggregation model. Finally, the potential of information aggregation theories to explain social movements will be discussed.

Game theory provides a framework to think about many issues in the social sciences. This particular course focuses on some applications of game theory to politics. The first, and very specific goal, is to use the lens of game theory to understand the workings of various political institutions. The second, more general, goal is to enable students to apply game-theoretic reasoning to a wide range of topics in the social sciences. The third is to make the research frontier in the field of political economy as accessible as possible. It is hoped that students would get a better understanding of what graduate school would be like.

This course has as its broad objective to expose students to the use of the tools of game theory to analyze collective decision making. Students will learn how to use economic theory to analyze real-world situations of collective decision making. They will develop their analytical skills as well as their skills in writing in economics.

The writing-intensive course is one of a series of 400-level writing intensive seminars that the Economics Department is offering to its advanced undergraduates in seven different area of economics. This seminar is in the area of microeconomic theory.

The course will count toward the major and the minor in economics as a 400-level course. Further, it will count toward completion of a module (specialization) in the area of theory and quantitative methods.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 409W Economics of Terrorism (3) Terrorism throughout history; economic causes, costs, sources, and consequences.

ECON 409W Economics of Terrorism (3)

This microeconomics seminar examines the economics of terrorism. Beginning with a survey of terrorism through history and extending to terrorism in the 21st century, economic tools are deployed to better understand the causes and sources of terror.

Terrorism imposes substantial economic costs, but there are also significant costs with policies to combat terrorism. A society is better off if the threat of terrorism can be reduced, or even eliminated, just as it is better off if the threat of crime can be reduced or eliminated. There are some economic roots of terrorism, but these have more to do with the incentives and constraints that individuals and organizations face than with any specific set of easily quantifiable factors that push people toward involvement in terrorist organizations. This suggest that policy responses to terrorism need to multi-faceted and flexible. Security policies, for example, need to be more cost effective, in order for both to achieve results and to limit the negative consequences of devoting excessive resources to security purposes. Similarly, aid policies need to concentrate on achievable objectives, both to obtain positive results and to provide a more representative and optimistic outlook on the future. Policies need to be targeted at filling in the voids left by weak states and shifting incentive structures within societies away from the use of violence.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 408W Intellectual Property (3) A comparative and cost-benefit analysis of intellectual property that examines patents, copyrights, government supported research, and prizes.

ECON 408W Intellectual Property (3)

We live in a society that has a decentralized system based on the institutions of private property and trade. In such a system, things belong to people and can be transferred by their owners to other people. An exchange that moves something to someone who values it more than its present owner produces a net benefit, which may be shared between the parties to the exchange. Thus such a system tends to move everything to those who most value it, producing an efficient allocation of goods and services. The logic and limitations of this process make up the branch of economics called price theory.

The course undertakes an examination of intellectual property, a subfield of property rights.

In the context of intellectual property, there are five specific areas of note: patent races, poorly constructed incentives, standards, licenses, and an examination of costs.
There are three factors relevant to the costs of providing legal protection to some particular sort of intellectual property. One is how easy it is to define and defend property in that sort of idea. Another is the degree in which someone who creates and claims ownership in that particular sort of intellectual property reduces, by so doing, the options available to other people. The more serious these problems are, the less the gains from defining and enforcing property rights in ideas. Where they are sufficiently serious, we are better off with an intellectual commons--a legal regime in which certain classes of ideas are free for all to use than with intellectual property. These three costs must be balanced against the benefits--production of more and better intellectual property and better coordination of intellectual property once produced. The larger these benefits are likely to be, the greater the costs we are willing to bear in order to get them.

The course objectives are to apply the framework of comparative and cost-benefit analysis to the study of intellectual property. The course will examine the empirical evidence, and also consider policy issues in this area.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 410 Economics of Labor Markets (3) Economic analysis of the employment relationship from the microeconomic perspective, with emphasis on current labor-market problems and public policy issues.

Economics of Labor Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 412 Labor Economics and Labor Markets: Theory, Evidence, and Policy (3) Advanced topics in labor economics: theory, empirical evidence, and policy.

ECON 412 Labor Economics and Labor Markets: Theory, Evidence, and Policy(3)

This course is an advanced course in labor economics. Its coverage of topics overlaps somewhat with the topics covered in ECON 315, but typically the treatment of the topics considered will be distinctly more rigorous for this 400-level course. The broad areas that will be focused on in the course include labor supply, investment in human capital, labor demand, wage determination, search and unemployment, and earnings inequality.

The objective of this course is to introduce students to topics in labor economics with a rigorous and advanced analytical approach. For each topic, the course will consider the underlying theory, pertinent empirical evidence, and implications for public policy. The instructional and educational objectives are to provide students with a strong background in labor economics. This will allow them to take advanced seminar courses in the labor field.

This course is an advanced introduction to labor economics, and as such has a prerequisite of either ECON 302 or ECON 315. In turn, this course will serve as a gateway to advanced seminar courses in labor economics at the 400 level that the Economics Department is in the midst of creating. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: ECON 302 orECON 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 411W Behavioral Economics (3) Topics in behavioral economics; selected games; evolutionary models of social behavior; culture and social behavior; herding; overconfidence.

ECON 411W Behavioral Economics (3)

Behavioral economics examines recent evidence from experiments that seems to violate the hypotheses of economic rationality in traditional microeconomic theory. The course considers, among others, the following three topics: (1) Altruism in human behavior, as demonstrated, for example, in public goods experiments where people typically contribute some positive amount, even with the individually optimal strategy being to contribute nothing. (2) The prevalence of co-operative behavior in societies, which seems essential to their functioning, but which is hard (but not impossible) to explain on the basis of the actions of purely self-interested individuals. (3) Fairness in distribution: for example, people do not try to extract everything that their partners or opponents can give even when they are in a position of power (as in being the proposer of a take-it-or-leave-it offer).

Students play some well-known games with each other to generate examples of their own behavior in multi-person interaction contexts; the results of the games are analyzed to detect regularities in the observed behavior; and the class discusses possible explanations drawn from economics, evolutionary biology and psychology as to why people (specifically the students) played the way they did in these games.

Overall, then, students will learn about various aspects of behavioral economics, including several games and evolutionary models of social behavior, and how these aspects square with conventional economic theory. Students will develop the skill of analyzing behavior from a behavioral economics perspective.

This course is a 400-level seminar, part of the Economics Department's offerings, many of them writing-intensive, for our advanced students in each of seven broad areas of economics. This writing-intensive seminar is in the area of microeconomic theory. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 413W Economic Growth and the Challenge of World Poverty (3) Economic prosperity in historical perspective; recent successes (East Asia, China, India); ongoing challenges (the bottom billion; sub-Saharan Africa).

ECON 413W The Challenge of World Poverty (3)

This course will first consider economic growth and the spread of economic prosperity in historical perspective. Then contemporary success stories, including the East Asian miracle and growth in China and India, will be studied. The last part of the course focuses on the poor worldwide, and examines poverty traps in Africa, why aid doesn't work, and why globalization hasn't helped.

Students are expected to learn about the barriers to reducing world poverty and proposals aimed at alleviating poverty. Students will also learn about the growth and diffusion of economic prosperity, with both historical and contemporary examples. Students will develop analytical skills as we4ll as writing skills.

This course is one of a series of 400-level seminars, many of them writing-intensive, for our advanced students in each of seven broad areas of economics. This writing-intensive seminar is in the area of economic growth and development. The course will count toward both the major and the minor in economics.

Students will read four books about world poverty, write short book summaries, and write a term paper focuses on one feasible solution to alleviating poverty in Africa. In addition, there will be a midterm exam and a final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 415W The Economics of Global Climate Change (3) Evidence on climate change; economic models of the environment and market failure; cost-benefit analysis of policy options; carbon markets.

ECON 415W The Economics of Global Climate Change (3)

The first part of the course reviews the scientific evidence on global climate change (IPCC studies). This is followed by an analysis of market failure in the production of greenhouse gas emissions, and consideration of carbon markets as a policy response. A cost-benefit study of the control of greenhouse gases (the Stern Report) is examined, and the concluding part of the course looks at a computer model of economic activity and the environment.

Students will learn about the scientific evidence on global climate change, and the associated economic implications, market failures, and policy options to mitigate those market failures. Students will develop skills to assess policy options in this area, and they will become conversant with applied cost-benefit analysis and a computer model of economic activity and the environment.

This course is one in a series of 400-level seminars, many of them writing-intensive, for advanced economics students in each of seven broad areas of economics. This writing-intensive seminar is in the area of applied microeconomics. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 428

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 414W The Economic Way of Looking at Life (3) Economics/life according to Gary Becker: criminal behavior; economics of the family (marriage, divorce, intrahousehold resource allocation, bequests), policy issues.

ECON 414W The Economic Way of Looking at Life (3)

Gary Becker is the ultimate economics imperialist, applying economic analysis to areas of life that hitherto had been thought to be outside of the scope of economics. Becker's work, for which he won a Nobel Prize in Economics in 1992, has changed the way economists and others think about a variety of types of human behavior that take place outside of markets. This course, the title of which is also the title of Becker's Nobel Prize Lecture, exposes students to Becker's approach to looking at life.

Students will learn the Becker perspective on a variety of types of nonmarket human behavior, but most prominently the course will focus on criminal behavior and family economics (formation and dissolution of families and interactions among family members). Students will develop the ability to think like an economist when considering nonmarket interactions among people, and since this is a writing-intensive course they will also enhance their writing skills.

This course is one of a series of 400-level writing-intensive seminars in seven broad areas of economics. This seminar is in the area of labor economics and will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 417W The Economics of Uncertainty (3) Uncertainty is examined in contracts, with an emphasis on limited liability. Asymmetric information and economic puzzles are also considered.

ECON 417W The Economics of Uncertainty (3)

This course studies the allocation of resources under uncertainty. Decisions without perfect information require the use of probability theory and expected utility preferences. The seminal work of Arrow and Debreu is used as a starting point. Probability and utility theory are then used to interpret insurance contracts. Limited liability is introduced and the Modigliani-Miller Theorem is applied to loan guarantees, deposit insurance, and insurance claims. Finally, asymmetric information is discussed and the resulting problems of moral hazard and adverse selection are addressed.

The course objectives are to introduce students to the theoretical framework used by economists to study uncertainty and to apply that framework in order to explain various regularities observed when decisions are made without complete information, to examine the empirical evidence, and to consider policy issues in this area.

The course will count toward both the major and a minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 418W A Comparative and Cost-Benefit Analysis of State Government Activities (3) This course examines federalism with a particular focus on the activities undertaken by the state of Pennsylvania.

ECON 418W A Comparative and Cost-Benefit Analysis of State Government Activities (3)

This course provides a framework for a comparative and cost-benefit analysis of state government activities. Our federal system of government gives rise to large disparities among the activities undertaken by state governments. This course will focus on activities undertaken by the state of Pennsylvania. Students will pick out particular activities - e.g., state aid and loans to students in higher education, lottery revenues, incidence, state regulation of the sale of alcoholic beverages, and the operation of toll roads and produce a comprehensive project that will involve two related analyses: a comparative analysis comparing Pennsylvania to other states and a cost-benefit analysis.

The course objectives are to apply two frameworks regularly used by economists -- comparative and cost-benefit analysis -- to the study of state government activities. The course will examine the empirical evidence, and also consider policy issues in this area.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 422W Applying Monetary Theory to Monetary History (3) Monetary history is examined. Special attention is paid to commodity-based systems, private money, and government monopolies on currency.

ECON 422W Applying Monetary Theory to Monetary History (3)

This course provides a framework for the analysis of monetary history. In the past, there have been many advances in monetary theory. Some of the advances are directly inspired by the varieties of monetary systems that have existed in the past - for example, systems in which private banks issue currency (bank-notes). There is scope for reexamining existing analyses of many of those historical systems in the light of advances in monetary theory.

The course objectives are to introduce students to the theoretical framework used by economists to study monetary theory, and to apply that framework in order to explain various monetary systems the have existed in the past. We will examine the empirical evidence, and also consider policy issues in this area.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 451

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 421 Analysis of Economic Data (3) Economic analysis of data: sources, variable definitions, miscodings, missing observations, censoring and truncation, applications.

ECON 421 Analysis of Economic Data (3)

There are many data sets but the information contained within them for economic analysis is often unclear without substantial investigation. The reliability of data sources, the ambiguity in variable definitions, the miscoding of variables, and missing data are topics covered in the course. In addition, truncation and censoring from the data collection methodologies are examined. Several economic data sets are examined to illustrate the concepts.

This course is an applied course in the field of econometrics and will seek to provide students with the analytical methods for understanding the economic content of data. The instructional and educational objectives are to expose students to the practical details of analyzing economic data in the context of an advanced seminar. The course objectives are to familiarize students with the deficiencies of real-world data and how to address those deficiencies.

The Economics department seeks to provide students with a series of seminar courses in each of seven broad fields in the discipline; this is a course in the field of econometrics, and has a prerequisite of ECON 490 plus either ECON 402 or ECON 451. The course will count toward both the major and minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 451;ECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 423 State and Local Taxation (3) Representative state and local tax systems, including analysis of state-local fiscal relationships and proposals for tax revision.

State and Local Taxation (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: ECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 425 Economics of Public Expenditures (3) Analytic and policy aspects of public expenditure decisions; applications from areas of contemporary public interest.

Economics of Public Expenditures (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 424 Income Distribution (3) Inequality and poverty in the United States, measurement problems, determinants of inequality, arguments for and against equality, impact of redistributive policies.

Income Distribution (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992
Prerequisite: ECON 302, ECON 315 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 427 (EDLDR 427) Economics of Education (3) Theoretical and empirical concepts in economics applied to education.

ECON (EDLDR) 427 Economics of Education (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to introduce students to economic thinking about education and to view education in an economic perspective. The course focuses on basic principles and concepts of economic analysis and applies them to education. Education is considered as an industry with: impact on economy and economic lives of individuals; inputs & outputs; resource allocation decisions; production decisions; distribution decisions; costs and benefits associated with education. Key concepts included are: markets in education supply & demand for educational resources and products, resource prices, production functions; and cost-benefit and cost-effectiveness analyses applied to education. It will consider important issues such as, how education can affect the economy, how education can affect the economic lives of individuals, compensation for teachers, the value of a college or graduate education, the contribution of a university to the economic growth of a state or region, and the demands for greater cost-efficiency in public schools.
All levels of education are considered during the course. Examples and applications are drawn from elementary and secondary schools as well as from higher education, and both the public and private educational sectors are included.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2004
Prerequisite: ECON 302, ECON 315 orEDLDR 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 429 Public Finance and Fiscal Policy (3) Analysis of public revenue and expenditure structure primarily at the federal level; federalism; fiscal policy and public debt.

Public Finance and Fiscal Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: ECON 323;ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 428 Environmental Economics (3) Environmental pollution, the market economy, and optimal resource allocation; alternative control procedures; levels of environmental protection and public policy.

Environmental Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 430 Regional Economic Analysis (3) Analysis of personal and industrial location decisions, regional economic growth, migration patterns, and regional policy; emphasis on tools and techniques.

Regional Economic Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 432 Urban Economics (3) Theories and methods for economic analysis of such urban problems as housing, segregation, government services, and transportation.

Urban Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 433 Advanced International Trade Theory and Policy (3) Causes/consequences of trade; effects of tariffs and quotas; strategic trade policy; political economy of trade restrictions and other topics.

Advanced International Trade Theory and Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 333

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 434 International Finance and Open Economy Macroeconomics (3) Trade balance movements, exchange rate determination; monetary and fiscal policies in open economies; international policy coordination; the world monetary system.

International Finance and Open Economy Macroeconomics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1992
Prerequisite: ECON 304 orECON 333

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 435 Black American Economic Development (3) Analytical and theoretical aspects of Black American economic development: discrimination, development approaches, historical experience, public and private policies.

Black American Economic Development (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 436W (US) Economics of Discrimination (3) Analysis of the economic characteristics of women and minorities, with examination of race and sex discrimination and related government policies.

ECON 436W Economics of Discrimination (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course constitutes an examination of the economics of discrimination. More precisely, the course will focus on economic theories of discrimination and on efforts by economists to measure the extent of labor market discrimination. An important objective of the course is thus to learn how economists conceptualize and study discrimination. This, in turn, requires that we examine how economists view and study economic differences by race, ethnicity, and gender (these are the types of discrimination that will be focused on in the course, although we will also consider other types of discrimination). Following the existing economic literature, much of our emphasis will be on labor market discrimination, but we will also consider discrimination in education and in housing. The first substantive section of the course outline below involves examination of data on the economic characteristics of women and blacks in relation to white males, considering both the current situation and recent trends. Data on Hispanics will also be presented. This work will be done by the students, working in groups. We will look at how mainstream economists conceptualize economic differences by gender and by race/ethnicity, respectively. Then we will focus on formal models of discrimination and empirical issues in attempting to measure discrimination, and we'll also examine an alternative approach to understanding economic inequality. The concluding section of the course will examine public policy issues related to discrimination. The course will count toward either a major or a minor in economics, and will meet the writing requirement for students in economics.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: ECON 302 orECON 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 437W Multinationals and the Globalization of Production (3) This course will focus on trade, multinationals and offshoring, and explore their implications for the U.S. and developing countries.

ECON 437W Multinationals and the Globalization of Production (3)

This seminar examines the international economy and the effects of multinational activity on globalization.

Some of the key questions that will be examined include:
Is globalization really a new phenomenon?
Is it irreversible?
What are the effects on wages and inequality?
What are the effects on production and innovation?

These questions will be addressed through a careful reading of the historical timeline, an extensive analysis of capital flows, multinational enterprises and development. Students are expected to synthesize their findings into a final paper and present what they have learned to the class.

The Economics Department seeks to provide students with a series of seminar courses in each of seven broad fields in the discipline; this is a course in the field of Trade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 438W Winners and Losers from Globalization (3) The economic effects of globalization on individuals, governments, nation- states and business.

ECON 438W Winners and Losers from Globalization (3)

This seminar explores the various effects of globalization on individuals in the United States and abroad. It integrates material from a variety of sub-disciplines in economics, including international trade, international finance, growth theory, labor economics, industrial organization, and political economy. Discussion of each core topic is model-based and informed by empirical evidence from the recent economic literature. The objectives of the course are to (1) deepen students' understanding of the basic forces at play as globalization takes place, and their implications for individuals' well-being; (2) sharpen students' ability to critically evaluate policy issues, both theoretically and empirically; and (3) develop students' ability to craft tightly reasoned economic reports.

This course is an applied seminar in international economics. The impact of globalization is explored from a cost-benefit perspective. Winners and losers are identified using the tools and framework of economics. The instructional and educational objectives are to provide in-depth analysis of the consequences of globalization in the context of an advanced seminar. The course objectives are to analyze the winners and losers from globalization.

This is a course in the field of international economics. The course will count toward both the major and minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 433 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 440 Trade and Labor Markets (3) International trade and its impacts on markets in industrialized and development economies; low-skilled workers in the emerging global economy.

ECON 440 Trade and Labor Markets (3)

This seminar examines the relationship between trade and the labor market, in both industrialized and developing countries.

It is well known that the fortunes of less-skilled workers in the United States and Europe have fallen appreciably over the last few decades. At the same time, there has been an explosion of trade with less developed countries. These changes have sparked a significant debate among the economics profession about the impact of trade on labor market outcomes, with particular concern placed on the impact that globalization has had on low-wage workers with few marketable skills.

This course is an applied seminar in the area of international economics. The interplay between international trade and the labor market is examined with special attention devoted to the role of low-skilled workers in the emerging global economy. The instructional and educational objectives are to expose students to an advanced seminar course exploring labor market issues in international economics. The course objectives are to explore labor market consequences of international trade in both industrialized and developing economies.

This is a seminar course in the field of international economics. ECON 433 is a prerequisite. The course will count towards both the major and minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 439 Economics of Technology Diffusion (3) Technology Diffusion: Globalization, productivity measurement, intellectual property.

ECON 439 Economics of Technology Diffusion (3)

This seminar examines the relationship between technology diffusion, globalization of the world economy, and intellectual property. This course has four parts. It begins with a review of international trade. This is followed by an examination of globalization of the world economy. Then both the theoretical and empirical aspects of technology diffusion across national borders are analyzed. The course concludes with consideration of international aspects of intellectual property.

This course is an applied economics seminar in international economics. The interplay between globalization and technology diffusion is examined with special attention to intellectual property. The instructional and educational objectives of the course are to expose students to the economic and policy issues surrounding diffusion of technology, in the context of an advanced seminar. The course objectives are to understand the determinants and consequences of international technology diffusion.

The Economics Department seeks to provide students with a series of seminar courses in each of seven broad fields in the discipline; this is a course in the field of international economics, and has a prerequisite of ECON 433. The course will count toward both the major and minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 441 Introduction to Business Economics (3) The study of economic theory as it relates to the problems of the firm.

Introduction to Business Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002, ECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 442 Managerial Economics (3) Application of economic theory to managerial decision making; risk, uncertainty; models and statistical techniques.

Managerial Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 443 Economics of Law and Regulation (3) An economic analysis of property rights, contractual arrangements, illegal activities, and regulation; competitive problems due to externalities and market failure.

Economics of Law and Regulation (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 444 Economics of the Corporation (3) Coordination and incentive issues within a corporation. Topics include employment contracts, performance incentives and pricing of financial assets.

Economics of the Corporation (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1997
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 445 (H P A 445) Health Economics (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.

Health Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1994
Prerequisite: ECON 302, ECON 315 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 446W Economics of Industry Evolution (3) Dynamics of industry evolution; empirical evidence and theoretical modeling of firm entry, growth, and exit; entrepreneurship; investment and strategic behavior.

ECON 446W Economics of Industry Evolution (3)

Industries are not static entities. They continually evolve as new products and production techniques are developed. In response to changes in demand and technology, new firms enter while existing firms grow, decline, and exit. This course studies the dynamics of industry evolution using both empirical tools and theoretical models of firm decisions to analyze the following broad questions: How does a new entrant establish a foothold in an industry? How does the entry process differ between industries built around new products versus industries for well-established products? What is the role of entrepreneurship and human capital? How do firms affect their growth and survival prospects by investing in R&D and other types of innovation? How does the life-cycle of high-tech industries differ from consumer products or capital-intensive manufacturing or services? The roles of antitrust policy and regulation in affecting firm turnover and industry evolution are also addressed.

This course will seek to provide students with both theoretical and empirical methods to analyze the economic forces underlying the evolution of industries. Students will develop analytical and writing skills in the course.

This course is one of a series of advanced, writing-intensive seminars in each of seven broad fields in economics; this is a course in the field of industrial organization. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 444 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 445W (H P A 445W) Health Economics (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.

ECON (H P A) 445W Health Economics (3)

The healthcare sector comprises a set of markets that differ in some significant ways from the textbook model. In the US, this sector performs well in some respects and questionably in others. Notably, there has been sustained improvement over time in life expectancy and other indicators of the effectiveness of health care for most people, but the resources devoted to producing this improvement have been growing considerable faster than GDP. The goal of this course is to examine several broad questions raised by these facts.

The course begins with an overview of evidence on wealth, health expenditure, and life expectancy across countries, and then examines increasing life expectancy and medical expenditures in the US and their causes. Issues in measuring the value of medical expenditures are addressed, and an overview of the industrial organization of health care is provided. A major component of the course covers the economics of health insurance, and the course also examines medical R&D and the pharmaceutical industry as well as issues in the financing of medical care for the elderly.

The course seeks to introduce students to the economic analysis of health care. It is in the area of applied microeconomics, and deals with issues relating to labor markets and public finance, in particular. This writing-intensive course will be one of several 400-level W seminars that the Economics Department is seeking to establish, with the broad objective of exposing our advanced undergraduate students to economic analysis in a seminar setting requiring significant writing by the students.

The course counts toward the major and the minor in economics, as a 400-level course, In addition, it also counts toward a "module" (area of concentration) in human resource and public economics.

Student performance in the course will be evaluated based on three papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 302, ECON 315 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 447W Economics of Sports (3) Examination of economic issues pertaining to professional and collegiate sports, including analysis of industrial organization, labor markets, and local economies.

ECON 447W Economics of Sports (3)

Sports play a pervasive role in life in these United States, and this course examines a wide-ranging set of issues in considering the economics of sports. Students will learn about various aspects of sports in the United States, including the "players" (players, owners, fans), the institutional settings (sports leagues), and the effects of sports on the cities in which they are played. Students will develop the skills to analyze a wide variety of issues in sports economics. The course will touch on aspects of three distinct fields in economics: labor economics, industrial organization, and urban economics.

This course proposal is one of a series of 400-level seminars, many of them writing-intensive, for advanced students in economics in each of seven broad areas of the discipline. This writing-intensive seminar is in the area of applied microeconomics. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: ECON 302 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 448W Economics of Auctions and Procurements (3) Theoretical and empirical analyses of auctions and procurements; different modeling environments; econometric analysis of auction and procurement data.

ECON 448W Economics of Auctions and Procurements (3)

This course provides the basic framework for theoretical and empirical analyses of auctions and procurements. The course begins with the foundations of game theory. Both complete and incomplete information models are emphasized. The main auction and procurement modeling environments are then covered. Included among these are the independent private value model, common value model, affiliated private value model, and basic forms of asymmetry. Several data sets are provided for discussion and analysis including FCC spectrum auction data, timber auction data, and road procurement data. Empirical models are proposed for the econometric analysis of the auction and procurement data.

This course seeks to provide students with the analytical methods of both the theoretical and empirical analysis of auctions an procurements. Students should develop their analytical skills pertinent to the economics of auctions and procurements, and they will also develop their skills in writing in economics.

This course is part of a series of advanced writing-intensive seminars in each of seven broad fields in economics. This is a course in the field of applied microeconomics. The course will count toward both the major and a minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 449W Economics of Collusion (3) Theoretical and empirical analysis of collusion among firms, case studies of cartel behavior, bidding behavior at auctions and procurements.

ECON 449W Economics of Collusion (3)

Collusion by firms -- the explicit suppression of interfirm rivalry -- is profitable. However, it is often difficult to accomplish meaningfully. This course provides frameworks to analyze interfirm interactions, both theoretically and empirically. In addition, several case studies of cartel behavior in the U.S., Europe, and elsewhere are presented. Bidder behavior at auctions and procurements will also be examined to understand some of the underlying issues of collusion. Following an introductory section, the course examines first the law regarding collusion and then the history of collusion, focusing on notable cases in the U.S. and Europe. Economic models of collusion are then reviewed, along with the distinction between tacit and explicit collusion. The final substantive section of the course examines issues encountered in prosecuting collusion. The broad objective of the course is to use the tools of economics to analyze the interactions of firms in settings where collusion may occur. Educationally, then, the course seeks to expose students to the application of economic analysis in a context with major economic and legal implications. This is an advanced undergraduate course in the field of Industrial Organization (IO), and hence will add to our offerings in the IO field (our beginning IO course is ECON 342). Econometrics (ECON 490) is also a prerequisite because of the empirical analyses that will be an important component of the course. The course is one that may be used to satisfy requirements for the major and the minor in economics, as a 400-level course. It may also be used to complete a module (area of specialization) in the Economics of Business and Law. And it will serve as one of the Economics Department's writing-intensive 400-level seminars. Student performance will be evaluated via two midterm exams and a substantial term paper. The exams will each count for 15% of the overall course grade, and the term paper will count for the remaining 70% of the course grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 302 orECON 342 andECON 490 or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 450 The Business Cycle (3) Measurement and theories of the business cycle; stabilization policies; forecasting.

The Business Cycle (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 304 orECON 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 451 Monetary Theory and Policy (3) Monetary and income theory; monetary and fiscal policy.

Monetary Theory and Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: ECON 304 orECON 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 452W Financial Crises (3) Examination of causes and consequences of financial crises; asset pricing theory, market efficiency, speculative bubbles; policy considerations.

ECON 452W Financial Crises (3)

This course focuses on the causes and consequences of financial crises. We study famous crashes from the South Sea Bubble to Long-Term Capital Management, as well as international financial crises such as the Asian Crisis of 1997-98 and the Argentine Crisis of 2001. We examine both the history of the crises and the economic factors that are the fundamental causes, in part with a view to determining if these crises were the inevitable outcome of speculative markets, or the result of regulatory error.

The instructional and educational objectives of the course are to provide students with the opportunity to explore financial crises in a small, advanced seminar setting. The course objectives are to provide students with a theoretical framework for examining financial crises, to examine evidence on historical and more recent financial crises using that theoretical framework, and to consider policies aimed at avoiding and/or alleviating the effects of financial crises in light of the theoretical framework and the empirical evidence.

The course is part of a curriculum overhaul of 400-level courses in economics, in which advanced seminar courses are being created in seven broad areas of economics. This seminar is in the area of macroeconomics. This course may be used to meet major or minor requirements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 451

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 454 Economics of Mergers (3) Economic analysis of horizontal and vertical mergers; econometric issues in measurement of unilateral and coordinated effects; policy issues.

ECON 454 Economics of Mergers (3)

It is not uncommon for two separate and distinct corporate entities within an industry to merge and become one firm. This course examines the economics of mergers as well as economic policy with regard to mergers. There often are both pro-competitive and anti-competitive effects of mergers. In the U.S. the Federal Trade Commission has primary responsibility for assessing the balance between effects. This course examines unilateral effects and coordinated effects as identified in the horizontal merger guidelines. Vertical mergers are analyzed as well. Econometric issues associated with the measurement of unilateral and coordinated effects are discussed. The course concludes with ex post merger reviews.

This course is an applied microeconomics seminar in the field of industrial organization and will seek to provide students with the analytical methods of both the theoretical and empirical analysis of mergers. The course will count toward both the major and minor in economics. This course is one of a series of advanced seminar courses in each of seven broad fields in the disciplines; this is a course in the field of industrial organization, with prerequisites of ECON 444 and ECON 490.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 444 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 453 Monopolization and Vertical Restraints (3) Monopolization and vertical restraints: exclusive dealing, bundling, tying, predation and entry deterrence; empirical evaluation.

ECON 453 Monopolization and Vertical Restraints (3)

Monopoly is not illegal in the United States but efforts by single dominant firms to attain a monopoly position in the marketplace are illegal. This course examines the kinds of behaviors in the marketplace that single dominant firms often engage in that lead to the accusation of monopolization conduct. Included among these are territorial and customer restraints, exclusive dealing, bundling, and tying. Other types of monopolization conduct include predation and entry deterrence. The pro-competitive and anti-competitive effects of these conducts are examined. The course also examines empirical methods used to evaluate vertical restraints and monopolization within an industry. Throughout the course, case studies are examined.

This course is an applied microeconomics course in the area of industrial organization and will seek to provide students with the analytical methods of both the theoretical and empirical analysis of vertical restraints and monopolization. Students will develop their analytical skills in economics and their writing skills.

This course is one of a series of advanced seminar courses in each of seven broad fields in the discipline; this is a course in the field of industrial organization. The course will count toward both the major and minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 444 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 455W Economics of the Internet (3) Economics of the Internet; electronic commerce and network economics; pricing issues; intellectual property.

ECON 455W Economics of the Internet (3)

The Internet has become an important part of the economy in the United States and worldwide. Often we think of the information available on the Internet as a free good, much like the air we breathe. However, the Internet is an active marketplace with unique characteristics. Internet access providers sell keywords and advertising space by means of special auction and exchange mechanisms. Intellectual property is an important and evolving concept within the Internet, especially given its worldwide application.

This course is an applied microeconomics course and will seek to provide students with the analytical methods of both the theoretical and empirical analysis of the economics of the Internet. The course will count toward both the major and minor in economics. This proposal is part of a broader curriculum overhaul to 400-level economics courses. The Economics Department seeks to provide students with a series of advanced seminar courses in each of seven broad fields in the discipline; this is a course in the field of applied microeconomics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 457W Economics of Organizations (3) An advanced course in the economics of organizations. The focus is on coordination, incentives, contracts, and information in corporations.

ECON 457W Economics of Organizations (3)

An advanced course in the economics of organizations. The focus is on coordination, incentives, contracts, and information in corporations. The goal of the course is to analyze coordination, incentives, contracts, and information in corporations. The formal tools used in the course will be drawn from game theory, contract theory, mechanism design, and information economics.

All students are required to have taken Strategy prior to enrollment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 463 (IL) Economic Demography (3) Microeconomics of demographic behavior; interrelationships between demographic and economic factors, in developing and industrialized economies; economic welfare and policy implications.

Economic Demography (3)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006
Prerequisite: ECON 302 orECON 304 ; or 9 credits in demography

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 462 American Economic Development (3) Quantitative aspects and theories of American economic development; resource and technological considerations; economic policies and growth.

American Economic Development (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 463W Economic Demography (3) Microeconomics of demographic behavior; interrelationships between demographic and economic factors, in developing and industrialized economies; economic welfare and policy implications.

ECON 463W Economic Demography (3)

Economic demography is concerned with the interrelationships between economic phenomena and demographic phenomena. Fundamental demographic variables - fertility, mortality, migration, age composition - are related to economic factors, as both consequences and determinants. This course uses an economic perspective to study population phenomena and issues, with a focus on both theoretical and empirical analysis of demographic questions. Indeed, a major objective of the course is to provide you with the analytical tools from economics that are useful in analyzing issues in demography.

The instructional and educational objectives of this course are to teach students about economic demography in an advanced, writing-intensive seminar. The objective of the course is to provide a disciplinary perspective from economics on numerous issues in the multidisciplinary field of demography. This course is an advanced course that touches on topics in two different fields of economics: labor economics and growth and development. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 412 orECON 471 or 9 credits in demography

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 466W Panel Data Models (3) Random and fixed effects, endogeneity, balanced and unbalanced panels, censoring of spells, differences in differences, applications.

ECON 466W Panel Data Models (3)

Panel data sets, consisting of repeated interviews over time of a panel of individuals (in effect, a time series of cross-sectional data on the same individuals) offer multiple opportunities for sophisticated econometric analyses, while at the same time posing some unique problems. This course will cover advanced econometric techniques for dealing with panel data. Random- and fixed-effects models are addressed initially, followed by consideration of endogeneity, balanced and unbalanced panels, censoring of spells, and differences in differences. The concluding part of the course will focus on applications.

The objective of the course is to provide students with exposure to models and techniques designed to deal with panel data (e.g., data on a set of individuals at various points in time), and to equip them with the skills to utilize those techniques in practical applications of data analysis.

In particular, students will learn to exploit the panel nature of a data set to allow for individual-specific heterogeneity (e.g., random and fixed effects). They will learn how to address endogeneity problems, which can arise for various reasons including forward-looking behavior of individuals. Because data are often not available for the same set of (e.g.) individuals at all points in time, care must be taken to deal with such unbalanced panels, especially when such data are absent because of actions of the individuals.

In addition, since this is a writing-intensive course, an additional objective is to provide students with the opportunity to develop their skills in writing in economics.

This course is one of a series of 400-level seminars, many of them writing-intensive, for advanced students in each of seven broad areas of economics. This writing-intense seminar is in the area of econometrics. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 302 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 465W Cross Sectional Econometrics (3) Discrete choice models, censored and truncated regression models, longitudinal models, applications.

ECON 465W Cross Sectional Econometrics (3)

This course extends the econometric analysis of Introduction to Econometrics (ECON 490) to consider three broad categories of models: discrete choice models, censored and truncated regression models, and longitudinal models. Approximately three-quarters of the course will consist of examination of models in these three areas and the issues that those models address. The last four weeks of the course will then focus on applications of these models.

Discrete choice models are used for the analysis of decisions by economic agents facing a fixed number of choices (whether to work or not, which are to buy, etc.). Students will learn how economists model such decision problems and how they can be analyzed empirically.

Censored and truncated regression models can arise for multiple reasons, e.g., because economic agents are generally constrained to consume a nonnegative amount of a given product, which introduces nonlinearities into the relationship of interest. Students will learn how economists model such problems and how they can be analyzed empirically.

Longitudinal models are, e.g., used to analyze durations of (un) employment spells. Students will learn how to analyze such data sets empirically.

Overall, then, students will learn advanced econometric techniques for dealing with discrete choice models, censored and truncated regression models, and longitudinal models. The skills to be developed consist in being able to apply these techniques in practical applications of data analysis.

This course is one of a series of 400-level seminars, many of them writing-intensive, for our advanced students in each of seven broad areas of economics. This writing-intensive seminar is in the area of econometrics. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 302 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 470 (IL) International Trade and Finance (3) Economic analysis of why nations trade, barriers to trade, the international monetary system, and macroeconomic policy in an open economy.

International Trade and Finance (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 471 Growth and Development (3) Problems of capital formation, institutional considerations, theories of economic growth.

Growth and Development (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1997
Prerequisite: ECON 302 orECON 304 orECON 370 orECON 372

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 472 Transition to Market Economies (3) Economics of transition to a market economy; problems of former Soviet-type economies; privatization, stabilization, and institutional change.

ECON 472 Transition to Market Economies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

With the demise of communism in Central and Eastern Europe, former socialist economies are in the process of transition from centrally-planned to market economies. Transition is a comprehensive change, involving all aspects of the economy, including labor markets, capital markets, and the organization of industry, especially privatization. The focus of this course is on the experience of economies in transition and the problems encountered. Special emphasis will be given to the experience of Russia and the other countries of the former Soviet Union. In addition to Central Europe and the former Soviet Union, we will also examine the experience of China.

The broad objectives of the course are to provide students with economic analyses of the wide range of issues that arise in considering economies in transition, and to assess the record on transition. The course will examine the following topics: the legacy of central planning; how to organize transition; macroeconomic stabilization in transition economies; privatization; restructuring, ownership change, and improvements in performance; and institutional development and transition. In addition, the concluding section of the course will examine the record transition.

As a 400-level course in economics, this course may be used to meet requirements for the major and for the minor in economics. It requires ECON 302 or ECON 304 (intermediate microeconomic theory and intermediate macroeconomic theory, respectively) as a prerequisite. And the course may be used toward completing a module (area of concentration) in economics in the area of International, Development, and Transition Economics.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2005
Prerequisite: ECON 302 orECON 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 473 (IL) China in the Global Economy: History, Culture, and Society (3) Analysis of China's role in the global economy and the impact on U.S. as well as global business and society.

China in the Global Economy: History, Culture, and Society (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 474 East Asian Economies (3) Development, structure, and policies of the economies of East Asian pacific rim nations.

East Asian Economies (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1992
Prerequisite: EA ST 187 orECON 370;ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 476W The Economics of Fertility in the Developing World (3) Demand for children, supply of children, and costs of fertility regulation; fertility transition; public policies to affect fertility.

ECON 476W The Economics of Fertility in the Developing World (3)

Population growth provides more hands on work, and more mouths to feed. Consequently, it has important implications for numerous aspects of a nation's economic development (and vice versa). And population growth, in turn, largely reflects fertility behavior. This course will introduce students to an economic approach to fertility behavior, emphasizing the demand for children, the supply of children, and the costs of fertility regulation. This economic framework for fertility analysis will then be used to examine fertility transitions, past and present, with particular emphasis on the current and prospective status of fertility transition in the developing world. The course will also consider public policies that seek to influence fertility behavior.

Students will learn about the economic approach to fertility behavior and they will apply that approach to consideration of fertility and fertility transition in developing countries. This writing-intensive course will enhance their writing and their data analysis skills.

This course is in the broad area (field) of development economics. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 471 andECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 475W Migration and Development (3) Human Capital Approach to Migration; Economics of Family Migration; Evidence: Micro and Macro Perspectives; Migration Policies.

ECON 475W Migration and Development (3)

This course introduces students to migration in the developing world. What factors influence such migration, and how does migration affect economic development? The course provides a theoretical framework for examining migration (a human capital approach), and takes into consideration aspects specific to migration in the developing world, family considerations, and different types of migration. Immigration and remittances are also considered. The course examines empirical evidence on migration, and considers public policies that seek to influence migration and development.

The course objectives are to provide students with a theoretical framework for examining human mobility and economic development, to examine evidence on migration using that theoretical framework, and to consider policies aimed at influencing migration and development in light of the theoretical framework and the empirical evidence. The integration of these three activities will develop student's skills in economic analysis and the writing aspect of the course will enhance their writing skills.

This course is one os a series of writing-intensive seminars in seven broad areas of economics. This seminar is in the area of economic development, with relevance as well to labor economics. This course may be used to meet major or minor requirements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 471 orECON 412;ECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 477 Labor Markets in Developing Countries (3) Labor demand and supply in developing countries; urban and rural labor markets, modern and informal sectors; policy issues.

ECON 477 Labor Markets in Developing Countries (3)

In the course of economic development, labor markets emerge and evolve. While some elements of standard labor market analysis, such as the emphasis on demand for labor and supply of labor, remain most relevant here, there are also institutional aspects that are specific to developing countries. This course will examine labor markets in rural areas and in urban areas, and the factors influencing these markets in both settings. Traditional labor market variables (labor force participation, employment and unemployment, earnings) will be examined for several case studies, and policy issues will also be considered.

The proposed course is an advanced seminar in the broad area of development economics. The course objectives are to enable students to learn about labor markets in developing countries, how they are different from as well as similar to those in industrialized countries, and the problems and policy issues that pertain to these labor markets. Students will develop their analytical skills in this area, and their writing skills in economics. This course is one of a series of advanced seminars in seven fields of economics. This course is in the broad area (field) of development economics, and has a prerequisite of ECON 471. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 471 orECON 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 479W Economics of Matching (3) Economic application of matching to employment, marriage, organ markets, and medical residents.

ECON 479W Economics of Matching (3)

There are many resource allocations that are not unilateral decisions but instead require approval from two sides of the market. Examples include employment and marriage. This course provides the theoretical constructs for the analysis of matching in market environments. Two applications of current interest - human organ allocations and medical resident employment - are given special attention.

Following a review of game theory, the course develops the theory of matching. This is followed by economic applications, in the areas of employment, marriage, human organs, and medical residents.

This course is an applied economics course with relevance to the areas of microeconomics, macroeconomics, and labor economics. The course objectives is for students to learn the analytical methods for understanding the economics of matching. Students will develop skills in applying matching models and analysis to practical situations.

The course is one of a series of 400-level writing-intensive seminars in each of seven broad fields in economics; this is a course with relevance to microeconomics, macroeconomics, and labor economics. The course will count toward both the major and minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 402 orECON 412 orECON 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 478 Incomplete Markets (3) Rural land markets, fragmented credit markets, risk and insurance, human capital and labor markets, innovation and technology spillovers, coordination failures.

ECON 478 Incomplete Markets (3)

An important part of the process of economic development consists of the emergence of highly developed, well-functioning markets. Developing economies, then, are often characterized by incomplete markets. This course studies such markets. With respect to the agricultural economy, incomplete markets are evident for land, credit, and insurance. Other areas covered by the course include human capital and labor markets, innovation and technology spillovers, and coordination failures.

The objective of this course is to provide students with the opportunity to learn about the incomplete markets that are often found in developing nations. Students will develop their skills in analyzing markets in developing countries, and in writing in economics.

This course is a specialized seminar in the broader area of economic development, and hence has ECON 471 as a prerequisite. It is one of a series of advanced seminars in seven major areas of economics. The course will count toward both the major and the minor in economics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 480 Mathematical Economics (3) Mathematical techniques employed in economic analysis; formal development of economic relationships.

Mathematical Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992
Prerequisite: ECON 302, ECON 304, MATH 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 482 Advanced Business Forecasting Techniques (3) Advanced forecasting, time-series models, Box-Jenkins methodology, model identification, estimation, and diagnostic checking.

Advanced Business Forecasting Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 481 Business Forecasting Techniques (3) A survey of contemporary business forecasting techniques, with emphasis on smoothing, decomposition, and regression techniques.

Business Forecasting Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 483 Economic Forecasting (3) Forecasting time series, using linear regression models and econometric software; useful forecasting models; financial and seasonal time series; trends.

ECON 483 Economic Forecasting (3)

This course is an applied econometrics course, and will seek to provide students with hands-on experience in forecasting. The goal of this course is to teach the students how to forecast time series, using econometric software, and what kinds of models are useful for that purpose. Topics to be covered include a review of regression analysis, with applications to forecasting; introduction to an econometric software package; introduction to time series regression analysis, with applications; the Box-Jenkins approach to time series modeling and forecasting; modeling and forecasting seasonal time series; deterministic and random trends, and how to distinguish them; and modeling and forecasting volatility of financial time series. The course will count toward both the major and the minor in economics. This course is one of a series of 400-level seminars in each of seven broad areas of economics; this is a seminar in econometrics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: ECON 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 485 Econometric Techniques (3) Applying statistical techniques to test and explain economic relationships; integration of economic theory with observed economic phenomena.

Econometric Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 002 orECON 004;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 489M Honors Thesis (1-6) No description.

Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1993
Prerequisite: ECON 302, ECON 304 and admission into the departmental honors program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 490 Introduction to Econometrics (3) Use of simple and multiple regression models in measuring and testing economic relationships. Problems including multicollinearity, hetroskedasticity, and serial correlation.

ECON 490 Introduction to Econometrics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for a wide range of students, including those interested in a variety of fields in business (e.g. finance and management studies) and economics, to those in the sciences and engineering who are interested in learning about data analysis and regression techniques. The course is also a good starting point for learning about empirical economics, and may thus be useful for those intending to pursue graduate studies in economics and business. Economics 490 is designed to reach a large audience, and the ultimate goal of the course is to show students that the "application of statistics to the study of economics" is not only fun, but also indispensable for a well rounded economics education. Put another way, the primary focus of the course is on applied or empirical economics. Leaning about empirical methods in this course entails extensive computer work which focuses on the analysis of economic data using currently available software packages (some completely mouse driven), such as SAS, EASYREG, GAUSS, STATA, and EVIEWS. Computer analysis ranges from constructing and interpreting plots of economic data, to forming, fitting, and interpreting regression models. In addition to the computational component of the course, students are familiarized with numerous tools used in applied work, such as mean and variance, hypothesis testing (using statistics with t-,F-, and Chi-Squared distributions), regression model building, regression model estimation, and coefficient analysis. All of the tools learned throughout the course are used in the computational exercises. Completion of this course is useful particularly for students pursuing careers in business, economics, government, banking, insurance, finance, management, consulting, and academics, for example.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2000
Prerequisite: MATH 110, ECON 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Economics (ECON)

ECON 499 (IL) Foreign Study--Economics (2-6) Study in selected countries of economic institutions and current economic problems.

Foreign Study--Economics (2-6)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: ECON 002, ECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 405 (C I 405) Strategies in Classroom Management (3) Managing and coping with disruptive student behavior in instructional settings so that they support the teaching/learning process.

EDLDR (C I) 405 Strategies in Classroom Management (3)

This course has been designed to engage students in in-depth examination of the process of creating and sustaining a classroom learning community that fosters and enables success for all children. Emphasis is placed on understanding a variety of theoretical models of classroom management as well as observing and studying individual children to develop a better understanding of their needs. The result should be the development of a coherent set of beliefs concerning the creation of classroom learning environments that support learners and meet their individual needs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: teaching experience or supervised practicum experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 409 Leadership Studies in Popular Film (3) In-depth analysis of leadership dynamics revealed in popular film. Focus on cinematic depictions of theory and practical application of leadership.

EDLDR 409 Leadership Studies in Popular Film (3)

Leadership Studies in Popular Film aims at enhancing students' understanding and application of leadership in three primary ways. First, using the films as case studies, students will critically analyze, evaluate, and discuss the moral, ethical, and administrative challenges, decisions, and behaviors portrayed in the films. Second, these challenges, decisions, and behaviors will serve to highlight and illustrate important leadership concepts and how they might be applied to authentic situations in schools and other organizational settings. Finally, the films will challenge and spark students' imagination and inspire them to consider new possibilities for practice and research.

During the course, students will view 10-12 classic popular films, each revealing a set of key leadership concepts and problems. Students are expected to rigorously participate in whole class and on-line discussions about the meanings expressed in the films. These discussions will be coupled with and enhanced by the instructor's presentation of relevant concepts of leadership and organizational theory. Students are also expected to maintain a continuing reflective log of each film's plots and characters, the practical and theoretical problems presented, and their own reactions to and ideas about each film. Using these logs as a starting point, students will be expected to write three short (3-4 pp.) essays and one more substantial final essay (10-12 pp.). Rather than simple plot narratives, it is expected that these essays will thoughtfully analyze and synthesize actions and concepts from the films, and attempt to apply them to school or other organizational settings. Students' grades will be based on the completeness of their logs, the analytic quality of their papers, and the frequency and quality of their contribution to on-line and in-class discussions.

The course is intended for graduate, undergraduate, and certification students. Indeed, the course has benefited in the past from having students with diverse backgrounds and levels of professional experience. The course effectively complements and reinforces other EDLDR courses, such as Introduction to Educational Leadership (EDLDR 480), The Principalship (EDLDR 568), Leadership in Today's Schools (EDLDR 597), and Schools as Organizations (EDLDR 580).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: EDTHP 115 junior standing or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 427 (ECON 427) Economics of Education (3) Theoretical and empirical concepts in economics applied to education.

EDLDR (ECON) 427 Economics of Education (3)

The purpose of this course is to introduce students to economic thinking about education and to view education in an economic perspective. The course focuses on basic principles and concepts of economic analysis and applies them to education. Education is considered as an industry with: impact on economy and economic lives of individuals; inputs & outputs; resource allocation decisions; production decisions; distribution decisions; costs and benefits associated with education. Key concepts included are: markets in education supply & demand for educational resources and products, resource prices, production functions; and cost-benefit and cost-effectiveness analyses applied to education. It will consider important issues such as, how education can affect the economy, how education can affect the economic lives of individuals, compensation for teachers, the value of a college or graduate education, the contribution of a university to the economic growth of a state or region, and the demands for greater cost-efficiency in public schools.
All levels of education are considered during the course. Examples and applications are drawn from elementary and secondary schools as well as from higher education, and both the public and private educational sectors are included.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: ECON 302, ECON 315 orEDLDR 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 480 Introduction to Educational Leadership (3) Development of educational leadership. Relationships among local, state, and federal agencies. Introduction to current concepts and theories.

EDLDR 480 Introduction to Educational Leadership (3)

Through lectures, readings, case study, film, and discussion, this course examines basic topics in organizational theory, school administration, and educational policy. In addition, the course presents a historical perspective, suggesting how understandings about education have varied and changed throughout American history. The primary aim of the course is to help students begin to perceive, understand, and apply the important connections between educational theory, research, and practice in a critical and thoughtful fashion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: 3 credits in social science sociology anthropology community development business administration or political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 476 The Teacher and the Law (3) An introduction to education law as it affects the teacher.

EDLDR 476 The Teacher and The Law (3)

This course will provide an overview of major issues in law related to teachers. The course will focus primarily on case law including U.S. Supreme Court decisions as well as relevant state and federal lower court opinions. State legislation and administrative laws will also be considered. Topics to be covered include an introduction to education law as it affects teachers, including teachers' privacy rights, school safety, special education, sexual harassment, discrimination, student assessment, slander/libel, tenure and constitutional issues as related to education. The class will be a combination of lectures and discussions on particular legal topics related directly to the training of teachers and based on the text and selected handouts. From time to time, the class will break up into small groups to work on in-class dilemmas.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: 9 credits in education or the social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 481 Collective Bargaining in Education (3) Analysis of public bargaining, including history, development of legislation, analysis of current laws, and strategies and techniques, including simulated bargaining.

EDLDR 481 Collective Bargaining in Education (3)

"Collective Bargaining in Education" focuses on the analysis of teacher-school board negotiations, including the history and social foundations of bargaining, precedents from the private sector, the development of legislation guiding bargaining, analysis of current legislation, reaching agreement, impasse resolution, and bargaining strategies, including simulated bargaining. This course provides a basic understanding of negotiations in education and prepares school administrators to deal with this aspect of their work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: EDLDR 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 485 Principal as Instructional Leader (3) Knowledge and skills principals need to lead instructional design and implementation.

EDLDR 485 Principal as Instructional Leader (3)

The purpose of this course is to investigate the new conceptions of instructional leadership in schools, especially as these apply to the principal. With new emphases in K-12 education focusing on teaching and learning concerns, the role that the principal plays in instructional leadership is more critical than ever. This course examines the different areas of emphases and roles that are central to promoting effective instructional leadership in schools. This examination will include the development of educational administrative and leadership perspectives and the process of change and reform in educational organizations. The form and function of the instructional leadership will be explored by examining major theories on the nature of school leadership and linking these to the issues of school improvement and school change. An integrated agenda of readings, lecture, class discussions, written assignments and case study work will explore and emphasize the relationship of theory to practice. The readings and activities are designed to integrate thoughtful reflective practices for problem framing and solving, provide a foundational knowledge of instructional leadership best practices, develop an increased awareness of individual values and beliefs, and promote the development of interpersonal and group dynamics skills.
Specifically, the objectives of the course are to assist students: (1) to acquire the ability to establish clear instructional goals for a school; (2) to understand and be aware of the most effective means for promoting and supporting educational change and reform; (3) to develop a school culture and climate conducive to and focused on teaching and learning concerns; (4) to understand how to develop and communicate effectively the vision and mission of the school; (5) to investigate how best to develop teacher leadership within schools; and (6) to become familiar with best practices in professional development.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: EDLDR 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 497A Case Studies in Educational Leadership (3) Case study analyses of schools as social systems. Focus on issues of school leadership, culture, policy, and organizational dynamics.

Case Studies in Educational Leadership (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 497A (EDTHP 497B) Law and Policy for Teachers (3) Students study and discuss legal issues facing teachers and schools today.

Law and Policy for Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 498A Teacher as Supervisor: Becoming aore Effective Mentor Teacher (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Teacher as Supervisor: Becoming aore Effective Mentor Teacher (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educ Leadership Prog (EDLDR)

EDLDR 498A Teacher as Supervisor: Becoming a More Effective Mentor Teacher (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Teacher as Supervisor: Becoming a More Effective Mentor Teacher (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 100S First-Year Seminar in Education (3) Learning about a scholarly community through the development of knowledge and skills needed for successful participation in higher education.

First-Year Seminar in Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 199 (IL) Foreign Studies (1-12) Study of educational topics in a country other than the United States.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 302 Basic Preparation for Teaching (3) Philosophical, psychological issues in education; instructional objectives, lesson planning; evaluation, grading procedures; assessment, instruction of individual children. Field experience.

Basic Preparation for Teaching (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 303 Sensitivity to Special Learners (3) This course is designed to examine the procedures, characteristics and strategies for working with special learners in the elementary school.

Sensitivity to Special Learners (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: seventh-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 304 Classroom Organization and Management (3) Organization, integration of the elementary school day; classroom management, control techniques; audio-visual techniques.

Classroom Organization and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: sixth-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 305 Creative Arts (3) Experiences in self-expression through a variety of artistic media. Techniques for guiding children in artistic expression.

Creative Arts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 314 Learning Theory and Instructional Procedures (3) Theories of learning in relation to instructional practices. Analysis of motivation, transfer of learning, and retention. Field practicum.

Learning Theory and Instructional Procedures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Secondary Teacher Certification Program. Prerequisite or concurrent:EDUC 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 313 Field Observation (2) Observation techniques; classroom observation and participation.

Field Observation (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Secondary Teacher Certification Program. Prerequisite or concurrent:EDUC 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 315 (US) Social and Cultural Factors in Education (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.

EDUC 315 Social and Cultural Factors in Education (3) (US)

This course is designed to provide students with a comprehensive view of tile social and cultural factors integrally linked to the evolving field of education, and to the society in which the practice of education is proceeding. Issues are examined through the lenses of philosophy, anthropology, history, sociology, economics and political science. This serves as a foundation for the critical examination of how and why events linked to race, ethnicity, religion, gender, and sexual orientation have influenced education. This course is required of all students seeking teacher certification at either the elementary or secondary level. It is designed to serve as a foundation course upon which methodological and pedagogical constructs are developed.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005 Ending: Fall 2010
Prerequisite: admission into Elementary Education Major or Secondary Teacher Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 320 Methods in Teaching Beginning Readers (3) Concepts, methods, and materials for developing beginning reading abilities, with emphasis on personalized instruction through diagnostic teaching.

Methods in Teaching Beginning Readers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: sixth-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 315W (US) Social and Cultural Factors in Education (3) Critical examination of how different experiences linked to race, ethnicity, religion, gender, and sexual orientation influence education.

Social and Cultural Factors in Education (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission into Elementary Education Major or Secondary Teacher Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 321 Methods in Teaching Intermediate and Advanced Readers (3) Concepts, methods, and materials for personalizing reading instruction with emphasis on extending personal and functional reading abilities beyond beginning reading.

Methods in Teaching Intermediate and Advanced Readers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981
Prerequisite: EDUC 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 322 Adolescent Literature and Developmental Reading (3) Adolescent literature materials, reading principles, and practices suitable for an English class.

Adolescent Literature and Developmental Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Secondary English Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 331 Introduction to Early Childhood Education (1) Introduction to the elements of an early childhood program.

Introduction to Early Childhood Education (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 352 Teaching Language Arts (3) Teaching the writing process, including speaking and listening skills in relation to oral and written composition.

Teaching Language Arts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: sixth-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 353 Teaching Elementary Social Studies (3) The theory and practice of elementary social studies instruction.

Teaching Elementary Social Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 385 Professional Development in Teaching (3) This course addresses practical issues central to the profession of teaching and, in some cases, specific to Pennsylvania.

Professional Development in Teaching (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: eight-semester standing approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 371 Teaching Music in the Elementary School (3) Music methods course for elementary education majors; students will learn elements of music, and instructional techniques.

Teaching Music in the Elementary School (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 401 Early Childhood Education (3) Organization, methodology, and materials for nursery school and kindergarten programs.

Early Childhood Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 400 Diversity and Cultural Awareness Practices in the K-12 Classroom (3) This course addresses diversity, cultural awareness and sensitivity about cultures, concepts and methods in society, communities and educational settings.

EDUC 400 Diversity and Cultural Awareness Practices in the K-12 Classroom (3)

This course is an examination of diverse cultures, stereotypes, concepts and issues that impact the way individuals interact with one another in society. In relation to EDUC 315, it takes students to the next level as they experience cultural attributes from a media perspective, as well as being immersed into diverse settings throughout the course. It is designed for students to develop sensitivity and awareness of cultural influences in America and the public school systems. An emphasis is placed on sociopolitical aspects of the United States and other world cultures, sources of cross-cultural conflict, and approaches to cross-cultural conflict resolution as they relate to P-12 settings, their communities and the communities in which they teach.

Cultural awareness is concrete and/or visible in society and is necessary for promoting sensitivity and respect of cultural beliefs and values amongst teachers, administrators and students. Course participants will be required to demonstrate knowledge of with regard to developing sensitivity and awareness of cultural influences on behavior as these relate to the community, society and schooling processes. Course participants will be required to analyze methods of teaching Multicultural Education and its various camps including: Culturally Responsive Pedagogy, Critical Multiculturalism, and Anti-Racist Pedagogy.

The creative tension between dominant and subordinate voices will lead to both visual and written responses. The major goal of the course is to help students identify their diversity in American society and to develop their own creative voices, while drawing on issues of race, ethnicity, gender, geographical location, sexual identity, age, ability, social class, social status and other cultural attributes that make individuals uniquely diverse.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 402 Language Development, Self-Expression, and Literature in Early Childhood Education (3) Examining the development of language and self-expression in young children, and the role of children's literature in facilitating development.

Language Development, Self-Expression, and Literature in Early Childhood Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 403 Curriculum for Early Childhood (3) Examining early childhood programs and methodology, focusing on areas of social studies, mathematics, and science.

Curriculum for Early Childhood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 405 Early Childhood Education: Infancy and Toddlerhood (3) Models of infant development with focus on the first three years of life--cognitive and socio-emotional milestones will be analyzed.

Early Childhood Education: Infancy and Toddlerhood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 404 Young Children's Behavior: Observation and Evaluation (3) Observation, recording and evaluation of student behaviors, and the use of prescription techniques for early childhood students with special needs.

Young Children's Behavior: Observation and Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 406 Human Sexuality (3) Examination of physiology, diseases, attitudes, morality, and controversial topics related to sexuality. Consideration of sex eduction in the school curriculum.

Human Sexuality (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 410 The Child and Social Institutions (3) The effects of the family on a child's development, especially in the infancy and preschool years.

The Child and Social Institutions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 408 Administration of Early Childhood Education Programs (3) The role of the early childhood administrator as it relates to regulations, staffing, management, funding and curriculum.

Administration of Early Childhood Education Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981
Prerequisite: EDUC 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 412 Early Literacy Intervention I (3) Participants will better understand factors affecting early reading behavior through diagnostic techniques, observation techniques, and literacy intervention strategies.

Early Literacy Intervention I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 413 Early Literacy Intervention II (3) Participants will continue to learn skills, knowledge, and experience processes to implement the early literacy intervention program.

Early Literacy Intervention II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: EDUC 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 415 Teaching Secondary Social Studies (3) Study of the objectives, content, methods, and evaluation of procedures of social studies. Students design units and lesson plans.

Teaching Secondary Social Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: EDUC 314, EDUC 315 and admission into Secondary Social Studies Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 417 Teaching Secondary Mathematics (3) Study of the objectives, content, methods, and evaluation procedures of mathematics.

Teaching Secondary Mathematics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: EDUC 314, EDUC 315 and admission into Secondary Mathematics Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 416 Teaching Secondary English and the Humanities (3) Study of the objectives, content, and methods of English and humanities courses.

Teaching Secondary English and the Humanities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: EDUC 314, EDUC 315 and admission into Secondary English Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 418 Positive Classroom Climate for Positive Attitudes About Learning (3) Participants will learn strategies for creating classroom climates which encourage positive attitudes toward learning while preventing and correcting student misbehavior.

Positive Classroom Climate for Positive Attitudes About Learning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 421 Children's Literature (3) Knowledge of literature appropriate for elementary school children and utilization of literature-related activities in teaching reading.

Children's Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 422 Literature for Children and Adolescents (3) Literature for children and adolescents, approaches for using such literature in the school curriculum.

EDUC 422 Literature for Children and Adolescents (3)

This course, which is required for students enrolled in the Reading Specialist Program and those who wish to complete the language arts option in the Teaching and Curriculum Program, is designed to assist Pre-K through grade 12 educators who are interested in incorporating children’s and/or adolescent literature into the curriculum. The course will focus on an in-depth exploration of selecting, evaluating, and using a wide range of contemporary (published in the last ten years) literature for children and young adults. This course will provide participants the opportunity to explore reader response theory and its relationship to classroom teaching practices, in particular to reading and literacy instruction. The study and application of principles and techniques of integrating literature circles, discussion strategies and literature extension projects will be addressed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 424 Folk and Fairy Tales (3) In this course students will examine the social and psychological significance of folk tales, make cross-cultural comparisons, and study story grammars of these stories.

Folk and Fairy Tales (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991
Prerequisite: 6 credits in humanities

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 425 Literacy Assessment (3) This course emphasizes alternative literacy measures focusing on portfolio assessment and performance assessments.

Literacy Assessment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 432 Children's Literature in Teaching Writing (3) Introduction to introduces methods for transferring writing skills and literary devices from literature to student writing in all subject areas.

Children's Literature in Teaching Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 435 Addressing the Needs of Special Learners (1) An examination of attitudes toward, barriers experienced by, and special needs of special learners in the schools.

Addressing the Needs of Special Learners (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: eighth-semester standing in Secondary Teacher Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 436 Inclusion Practices in Education (3) The educational, social, and political foundations for inclusion practices in public education.

Inclusion Practices in Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 440 Educational Statistics and Measurements (3) Descriptive statistics, correlation, reliability, validity, scaling techniques, and introduction to item analysis.

Educational Statistics and Measurements (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 450 Current Topics in Education (1-15) No description.

Current Topics in Education (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 452 Teaching Writing (3) Techniques for teaching the writing process, kindergarten through grade 12, including writing in content areas; workshop format.

Teaching Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 458 Behavior Management Strategies for Inclusive Classrooms (3) Provides knowledge and skills essential for designing positive learning environments in secondary classrooms with the inclusion of exceptional learners.

EDUC 458 Behavior Management Strategies for Inclusive Classrooms (3)

Well-organized and effectively managed classrooms provide task-focused instructional environments where students are actively engaged in learning. The inclusion of exceptional learners in the general education classroom has brought the need for a unique set of knowledge and skills to promote student task engagement and prosocial behavior. Topics to be addressed include: characteristics and specific (or unique) needs of exceptional learners and their effect on student learning; components of effective classroom organization and management; principles of applied behavior analysis and research-based behavior management strategies appropriate for use with exceptional learners in the secondary classroom. This course will be a required course for all Secondary English, Math, and Social Studies students seeking initial certification. Course delivery methods will include lectures, reflections, online discussions, projects, class presentations, library research, and other relevant media

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: admission to teacher education

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 459 Strategies for Effective Teaching in Inclusive Classrooms (3) Course examines effective strategies for accommodating and adapting instruction for exceptional learners in secondary classrooms.

EDUC 459 Strategies for Effective Teaching in Inclusive Classrooms (3)

This course will examine strategies for teaching exceptional students in inclusive secondary classrooms. The course will focus on academic assessment; instructional planning, development and implementation; and strategies for making the curriculum more accessible, flexible and supportive for diverse learners. Topics to be addressed include the following: multidisciplinary evaluation and programming for exceptional learners; designing instruction based on assessment data; progress monitoring; technology for teaching and learning as a way to promote access to curriculum; designing appropriate and legally acceptable accommodations and/or modifications to promote access to the standards-based curriculum for students with exceptional learning needs; research-based instructional strategies to facilitate literacy development and instruction across academic content areas and collaborative structures to support exceptional learners in general education classrooms. This course will be required for all Secondary English, Math, and Social Studies Education students seeking initial certification and will be offered during the 8th semester (student teaching) to optimize performance of students during their student teaching experience. Course delivery methods will include lectures, reflections, online discussions, projects, class presentations, case studies, and other relevant forms of media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: EDUC 285

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 459 Strategies for Effective Teaching in Inclusive Classrooms (3) Course examines effective strategies for accommodating and adapting instruction for exceptional learners in secondary classrooms.

EDUC 459 Strategies for Effective Teaching in Inclusive Classrooms (3)

This course will examine strategies for teaching exceptional students in inclusive secondary classrooms. The course will focus on academic assessment; instructional planning, development and implementation; and strategies for making the curriculum more accessible, flexible and supportive for diverse learners. Topics to be addressed include the following: multidisciplinary evaluation and programming for exceptional learners; designing instruction based on assessment data; progress monitoring; technology for teaching and learning as a way to promote access to curriculum; designing appropriate and legally acceptable accommodations and/or modifications to promote access to the standards-based curriculum for students with exceptional learning needs; research-based instructional strategies to facilitate literacy development and instruction across academic content areas and collaborative structures to support exceptional learners in general education classrooms. This course will be required for all Secondary English, Math, and Social Studies Education students seeking initial certification and will be offered during the 8th semester (student teaching) to optimize performance of students during their student teaching experience. Course delivery methods will include lectures, reflections, online discussions, projects, class presentations, case studies, and other relevant forms of media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: EDUC 285
Concurrent: EDUC 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 460 Field Study in Ecology (4) Study and analysis of the ecology of various regions of the world. May be repeated for credit.

Field Study in Ecology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: EDSCI 454

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 462 Computers for Classroom Teachers (3) An introduction: microcomputers and their educational applications.

Computers for Classroom Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission into Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 463 The Internet and K-12 Education (3) Relates educational theory and practice to applications of the Internet, applying content from educational foundations, curriculum, and research.

EDUC 463 The Internet and K-12 Education (3)

This course focuses on the Internet as a valuable resource for K-12 education. Designed for teachers, curriculum supervisors, and building administrators, this course relates educational theory and practice to applications of the Internet in classrooms and schools. Class participants apply resources available through the Internet to content from the fields of educational foundations, learning theories, curriculum development, educational assessment and evaluation, and educational research. Students maintain a documentation of weekly assignments that form the basis for the final project: the development of a technology-based teaching portfolio. Students also complete a mid-term project that entails the design of an online learning activity for students. This activity requires the student to apply principles of learning theory to web-based resources identified and evaluated to support an identified classroom learning objective or set of objectives. The final project consists of a technology-based teaching portfolio, demonstrating application of the key concepts covered in the course. The portfolio should contain a professional resume; journal entries discussing educational experiences and philosophies related to technology; selected teaching lessons, activities, projects, or assessments; and samples of student work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: EDUC 462 or approval of program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 464 Technology and the Learning Process (3) Evaluates the relationship between technology-based resources and learning theories through design, implementation, and evaluation of online instructional modules.

EDUC 464 Technology and the Learning Process (3)

Designed for teachers, curriculum supervisors, and building administrators, this course examines and evaluates the relationship between technology-based resources and learning theories. Students explore learning theories in terms of how technology may or may not support implementation of those theories in the classroom. Students also examine problem-based learning approaches and how they can be combined with technology, resulting in what has been defined by Dr. Bernie Dodge as a "WebQuest" for classroom use. In the WebQuest development process, students identify a real life problem for their students to solve. They correlate that problem to their academic standards and district curriculum. They then design, implement, and evaluate instructional modules with integrated technology resources designed to lead to a solution of the identified problem, while promoting student acquisition of higher order thinking skills. Through this experience, students must plan for their students' learning tasks and activities, resource needs, performance evaluation and rubrics. As a culminating experience, students design an action research project related to the implementation of their learning module in the classroom setting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: EDUC 462 orEDUC 463 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 465 Serving Culturally and Linguistically Diverse (CLD) Learners (3) The course provides teachers with knowledge, understandings, and skills to engage culturally and linguistically diverse (CLD) students in mainstream classrooms.

EDUC 465 Serving Culturally and Linguistically Diverse (CLD) Learners (3)

This course is designed to encourage understandings and appreciation for linguistic and cultural diversity, and to enhance the knowledge and skills of teachers working with culturally and linguistically diverse learners, their families, and their communities. The six areas of emphasis within EDUC 465 are as follows: a) the legal, historical, and cultural implications of ESL, which explores the legal and historical bases of ESL and analyzes the differences among home and school cultures, especially as they relate to language; b) multicultural education, which focuses on helping teachers acquire knowledge, develop cultural sensitivity, and identify educational strategies that address the needs of multilingual and multicultural learners and their families; c) a brief overview of first and second language acquisition theories; d) developmentally appropriate teaching strategies for culturally and linguistically diverse learners specifically related to their speaking, listening, reading, and writing skill development; e) Pennsylvania and TESOL standards and the Pennsylvania ELL assessment systems; and f) the integration of language components across the curriculum. This course aims to provide theoretical understandings of culturally responsive teaching and pedagogical strategies for CLD learners.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 466 Foundations of Teaching English as a Second Language (3) Overview of various legal, historical, and socio-cultural implications of teaching and learning English as a Second Language.

EDUC 466 Foundations of Teaching English as a Second Language (3)

EDUC 466 is the first course in a four-course sequence designed to meet the Pennsylvania Department of Education's (PDE) requirements for the ESL Program Specialist endorsement. EDUC 466 addresses the legal, historical, and socio-cultural issues related to non-native speakers of English, and the implications for ESL curriculum, instruction, and assessment within the K-12 school setting. The course is designed: (1) to encourage understanding and appreciation for language diversity and culture, and (2) to enhance the knowledge and skills of teachers working with culturally and linguistically diverse learners, their families, and their communities. The course specifically addresses two of the PDE competencies necessary for a teacher to acquire in order to be endorsed as an ESL Program Specialist: PDE Competency IV-Developing cultural awareness/sensitivity. The four areas of emphasis within EDUC 466 are:

a) *The legal, historical, and cultural implications of English as a Second Language*, which explores the legal and historical bases of ESL and analyzes the differences among home and school cultures, especially as they relate to language;

b) *Fundamentals of developing English language skills*, which provides an introduction to the structure of the English language, grammar, and pronunciation, including lexical, morphological, syntactical, and phonological components;

c) *An overview of second language acquisition*, which introduces the topics of linguistic skill development, and first and second language acquisition; and

d) *Multicultural education*, which focuses on helping teachers acquire knowledge, develop cultural sensitivity, and identify educational strategies that address the needs of multilingual and multicultural learners and their families.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 467 English Language Structure for English as a Second Language Teachers (3) An in-depth study and review of general linguistic concepts and their application to ESL pedagogy.

EDUC 467 English Language Structure for ESL Teachers (3)

EDUC 467 is the second course in a four-course, 12-credit sequence designed to meet the Pennsylvania Department of Education's (PDE) requirements for an ESL Program Specialist Certificate. The 12-credit sequence which has previously been approved by PDE has been offered as "Special Topics" courses. The 12-credit sequence is consistent with other approved ESL certificate programs. EDUC 467 introduces students to general linguistic concepts and their application to ESL pedagogy and practice. The course provides an intensive study and review of major linguistic concepts and issues, including but not limited to: phonetics, phonology, morphology, syntax, semantics, pragmatics and discourse analysis, sociolinguistics and dialectology, historical linguistics and world languages, and writing systems. The course specifically addresses two of the PDE competencies necessary for a teacher to acquire to meet the minimum requirements as an ESL Program Specialist: PDE Competency I-English usage and developing linguistic awareness; and PDE Competency III-English language learners [ELLS] language and language services knowledge. The three areas of emphasis within EDUC 467 are:

a) *Language and communication*, which explores the use of dictionaries, English use and usage, social conventions and English usage, American English variations, meaning and significance.
b) *Grammar, pronunciation, literacy development for second language learners,* which focuses on the significance of these areas for ESL learners; and
c) *Evaluative classroom instruments to measure student progress in grammar, pronunciation and English language structure,* which highlights the incorporation of linguistic tools in the assessment of ESL learners' language skills and needs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: EDUC 466 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 468 Language Acquisition for English as a Second Language Teachers (3) Study of the theory, research, and processes involved in first and second language development, acquisition, and assessment.

EDUC 468 Language Acquisition for ESL Teachers (3)

EDUC 468 is the third course in a four-course sequence designed to meet the Pennsylvania Department of Education's (PDE) requirements for an ESL Program Specialist Certificate. The 12-credit sequence has previously been approved by PDE. The 12-credit sequence is consistent with what other PDE-approved ESL certificate programs offer. This course builds upon EDUC 466, Foundations of Teaching English as a Second Language, and EDUC 467, English Language Structure for Teachers, with an emphasis on the processes involved in second language acquisition. EDUC 468 explores first and second language learning, socio-cultural contexts and learner variables, and the issues related to cognition and developmental psycholinguistics. The course specifically addresses two of the PDE competencies necessary for a teacher to acquire to meet the minimum requirements as an ESL Program Specialist: PDE Competency I-English usage and developing linguistic awareness; and PDE Competency III-English language learners [ELLS] language and language services knowledge. The four areas of emphasis within EDUC 468 are:

a) *Learning a first language,* which provides an in-depth study of the process involved in the acquisition and development of first language interrelations between psycholinguistics and cognition, as well as understanding of the processes involved in the acquisition and development of language in human species.
b) *Learning a second language*, which explores the interrelationships between psycholinguistics and cognition, and first and second language acquisition, as well as identifying issues related to developmental psycholinguistics?
c) *Differences in how children, adolescents and adults learn language*, major contributions of leaders in the field of the psychology of language learning.
d) *Evaluative classroom instruments to measure student progress in listening, speaking, reading and writing,* which identifies linguistic tools that can be used to assess the language skills and needs of ESL learners.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: EDUC 466 andEDUC 467 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 469 Teaching Methods and Assessment of English as a Second Language (3) Integration of theory, research, and practice about ESL curriculum, instructional methods, assessment, and literacy development.

EDUC 469 Teaching Methods and Assessment of English as a Second Language (3)

EDUC 469 is the fourth and final course in a four-course sequence designed to meet the Pennsylvania Department of Education's (PDE) requirements for an ESL Program Specialist Certificate. The 12-credit sequence has previously been approved by PDE. The 12-credit sequence is consistent with what other PDE-approved ESL certificate programs offer. The emphasis in EDUC 469 is to learn and integrate curricular, instructional, and assessment theories and practices into the K-12 classroom setting to promote language and literacy development. The course specifically addresses three of the PDE competencies necessary for a teacher to acquire to meet the minimum requirements as an ESL Program Specialist: PDE Competency I-English usage and developing linguistic awareness; PDE Competency II-English as a Second Language-instructional materials/development; and PDE Competency III-English language learners [ELLS] language and language services knowledge. The three areas of emphasis within EDUC 469 are:

a. *English as a Second Language methods and collaboration with academic content areas,* which focuses on: the preparation for ESL teaching by exploring trends, major theories, methodologies, and assessment in second language learning; the study of second language teaching approaches applicable to elementary and secondary students; materials development and evaluation; and the development of a broad base of knowledge and skills that will enhance teacher effectiveness in meeting the needs of diverse learners through appropriate instructional, curricular, and behavioral strategies;
b. *Assessment and evaluation of English Language Learners (ELLs),* which explores: the use of multiple measures of assessment to evaluate academic achievement; the development and implementation of authentic assessment tools; and various approaches and challenges to classroom assessment; and
c. *Literacy development,* which focuses on elementary and secondary ESL students by exploring ways in which to enhance English language learning in elementary students and to enrich content-area instruction for secondary ESL students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: EDUC 466, EDUC 467, EDUC 468 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 470W Higher-Order Thinking for Educators (3) Presentation of strategies, techniques, and principles of higher-order thinking which are grounded in relevant research and practice will be presented.

EDUC 470W Higher Order Thinking for Educators (3)

This required course for elementary education majors focuses on three primary objectives. The first objective is to develop students' metacognitive, critical thinking, creative thinking, decision making, problem solving and reflection skills. A second objective is for students to become aware of ways to increase the higher order thinking of children in the elementary classroom. The third objective is to improve the students' ability to write critical thinking/reflection papers on educational problems and issues. This course serves as one of the foundation courses for the Elementary Education Program as one of the goals of the program is to develop reflective practitioners. Students are evaluated on the quality of eight writing samples, the quality and quantity of their contributions during whole class discussions, and the quality of their performance during cooperative group activities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: admission into Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 471 Best Practices in Literacy (3) An application of best literacy practices to classroom instruction and assessment of reading, writing, listening, and speaking.

EDUC 471 Best Practices in Literacy (3)

This course is offered to support the Masters of Education degree in Teaching and Curriculum at Penn State Harrisburg by providing an application of research in best language arts It is a required course in the Reading Specialist Certification Program. The course acquaints students with an instructional and assessment framework that has been embraced by the educational community on a nationwide basis. Objectives for the course include the following: (1) Students will demonstrate an understanding of the theoretical underpinnings of the established best practices in literacy. (2) Students will demonstrate the ability to implement effective literacy practices. (3) Students will be able to assess and evaluate student performance according to established best practices. Evaluation methods will include: (1) attendance and participation in class discussion and exercises (10%); (2) a 5-7 page paper dealing with the use of children's books to teach reading and writing (25%); (3) a 5-7 page paper on the most current methods of assessing students' reading, writing, speaking, and listening skills (25%); and (4) the creation of an integrated Thematic Unit for instruction (40%).
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: EDUC 320 orEDUC 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 472 Teaching Reading Through the Content Areas (3) Designed to enable teachers of content areas to improve the reading/study skills needed by their students.

Teaching Reading Through the Content Areas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 474 Advanced Whole Language (3) To support and encourage educators teaching in whole language classrooms with emphasis on strategies and processes relevant to all.

Advanced Whole Language (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: EDUC 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 475 ESL Leadership, Research and Advocacy (3) Teachers will develop their skills as instructional leaders and researchers by conducting school-based action research projects.

EDUC 475 ESL Leadership, Research and Advocacy (3)

EDUC 475, the capstone course in the ESL Specialist and Leadership Certificate program (now the online SCOPE program), is a hybrid course involving online readings and discussions and field-based action research in PreK-12 educational settings with English Language Learners. ESL faculty will provide mentoring/coaching in the field. This course is designed to familiarize ESL candidates with the processes for developing, implementing, and evaluating action research projects. The ESL candidates will explore best practices in ESL pedagogy through implementation of various models of action research. The four areas of emphasis within EDUC 475 are as follows: a) the principles of ethical and methodologically sound action research related to ELLs; b) culturally and linguistically inclusive best practices supported by ESL research; c) collaborative partnerships between school and community to advocate for ELLs and their families; and d) ESL research, evaluation, and assessment for dissemination of research findings, professional development, and continuous quality improvement within ESL programs. ESL faculty will coach and mentor ESL candidates in the field while they conduct action research. By the conclusion of this course, ESL candidates will have gathered, analyzed, and summarized their data into a research paper for potential publication, as well as developed either: a) a workshop training presentation for their school or district; or b) a draft of a conference proposal for a national, regional, or state conference.
By conducting action research projects and subsequently disseminating the results of their research through professional development presentations and potential publications, candidates are expected to become instructional leaders in the ESL field.

This course is the final capstone 3-credit ESL course for the ESL Specialist and Leadership Certificate program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: EDUC 469

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 476 The Effects of Environment on Child Development (3) The effects of environmental forces such as mother's anxiety during the prenatal period and culture on childhood and adolescence.

The Effects of Environment on Child Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 477 Teaching Struggling Readers and Writers (3) A comprehensive overview of learning problems and effective strategies for teaching K-12 students who have difficulties reading and writing.

EDUC 477 Teaching Struggling Readers and Writers (3)

EDUC 477 is a required course in the M. Ed. in Literacy Education Program. The primary goals of the course are to increase the participants' understanding of special learning problems and to provide participants with teaching techniques for helping struggling K-12 readers and writers. Emphasis is placed on improving these students' reading, writing, listening, and speaking skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 484 School Law for Teachers (3) This course will focus on increasing teacher awareness of law and how it impacts on daily performance and job security.

School Law for Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 490 Student Teaching (1-12) Observation and teaching in selected elementary or secondary schools under direction of cooperating classroom teachers and University supervisors. Regular seminars. GPA 3.0 or higher. Passing scores on required Praxis I tests.

EDUC 490 Student Teaching (1-12)

This course fulfills one of the certification requirements established by the Commonwealth of Pennsylvania. Students are assigned for a period of twelve weeks to teach in either an elementary or secondary school. Students have the option of selecting either the primary or intermediate level in elementary education, or the middle or high school level in secondary education. Cooperating classroom teachers provide the day-to-day direction, evaluation and mentoring, and an assigned university supervisor makes weekly visits and observations. Students are phased into the full responsibilities of a classroom teacher, with the ultimate goal being, the assumption of all duties and responsibilities for a period of several weeks. Students plan, implement, evaluate and reflect on a variety of instructional activities throughout their experience. In addition to planning and implementing instruction, students assume responsibilities for classroom management, assessing student progress, communicating with all stakeholders, and participating in professional and co-curricular activities. Student teacher evaluations are based on clearly defined expectations and criteria. The assessment criteria are linked to Commonwealth and national standards.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: eight semester standing approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 495 Internship (1-15) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.

Internship (1-15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 495A Junior Field Experience (1) Second semester juniors assigned to a suburban elementary school for the purpose of actively participating in classroom activities.

EDUC 495A Junior Field Experience (1)

This course is designed to provide Elementary Education majors with an intensive field experience that acquaints the student with the "real" world of elementary education in a suburban setting. The experience will be under the direction of a certified elementary teacher in a suburban Harrisburg setting. Students will have an opportunity to actively work at the primary (K-3) and/or the intermediate (4-5) level, and will be directed to accomplish specific field tasks assigned by their course instructors. These tasks are directly related to each course in which the student is enrolled. Students are assigned a university supervisor who observes and consults with the students throughout the experience. Specific activities will vary depending on the grade level and the school district's curriculum. Students are evaluated by both the cooperating teacher and the university supervisor, and the evaluations are based on classroom observations. This course is offered each semester and is required of all students enrolled in the Elementary Education program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prior approval of proposed placement by instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 495B Senior Field Experience (1) First semester seniors assigned to an urban elementary school for the purpose of actively participating in classroom activities.

EDUC 495B Senior Field Experience (1)

This course is designed to provide Elementary Education majors with an intensive field experience that acquaints the student with the "real" world of elementary education in an urban setting. The experience will be under the direction of a certified elementary teacher in the Harrisburg or Steelton-Highspire School Districts. Students will have an opportunity to actively work at the primary (K-3) and/or the intermediate (4-6) level, and will be directed to accomplish specific field tasks assigned by their course instructors. These tasks are directly related to each course in which the student is enrolled. Students are assigned a university supervisor who observes and consults with the students throughout the experience. Specific activities will vary depending on the grade level and the school district's curriculum. Students are evaluated by both the cooperating teacher and the university supervisor, and tile evaluations are based on classroom observations. This course is offered each semester and is required of all students enrolled in the Elementary Education program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prior approval of proposed placement by instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 495C Early Childhood Field Experience (1) First semester seniors assigned to an urban elementary school for the purpose of actively participating in an early childhood classroom.

EDUC 495C Early Childhood Field Experience (1)

This course is designed to provide Early Childhood Education majors with an intensive field experience that acquaints the student with the, "real" world of early childhood education in an urban setting. The experience will be under the direction of a certified elementary teacher in an urban Harrisburg setting. Students will have an opportunity to actively work at the primary (K-3) level and will be directed to accomplish specific field tasks assigned by their course instructor. These tasks are directly related to early childhood courses in which the student was previously enrolled. Students are assigned a university supervisor who observes and consults with the students throughout the experience. Students are evaluated by both the cooperating teacher and the university supervisor. The evaluations are based on classroom observations and the completion of learning activities correlated with the required text. This course is offered each semester and is required of all students enrolled in the Early Childhood Education program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prior approval of proposed placement by instructor and completion of all four early childhood prerequisite courses.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 497A Teacher in the Workplace (3) A two-day pre-worksite experience workshop involves activities in the classroom to enable the educators to glean the most of the one-site work experience. Educators will participate in a 30-40 hour opportunity to explore a company and learn those aspects that are related to the competencies being mastered in their classrooms. A two-day post experience workshop which culminates in the development of activities for the students to gain relevancy and importance of the competencies being mastered, is slated at the end of the term.

Teacher in the Workplace (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 497B The Hispanic Experience (3) This course is designed to provide teachers of Spanish Language classes and ESL instruction with relevant background information regarding the culture of Hispanic and Latino students. Participants will receive instruction from faculty at the University of Sacred Heart to Puerto Rico which will include: Spanish Language, History and Geography of Puerto Rico, People of Puerto Rico: Individuals, Families, and Communities, Culture of Puerto Rico: Music, Dance, and Latino Students, Education of Hispanic and Latino Students, Culture of Puerto Rico: Festivals, Foods, and Religion.

The Hispanic Experience (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 497C Science Assessment for Secondary Teachers (3) This course is a required element for teachers participating in the NIH-SEPA grant in collaboration with the College of Medicine. The dates for this course are June 14 to 18 from 8:15 to 3:00; June 21 from 8:15 to 3:00.

Science Assessment for Secondary Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 497E ESL Leadership, Research and Advocacy (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

ESL Leadership, Research and Advocacy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 497D Science Curriculum for Secondary Teachers (3) This course is a required element for teachers participating in the NIH-SEPA grant in collaboration with the College of Medicine. The dates for this course are June 21 from 8:15 to 3:00, June 22 from 8:15 to 12:30, and June 28 to July 2 from 8:15 to 3:00.

Science Curriculum for Secondary Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: permission of program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education (EDUC)

EDUC 499 (IL) Foreign Studies (1-12) Study of educational topics in a country other than the United States.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 302 Mathematics in Elementary Education II (3) Survey of content, pedagogy, and psychology of mathematics instruction for grades 4 through 8. Emphasis on a concrete approach to instruction.

Mathematics in Elementary Education II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1981
Prerequisite: EDMTH 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 301 Mathematics in Elementary Education I (3) Survey of content, pedagogy, and psychology of mathematics instruction for pre-school through third grade. Emphasis on a concrete approach to instruction.

Mathematics in Elementary Education I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: a previous course in college mathematics and formal admission into the Teacher Certification Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 432 Diagnostic and Prescriptive Mathematics: Basic Principles (3) Examination of the basic principles of diagnostic and prescriptive mathematics for elementary and secondary teachers.

Diagnostic and Prescriptive Mathematics: Basic Principles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 441 Geometry and Measurement Across the K-12 Curriculum (3) The course presents participants with investigations of reports, research, and recent trends related to teaching geometry and measurement.

EDMTH 441 Geometry and Measurement Across the K-12 Curriculum (3)

This course addresses the areas of Geometry and Measurement as defined by the National Council of Teachers of Mathematics (NCTM) standards and the Pennsylvania academic standards. Designed for graduate students who teach mathematics in K-12 grades or are leaders in mathematics education, the course focuses on discussions and teaching practices related to the fundamental concepts of geometric and measurement. Also, participants will become familiar with current research, reports and recent trends related to the teaching of a geometry or measurement topic.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 433 Diagnostic and Prescriptive Mathematics: Classroom Applications (3) The application of the diagnostic and prescriptive skills of DP Math in a practical setting and administering a laboratory program.

Diagnostic and Prescriptive Mathematics: Classroom Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990
Prerequisite: EDMTH 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 442 Algebra and Functions Across the K-12 Curriculum (3) The course presents participants with investigations of reports, research, and recent trends related to teaching algebra and function concepts.

EDMTH 442 Algebra and Functions Across the K-12 Curriculum (3)

This course addresses the areas of Algebra and Functions as defined by the National Council of Teachers of Mathematics (NCTM) standards and the Pennsylvania academic standards. Designed for graduate students who teach mathematics in K-12 grades or are leaders in mathematics education, the course focuses on current research and recent trends related to teaching algebra. The course will also focus on teaching algebraic concepts and algebraic reasoning from patterns, mathematical modeling, and variables of change using manipulatives, graphical representations, and technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 443 Data Analysis and Probability Across the K-12 Curriculum (3) The course presents participants with investigations of reports, research, and recent trends to teaching data analysis and probability concepts.

EDMTH 443 Data Analysis and Probability Across the K-12 Curriculum (3)

This course covers the concepts of Data Analysis and Probability as defined by the National Council of Teachers of Mathematics (NCTM) standards and the Pennsylvania Academic Standards. Designed for K-12 teachers of mathematics or mathematics leaders, the course focuses on discussions related to the teaching of data analysis and probability through problem sets, written assignments, classroom-based projects and research. Topics will also include incorporating activities to address teaching probability and statistics to diverse populations. Also, participants will become familiar with current research and recent trends related to the teaching of a topic on data analysis and probability. Attention will be given to practices utilizing manipulatives, writing, problem solving, technology, and simulations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 444 Numbers and Operations Across the Curriculum (3) The course focuses on investigating reports, research, and recent trends related to teaching number and operation concepts K-12. A student who has passed MATH 200 may not take EDMTH 444 for credit.

Numbers and Operations Across the Curriculum (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 455 Current Issues in Mathematics Education (3) An examination and analysis of contemporary trends and concerns in the teaching of mathematics.

Current Issues in Mathematics Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: EDMTH 302 orEDUC 417

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Mathematics (EDMTH)

EDMTH 497 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Science (EDSCI)

EDSCI 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Education Science (EDSCI)

EDSCI 454 Modern Elementary Science Education (3) Introduction of content, methods, and materials used in modern elementary science with emphasis upon modern elementary science programs.

Modern Elementary Science Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing in Elementary Education Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 010 (GS) Individual Differences and Education (3) Relationships between learner differences and physical, cognitive, language, social, and cultural development; emphasis on ethnicity, gender, special needs; schooling implications.

EDPSY 010 Individual Differences in Education (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an overview of the major theories and significant research on the development and explanation of individual differences and how those differences affect the education of school-age children. Specific topics include physical, cognitive, language, social-emotional, and cultural development in children and youth ages 3-20. By its very nature, the course will include a diversity focus, with special attention to ethnic, cultural, and gender issues as well as the needs of special populations.

Within each topic area, the course will pay special attention to theoretical and empirical work on how and why variations occur, how they are to be interpreted and measured, and the implications those variations have for society, especially for schooling. Traditional and alternative practices in schools will be examined to see which approaches best meet the needs of an increasingly diverse American society. While the course will focus on individual differences in education it will not be exclusively oriented toward future teachers. The course will also help parents (or future parents) understand the nature of development and individual differences of students as they progress through the educational system.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 014 Learning and Instruction (3) Psychology of human learning applied toward the achievement of educational goals; evaluation of learning outcomes.

Learning and Instruction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1973

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 014H Learning and Instruction (3) Psychology of human learning applied toward the achievement of educational goals; evaluation of learning outcomes.

Learning and Instruction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 101 (GQ) Analysis and Interpretation of Statistical Data in Education (3) An introduction to quantitative methods in educational research emphasizing the interpretation of frequently encountered statistical procedures.

Analysis and Interpretation of Statistical Data in Education (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 297A Academic Success in College Settings (1) This course addresses academic skills, learning strategies, and effective motivation necessary for academic success in post-secondary settings. This course emphasizes self-regulated learning strategies supported by an in depth understanding of human learning.

Academic Success in College Settings (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 297B Effective Study Skills (1) Course that focuses on improving study skills, time management techniques, and topics that help students improve their academic lives.

Effective Study Skills (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 406 Applied Statistical Inference for the Behavioral Sciences (3) Common techniques (parametric) covered through two-factor analysis of variance (independent samples); hypothesis testing, confidence interval, power, robustness; MINITAB frequently used.

Applied Statistical Inference for the Behavioral Sciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1991
Prerequisite: EDPSY 400 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 400 Introduction to Statistics in Educational Research (3) The foundations of statistical techniques used in educational research; distributions, central tendency, variability, correlation, regression, probability, sampling, hypothesis testing.

Introduction to Statistics in Educational Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 421 Learning Processes in Relation to Educational Practices (3) An introduction to the empirical study of variables and conditions that influence school learning.

Learning Processes in Relation to Educational Practices (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EDPSY 014 orPSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 475 Introduction to Educational Research (3) Scientific method; classes of variables in educational research; the measurement of classroom behavior; survey, predictive, and experimental studies.

Introduction to Educational Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: EDPSY 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 450 (PSYCH 404) Principles of Measurement (3) Scale transformation, norms, standardization, validation procedures, estimation of reliability.

Principles of Measurement (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: EDPSY 400 orPSYCH 200 orPSYCH 100;STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 497A Meeting Instructional Needs of English Language Learners with Special Needs (3) The course content combines theory and research on the instructional needs of English Language Learners with the knowledge base on effective instructions for students with special needs.

Meeting Instructional Needs of English Language Learners with Special Needs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Psychology (EDPSY)

EDPSY 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 400 Introduction to Instructional Technology for Educators (1-3) Use of microcomputers, video, and other media in education; models use technologies including video, audio, print, computer, and telephone.

EDTEC 400 Introduction to Instructional Technology for Educators (1-3)

This course introduces classroom teachers to the computer and its educational applications. It is an introductory level course and instruction is based on the premise that participants are novices. Participants first learn how to work in an online environment. They then work in that environment to develop the skills and perspectives needed for the effective application of microcomputers in education, which involves becoming familiar with a wide range of additional educational computing applications and issues.

Although it is important for students to develop technology skills, technology must be viewed as more than simply a new subject in the curriculum. Teaching students to use technologies well is a means to a much more important set of ends. Today's technologies offer teachers and their students a powerful means for addressing learning-related issues, and potentially redefining teaching and learning.

The potential of technology is most effectively realized when considered in combination with views about how individuals think and learn. The goal of this course, then, is not for participants to become experts in "technology," but to become more experts in using technologies to promote teaching and learning.

Upon completion of this course participants will be able to: successfully operate available computer hardware and associated peripherals including (but not limited to) keyboards, mice, and printers; demonstrate competency in using information technologies, including electronic mail, the Internet, and the World Wide Web; demonstrate competency in creating multimedia presentations and instruction; demonstrate competency in using word processing programs, basic graphics packages, and desktop publishing applications; demonstrate skills in creating spreadsheets and/or databases; integrate thoughtful applications of technology to address everyday teaching/learning problems; identify problems for which use of varied technologies offer productive alternatives for teachers, students, parents, and communities.

Students will demonstrate competence in these areas by developing three unit projects which will use technology to solve a classroom problem of their choosing. The projects address use of computers as communications tools, including the World Wide Web; information processing tools, such as spreadsheets and databases; and interactive multimedia using presentation software or Web-based materials. Each project will include a description of the problem, how the selected technology addresses the problem, a lesson plan demonstrating how the technology would be used, and an artifact which demonstrates the EDTEC 400 student's competency with the technology being used. Students will use Internet tools to share and provide peer reviews of classmates' projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 448 Using the Internet in the Classroom (3) This course introduces students to methods and models of using the Internet effectively in their classroom.

EDTEC 448 Using the Internet in the Classroom (3)

This course introduces participants to systematic instructional methods and models for using the Internet effectively in their classrooms. The Internet offers many resources to help educators plan, develop and teach lessons. When guided by a systematic instructional design model, educators can create lessons that are current, highly motivating, mentally engaging, and effective.

Participants will use the Internet to provide background information to support discussions of four issues related to Internet use in educational settings and will then use Internet discussion tools to evaluate examples and arguments related to each issue. Each participant will organize and moderate at least one discussion.

In this course, educators will determine the essential components of a lesson and then design and create web-enhanced lessons and web-based learning objects for the components. As participants search resources they will identify deep principles to develop a classification system for Web resources that can be used in their professional context.

The course is organized around four roles a teacher assumes: Internet miner, Internet policy advisor, integrator of existing Internet resources, and producer of new Internet resources. The main focus of the course is examining and reflecting on the Internet's pedagogical usefulness in the classroom.

Course Goals - Participants in this course will be able to: use a systematic Instructional Design (ID) model to plan educational activities that harness resources from the Internet; integrate Web resources in their classrooms; publish relevant learning objects on the Web; and identify and respond to critical issues regarding Web/Internet uses in the classroom.

Course Objectives - As *Internet Policy Advisor*, participants in this course will be able to: identify and respond to critical issues regarding Internet use in educational settings, including: access, the "digital divide," and special populations; copyright accuracy and validity of information, and privacy and security; moderate a discussion; participate in on-line discussions and conversations appropriately; and write an administrative policy brief.

As Internet Integrator: use a systematic instructional design model to integrate web-resources into educational activities that apply the First Principles of Instruction, Gagne's Nine Events of Instruction, Web-Enhanced Learning Environment Strategies, and Madeline Hunter Lesson Plan Components.

As Effective Internet Miner: classify, and create an organizational system for the types of resources that will be useful.

As Producer: create three types of web-based learning objects useful for their educational setting; publish learning objects on the Internet.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: EDTEC 400 or demonstrated Internet awareness

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 440 Educational Technology Integration (3) Technology integration in educational settings.

EDTEC 440 Educational Technology Integration (3)

This course introduces educators to broad-based educational computing applications. This course introduces ideas, skills, concepts and strategies for integrating computers into classroom teaching. The focus of the course is on models for integration, but specific applications and how they can be used in the classroom will also be explored.This course is part of a graduate program of study for a Master's of Education (M.Ed.) in Instructional Systems or an M.Ed. in Educational Technology.

Within educational settings, technology is not simply an independent curriculum -- i.e., teaching about how to use technology. Rather it is a powerful means for addressing, and potentially redefining, everyday teaching and learning issues. The potential of technology is most effectively realized when considered in combination with views about how individuals think and learn best. The goal of this course, then, is not for you to become an expert in "technology," but to become more of an expert in teaching and learning. Technology can be used as a vehicle to help you to further develop this expertise.

This course is divided into five units which are based on the following areas of educational computing: (1) Technology Integration Concepts; (2) Productivity Tools; (3) Communication tools; (4) Interactive multimedia; and (5) emerging technologies.

Each of these units is designed not only to provide you with the information you need in order to understand what the technology is about and how it functions, but more importantly to stimulate serious reflection upon how you as a teacher can make use of this resource and how using this resource relates to student learning.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EDPSY 014 and 6th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 449 Video and Hypermedia in the Classroom (3) Skills and knowledge needed to direct the use of learning technologies in educational settings.

EDTEC 449 Video and Hypermedia in the Classroom (3)

This course provides an introduction to video and multimedia production for educators. It is an introductory course, based on the premise that participants are novices.

This course is intended for teachers and trainers who would like to acquire fundamental theory and skills in designing and producing video and multimedia for the classroom. It introduces the tools of media production (video, audio, and lighting), and develops basic operating skills, including production and editing techniques as well as storyboarding and project planning.

Major advances in communications technologies allow us easier access to the tools of creative expression. Classrooms of the recent past, which then contained the modern technologies of audio-tape, slide, film, and overhead projection, now use video cameras and recorders, computer graphics and animation, digital recording, and video projection. The messages we send and receive via the World Wide Web are rich in visual and audio support. Multimedia is the term we now use to describe the communications technologies that allow us to tell our stories using text, audio, and moving images - all accessible simultaneously using a single device, a personal computer.

Participants in this course learn to: demonstrate a basic proficiency in the operation and handling of some of the tools of media production, including video and audio editing; demonstrate and understanding of the appropriate application of media, as well as the application of appropriate media for the classroom; demonstrate a basic knowledge of the production processes, including conceptualization and design, proposal writing, storyboarding and scripting, project management, team assignments, responsibilities and collaboration skills, and the creation of cut-sheets and edit decision lists; demonstrate a basic proficiency in producing well-crafted and effective media and hypermedia products; facilitate the learning of fellow classmates by actively engaging in the class activities and discussions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: INSYS 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 461 Designing Computer Networks for Education (3) Applying fundamental concepts of computer networking to design effective networks for educational purposes.

EDTEC 461 Designing Computer Networks for Education (3)

In this course, participants will learn how to assess the technology needs of an educational institution, how to predict how those needs might grow in the near future, and how to design an effective, cost-efficient, upgradeable computer network to meet those needs.

Participants will: learn about the hardware and software involved in Ethernet networking, and why Ethernet is the preferred technology for today's schools; experience putting together the basic cabling components for an Ethernet network; work as a member of a team to solve case studies by designing effective school networks; and work independently to design a school network and to connect that network to a network in another school.

Participants are also required to participate in a cabling activity, during which they use the materials provided in the course packet to create a working segment of network cable (including the wall plate connection).

Another important activity involves the design of a wiring diagram for "Paterno Middle School," review of the design diagrams with a group of your classmates, followed by the submission of an individual network design complete with parts list and budget.

The course concludes with an individual project in which participants scour the Internet for that latest information on networks (wired and wireless) in order to answer some assigned research questions and to design a network that connects multiple schools and the district administrative office.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: EDTEC 448

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 462 Coordinating Technology Use in Education (3) Skills and knowledge needed to direct the use of learning technologies in educational settings.

EDTEC 462 Coordinating Technology Use in Education (3)

Technology coordinators are asked to identify, plan for, and meet technology needs, to advise and develop technology-related policy, and to help lead the district in important new directions. Technology coordinators: determine which technologies will meet learning and administrative needs; acquire and install them; educate and train district personnel in the use of these technologies; and evaluate the effectiveness of the district's use of technologies.

This course deals with the most daunting aspects of the technology coordinator's role -- the activities that require study and reflection and for which interaction with others enhances the learning experiences. Most would-be technology coordinators are drawn to this new role because of their interest in and knowledge of new and exciting learning technologies, but they lack experience in the tough issues collected as the content of this course: leadership; diversity; laws and regulations; management and administration; professional development; technology planning and budgeting.

The course involves students in on-line activities related to these topics, including reading, email conversations, chats, development of papers and projects, and peer review of papers and projects.

In addition to ongoing conversations and a series of smaller assignments, there are three major "deliverables" for this course: a position paper on leadership and diversity; a comprehensive technology plan; and an effective inservice training program on a technology-related topic.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: EDTEC 448

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Technolo (EDTEC)

EDTEC 498A Emerging Web 2.0 Technologies and Learning (3) This course examines emerging Web 2.0 technologies and explores their application to learning and education.

Emerging Web 2.0 Technologies and Learning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 115A (GS;US) Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.

EDTHP 115A Competing Rights: Issues in American Education (3)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course offers students a chance to practice solving skills necessary for active and responsible citizenship. Because the course requires students to engage in detailed analysis of contested issues, students will: acquire information about the history and governance of public schools; develop an understanding of ideologies underlying existing schools and proposed reforms; and, as a result, be better equipped to make informed choices as voters. Major topics include curriculum design; school accountability; education of minority populations; the conflict between students' rights and the need of a school to maintain order; and the teaching of values.

The course will require extensive reading, discussion (in-class and/or on-line), writing, and field research, to include such activities as interviewing teachers and politicians, or attending a school board meeting. Readings may include editorials, proposed legislation, court decisions, chapters from texts, essays and scholarly articles, and material from web sites of interested organizations (such as the National Education Association, the Christian Coalition, or the American Civil Liberties Union). After readings, analysis and discussion, students will prepare and defend a position on each issue, either individually or in groups, formally or informally, in speech or in writing. Students will be graded on their ability to support a particular stance with credible evidence, and on their ability to articulate the ideology underpinning a stance. Therefore, the ability to identify credibility of sources is inherent to success in the course.

In general, this course draws upon concepts and information from history, political science, economics and philosophy as well as from education. As a General Education course, it seeks to help students broaden their perspective on social issues; to offer them practice in informed decision-making; and to understand and accept the responsibilities of active citizenship. The course might be particularly useful to social science majors because it will reveal interdisciplinary connections, while it will also be useful to the wider student body as a form of civic education.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 115 (US) Education in American Society (3) Introduction to the development of educational institutions, with emphasis on historical, philosophical, and sociological forces, and on problems of equity.

Education in American Society (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 115S (GS;US) Competing Rights: Issues in American Education (3) An examination of educational issues relevant to democratic citizenship; emphasis is on understanding the relationship among politics, schools, and society.

EDTHP 115S Competing Rights: Issues in American Education (3)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course offers students a chance to practice solving skills necessary for active and responsible citizenship. Because the course requires students to engage in detailed analysis of contested issues, students will: acquire information about the history and governance of public schools; develop an understanding of ideologies underlying existing schools and proposed reforms; and, as a result, be better equipped to make informed choices as voters. Major topics include curriculum design; school accountability; education of minority populations; the conflict between students' rights and the need of a school to maintain order; and the teaching of values.

The course will require extensive reading, discussion (in-class and/or on-line), writing, and field research, to include such activities as interviewing teachers and politicians, or attending a school board meeting. Readings may include editorials, proposed legislation, court decisions, chapters from texts, essays and scholarly articles, and material from web sites of interested organizations (such as the National Education Association, the Christian Coalition, or the American Civil Liberties Union). After readings, analysis and discussion, students will prepare and defend a position on each issue, either individually or in groups, formally or informally, in speech or in writing. Students will be graded on their ability to support a particular stance with credible evidence, and on their ability to articulate the ideology underpinning a stance. Therefore, the ability to identify credibility of sources is inherent to success in the course.

In general, this course draws upon concepts and information from history, political science, economics and philosophy as well as from education. As a General Education course, it seeks to help students broaden their perspective on social issues; to offer them practice in informed decision-making; and to understand and accept the responsibilities of active citizenship. The course might be particularly useful to social science majors because it will reveal interdisciplinary connections, while it will also be useful to the wider student body as a form of civic education.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 200 (GS) Educational Reform and Public Policy (3) The course uses an interdisciplinary approach to explore the reforms that shape the nation's largest social institutional-public education.

EDTHP 200 Educational Reform and Public Policy (3) (GS)

This course is designed an an introduction to the major "Education and Public Policy". The course explores fundamental questions about the United States by examining the nation's largest social institution-public education. Drawing from multiple social science disciplines, the course uses these questions to explore how ideologies, institutions and social groups have interacted to shape formal schooling and how schooling reflects the conflicting, interests, and beliefs of its citizens. Several case studies of past and present reforms will be analyzed to interpret the relations of schools to historic changes in legal norms, the distribution of power and resources in public institutions, and the access of different social groups to leadership and leverage in the political process of American society. The course has no prerequisites. The lectures and readings are designed for students interested in the uses of social science disciplines for studying public policy. Discussion sections are intended to lead to informed interpretation of educational policy dilemmas.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 234H Honors Leadership Jumpstart (3) Intensive survey of contemporary leadership theory joined with practice, team-building skills, policy formation and influence, and service leadership.

EDTHP 234H Honors Leadership Jumpstart (3)

This is an intensive honors course for incoming First-Year students in the Schreyer Honors College with an interest in leadership. It provides introductory skills, perspective and background to prepare for and participate in a variety of leadership roles at Penn State and in the university community. Contemporary leadership theory joined with increasingly complex practice situations will be introduced. Content matter will include personal assessments, team building skills, organizational leadership, collaborative leadership, civics and diversity, policy formation and influence, and lessons about service learning and public scholarship. Considerable reading, writing, and discussion, as well as a first-year orientation project and a semester-long team service project will be required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: first-semester Penn State student in the Schreyer Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 297 Special Topics (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 394 Professional Development in Education and Public Policy (3) This course develops professional skills and opportunities to prepare students for field placement and future employment or study.

EDTHP 394 Professional Development in Education and Public Policy (3)

This course focuses on the development of personal understanding of educational policy in a wide range of governmental, private, and civic organization with interest in educational policy, broadly defined. Students are provided opportunities to discover their policy interests, develop their professional communication and research skills, and design an on-site research project to be implemented during a summer field experience. The culminating project, the Field Experience Proposal, synthesizes readings, research, professional presentation, and details of the field placement. This becomes the blueprint for the students' summer field experience in EDTHP 395.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 395 Field Experience in Education and Public Policy (3) This course structures a summer field experience, research project, and service in an off-site educational policy organization.

EDTHP 395 Field Experience in Education and Public Policy (3)

This course structures a summer semester field placement for EPP majors in a non-profit, governmental, or civic organization with an educational policy component. Students gain hands-on, real-world experience implementing their Field Experience Plan (created in EDTHP 394) while serving internships in regional and national settings. Student-directed Field Placement Plans include identification of a policy issue relevant to the placement, implementation, evaluation, and analysis and can apply to broad topics such as diversity, multiculturalism, social justice, and educational equity in rural, suburban, and urban settings. Communication, assignment submission, and instructor assessment will take place on the ANGEL Course Management System.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: EDTHP 394

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 401 (IL) (CI ED 401) Introduction to Comparative Education (3) Origins, nature, scope, basic literature, and methodology of comparative education. Study of sample topics.

EDTHP (CI ED) 401 Introduction to Comparative and International Education (3) (IL)

The course introduces undergraduate students to global issues in education and provides a survey of schooling practices used in various educational systems around the world. Students will have the chance to create an individual research project that will allow them to explore one country and one global educational issues in depth. Students are required to attend all classes, participate in the discussion sections, and take notes on the films shown. These films play an integral part in the course and provide students with views into classrooms and schools around the world. Students will also have access to international databases and be expected to make use of these databases in developing their projects. Finally, in-class discussions will focus on how comparative educational studies have been used by politicians to influence educational reform around the world.

In this course, we will survey the state of public education in the world today. Each student will focus on one nation and provide a synopsis of educational practice in that nation. We will then move on to focus on global or cross-national issues such as how competition between "core" nations like Singapore and the U.S. drives reform (GOALS 2000 or No Child Left Behind). Other issues will include power differences between north and south, education for democracy, barriers to girls and women's education in developing nations, as well as education and national identity.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 5th semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 411 (US) Ethnic Minorities and Schools in the United States (3) Analysis of the social and cultural factors which affect educational outcomes among minority pupils, especially Blacks, Hispanics, and Indians.

Ethnic Minorities and Schools in the United States (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 412 (WMNST 412) Education and the Status of Women (3) An examination of the relationship of education to the status of women in American society.

Education and the Status of Women (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 416 (US) (SOC 416) Sociology of Education (3) The theoretical, conceptual, and descriptive contributions of sociology to education.

Sociology of Education (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 420 Education and Public Policy (3) Focus on the development and analysis of education policy, and policy's influence on schools.

EDTHP 420 Education and Public Policy (3)

This course examines the inherently political process in which educational policies are developed and implemented. It also considers how these formal policies interact with the practice of teaching and learning in U.S. schools. In this course, students will be expected to actively participate in classroom discusses and activities as we examine the development of policies and their implementation, with a focus on understanding pressing policy dilemmas in education today. Course evaluation includes quizzes, a midterm paper analyzing a policy issue, and a series of final exam essays.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: EDTHP 115 or six credits in social/behavioral sciences.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 427 Intelligence and Educational Policy (3) This course explores the concept of intelligence and its assessment from historical, psychological, educational and policy perspectives.

EDTHP 427 Intelligence and Education Policy (3)

In this course, we will focus on two main content areas. First, we'll explore the concept of intelligence and its assessment from historical, psychological, educational, and policy perspectives: What does intelligence look like in different cultures and at different points in history? What forces help to shape conceptions of intelligence? Second, we will consider the ways in which conceptions of intelligence influence students' opportunities to learn. For example, how are students assigned to higher-level or remedial classes and on what bases should admission to elite educational programs be allocated? What policies govern such decisions?

The study of intelligence has been a controversial one. This course will touch on several controversies associated with the topic, including the "nature/nurture" debate and the "merit/affirmative action" debate. Readings and discussion will draw on opposing sides of these issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: EDTHP 115 or 6 credits in social/behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 425 Anthropology of Education (3) This course will review the origins and development of anthropology of education and its role in educational research and reform.

EDTHP 425 Anthropology of Education (3)

This course, by reviewing the anthropology of education and its role in educational research and reform, tries to provide the concept and role of schools as agents of cultural transmission and as agents of cultural change. The school's impact on teacher and student culture will also be covered in this course. This course will be concerned with culture and the use of qualitative methods to understand culture. The history and development of anthropology of education and the development of ethnographic research in schools will be covered. Because ethnography has increasingly been used in work with "at-risk" and minority groups, students will evaluate and discuss how authors have attempted to deal with issues of social oppression and inequality. Anthropology of education, within the broader field of socio-cultural anthropology, focuses on schools, classrooms, families and other social institutions where learning occurs. The sub-field was founded in the 1950s and built on studies of childhood in other cultures conducted by Margaret Mead. Even some of the major figures of cultural anthropology (such as Malinowski and Radcliffe-Brown) had come to take a special interest in this area. Anthropology of education meets the definition of both an intercultural and international course because the teaching material draws on cultural aspects of schooling from an extremely broad range of cultures. Students are asked to read about, discuss and interpret learning situations as diverse as the Hopi Kachina initiations, pre-school experiences in Japan and China, and the induction of boy monks into university/monasteries in Nepal. The course uses both texts and videos to portray a broad range of school and educational situations from nations and groups around the world.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: EDTHP 115 or 6 credits in the social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 430 History of Education in the United States (3) American educational ideas and practice critically examined in terms of their historical development and contemporary significance.

History of Education in the United States (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 434H Honors Teaching Experience in Leadership Jumpstart (1) Guided instruction and practical experience for teaching assistants to the Honors Leadership Jumpstart course (EDTHP 234H).

EDTHP 434H Honors Teaching Experience in Leadership Jumpstart (1)

This course trains and supports the teaching assistants (TAs) who work with the first-year students in the Leadership Jumpstart course (EDTHP 234H). The TAs help guide the first-year students through their course by assisting in the design, implementation, and evaluation of the course and the student projects, providing feedback for what worked and what did not work, and providing important perspective from when they were first-year students. The TAs are expected to be a role model, assist in the instruction of the course, assist in the functional elements of the course, be a confidant/mentor to new students, and occasionally serve as an evaluator of students' work. The TAs' grades will be based on attendance at all class sessions and interactive assistance and leadership during the EDTHP 234H course and on the TA's reflections on the course, its effectiveness to achieve the objectives, and possible improvements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: EDTHP 234H and permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 440 (CI ED 440) Introduction to Philosophy of Education (3) Introduction to the examination of educational theory and practice from philosophical perspectives, classical and contemporary.

EDTHP (CI ED) 440 Introduction to Philosophy of Education (3)

The major objective of EDTHP (CI ED) 440, Introduction to Philosophy of Education, is to broaden and deepen the students' understanding of the nature of education. Such a study involves exploring the ends as well as the means of education. It includes both an examination of some of the distinctive or defining characteristics of "educated persons" as well as the different elements of the learning experience (including curricula, pedagogies, and evaluative processes) that encourage the development of such persons. As part of developing an understanding of the educational enterprise, this course will introduce students to some of the important ideas and theories that comprise the rich tradition of educational philosophy. In the design of a course of this nature with constraints established by space, time, and the background of the student, it is necessary to confront the task of making judicious selections from the vast literary wealth accumulated over the centuries. In doing so, the decision made has been to focus primarily on the literary contributions of western philosophers of education. In the interest of making the sample varied and interesting, however, an effort has been made to include writings of some philosophers of education from different cultural contexts. The educational thoughts of A.S. Neill, John Dewey, Eliot Wigginton, Maxine Greene, Paolo Freire, Mohandas Karamchand Ganddhi, David Orr, Ivan Illich, and Wendell Berry, among others, will be explored in this class. The exposure to diverse, rich, and provocative ideas of the educators included for study here will, it is hoped, stimulate students to re-examine and further develop their own philosophy of education into a more comprehensive, coherent, and consistent one.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EDTHP 115

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 441 Education, Schooling, and Values (3) Studies in education and schooling as problems in value; axiological problems and positions; examination of practical applications, including moral education.

Education, Schooling, and Values (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 496 Individual Studies (1-18) Creative projects supervised on an individual basis and which fall outside the scope of formal courses.

Individual Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 497 Special Topics (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 497A (CI ED 497A) Immigration, Ethnicity and the Schools (3) This class is an introduction to theories and empirical research on various immigrant and race/ethnic groups and their schooling.

Immigration, Ethnicity and the Schools (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 497B (EDLDR 497A) Law and Policy for Teachers (3) Students study and discuss legal issues facing teachers and schools today.

Law and Policy for Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 498 Special Topics (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Educational Theory and Policy (EDTHP)

EDTHP 497H Child Labor and Education in the Global Economy (3) Formal courses given on a topical or special interest subject which may be offered infrequently.

Child Labor and Education in the Global Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 002S Introduction to Engineering Technology (1) Introduction to engineering technology and the use of computer methods for analyzing and solving engineering technology problems; microcomputer fundamentals, word processing, spreadsheet, and database software packages.

EET 002S Introduction to Engineering Technology (1)

The primary objective of this course is to teach basic computer skills and the use of basic computer word processing and spreadsheet applications, as well as the fundamentals of formal report writing. More specifically, students learn to use Microsoft Word (word processing) and Excel (spreadsheet) for the preparation of laboratory reports and business documentation. In addition to these applications, the course should also address as many of the following topics as possible:
* Windows operating system
* Selection of a personal computer
* Communication through electronic mail (e-mail)
* Use of the World Wide Web
* Preparation of professional letters and reports
* Use of an HTML editor to create web pages and use of File Transfer Protocol
* Integration of drawing, image, and spreadsheet files into word processing documents
* Technical problem solving

The course should also provide the student with an introduction to the field of engineering technology, with a discussion of job and educational opportunities in the field. Homework and other exercises should, wherever possible, allow the student to investigate the different aspects of engineering technology, or to interact with other faculty, students, or professionals involved with engineering technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 100 Electric Circuits, Power, and Electronics (3) AC and DC circuits; machinery; controls; and introduction to electronic devices, circuits, and instrumentation.

EET 100 Electric Circuits, Power, and Electronics (3)

Electric Circuits, Power, and Electronics is a course for non-major students who will be working with electronic equipment in industry. This course starts with basic knowledge of DC and AC components and concepts used in industrial electrical work. Topics such as circuits, electromagnetism, sources, energy conversion and electrical instruments prepare students to continue with topics in electronics. Beginning with the basics of semiconductors and moving through diodes and transistors, the student is prepared to learn the concepts of rectification and amplification. These form a foundation for the completion of the course with a look at understanding the concepts and use of analog and digital circuitry found in Programmable Logic Control (PLC) systems used in industry today.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 082 orMATH 041

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 100 Electric Circuits, Power, and Electronics (3) AC and DC circuits; machinery; controls; and introduction to electronic devices, circuits, and instrumentation.

EET 100 Electric Circuits, Power, and Electronics (3)

Electric Circuits, Power, and Electronics is a course for non-major students who will be working with electronic equipment in industry. This course starts with basic knowledge of DC and AC components and concepts used in industrial electrical work. Topics such as circuits, electromagnetism, sources, energy conversion and electrical instruments prepare students to continue with topics in electronics. Beginning with the basics of semiconductors and moving through diodes and transistors, the student is prepared to learn the concepts of rectification and amplification. These form a foundation for the completion of the course with a look at understanding the concepts and use of analog and digital circuitry found in Programmable Logic Control (PLC) systems used in industry today.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Summer 2010
Prerequisite: MATH 040, MATH 082, MATH 140 orPHYS 151, PHYS 212 orPHYS 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 101 Electrical Circuits I (3) Fundamental theory of resistance, current, and voltage; capacitance, inductance. Direct current and alternating current concepts through series/ parallel circuits.

EET 101 Electric Circuits I (3)

Electric Circuits I has been designed to accomplish several related goals. A basic understanding of voltage, electric current and resistance is established early in the course. Then resistance becomes a focal point of the course as resistance of copper and other materials is examined. Resistance as a function of temperature is also considered. Efficiency, electric energy and electric power concepts are developed. A considerable effort is devoted to resistors in series, parallel and series parallel arrangements. Voltage sources in series and parallel are also considered. Resistive circuits with one voltage source are considered. Branch circuit analysis using Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL) receives considerable attention. The basic nature of Capacitance and Inductance is examined in great detail. Transient analysis of resistive- capacitive circuits and resistive - inductive circuits is covered. Sinusoidal waveforms, frequency and phase relations are introduced. Complex and polar numbers are introduced, as tools for AC circuit analysis. AC circuits with resistance, capacitance and inductance are explored. Power factor and power in AC circuits also receive considerable attention. Throughout the course, computer software is utilized for circuit analysis and evaluation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: or concurrent:MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 109 Electrical Circuits Laboratory I (1) Use of basic electrical instruments to measure AC and DC voltage, current, power, resistance. Introduction to report writing.

EET 109 Electric Circuits Laboratory I (1)

Electric Circuits Laboratory I provides a variety of experiences building electric circuits and utilizing voltmeters, ammeters, ohmmeters and oscilloscopes to take electrical readings. Emphasis is placed on using computer spreadsheet software and computer analysis software. Throughout the course, technical writing is utilized to describe electrical experiment results. Concepts presented in EET 101 are utilized through this course.

Experiments related to resistor color code, the ohmmeter and Ohm's Law provide a elementary understanding of resistance as well as the measurement of voltage, electric current and resistance. Experiments with resistors in series, parallel and series-parallel arrangements provide experience with electric circuit construction and electric circuit analysis in a laboratory situation. Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL) receive considerable attention. Capacitors are studied in charging and AC circuits. The oscilloscope and signal generator are introduced and utilized in later experiments. AC resistive- capacitive circuits and resistive - inductive circuits are built and analyzed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: or concurrent:EET 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 105 Electrical Systems (3) Introduction to the study of electrical systems, with a focus on applications in our society.

EET 105 Electrical Systems (3)

EET 105 is an introductory course in electrical systems and circuits. It is an entry level course intended to give students the big picture of the electrical technology spectrum. The course will cover the fundamentals circuit analysis such as: Kirchoff's laws, parallel and series circuits, and superposition. The course then applies this knowledge to various commonplace electrical systems (toaster, electric toothbrush, fan, etc.). The course also gives students a broad, limited exposure to the breath of electrical systems by including components and topics such as resistors, capacitors, inductors, switches, relays, fuses, amplifiers, transformers and motors.

Topics covered include:
- Electrical Safety and House Wiring
- Electrical Science
- Electrical Generation and Utilization
- Electrical Circuits and Analysis
- Electrical Instrumentation and Measurements
- Electronics
- Electrical Systems
- Electrical Machines

The course will emphasize the basic concepts, principles, and analytical models used by engineers and technologists to design, develop and test electrical systems The course does so from a top down, non-detailed systems perspective. Upon competition of this course, students will have a broad perspective of the electrical technology spectrum as they gain a deeper focused knowledge in subsequent courses.

Lectures will be supported by laboratory exercises in which the student learns about electrical instrumentation and performs electrical measurements on circuits and systems. Students will also be required to complete an electrical system project of their choosing. Students will be required to prepare written laboratory reports outlining the laboratory activity. Reports will be graded based both on their technical quality and their grammatical and professionalism.

Students in EET 105 will be required to use computers in both class and laboratory exercises to simulate electrical circuits and systems and also produce high quality laboratory reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 021 or greater placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 114 Electrical Circuits II (4) Direct and alternating current circuit analysis including Thevenin and Norton Theorems, mesh, node analysis. Capacitance, inductance, resonance, power, polyphase circuits.

EET 114 ELECTRICAL CIRCUITS II (4)

Electrical Circuits II is the second of two circuit courses aimed at developing fundamentals of electrical circuit operation and analysis. It covers topics in graphical analysis of circuit operation; capacitive, inductive, and magnetic circuits; and sinusoidal excitation and AC reactance due to inductors and capacitors.

EET 114 is normally taken in the second semester of the freshman year concurrently with a coordinated lab course, EET 118. Completion of EET 114 provides a student with all the circuit analysis fundamentals that will be needed for later courses in electronics and AC machinery.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EET 105, MATH 026

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 118 Electrical Circuits Laboratory (1) Use of basic electrical instruments to measure AC and DC voltage, current, power, resistance, and lab reporting.

EET 118 Electrical Circuits Laboratory II (1)

Electrical Circuits Laboratory is typically taken concurrently with EET 114. The course is a 1 credit course that meets for one 2-hour session each week. Exercises in the lab guide are coordinated with materials being covered in the EET 114 course. All lab exercises involve hands-on work with equipment, and many of the labs are supported by computer activities that help the student collect and interpret data. The computer exercises are coordinated with the lab guide materials. Students are required to submit formal, written lab reports for many of the exercises.

Material covered in the EET 118 lab include exercises in graphical circuit solutions, charging and discharging characteristics of capacitors, reactance and impedance measurements in AC circuits, and circuit resonance. The EET 118 lab is the first lab in which students get significant exposure to the oscilloscope, function generator, and other more sophisticated laboratory equipment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EET 105
Concurrent: EET 114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 205 Semiconductor Laboratory (1) Laboratory study of semiconductor devices and circuits.

EET 205 Semiconductor Laboratory (1)

Semiconductor Laboratory is the experimental laboratory course that supports EET 210, the first linear electronics course. The lab meets each week in a single 2-hour session during which students work with the actual devices and circuits discussed in the EET 210 lectures. Students build and test the actual circuits analyzed in class, which gives them an opportunity to understand, first-hand, the practical implications of the theory and the limitations of the analytical models covered in class. Circuits that are typically tested in EET 205 include inverting and non-inverting amplifiers, comparators, integrators and differentiators, low- and high-pass filters, and timer and oscillator circuits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Concurrent: EET 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 210 Fundamentals of Semiconductors (2) Semiconductor and circuit theory including power supplies, amplifiers, power amplifiers, oscillators, and introduction to op-amps.

EET 210 Fundamentals of Semiconductors (2)

Fundamentals of Semiconductors is the first of a 2 course sequence that examines the physics and operation of the four basic forms of linear amplifier circuits. It does so by examining the operation and modeling of typical circuits built from operational amplifiers, including inverting and non-inverting amplifiers, transconductance and transresistance amplifiers, voltage followers, instrument amplifiers, summing amplifiers, and other circuits capable of performing mathematical functions. The course also examines a variety of practical non-linear electronic circuits, including integrators, differentiators, log function amplifiers, filters, and oscillators. Issues of frequency response, circuit stability, negative feedback, and compensation are covered in the course. The course also touches on problems of D-to-A and A-to-D conversion and electronic communication. In all areas, issues related to device characteristics and their impact on circuit operation and device selection are covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 114, MATH 082

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 212W Op Amp and Integrated Circuit Electronics (4) Analysis and design of amplifier, rectifier, filter, comparator, oscillator, and other practical circuits using op amps and integrated circuit devices.

EET 212W Op Amp and Integrated Circuit Electronics (4)

EET 212W provides students with a basic understanding of the operation and functions of general-purpose linear and non-linear electronic circuits typically found in industrial applications. The course provides background on the basic operating characteristics of key semiconductor devices (diodes, transistors, FETs, etc.); however, the emphasis is on the operation, analysis, design, and application of circuits that use op-amp's and various linear integrated circuit devices to perform typical electronic functions. Topics covered include:
- Open- and closed-loop amplifier operation and feedback concepts
- Inverting, non-inverting, differential, and instrumentation amplifiers
- Summers, comparators, clippers, clampers, and function generator circuits
- Integrators and differential circuits
- Filter and oscillator circuits
- Rectifier and regulator circuits

The course will emphasize the concepts, principles, procedures, models, and computations used by engineers and technologists to analyze, select, specify, test, maintain, and design modern electronic systems. Particular emphasis will be given to circuits and applications prevalent in modern instrumentation and control systems. Modeling detail and the sophistication of mathematical analyses will emphasize the application of standard methods with the aid of computers.

Lectures will be supported by laboratory exercises in which students will investigate actual operating characteristics of devices and circuits explained in the classroom. Lab activities will emphasize comparisons of theoretical and actual performance. Students will also be expected to develop proficiency making electronic circuit measurements using standard laboratory instruments. Laboratory activities will also form the basis for the "W" designation assigned to this course. Students will be required to use standard analysis and reporting tools to prepare formal, written laboratory reports for a substantial portion of all laboratory activities undertaken in the class. Reports will be graded based both on their technical and grammatical quality and on their professionalism.

A complete understanding of the electronic circuits covered in this course requires the use of computers. Thus, students in EET 212W will be required to use computers in both class and laboratory exercises to model and simulate the relevant performance of circuits studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: EET 114, ENGL 015, MATH 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 213W Fundamentals of Electrical Machines Using Writing Skills (5) AC and DC machinery principles and applications; introduction to magnetic circuits, transformers, and electrical machines including laboratory applications.

EET 213W Fundamentals of Electrical Machines Using Writing Skills (5)

EET 213W is devoted to the study of ac and dc electrical machines and power conversion equipment. The course teaches fundamental concepts of electromagnetic circuits as they relate to the physical forces that act on electrical conductors moving in magnetic fields, and the electrical currents and voltages induced in those conductors by that same motion. The course covers characteristics of magnetic materials and how they influence the operation of electrical machines, and investigates how these properties and principles are used to develop simple yet practical models of various electromotive and power conversion devices.

Presentation of principles and theory will be relatively rigorous; however, the level of modeling detail and the sophistication of mathematical analyses of machine operation will be limited to first order (i.e., linear) and some simple second-order (non-linear) approximations.

Students in EET 213W should gain a sound understanding of how and why ac and dc motors and generators, and single phase ac transformers work as they do. The understanding should extend to cover most types of motors, generators, and transformers commonly used in industry today. Students should also understand and be able to apply the basic mathematical and electrical models developed in the course to determine the power requirements, power capability, efficiency, operating characteristics, control requirements, and electrical demands of these machines when used in typical applications. Students will also gain a general knowledge of how motors, generators, and transformers are constructed, and understand the reasons behind the various construction techniques that are used.

EET 213W is also a "writing-intensive" course, which means one of the course objectives is to teach students to prepare formal, written documents about technical subjects. Thus, students will be required to do a significant amount of writing in the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 114, EET 118, ENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 214 Electric Machines and Energy Conversion (3) Fundamental operating principles, characteristics, and analysis of electric machines, transformers, and power systems.

EET 214 Electric Machines and Energy Conversion (3)

The purpose of EET 214 is to introduce students to the electromechanical energy conversion components associated with power system generation, utilization, transmission, and distribution. The course teaches fundamental concepts of electromagnetic circuits as they relate to the induced voltages and physical forces acting on electrical conductors within magnetic fields. The course covers characteristics of magnetic materials and how they influence the operation of rotating electrical machines and transformers, and investigates how these properties and principles are used to develop simple yet practical models of various power conversion devices. Basic control of AC motors, such as starting, reversing, plugging, and variable speed operation using volts per hertz is discussed in the course. Following the study of the basic components of the power system (motors, generators, and transformers), the course will provide an introduction to power systems engineering. This introduction shall include any the following topics: power distribution fundamentals and protection, power flow, analysis and load flow studies of small power systems, and computer solutions for larger power system studies.

Topics covered include:
- Magnetics: energy conversion principles, motor and generator action
- Transformers: Single-phase, 3-phase, and autotransformers; per-unit representation
- Induction Machines: construction, operation, modeling, characteristics, and basic control methods
- Synchronous Machines: construction, operation, modeling, characteristics, motor and generator operation, power factor control, power delivery
- Power System Representation
- Power System Analysis

Presentation of the principles and theory will be relatively rigorous; however, the level of modeling detail and the sophistication of the mathematical analyses of machine operation will be limited to first order (i.e. linear) and some simple second-order (non-linear) approximations.

Students in EET 214 should gain a sound understanding of electrical machines and transformers and their models, and this knowledge should be extended so that the models are used in the analysis of power systems. Students should be able to apply the basic mathematical and electrical models developed in the course to determine power requirements, power capability, efficiency, operating characteristics, and electrical demands of these components when used in typical applications.

The course will require that students apply basic knowledge of electric circuit analysis, electric machines, and engineering concepts to analyze and solve technical problems, using the assistance of computer tools as necessary.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EET 114, EET 118

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 216 Linear Electronic Circuits (3) Theoretical study of linear electronic devices and circuits, including field effect transistors, integrated circuits, and operational amplifiers.

EET 216 Linear Electronic Circuits (3)

Linear Electronic Circuits is the second course in a 2-course sequence that examines linear electronic circuits using semiconductors. It picks up where EET 210 leaves off and delves into the actual devices used to develop amplifiers and op-amp devices. This includes study of the biasing and operation of diodes, zeners, bipolar junction transistors, junction and metal-oxide field effect transistors, and thyristors. The design and operation of CE, CB, and CC transistor amplifiers and CS, CD, and CG FET amplifiers are covered in detail. Students are introduced to the fundamental theory of operation of each of the devices and circuits and are provided with practical models to analyze their operation. Questions of amplifier gains, power efficiency, and frequency response are covered for these devices and circuits just as they were for the op-amp circuits covered in EET 210. A portion of the course also examines class A, AB, and B power amplifiers and power regulation circuits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 215 Electric Machines and Energy Conversion Laboratory (1) Laboratory study of electric machine applications, transformers, and power systems.

EET 215 Electric Machines and Energy Conversion Laboratory (1)

The purpose of EET 215 is to provide students with practical experience with electromechanical energy conversion components associated with power system generation, utilization, transmission, and distribution. The laboratory experiments in this course will demonstrate empirically the concepts introduced in the companion lecture course, EET 214.

Topics covered include:
- Magnetics: energy conversion principles, motor and generator action
- Transformers: single-phase, 3-phase, autotransformers; per unit representation
- Induction machines: operation, modeling, characteristics, basic controls
- Synchronous machines: motor, generator, power factor control
- Power system representation and analysis

Laboratory activities will require that students apply basic knowledge of electric circuit analysis, electric machines, and engineering concepts to analyze and solve technical problems, using the assistance of computer tools as necessary. Students will be expected to develop proficiency in instrumentation using standard lab equipment, and will be required to use standard analysis and reporting tools to prepare formal laboratory reports and oral presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EET 114, EET 118
Concurrent: EET 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 220 Programmable Logic Controllers (2) An introduction to programmable logic controllers (PLCs); topics covered include programming, troubleshooting, networking, and industrial applications.

EET 220 Programmable Logic Controllers (2)

The Programmable Logic Controllers (PLCs) course will teach students fundamentals of programming, installation and use, troubleshooting, and networking of industrial grade, state-of-the-art PLCs. Programming instruction will be based on standard ladder logic concepts and will cover the use of relay logic for I/O and memory control; applications of timers, counters, and sequencers; and the effective use of program flow control instructions to manage PLC operations. Data manipulation using standard digital and arithmetic programming instructions will also be covered. Concepts in analog data I/O and advanced programming methods will be introduced. Class room instructions will be supported by laboratory activities in which students will use PLCs to perform typical industrial control functions. Lab exercises will be designed to ensure students learn the practical aspects of installing, programming, troubleshooting, and networking PLCs in situations typical of industrial use. Upon completing this course, students should be capable of recognizing industrial control problems suitable for PLC control, conceptualizing solutions to these problems, and then, using standard programming software, develop, enter, and debug moderately complex programs to solve these problems. They should also be able to install PLC units, interface them with I/O channels and standard data networks, and troubleshoot I/O and networking problems. Student achievement in the course will be assessed using a combination of methods. Grasp of lecture materials will be determined via quizzes, major exams, and out-of-class problem assignments. Lab performance will be assessed through a combination of structured lab exercises and one or more application-focused projects. Both the lab exercises and the project activities will require students to demonstrate proficiency with actual PLC equipment and produce written and/or oral reports. The PLC course will presume students have prior knowledge of digital electronics and electromechanical relays. Therefore, a digital circuits course and an electrical machinery course are appropriate prerequisites.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPET 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 221 Linear Electronics Laboratory (1) Laboratory study of transistors; study of differential and operational amplifiers. Emphasis is placed on circuit design.

EET 221 Linear Electronics Laboratory (1)

Linear Electronics Laboratory is the experimental laboratory course that supports EET 216, the second electronics course. The lab meets each week in a single 2-hour session during which students work with the actual devices discussed in the EET 216 lectures and build and test the circuits analyzed in class. This gives them an opportunity to understand, first-hand, the practical implications of the theory and analytical models covered in class. Experimental topics that are covered in EET 221 include diode and rectifier circuits, BJT and FET biasing techniques, common BJT and FET amplifier designs, power supply circuits, and IC power supply regulators. Many lab exercises are supported by computer simulations using industry-standard simulation software.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 205
Concurrent: EET 216

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 275 Introduction to Programmable Logic Controls (3) Principles of industrial control, programming, interfacing, input/output devices, and applications.

EET 275 Introduction to Programmable Logic Controls (3)

Introduction to Programmable Logic Controls is a required course for sophomore-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. Programmable Logic Controllers are one of the fastest growing multi-billion dollar segments of industry. This course provides an in-depth introduction to these devices and their use in modern process industries. Starting with an overall look at the block and modular type PLC, digital inputs, digital outputs and devices such as pushbuttons, pressure switches, motors, and indicators demonstrate the elementary application and system design to which they are applied. Ladder logic programming techniques encompass gate logic, contact/coil logic, timers, counters, arithmetic functions and number comparisons. An introduction to analog input and output applications, along with study of the Proportional+Integral+Differential (PID) process function, and PLC communication networks prepare the technologist for advanced courses on these topics. The lab component of this course provides live experience with all these concepts along with industrial problem solving experience by using indicating and actuating real-time positional and process applications.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 205 . Prerequisite or concurrent:EET 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 280 Electronic Project Design and Fabrication (3) Engineering drawings, material planning, printed circuits, enclosures, interconnection and cabling, environmental and human factors, codes and standards.

EET 280 Electronic Project Design & Fabrication (3)

Electronic Project Design & Fabrication is a technical elective course for sophomore-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. Topics of the course include engineering drawings, material planning, printed circuits, enclosures, interconnection and cabling, environmental and human factors, codes and standards.

This is a capstone course in the associate degree program that integrates much of the subject matter covered in the first four semesters of the EET program. It also introduces several new concepts specifically related to business, industry and engineering projects.

During the course, students create and use drawings both as a design/development tool to help conceive a new product, as well as a means of documenting the configuration of an actual existing product. Various drawings include assembly, sub-assembly, component, fabrication, purchase, spec control, bill of materials, and specifications. Material planning includes manufacturing and quality plan, procurement packets, routing packets, work in process inventory, configuration variations, and transportation.

A printed circuit board is designed based on a captured schematic, components are laid out, circuits are routed, and boards are fabricated. Layout considerations include component and pin dimensions, pad and trace size, spacings, PCB materials, thru-hole and surface mount, fabrication, auto placement, and testing. The form and function of enclosures includes materials such as sheet metal, cast metals, and plastics; fasteners and adhesives; and standard, modified, and custom configurations.

Interconnection methods and configurations include free hanging, panel, and printed circuit. Termination methods include crimp, solder, insulation displacement, mass, manual, screw and friction. Cable configuration includes grouping of wires, routine of cables, and security. The variations and purpose of insulation are considered including material and thickness. Other cabling considerations include environmental effects, electromagnetic interference, troubleshooting, maintenance, wire marking, color coding, and prefabricated assemblies.
Environmental factors of design include temperature, humidity, electrostatic discharge, water, contamination, chemicals, vibration, and abuse. Human factors such as human machine interface, human sizes and variability, language and customs, safety, comfort, operability, functionality, and expectations are considered. Codes and standards implications include personal safety of the user, operator, service person and the public; protection of the equipment and the environment; and generation and susceptibility to interference.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 211 . Prerequisite or concurrent:EET 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 311 Alternating Current Circuits (4) Circuit analysis including controlled sources, op amps, and ideal transformers, and calculus relationships; one/two port network models; three- phase and industrial loads.

EET 311 Alternating Current Circuits (4)

E E T 311 is intended to provide competency in analysis of circuits and application of basic electrical principles including equivalent circuits and models, power and energy, and signal/energy transfer. The course will introduce ideal amplifier models, ideal op-amps and ideal transformers as circuit elements and one-port networks (Thevenin, Norton, and driving point impedance), and two-port networks (Z, Y, H, G, T, and T-I) as equivalent circuits. Since this is the first required course taken by all upper division electrical engineering technology students, ethics and professionalism will be discussed by and expected of the students. Grades will be based on four or five exams including a final exam (65%), laboratory work (20%), computer projects requiring the use of circuit simulation software, spreadsheets, and math packages (10%), and student professionalism (5%). The IEEE code of ethics and the Penn State policy on academic integrity will be applied in the instructors judgment of student professionalism. This course requires calculus through integral and differential calculus of transcendental functions. It provides the circuit analysis skills required in almost every other E E T course and is a specific prerequisite for analysis of signals and systems (E E T 312) and understanding semiconductor models and electronic circuits (E E T 330).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MATH 140
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 312 Electric Transients (4) Applied differential equations; in-depth study of transient electricity using Laplace, Fourier transforms, and state-space methods; Bode plots and application.

EET 312 Electric Transients (4)

This course is designed to provide students with a strong foundation in transient circuit analysis in addition to introduction to signals and systems. The primary objective of the course is to reinforce continuous-time system fundamentals in order to prepare the students for more advanced work in a broad range of areas including communications, control, signal processing and image processing. The topics covered in this course include:
1. Applied differential equations.
2. Transient analysis of RC, RL, and RLC circuits, using differential equations.
3. Complex frequency.
4. Network functions.
5. Bode plots and frequency response.
6. Filter networks and resonant circuits.
7. Laplace transform pairs, and their applications in circuit analysis.
8. Fourier analysis techniques; Fourier series, transform pairs, and their applications in circuit analysis.
9. State-variable circuit analysis.

This course is a required course in the Electrical Engineering Technology BS curriculum and is intended to be taken by students who have completed their first circuits course requirements. As such, the course integrates materials from the above undergraduate course in addition to related math, engineering technology, and science courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: EET 311, E E 314 orE E 315;MATH 141
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 315 Linear and Discrete System Analysis (3) Introduction to the principles and operation of linear and discrete systems.

EET 315 Linear and Discrete System Analysis (3)

Linear and Discrete System Analysis is a required course for junior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to introduce the students to linear system analysis, primarily using Laplace transforms. Students learn the concept of a transfer function, and are able to analyze both the transient and steady state response of a system. Students then learn about discrete time systems, including z-transforms, difference equations, and basic digital filters. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 301 . Prerequisite or concurrent:MATH 250 orMATH 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 320 Industrial Electricity and Electronics (4) Electrical and electronic technology for mechanical engineering technology students; emphasizes power utilization and control and electronic applications.

EET 320 Industrial Electricity and Electronics (3)

This course is designed to offer non-electrical students the opportunity to become familiar with the theory and operation of electrical, electronic, and electromechanical devices that are widely used in practice. The course concentrates on the most important concepts, rather than in-depth treatment of any individual area. The number of units covered depends on the class background. The topics covered in this course include:

1. Introduction
2. DC Networks
3. AC Networks
4. Magnetics
5. DC & AC Machinery
6. Selected topics depending on class background (if time permits): Basic electronic devices and their applications; Integrated circuits and their applications; Power Distribution; Transducers & signal conditioning; Control Systems Electronic Instrumentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E T 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 320 Industrial Electricity and Electronics (3) Basic circuit theory applied to DC/AC circuits containing resistors, inductors, capacitors; magnetic circuits; power; control; electronic applications.

EET 320 Industrial Electricity and Electronics (3)

This course is designed to offer non-electrical students the opportunity to become familiar with the theory and operation of electrical, electronic, and electromechanical devices that are widely used in practice. The course concentrates on the most important concepts, rather than in-depth treatment of any individual area. The number of units covered depends on the class background. The topics covered in this course include:

1. Introduction
2. DC Networks
3. AC Networks
4. Magnetics
5. DC & AC Machinery
6. Selected topics depending on class background (if time permits): Basic electronic devices and their applications; Integrated circuits and their applications; Power Distribution; Transducers & signal conditioning; Control Systems Electronic Instrumentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 140, PHYS 150 orPHYS 250 orPHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 330 Communication Systems (3) Analog communication systems; principles of AM and FM transmitters and receivers including sideband systems. Transmission lines, antenna theory, and noise calculations.

EET 330 Wireless Communications Systems (3)

Wireless Communications Systems is a required course for junior-level students pursuing the Electrical Engineering Technology (EET) option in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The course provides a foundation in spectrum analysis, filtering, serial communications, analog modulation and demodulation, and digital modulation and demodulation. The course discusses applications utilizing infrared (IR) and radio frequency (RF) technologies. Applications for wireless networking include the development of personal area networks (PAN) and local area networks (LAN). The course also introduces radio frequency identification (RFID) systems and applications. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 341 ; Prerequisite or concurrent:EET 315 andMATH 250 orMATH 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 330 Wireless Communications Systems (3) Wireless communications technology, transceivers, modulation techniques, serial communications, and applications. Personal area networks, local area networks, RFID systems.

EET 330 Wireless Communications Systems (3)

Wireless Communications Systems is a required course for junior-level students pursuing the Electrical Engineering Technology (EET) option in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The course provides a foundation in spectrum analysis, filtering, serial communications, analog modulation and demodulation, and digital modulation and demodulation. The course discusses applications utilizing infrared (IR) and radio frequency (RF) technologies. Applications for wireless networking include the development of personal area networks (PAN) and local area networks (LAN). The course also introduces radio frequency identification (RFID) systems and applications. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: EET 341, CMPET 301 ; prerequisite or concurrent:EET 315, MATH 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 331 Electronic Design (4) Analog/Digital and Digital/Analog Converters; advanced and nonlinear Op-Amp circuit design; noise analysis; Active Filters and Waveform Generators.

EET 331 Electronic Design (4)

E E T 330 is intended to provide competency in the application of basic electronic principles to design with operational amplifiers and integrated circuits. The course will include analog-to-digital and digital-to-analog conversion techniques; introduction to the feedback principles and non-ideal aspects of operational amplifiers including noise - needed for advanced design with op-amps; some nonlinear op-amp circuits - including comparators, Schmitt triggers, pulse width modulation, and ideal rectifiers, active filter design and waveform generator design. Grades will be based on 3 or 4 exams including a final exam (65%), laboratory work, computer projects requiring the use of circuit simulation software, spreadsheets, and math packages, and homework (30%), and student professionalism (5%). The IEEE code of ethics and the Penn State policy on academic integrity will be applied in the instructor's judgment of student professionalism. This course requires calculus through integral and differential calculus of transcendental functions, advanced circuit analysis techniques (E E T 311, E ENG 354, or E ENG 352), and knowledge of frequency response analysis techniques (E E T 312). It provides the electronic circuit analysis and design skills required in the Electronics, Systems, and Technical Electives in the General Electrical Engineering Technology Option and the Applications and Technical Electives in the Computer Engineering Technology Option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EET 311 orE E 314 or (E E 315 (;)EET 205 andEET 210) or concurrentE E 310
Concurrent: EET 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 341 Measurements and Instrumentation (3) Measurement concepts, transducers, electronic-aided measurement, mechanical and electrical measurements. Intended for electrical engineering technologists.

EET 341 Measurements and Instrumentation (3)

Measurements and Instrumentation is a required course for junior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to understand the principles of measurement systems. The course enables students to design software for programming PC-based data acquisition (DAQ) systems, understand various sensors, design signal conditioning circuits for interfacing sensors to DAQ systems, and design various types of measurement systems. Laboratory exercises reinforce concepts developed in lecture.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 117, EET 216 . Prerequisite or concurrent:MATH 141 orMATH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 401 Design of Automatic Control Systems (4) Design of feedback control systems and selected components. Nyquist Criterion, Nichols Charts; compensation.

Design of Automatic Control Systems (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 408 Communication System Design (4) Communication system principles including modulation techniques, encoding and decoding, noise, and elementary probability.

Communication System Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 402 High-Frequency Circuit Design (4) Electromagnetic theory as applied to the design of antennas, waveguides, and high-frequency components.

High-Frequency Circuit Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 409 Power System Analysis I (4) Analysis and applications study of power utility electrical equipment such as: synchronous machines, transformers, capacitors and transmission lines.

Power System Analysis I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 413 Optoelectronics (4) Principles and applications of optoelectronics including sources, detectors, imagers, transmitters, fiber optics, systems and integrated optics.

Optoelectronics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 410 Power System Analysis II (4) Principles of load studies, fault analysis, stability and protection of the public electrical power system.

Power System Analysis II (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior standing in Electrical Engineering Technology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 414 Biomedical Instrumentation (4) Introduction to transducers and circuits used to detect and process medical physiological data with focus on cardiovascular and respiratory systems.

Biomedical Instrumentation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 312, EET 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 416 Fluid and Thermal Design in Electrical Systems (3) Introduction to basic electrical engineering technology concepts and applications of thermodynamics, heat transfer, and fluid power in electrical/ electronic systems.

EET 416 Fluid and Thermal Design in Electrical Systems (3)

Fluid and Thermal Design in Electrical Systems is a required course for senior-level students pursuing the electrical engineering technology (EET) option in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to teach principles of thermal sciences with an emphasis on electrical/electronic system applications. The course enables students to understand fundamental principles of thermodynamics, heat transfer, and fluid mechanics as they apply to thermal management of electronic systems. These principles include the first law of thermodynamics, the continuity equation, basic principles of system pressure loss and fans, the three modes of heat transfer, resistance analogy for heat flow, and the finite difference method for analyzing two-dimensional heat flow. Specialized CFD software is used to analyze temperatures in electronic systems. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 315;MATH 211 orMATH 231, MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 420W Electrical Design Project (3) Design, construction, and testing of a project either selected by the students with approval or assigned by the instructor.

EET 420W Electrical Design Project (3)

This course is designed with the following goals and objectives:
1. The students will enter the course with a well-defined project proposal and a timeline for which the first task will be to write the specifications. Upon the specifications' approval, the student teams will begin designing and building the project.
2. Each student will maintain a laboratory notebook that documents the day-to-day activities of the project in a style that could be used for patent documentation.
3. Team members will provide short oral and written reports every week for the first five to six weeks, and then every two weeks until the end of the semester.
4. The students will incorporate engineering standards and constraints, i.e., consideration of economic, environmental, sustainability, manufacturability, ethical, safety, etc., in their project and final report.
5. A draft copy of the final report will be collected, critiqued, and returned to students with comments and suggestions for changes.
6. A final project oral report (20-25 minutes) will be given by the project team during the last week of the semester.
7. An extensive, well-written report describing the project that has been designed and built is the major outcome of the project course.

Grades for the course will be based on:
Weight Factor
a. Written specifications for the project
b. General conduct in the laboratory including lab notebook
c. Oral and written progress reports including question-and-answer sessions
d. Final oral and written reports including question-and-answer sessions

This course is a required course in the Electrical Engineering Technology BS curriculum and is intended to be taken by seniors as the capstone course of the major. As such, the course integrates materials from many of the undergraduate electrical courses in addition to related math, engineering technology, and science courses. This course should be taken during the last semester (prior to graduation).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EET 312, EET 331, EET 419, ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 419 Project Proposal Preparation (1) Performing the initial research needed for the senior project course, and the preparation of the written project proposal.

Project Proposal Preparation (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 423 Industrial Electronics (4) Power electronics design, phase shift and trigger circuits for PNPN devices, sensors, motor controls, interfacing digital devices to power electronics.

Industrial Electronics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 311, EET 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 430 Filter Theory (3) Analysis and synthesis of active and passive filters, including both analog and digital filters.

EET 430 Filter Theory (3)

Filter Theory is a technical elective course for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to understand the principles of filter analysis and design. The course enables students to analyze and design passive and active lowpass, highpass, bandpass, and band-reject filters. Also, students will be able to analyze and design IIR and FIR digital lowpass, highpass, bandpass, and band-reject filters. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 315;MATH 211 orMATH 231, MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 431 Advanced Electronic Design (4) Applications of analog and digital integrated circuits; introduction to analog and digital communication techniques.

Advanced Electronic Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 433 Control System Analysis and Design (4) Classical and modern control analysis and design approaches, such as Laplace and state-space, aided by analog and digital computers.

Control System Analysis and Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 440 Applied Feedback Controls (3) Analysis and design of analog and digital feedback control systems.

EET 440 Applied Feedback Controls (3)

Applied Feedback Controls is a required course for senior-level students pursuing the electrical engineering technology (EET) option in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to teach principles of feedback control systems. The course enables students to understand different elements of a feedback control system. System stability is determined, including phase and gain margin, through the use of Bode analysis techniques. Different control schemes are investigated, with emphasis on PID control. Laboratory exercises, including the construction of various control systems, reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 437 Advanced Communications, Telecommunications (3) Telecommunication systems, telephone, television, data networks, computer networks, integrated voice and data.

EET 437 Advanced Communication Systems (3)

Advanced Communications, Telecommunications is a technical elective course for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to understand the principles of telecommunications systems. The course enables students to understand techniques for the transmission of voice and data and to design systems for implementing the transmission of voice and data. Laboratory exercises reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 330, CMPET 355

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 450 Manufacturing Related Topics in Electrical Systems (3) Manufacturing methods, including reliability and quality control considera- tions as applied to electrical and electronic systems.

EET 450 Manufacturing Related Topics in Electrical Systems (3)

Manufacturing Related Topics in Electrical Systems is a required course for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. This course will introduce the student to statistics, probability, reliability, quality-control theory and best practices used in the manufacturing of commercial and government products and processes. Minitab or an equivalent industrial statistical software tool will be introduced and used by the students to help simulate and solve selected homework problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MATH 211 ; orMATH 231, MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 458 Digital Signal Processing (3) Continuous and discrete time signals, Fourier series and transform, z-transform, sampling, FIR and IIR filters, FFT, DFT, and applications.

EET 458 Digital Signal Processing (3)

Digital Signal Processing is a technical elective course for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. This course will introduce the student to digital signal processing, DSP, using both mathematical and real signal generation. The applications of DSP are quite varied, ranging from cell phones to motor control systems. DSP signals and systems topics for discussion include but are not limited to: mathematical representation of signals, sampling and aliasing, FIR filters, z-transforms, and spectrum representation & analysis. The lab component of the course will allow students to explore DSP topics of interest using various hardware and software programming tools.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 315, CMPET 355

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 456 Automation and Robotics (4) Introduction to robotic systems and automation. Emphasis includes robot motion, control, and components, as well as programming PLCs.

EET 456 Automation and Robotics (4)

The objective of this course is to use a hands-on approach to introduce the basic concepts in robotics, focusing on mobile robots and illustrations of current state of the art applications. The course is offered at the senior undergraduate level with emphasis on kinematics, dynamics and control of robot arms. Course materials are tied to lab experiments in which students will work in teams to build and test mobile robots (such as LEGO-based robots).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EET 331, CMPET 403 ; Prerequisite or concurrent:MATH 220;EET 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 459 Automation and Robotic Systems (3) Programmable logic controllers, robot dynamics, programming, control, sensing, vision, and intelligence.

EET 459 Automation and Robotic Systems (3)

Automation and Robotic Systems is a technical elective for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to introduce the students to the principles behind automation. The course principally looks at the integration of different disciplines necessary to achieve an automated system. Controls and sensing are discussed, along with an introduction to machine vision and artificial intelligence. The dynamics and control for robotics is presented. Laboratory exercises are used to reinforce concepts developed in lecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 315, CMPET 355, EET 330 . Prerequisite or concurrent:EET 416, EET 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 460 Power Systems (3) Building power distribution and systems, equipment power systems, power components, power devices, motor control, power system design.

EET 460 Power Systems (3)

Power Systems is a technical elective for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to introduce students to power system transmission, distribution, control and protection. Students learn the fundamental theory and operation of power systems to enable an analysis of practical systems. Standard design procedures and practices, such as economics, safety, and material considerations are discussed. Topics also include transmission line parameters and fault calculations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 213W, EET 315;MATH 211 orMATH 231, MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 475 Intermediate Programmable Logic Controllers (3) Application of programmable logic controllers (PLCs) to data acquisition, automation and process control.

EET 475 Intermediate Programmable Logic Controllers (3)

Programmable logic controllers (PLCs) are the workhorse of the automation and process control industry. Their rugged design and ease of programming enables PLCs to operate in almost any manufacturing environment. PLCs are employed wherever measurement equipment and computers are needed to control large electrical equipment such as motors and actuators. In this course, students apply their knowledge of basic PLC programming to see how the PLC can be used to communicate with other equipment, sense and react to external stimuli, and provide both open loop and closed loop system control.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 220 orEET 275 andEET 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 461 Power Electronics (3) Fundamentals of power electronic circuits, semiconductor power devices, power conversion equipment. Circuit topologies, closed-loop control strategies, equipment design consideration.

EET 461 Power Electronics (3)

Power electronics is a technical elective for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The course introduces students to the different topologies used to convert electrical power via the use of solid state switching. Specifically, the course presents ac-dc, ac-ac, dc-dc and dc-ac converters. The different switching devices used (diodes, SCRs, MOSFETs, etc.) are discussed. Laboratory exercises complement the lecture material. Relevant topics such as power quality, EMI and applications of power electronics are presented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 213W, EET 216, EET 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 478 Digital Communication Systems (4) Discrete signal analysis, A/D conversion, digital modulation techniques, encoding, decoding, data communication, noise.

Digital Communication Systems (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CMPET 403

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 480 Electrical and Computer Systems Senior Seminar (1) Concepts of career development; project management; engineering design documentation; industrial design examples.

EET 480 Electrical and Computer Systems Senior Seminar (1)

Electrical and Computer Systems Senior Seminar is a required course for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to introduce students to the practices associated with managing an industrial-based project. Student teams begin working on a capstone project. Project definition, specification development, scheduling, engineering constraints, and budgeting of both time and money are discussed. Other issues of career development are presented, such as interviewing, resume preparation, and career opportunities. Ethical issues related to the discipline are discussed. Engineering economy is introduced.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 341, EET 330 orCMPET 333, CMPET 355, ENGL 202C . Prerequisite or concurrent:ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 490W Electrical/Computer Senior Design Project (3) Individual or group design projects in electrical and computer engineering technology.

EET 490W Electrical/Computer Senior Design Project (3)

The Electrical/Computer Senior Design Project is a required course for senior-level students in the Electrical and Computer Engineering Technology (ECET) baccalaureate degree program. The purpose of the course is to have teams of senior students continue the senior design project they had started the prior semester in their Senior Seminar. The course focuses on project-based work where teams design, build, test and document the results of their senior design project effort. The course integrates and applies prior knowledge learned throughout the curriculum.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 480 . Prerequisite or concurrent:EET 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experience, practica or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elct Engr Technology (EET)

EET 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 007S Adventures in Electrical Engineering (1) Exploration of electrical engineering through several hands-on activities that cover a broad spectrum of applications and fundamental concepts.

E E 007S Adventures in Electrical Engineering (1)
(FYS)

What engineering discipline should I major in? This is perhaps one of the most important decisions that students in the College of Engineering must make within their first two years of study. Unfortunately, many students often make this decision based on limited knowledge of the various engineering disciplines offered at Penn State.

Adventures in Electrical Engineering is a fifteen week expedition that answers two questions. First, what type of problems do electrical engineers solve? Second, what tools do electrical engineers use to find solutions? These questions are addressed by highlighting various areas of electrical engineering including electronic circuits, semiconductor devices and fabrication, optical communications, feedback control systems, and digital image processing. Most topics are drawn from senior technical electives so that students obtain a broad view of electrical engineering.

Adventures in Electrical Engineering is a hands-on course that requires the design, construction, and testing of several projects. Each project emphasize a different subdiscipline of electrical engineering. In addition to exploring fundamental concepts of electrical engineering, students work with instrumentation and computer software frequently used by electrical engineers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 008S Introduction to Digital Music (1) First-year seminar that discusses digital music from an electrical engineering perspective; topics include sampling, digital filtering, compression, and music synthesis.

E E 008S Introduction to Digital Music (1)
(FYS)

E E 008S is a lab-oriented first-year seminar course aimed at students interested in the field of digital music. Specifically, this course discusses how the various digital music formats (and other types of digital audio) relate to the electrical engineering sub-discipline of digital signal processing. Students will come out of this course with a more technical understanding of the digital audio formats that they listen to every day.

This course is structured to have alternating periods of lecture and lab. New concepts are first covered in the lectures and then reinforced with a variety of laboratory activities. In the laboratory experiments, students will use various computer programs and will also get exposure to standard test equipment used by electrical engineers.

Topics covered in the lectures/labs include investigating the physics of sound, sampling and quantization of music signals, generating audio special effects through the use of digital filters, compression techniques used in digital audio, and mathematically synthesizing instrument sounds. Current popular digital audio formats such as compact disc audio, WAV, MP3, and MIDI will also be investigated throughout this course.

No musical experience/talent is necessary.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 009S First-Year Seminar in Electrical Engineering (1) First-year seminar covering a variety of Electrical Engineering topics that vary from year to year.

E E 009S First-Year Seminar in Electrical Engineering (1)
(FYS)

The overall objectives of Engineering First-Year Seminars are to engage students in learning about engineering and orient them to the scholarly community in a way that will bridge to, and enhance their benefit from, later experiences in the College and the University.

Seminars adhere to the two specific goals identified below by including one or more of the three strategies following each goal:

(1)Introduce students to a specific field, or encourage their exploration of a number of fields, of study in engineering; familiarization with the engineering majors and career options and with the objectives of general education and other components of the curriculum; development of a particular topic, contemporary issue, emerging or interdisciplinary field of concentration, or professional responsibilities in engineering; plant tours or demonstrations of engineering facilities

(2)Acquaint students with tools, resources and opportunities available to them in the department(s), College and University; exposure to learning support services and career development resources

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 097 Special Topics (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 210 Circuits and Devices (4) Introduction to electrical circuit analysis, electronic devices, amplifiers, and time-domain transient analysis.

Circuits and Devices (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: PHYS 212 . Prerequisite or concurrent:MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 210H Circuits and Devices (4) Introduction to electrical circuit analysis, electronic devices, amplifiers, and time-domain transient analysis.

Circuits and Devices (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 212 . Prerequisite or concurrent:MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 211 Electrical Circuits and Power Distribution (3) D.C. and A.C. circuits, transformers, single and three-phase distribution systems, A.C. motors and generators.

Electrical Circuits and Power Distribution (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 212 Introduction to Electronic Measuring Systems (3) Electronic devices and characteristics, amplifiers and feedback, electronic instruments and recording systems. Designed for non-electrical engineering students.

Introduction to Electronic Measuring Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 297 Special Topics (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 311 Electronic Circuit Design II (3) Electronic circuit design with consideration to single and multi-device subcircuits, frequency response characteristics, feedback, stability, efficiency, and IC techniques.

Electronic Circuit Design II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310;E E 350 orE E 312 orE E 314 orE E 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 310 Electronic Circuit Design I (4) Properties of fundamental electronic devices, analysis of DC, AC small-signal and nonlinear behavior, analog and digital circuit design applications.

Electronic Circuit Design I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210 orE E 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 312 Electrical Circuit Analysis (3) Circuit analysis techniques; mutual inductance; frequency response; FOURIER series; LAPLACE transform.

Electrical Circuit Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210;CMPSC 201 orCMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 314 Signals and Circuits II (3) Circuit analysis including op-amps, and ideal transformers; one/two port network models; three-phase and industrial loads; engineering professionalism.

Signals and Circuits II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210;CMPSC 201 orCMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 313W Electronic Circuit Design II (4) Design/analysis of electronics circuits including: single/multistage transistor amplifiers, op amp circuits, feedback amplifiers, filters, A/D and D/A converters.

E E 313W Electronic Circuit Design II (4)

The prerequisite course, E E 310 - Microelectronics 1, covers the basic operation of microelectronic devices and their use in logic circuit design. This course focuses on the design of electronic circuits for amplification, filtering, and A/D and D/A conversion. Advanced circuit design concepts, such as IC biasing, feedback, and frequency response, are covered. This course is designated as writing intensive, and students are required to produce a variety of technical documents based on laboratory work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 315 Electrical Signals and Circuits with Lab (5) Introduction to circuits, signals, energy, circuit analysis; frequency response, Bode diagrams, two-port networks; Laplace transforms, Polyphase circuits.

Electrical Signals and Circuits with Lab (5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 320 Introduction to Electro-Optical Engineering (3) An introduction covering several fundamental areas of modern optics, optical processes, and devices.

Introduction to Electro-Optical Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: E E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 316 Introduction to Embedded Microcontrollers (3) Introduction to microcontrollers in electronic and electromechanical systems. Hardware and software design for user/system interfaces, data acquisition, and control.

Introduction to Embedded Microcontrollers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 121;CMPEN 271
Concurrent: E E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 330 Engineering Electromagnetics (4) Static electric and magnetic fields; solutions to static field problems, Maxwell's equations; electromagnetic waves; boundary conditions; engineering applications.

Engineering Electromagnetics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210 orE E 315;MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 331 Electromagnetic Fields and Waves (3) Electromagnetic field theory and applications; Maxwell's equations; plane wave propagation; boundary conditions; basic antenna theory; impedance matching.

E E 331 Electromagnetic Fields and Waves (3)

After completing this course the student should understand, and be able to demonstrate a working knowledge of the following topics:
1)Vector Calculus
2)Coulomb's Law and applications
3)Gauss's Law and applications
4)Electric potential and electric fields
5)Static boundary conditions
6)Computation of capacitance
7)Laplace's equation
8)Current density and Ohm's Law
9)The Biot-Savart Law
10)Magnetic field characteristics
11)Computation of Inductance
12)Faraday's Law of electromagnetic induction
13)Maxwell's equations
14)Time-harmonic fields
15)Plane electromagnetic waves in various media
16)Plane waves at boundaries
17)Transmission lines
18)Smith charts
19)Basic antenna theory
20)Impedance matching.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 341 Semiconductor Device Principles (3) Quantitative description of properties and behavior of materials with application to integrated circuits, photonic devices, and quantum wellf devices.

Semiconductor Device Principles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210 or Prerequisite or concurrent:E E 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 350 Continuous-Time Linear Systems (4) Introduction to continuous-time linear system theory: differential equation models, sinusoidal steady-state analysis, convolution, Laplace transform and Fourier analysis.

Continuous-Time Linear Systems (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: E E 210, MATH 220, MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 351 Discrete-Time Linear Systems (3) Introduction to discrete-time signal processing: sampling, linear time- invariant systems, discrete-time Fourier transform and discrete Fourier transform, Z transform.

Discrete-Time Linear Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: E E 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 353 Signals and Systems: Continuous and Discrete-Time (3) Fourier series and Fourier transform; discrete-time signals and systems and their Fourier analysis; sampling; z-transform.

Signals and Systems: Continuous and Discrete-Time (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210;CMPSC 201 orCMPSC 121;MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 352 Signals and Systems: Continuous and Discrete-Time (4) Transient response, frequency response, Bode plots, resonance, filters, Laplace transform, Fourier series and transform, discrete-time signals/ systems; sampling z-transform.

E E 352 Signals and Systems (4)

E E 352 is a course designed to study the characteristics of continuous and discrete time linear systems. These include signal and power input/output relationships in both domains, impulse responses, and the differential equations that describe these systems. Convolution is an essential component of any linear systems course, therefore several classes will be devoted to this topic in order that students fully understand the concept. Fourier series is used to determine the spectral content of periodic signals thus illustrating how a signal is distributed in frequency. This is very important when determining bandwidth requirements. There will be a brief refresher on the trigonometric Fourier series then the exponential series will be studied extensively. The Fourier transform can be used to determine the spectral content of virtually any signal encountered in the undergraduate curriculum, aperiodic, or periodic. It is also valuable in determining the frequency response characteristics of linear systems. Some filter theory is included in the course along with the Laplace transform. Much of the signal processing performed today is done digitally so the remainder of the course will approach most of the aforementioned topics from the viewpoint of the discrete domain with a strong emphasis on sampling and aliasing. Finite impulse response filters will be introduced along with recursive filters using the bilinear transform method.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 210 orE E 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 360 Communications Systems I (3) Generic communication system; signal transmission; digital communication systems; amplitude modulation; angle modulation.

E E 360 Communications Systems (3)

E E 360 is a junior-level elective course in the electrical engineering curriculum that provides a detailed foundation of communications systems, expanding on the topics covered in a standard linear systems class. The first part of the course deals with analog communications. First, analog amplitude modulation (AM) is presented, covering double-sideband suppressed carrier, double-sideband large carrier, single sideband, and vestigial sideband modulation formats. Detection techniques for these modulation schemes are also covered. The phase-locked loop for coherent carrier tracking is also presented. Second, analog angle modulation is presented in the forms of frequency modulation (FM) and phase modulation (PM). Estimating the bandwidth of the angle modulated carrier is covered, as well as various generation and detection methods. After analog communications are covered, the basics of digital modulation are presented. Sampling theory and analog-to-digital conversion are covered. Particular attention is paid to the signal-to-noise ratio and the aggregate bit rate at the output of the digital modulator. The principles of Nyquist pulse shaping are presented. Particular topics include intersymbol interference, line coding, and power spectral density. A presentation of emerging digital communications technologies concludes the course. Topics may include mobile radio, high definition television, broadband services, video compression, and high-speed local area networks.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 350 orE E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 362 (CMPEN 362) Communication Networks (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.

E E (CSE) 362 Communication Networks (3)

E E (CSE) 362 is an elective course in both the electrical and computer engineering curricula which provides an overview of the broad field of data and computer communications. First, a general model of the communication task is presented, including the layered concept by which each layer provides services for the layer above. Next, the lowest (physical) layer is studied. This involves signal design, Fourier analysis representations, bandwidth concepts, transmission impairments and communication media properties. Then the next higher (link) layer is considered which involves organizing bits into frames, data link and error control methods (including frame sequence numbering and error detection principles). Multiplexing to share a link is studied, including frequency division multiplexing, dedicated time division multiplexing, and statistical time multiplexing.

At the network layer level, there are two categories: broadcast (usually local area) and switching networks. Broadcast and local area network studies include bus, tree and star topologies, Ethernet, optical fiber bus networks, ring networks, and medium access control protocols.

Switching, and routine, concepts for networks are explained, including both circuit and packet switching, datagrams and virtual circuits. Properties of frame relay and asynchronous transfer mode (ATM) networks are described. Internetworking, frame structures, routing and protocols are studied. Also, bridge routing for local networks is described.

At the still higher transport (network end-to-end control) layer, transport protocols, including TCP/IP, are described.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPEN 271;
Concurrent: STAT 301 or STAT 318 or STAT 401 or STAT 414 or STAT 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 362 (CMPEN 362) Communication Networks (3) Data transmission, encoding, link control techniques; communication network architecture, design; computer communication system architecture, protocols.

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At the still higher transport (network end-to-end control) layer, transport protocols, including TCP/IP, are described.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: CMPEN 270 orCMPEN 271
Concurrent: STAT 301 or STAT 318 or STAT 401 or STAT 414 or STAT 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 380 Introduction to Linear Control Systems (3) State variables; time-domain and frequency-domain design and analysis; design of feedback control systems; Root Locus.

Introduction to Linear Control Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 220;E E 350 orE E 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 383 Signals and Controls Laboratory (1) Design, computer simulation, and practical implementation of systems in the areas of filtering, digital signal processing, and controls.

E E 383 Signals and Controls Laboratory (1)

In this course, students will be exposed to designing, simulating and implementing practical circuits for filtering of signals, digital signal processing, and control of physical processes. The design aspect of the course will be a direct extension of the two associated lecture courses (E E 352 and E E 380). The simulations will use industry standard software tools (e.g., MATLAB, Hyperception, C/C++) while the actual implementation will be accomplished using PC based DSP hardware in addition to analog circuitry. This will be a hands-on laboratory intended to augment the material presented in E E 352 and E E 380. Students will be expected to do a large portion of pre-lab work before starting the laboratory session.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Concurrent: E E 352 ; E E 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 387 Energy Conversion (3) Modeling of induction machines, synchronous machines, transformers, and transmission lines.

E E 387 Energy Conversion (3)

E E 387 is an electrical engineering technical elective course intended for students with an interest in energy conversion in electrical, electromagnetic, electromechanical, and electrochemical systems.

The course begins with a review of static and quasi-static electromagnetics. In particular, methods of determining electromagnetic forces and torques will be discussed in detail. The course will then present methods of developing models for electromagnetic, electromechanical, and electrochemical systems and discuss the use of these models in the analysis and design of devices such as inductors, transformers, actuators, transducers, and rotating machines. Furthermore, fundamental concepts related to the operation of power electronic circuits, which often interface with these types of devices, will be presented.

The course includes a lab component where students gain experience with the analysis and design of energy conversion systems. E E 350, Continuous-Time Linear Systems, is a prerequisite for this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 350 orE E 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 396H Independent Studies (1-4) Junior-level honors course involving special individual projects under the direction of an electrical engineering faculty member.

Independent Studies (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: junior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 397E Introduction to Nano Electronics (3) Introduction to the physics and technology of nanoelectronic devices.

Introduction to Nano Electronics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 210, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 397E Introduction to Nano Electronics (3) Introduction to the physics and technology of nanoelectronic devices.

Introduction to Nano Electronics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E E 210, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 400 Engineering Design Concepts (3) Engineering design and modelling, engineering economy, project planning, capstone project selection, and technical communication skills.

E E 400 Engineering Design Concepts (3)

This course prepares senior electrical engineering students for industrial engineering design and project management. It covers the engineering design process, project planning and evaluation, engineering ethics, and engineering economy. . In addition, students select, specify, and start their capstone design project which is completed in the follow-up course, EE BD 481. Students are expected to carry out a group design project that is on par with industrial expectations. Upon completion of this course a student should have a solid understanding of the engineering design process, a clear capstone project description, should have completed some preliminary design work, and be adequately prepared to complete the project in E E 401.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 313W;E E 316;E E 352;E E 380 ; seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 401 Electrical Design Projects (3) Group design projects in the areas of electronics and electrical/computer systems.

E E 401 Electrical Design Projects (3)

In this course students complete their senior design project started in E E 400. Design groups meet regularly with a faculty advisor to report progress and resolve design issues. Oral and written progress reports are expected at selected times. The class culminates with a final technical defense of the project.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 400 ; eighth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 402W Senior Project Design in Electromagnetics (3) Project designs of antenna and microwave systems, with an emphasis on technical communications skills. Lab.

E E 402W Senior Project Design in Electromagnetics (3)

E E 402W is intended to give senior-year electrical engineering students a "real-world simulation" of a total design experience. The focus is on electromagnetic engineering design applications such as antennas and filters, which are developed as semester projects. This is accomplished through both lectures and a laboratory component.

One period each week is devoted to general lectures concerning professional engineering topics. The subjects of these lectures vary but generally are concerned with topics that are not purely technical in nature, such as laboratory safety, quality control, reliability, entrepreneurship, job interviewing, deciding to go to graduate school, ethics, etc.

The remaining weekly lecture and the laboratory focus on the design process. The designs are developed in a proposal and formulated in the preliminary design review. Background readings and published papers are searched to find ideas for the design. The process includes a Critical Design Review and an oral presentation to judges.

Realistic industrial assignments are developed with modern equipment such as network analyzers and spectrum analyzers. Computer Aided Design software is available to help students do a layout and simulation of the project performance. Simulated results are presented along with measurements to compare theory and practical results. The final written report should provide appropriate detail and references of student's work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: E E 330 . Prerequisite or concurrent:ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 403M Senior Project Design (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.

Senior Project Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 330;E E 350;E E 316 ; and the completion of two Electrical Engineering technical electives
Concurrent: ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 403M Senior Project Design (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.

Senior Project Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E E 330;E E 350;E E 316 ; and the completion of two Electrical Engineering technical electives
Concurrent: ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 403W Senior Project Design (3) Project designs of electrical engineering systems, encompassing various subdisciplines within Electrical Engineering, with an emphasis on technical communications skills.

E E 403W Senior Project Design (3)

E E 403W is intended to give senior-year electrical engineering students a "real-world simulation" of a total design experience. This is accomplished through both lectures and a laboratory component. One period each week is devoted to general lectures concerning professional engineering topics. The subjects of these lectures vary but generally are concerned with "life as an engineer" topics that are not purely technical in nature. Topics typically include laboratory safety, quality control, reliability, entrepreneurship, job interviewing, deciding to go to graduate school, ethics, etc.

The focus of the weekly three-period lab varies according to the particular section number. In some sections, the first seven weeks of the semester are devoted to three predefined laboratory assignments. These assignments are often focused on interfacing techniques, such as interfacing between multistage analog systems or between analog and digital systems. In the second half of the course, the student teams work on a major design project chosen by each team, with approval of the instructor.

In other sections of the course, the student teams begin work on a major design project at the beginning of the semester. The projects for these "industrial strength" sections are sponsored by industrial companies through Penn State's Learning Factory.

Multidisciplinary teams are formed by students from E E, M E, I E, and/or Aerospace Engineering.

All sections of E E 403W have a small, section-by-section weekly lecture that is concerned with "life on a project" issues. Some of these lectures may be devoted to design issues directly related to the student projects, but many are still general in nature. Small lecture topics can include the following: what's going on with teaming, engineering economics, TQM/CQI, preparing effective presentations, project management, mechanical packaging, preparations for requests for quotes, preliminary and critical design reviews.

About one third of the course is devoted to technical communication issues. The students must develop good laboratory documentation techniques. They must also prepare a detailed project proposal. Engineering reports are required either upon the completion of each assigned task or, in the "industrial strength" sections periodically to the corporate sponsor. Oral presentations are required for the preliminary and critical design reviews. The students must also submit a final written report. A final oral presentation is made by each team for the student-chosen projects, while the industrial projects are presented in poster format at an end-of-semester product showcase.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330;E E 350;E E 316 ; and the completion of two Electrical Engineering technical electives
Concurrent: ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 405 Capstone Proposal Preparation (1) Performing the initial research needed for the capstone course, and the preparation of the written project proposal.

E E 405 Capstone Proposal Preparation (1)

The capstone design course will incorporate engineering standards and realistic constraints including most of the following considerations: economic; environmental; sustainability; manufacturability; ethical; health and safety; social; and political. While engineering constraints are included in the earlier courses, the senior capstone design requires integration of the appropriate engineering constraints into the capstone design course. This course will mimic the problems encountered by an engineer working in commercial, industrial, and governmental entities. This basically requires that students in the Electrical Engineering BS program select a topic prior to starting the semester of their capstone design course, do the initial research for the topic, prepare a timeline, and prepare a well written proposal that would make a suitable capstone project. The time devoted to the careful topic selection, research, timeline, and proposal preparation, makes for a much better capstone design experience.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: senior level standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 406W Electrical Engineering Capstone Design (3) Project designs of analog and digital systems, interfacing, and relevant electronic circuits, with an emphasis on technical communications skills.

E E 406W Electrical Engineering Capstone Design (3)

E E 406W is designed with the following goals and objectives:
* The students will enter the course with a well-defined capstone design proposal and a timeline for which the first task will be to write the specifications. Upon the specifications' approval, the student teams will begin designing and building the projects.
* Each student will maintain a laboratory notebook that documents the day-to-day activities of the project in a style that could be used for patent documentation.
* Team members will provide short oral and written reports every week for the first five to six weeks, and then, every two weeks until the end of the semester.
* The students will incorporate engineering standards and constraints, i.e., consideration of economic, environmental, sustainability, manufacturability, ethical, safety, etc., in their project and final report.
* A draft copy of the final report will be collected, critiqued, and returned to students with comments and suggestions for changes.
* A final project oral report (20 - 25 minutes) will be given by the project team during the last week of the semester.
* An extensive well-written report describing the project that has been designed and built, is the major outcome of the capstone design course.

Grades for the course will be based on: (a) Written specifications for the project 0.075 (b) General conduct in the laboratory including lab notebook 0.35 (c) Oral & written progress reports including question and answer sessions 0.20 (d) Final oral and written reports including question and answer sessions 0.375. This course is a required course in the Electrical Engineering BS curriculum and is intended to be taken by seniors as the capstone course for the major. As such, the course integrates materials from many of the undergraduate electrical courses in addition to related math, engineering, and science courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 311;E E 405;ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 410 Linear Electronic Design (3) Linear circuit design via integrated circuit processes; A/D converters, switched capacitor filters, phase lock loops, multipliers, and voltage- controlled oscillators.

E E 410 Linear Electronic Design (3)

E E 410 is a technical elective intended for electrical engineering students who wish to specialize in semiconductor circuits, especially in linear circuit design. The course emphasizes integrated circuit process-compatible circuit design techniques in recognition of the amazing synergy that has characterized the relationship between modern circuits and integrated circuit processing technology. This course is the third in a series of three courses dealing with the analysis and design of electronics circuits, following E E 310 and E E 311. E E 410 includes three lectures and a two-hour laboratory each week.

E E 410 begins with a deeper look into several key concepts previously considered in earlier course work, such as node voltage and mesh current methods for solving circuits, which are emphasized throughout the course. The small-signal method is revisited and thoroughly examined. The more advanced Ebers-Moll bipolar junction transistor model is introduced and the metal oxide semiconductor field effect transistor device model is reviewed.

The next phase of the course introduces the vertical geometries of integrated circuit devices commonly used in linear circuits. Unwanted parasitic devices that are introduced as a result of the integrated circuit processes are revealed and their effects on circuit sign techniques operation are discussed. Both the limitations and the opportunities provided by integrated circuit technology are examined, particularly in the light of de used to minimize the problems and to take advantage of the features.

The last half of the course is devoted to applications of linear circuits, especially those which students have not previously encountered. The first topics in this series are analog-to-digital and digital-to-analog conversion. Various methods of accomplishing each of these functions are examined. The inverse relationship between speed and accuracy is emphasized. These topics are followed by studies of switched capacitor filters, phase lock loops, analog multipliers, and voltage-controlled oscillators.

The emphasis of the laboratory component of the course is to successfully accomplish a student-chosen linear circuit design project. Students work in two- or three-person teams to select their project and do the design and evaluation. A three-way methodology is emphasized; mathematical analysis by hand, computer simulation, and laboratory breadboarding and measurement. At the end of the project students give an oral presentation and submit a formal engineering report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 413 Power Electronics (3) Switch-mode electrical power converters. Electrical characteristics and thermal limits of semiconductor switches.

E E 413 Power Electronics (3)

E E 413 is an elective course taken by undergraduate and graduate electrical engineering students. The objective of E E 413 is to introduce techniques for the analysis, design, and application of the switch-mode power converters that are used in power supplies, motor and actuator drives, and the interface between power distribution systems and emerging energy sources such as fuel cells, photovoltaics, and superconducting magnetic energy storage systems. Several laboratory experiments provide an opportunity to characterize the switching behavior of semiconductor devices, build and test various dc/dc and ac/dc converters, and consider alternatives for gate/base drive and feedback isolation circuits required to build practical converters.

This course draws upon the students' background in time-domain circuit analysis, electronic devices and circuits, Fourier analysis, and use of software such as PSPICE and MATLAB. It does not require a background in power or electric machinery, although students with such a background will be able to appreciate many of the applications more fully.

The course is divided into four major areas: rectifiers and phase-controlled converters, dc-to-dc converters, inverters, and design considerations for practical converters. The focus in each of the first three areas is to determine the relationship between the magnitude of the fundamental frequency component and/or average value of the voltages and currents at the two ports of the particular converter. Additional harmonic or ripple components are then considered and design guidelines for the switching and reactive components are derived. The fourth area encompasses the study of power device characteristics, the design of gate drive and feedback circuits, and the analysis/design of elementary controllers.

As the name implies, students interested in either electronics or power will find this course worthwhile. Electronics students will gain a new perspective on the operation and analysis of electronic circuits as well as an opportunity to discover what has powered the circuits that they have studied up until this course. Power students will see how and why power electronics are revolutionizing motor control and power distribution as well as the power quality issues associated with electronic power conversion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310;E E 350 orE E 312 orE E 314 orE E 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 416 (CMPEN 416) Digital Integrated Circuits (3) Analyses and design of digital integrated circuit building blocks, including logic gates, flip-flops, memory elements, analog switches, multiplexers, and converters.

E E 416 Digital Integrated Circuits (3)

E E 416 is a technical elective available to electrical and computer engineering students. It is intended for students who wish to specialize in the field of digital circuits. This course introduces the basic concepts involved in the design of digital circuits, which find practical application as logic and memory circuits in computers and other digital processing systems. The course emphasizes integrated circuit process-compatible circuit design techniques in recognition of the amazing synergy that has characterized the relationship between computer circuits and integrated circuit processing technology. This course includes three lectures and a two-hour laboratory each week. The only prerequisite is E E 310, a basic circuits course required for both electrical engineering and computer engineering students.

E E 416 begins with a review of the bipolar junction transistor (BJT) device and proceeds into the more advanced Ebers-Moll device model. This is followed by an examination of a series of BJT-based saturating and non-saturating digital circuits of ever increasing complexity illustrating the evolution of the modern bipolar logic circuit families. The next phase of the course reviews the metal oxide semiconductor field effect transistor (MOSFET) and proceeds along the same path taken for the bipolar transistor circuits. Various MOSFET logic circuit families are introduced and analyzed. Computer semiconductor memory circuits are considered next. Both BJT and MOSFET versions of both static and dynamic read-write and read-only memories are considered. The cell array, memory addressing circuits, and sense amplifier designs are all examined in detail. This is followed by the related subject of programmable logic arrays, the final topic.

The emphasis of the laboratory component of the course is to compare the performance of representatives of each class of circuits to computer simulations of the same circuits. Parameters such as input-output voltage transfer characteristics, noise margins, and propagation delays are evaluated by building and measuring laboratory models. Most of the laboratory exercises require the student to evaluate a specified circuit, but the final exercise requires the student to design a circuit to meet a predefined set of specifications, then to prove that the design meets the requirements by measuring the circuit performance. Students are required to write a formal engineering report detailing the results of each laboratory exercise.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 417 (CMPEN 417) Digital Design Using Field Programmable Devices (3) Field programmable device architectures and technologies; rapid prototyping using top down design techniques; quick response systems.

E E (CMPEN) 417 Digital Design Using Field Programmable Devices (3)

Field Programmable Devices, such as Field Programmable Gate Arrays (FPGAs) and Complex Programmable Logic Devices (CPLDs) are widely used for rapid prototyping and quick response-time designs. The objective of this course is to introduce the student to digital design using Field Programmable ICs, and to provide an understanding of the underlying technologies and architectures of these Integrated Circuits.

The course begins by introducing design alternatives for modern electronic systems identifying and classifying alternative system solutions, and evaluating when particular design solutions are optimal. These alternatives include microprocessors, microcontrollers, off-the-shelf digital ICs, Programmable logic ICs (FPGAs and CPLDs), and various forms of Application Specific Integrated Circuit (ASIC) designs. A homework assignment requires the student to quantitatively evaluate the cost, complexity, packaging, and time-to-market issues for a complex system design specification.

Next, the underlying Field Programmable Logic IC architectures and technologies are studied in detail. Following a broad survey of available programmable IC vendors and on-chip programming technologies (and their cost/performance trade-offs), several specific case studies are presented in the class. The first is the Xilinx XC4000xl line, because of the target boards used in the CAD laboratory component for this class. The initial lab portions of the class help the students to specify their design using various forms of design entry tools and also allows them to see how their design map on to the underlying FPGA architecture. The students also learn the underlying algorithms used by the design software they use in their Labs.

Next, the systematic top-down method for specifying complex designs using VHDL is introduced. Students are given a supporting homework assignment to develop high-level behavioral models for a simple digital system to reinforce this segment of the course. VHDL behavioral synthesis is now introduced as a preferred path to go from high-level system behavior to actual implementation on the FPGA. The strengths and weaknesses of synthesis are discussed, as are the emerging CAD tool trends. Additional VHDI-based homework assignments reinforce behavioral design and synthesis using commercial CAD tools.

The final segment of the class covers special topics that identify current trends in digital system architecture and programmable logic design. These include such topics as partially reconfigurable architectures and dynamic reconfiguration techniques, system design for testability, and field programmable analog arrays. Applications of FPGAs in special purpose computing environments such as signal processing, Java acceleration and image processing are also introduced. In the laboratory, student design project assignments explore larger and more complete system specifications of such things as controllers, CPU and memory design, and signal processing blocks. These assignments reinforce the lecture content as the students model, synthesize and implement their digital designs on the target Xilinx FPGA boards.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPEN 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 420 Electro-optics: Principles and Devices (3) Spatially linear system and transform; diffraction theory, partial coherence theory, optical image detection, storage and display, holography.

Electro-optics: Principles and Devices (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: E E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 421 Optical Fiber Communications (3) Operational principles of optical components, including sources, fibers and detectors, and the whole systems in optical fiber communications.

E E 421 Optical Fiber Communications (3)

E E 421 is an introduction course to fiber optic communications. This course is designed as an elective course for both the E E senior undergraduate students and E E graduate students. Students are expected to have a general knowledge on fiber optic communications after taking this course. The content of this course focuses on the engineering aspects of fiber optic communications. This course is offered once a year.

This course basically consists of four major parts:

The first part introduces the motivations of using fiber optic communication systems, which include the huge bandwidth, low attenuation, immune from the electromagnetic field interference, et al. (1 week)

The second part of this course deals with light propagation in the optical waveguides. Both the simple geometrical approach and wave optics approach are used to calculate the light propagation in the optical fiber. The geometrical approach (i.e., total internal reflection) provides an intuitive feeling about light propagation in the fiber while the wave optics approach (i.e., Maxwell" equations) provides more accurate solutions. In particular, it can explain important concepts such as the conditions for single mode fiber and intramodal dispersions in single mode optical fiber. With the help of popular calculation software (e.g., Matlab, Mathcad), students are required to solve waveguide equations for single shape optical fibers (such as step index fiber). (5 weeks)

The third part of this course introduces some critical components that are needed in fiber optic communication systems. This includes the optical transmitter (laser diode), optical receiver (i.e., photodetector), modulators and demodulators (such as driving current approach and optical waveguide modulators), optical coupler (how to connect more than two fibers together), optical amplifier (including the basic principle of erbium doped fiber optic amplifiers), fiber optic gratings (a critical component for the multiple wavelengths fiber optic network systems), dispersion compensation device (such as chirped fiber optic grating based device) et al. (6 weeks)

The fourth part of this course talks about fiber optic networks. The major contents include fiber optic network architectures (such as star connect), multiplexing techniques in fiber optic networks (such as wavelength division multiplexing and time division multiplexing), connection fiber optic networks with non-fiber optic networks (such as copper wire based networks), current trends in fiber optic networks, et al. (2 weeks).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 320, E E 350, E SC 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 422 Optical Engineering Laboratory (3) Hands-on experience covering areas of optical transforms, electro-optics devices, signal processing, fiber optics transmission, and holography.

Optical Engineering Laboratory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: E E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 424 Principles and Applications of Lasers (3) Principles of lasers--generation, propagation, detection and modulation; applications in fiber optics communication, remote sensing, holography, optical switching and processing.

Principles and Applications of Lasers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330, E SC 400H orPHYS 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 432 UHF and Microwave Engineering (3) Transmission line and wave guide characteristics and components; design of UHF-microwave amplifiers, oscillators, and filters; measurement techniques; design projects.

UHF and Microwave Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: E E 310, E E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 430 Principles of Electromagnetic Fields (3) Laws of electrodynamics, boundary value problems, relativistic effects, waves in dielectrics and ferrites, diffraction and equivalence theorems.

Principles of Electromagnetic Fields (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 438 Antenna Engineering (3) Radiation from small antennas, linear antenna characteristics, arrays of antennas, impedance concepts and measurements, multifrequency antennas, and aperture antennas.

E E 438 Antenna Engineering (3)

E E 438 is an electrical engineering technical elective course intended for students with a specialization in electromagnetics. This course presents antenna engineering concepts including in-depth studies of various antennas and arrays and computer modeling of antennas for analysis and design. The course has three lectures each week as well as an additional period for demonstrations and discussions of outside lab and computer projects. This course requires E E 330, the undergraduate electromagnetics course, as a prerequisite.

E E 438 begins with a review of electromagnetics which leads into an introduction of antennas. A lecture is given which shows how the evolution of a guided wave on a transmission line eventually leads into a device that can act as a wave launcher or antenna. A series of lectures are then given introducing the various classes and types of antennas. Performance parameters such as input impedance, radiation patterns, directivity, gain, polarization, and efficiency are then discussed. Examples and pictures of many antennas and their respective patterns are shown as part of these lectures.

Next, extensive lectures are given which describe definitions and antenna parameters in detail. Much time is spent on how to visualize radiation patterns and beamwidth. Derivations are carried out for directivity and gain adhering to IEEE standard definitions.

Theorems are discussed on the subject of reciprocity and how it can be related to practical measurements of patterns. Another lecture deals with the subject of antenna polarization and cross-polarization. Link analysis is discussed for communication systems and real-world examples are given for its use.

The second half of the course involves extensive study of various types of antennas including center-fed dipoles, monopoles, loops, phased arrays, broadband antennas, Yagi antennas, traveling wave antennas, frequency antennas, and aperture antennas.

Throughout the course, students are introduced to and utilize an advanced antenna computer modeling software package for carrying out assigned projects and use in homework problems. They are also assigned a group design project during the last third of the course where extensive use of the software package is required. Each group gives an oral presentation of the project and the results during the last week of class and turns in a final report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: E E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 441 Semiconductor Integrated Circuit Technology (3) An overview of fundamentals of processes involved in silicon integrated circuit fabrication through class lectures and hands-on laboratory.

Semiconductor Integrated Circuit Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310, E SC 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 439 Radiowave Propagation in Communications (3) Radiowave propagation in mobile, terrestrial, and satellite communications; applications at microwave and lower frequencies.

Radiowave Propagation in Communications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 442 Solid State Devices (3) The physics of semiconductors as related to the characteristics and design of solid state electronic devices.

Solid State Devices (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 310, E SC 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 450 Signal and Image Processing (3) Linear system analysis in one-dimension and two-dimensions, emphasis on filtering; multi-dimensional signal analysis; image enhancement and reconstruction; computer simulation applications.

Signal and Image Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 453 Fundamentals of Digital Signal Processing (3) Design of FIR and IIR filters; DFT and its computation via FFT; applications of DFT; filter implementation; finite arithmetic effects.

E E 453 Fundamentals of Digital Signal Processing (3)

The objective of E E 453, an electrical engineering elective course taken by seniors and graduate students, is to develop a rigorous, yet elementary, introduction to the fundamentals of one-dimensional discrete-time (digital) signal processing. The main topics in the course are the analysis and design of finite impulse response (FIR) and infinite impulse response (IIR) digital filters, the discrete Fourier transform (DFT) and its computation via the fast Fourier transform (FFT), and error analysis due to the constraints of finite arithmetic.

The emphasis on the analysis and design of linear time-invariant discrete-time filters rests on the background acquired in the time as well as transform domain analysis of continuous-time and discrete-time signals and systems interfaced via the Shannon sampling theory.

The students are alerted about topics outside the main thrust of the course mentioned above and these peripheral issues (that lead to more advanced subject matter pursued in depth in subsequent signal processing courses) include interpolation, decimation, and multirate digital signal processing.

There is also a laboratory portion of E E 453 that exposes students to the use of digital signal processing workstations -- a collection of hardware and software that is used to acquire, digitize, filter, analyze, and display a variety of real-life signals. This hands-on experience helps the student appreciate and understand theoretical concepts covered in class like the sampling and reconstruction of continuous-time signals, IIR and FIR filter design, and error analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 351 orE E 352 orE E 353

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 454 (CMPEN 454) Fundamentals of Computer Vision (3) Introduction to topics such as image formation, segmentation, feature extraction, shape recovery, object recognition, and dynamic scene analysis.

E E 454 Fundamentals of Computer Vision (3)

E E 454 is an introduction to computer vision. The goal of computer vision is to make computers understand and interpret visual information. Computer vision systems bring together imaging devices, computers, and sophisticated algorithms for solving problems in areas such as industrial inspection, medicine, document analysis, autonomous navigation, and remote sensing. The course involves both pedagogical written assignments and computer projects.

The beginning of the course gives an overview of computer vision and introduces low level image analysis techniques for binary images. Binary vision systems are useful when the silhouette of imaged objects convey enough information to recognize them. Examples can be found in optical character recognition, chromosome analysis and recognition of industrial parts. Moreover, many techniques developed for binary systems can be applied to gray level or color images. Next, the course covers image segmentation and contours. These topics are the foundation of most computer vision techniques. For an image to be correctly interpreted, it must be partitioned into regions that correspond to distinct objects or parts of objects. First, region based techniques such as thresholding, split and merge, region growing and texture analysis are introduced. Next, edge based techniques using gradient and Laplacian operators are discussed. Finally, contour representations and curve approximations linking edges into region boundaries are studied.

Next, depth from vision, with emphasis in stereo vision, is considered. Calculating distances to and among various points in the scene is important in many computer vision tasks such as inspection, robot manipulation, and autonomous navigation. In this part of the course the geometry of stereo systems and how to obtain depth maps from stereo image pairs is studied. Also, alternative 3D imaging sensors such as laser based range finders and radars are discussed.

Following stereo, the topic of computer vision is broaden to understand sequences of images over time. In this section techniques using information on spatial and temporal changes are used to design computer vision systems capable of coping with moving and changing objects, changing illumination and changing viewpoints. Visual motion is important primarily for two reasons. First, motion is a very important cue to understand the scene structure. Second, biological systems do use motion to infer properties of the surrounding world with very little a priori knowledge.

Finally, the topic of 3D object recognition is discussed. Object recognition entails two main issues: object identification and object localization. Identification determines the objects being imaged while localization determines their position in the world and with respect to the sensors. This topic builds upon all the different techniques discussed until this point.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 230 orMATH 231;CMPSC 201 orCMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 455 (CMPEN 455) An Introduction to Digital Image Processing (3) Overview of digital image processing techniques and their applications; image sampling, enhancement, restoration, and analysis; computer projects.

E E (CMPEN) 455 An Introduction to Digital Image Processing (3)

E E/CMPEN 455, a technical elective available to both electrical and computer engineering seniors and graduate students, discusses many current techniques for processing and manipulating digital images. The course involves both pedagogical written assignments and computer projects.

The beginning of the course gives an overview of digital image processing systems and digital image fundamentals. During this unit, important elements of human visual perception are reviewed; these ideas help motivate many of the computer-based techniques described in subsequent units. Also, the standard model for a digital image, in addition to the concepts of sampling and quantization, are described. Finally, basic topological concepts between digital image pixel are discussed.

The next unit considers image transform analysis, with a primary focus on Fourier-based techniques. The one-dimensional Fourier transform is reviewed, and then two-dimensional Fourier transform analysis is discussed. To bridge the gap from the continuous world to the digital world, the sampling theorem is introduced. Next, the Discrete Fourier Transform and its properties are described. Fourier-based filtering techniques, such as the ideal low-pass and Butterworth filters are then introduced. The Fast Fourier Transform is also discussed. Finally, the Discrete Cosine Transform, used later in JPEG and MPEG, is introduced.

The next unit discusses techniques for image enhancement and segmentation. These techniques include point-based techniques based on histogram analysis. They also involve linear and nonlinear mask-based methods for noise reduction and region sharpening. Further, techniques of mathematical morphology, which involve an application of set-theoretic concepts to image processing, are described. Finally, image segmentation methods, based on edge detection and thresholding, are described.

The final unit considers the concept of image compression. Techniques for image encoding and decoding are discussed. A brief model of the encoding-decoding process is described. Next, compression techniques, such as run-length encoding and Huffman coding, are described. Finally, the multimedia image-compression methodologies, JPEG and MPEG, are discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 350 orE E 353;CMPSC 201 orCMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 458 Digital Image Processing and Computer Vision (3) Principles of DSP and computer vision, including sensing preprocessing, segmentation, description, recognition, and interpretation.

E E (CSE) 458 Communication Networks (3)

E E (CSE) 458 is an elective course in both the electrical and computer engineering curricula which provides an overview of the broad field of data and computer communications. First, a general model of the communication task is presented, including the layered concept by which each layer provides services for the layer above. Next, the lowest (physical) layer is studied. This involves signal design, Fourier analysis representations, bandwidth concepts, transmission impairments and communication media properties. Then the next higher (link) layer is considered which involves organizing bits into frames, data link and error control methods (including frame sequence numbering and error detection principles). Multiplexing to share a link is studied, including frequency division multiplexing, dedicated time division multiplexing, and statistical time multiplexing.

At the network layer level, there are two categories: broadcast (usually local area) and switching networks. Broadcast and local area network studies include bus, tree and star topologies, Ethernet, optical fiber bus networks, ring networks, and medium access control protocols.

Switching, and routine, concepts for networks are explained, including both circuit and packet switching, datagrams and virtual circuits. Properties of frame relay and asynchronous transfer mode (ATM) networks are described. Internetworking, frame structures, routing and protocols are studied. Also, bridge routing for local networks is described.

At the still higher transport (network end-to-end control) layer, transport protocols, including TCP/IP, are described.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 456 (E SC 456, EGEE 456) Introduction to Neural Networks (3) Artificial Neural Networks as a solving tool for difficult problems for which conventional methods are not applicable.

E E (E SC/EGEE) 456 Introduction to Neural Networks (3)

This course is in response to students needs to learn Artificial Neural Networks (ANN) as a solving tool for difficult problems for which conventional methods are not available. The objective of this course is to give students hands-on experiences in identifying the best types of ANN, plus developing and applying ANN to solve difficult problems. Students will be introduced to a variety of ANN and will use their training skills to solve their own applications. During this course the students will develop a final project, in which they will apply ANN to widely varied problems.

Examples:
I) students from E E may be interested in applying ANN to solve control problems;
II) students from Material Sciences may be interested in applying ANN to predict the pitting corrosion of components;
III) students from Petroleum Engineering may be interested in applying ANN to characterize the life of a reservoir;
IV) students from Agricultural Engineering may be interested in applying ANN to sort apples automatically, etc.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 460 Communication Systems II (3) Probability fundamentals, digital/analog modulation/demodulation, system noise analysis, SNR and BER calculations, optimal receiver design concepts, introductory information theory.

E E 460 Communication Systems Performance Analysis (3)

E E 460 is an elective course in the electrical engineering curricula that provides detailed performance analysis of communications systems studied in E E 360.

First a review of axiomatic approach to probability theory is presented, including review of random variables, their statistics, central-limit theorem and correlation function. This is followed by a review of the theory of random processes including power spectral density, multiple random processes, their transmission through linear systems and band-pass random processes.

Then, behavior of analog systems in the presence of additive white Gaussian noise (AWGN) is analyzed. As a benchmark, signal-to-noise ratio is derived for a base band system. This is followed by a performance assessment of amplitude modulated and frequency modulated systems and comparison is made to the base band system performance. Concepts of optimum pre-and de-emphasis systems are explained.

Behavior of digital communication systems in AWGN is studied. This includes optimum threshold detection and general analysis of optimum binary receivers. Performance of carrier modulation systems ASK, FSK, PSK and DPSK is derived in terms of average bit error rate (BER) as a function of bit-energy-to-noise density height. M-ary communications systems are analyzed. Synchronization issues are discussed.

This is followed by the theory of optimum signal detection; geometrical representation of signals and signal spaces, Gaussian processes, optimum receiver and equivalent signal sets are illustrated by several examples. BER performance analysis of complex digital modulated systems is demonstrated, using the developed signal space concepts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 471 (AERSP 490, NUC E 490) Introduction to Plasmas (3) Plasma oscillations; collisional phenomena; transport properties; orbit theory; typical electric discharge phenomena.

Introduction to Plasmas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 461 Communications I (4) Element of analog and digital communication systems, AM, FM, and digital modulation techniques, receivers, transmitters, and transmission systems, noise.

Communications I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 472 (AERSP 492) Space Astronomy and Introduction to Space Science (3) The physical nature of the objects in the solar system; the earth's atmosphere, ionosphere, radiation belts, magnetosphere, and orbital mechanics.

Space Astronomy and Introduction to Space Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330 orPHYS 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 477 (METEO 477) Fundamentals of Remote Sensing Systems (3) The review of fundamental physical properties leads into discussions of various techniques, including imaging, spectroscopy, radiometry, and active sensing.

Fundamentals of Remote Sensing Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330 orMETEO 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 474 Satellite Communications Systems (3) Overview of satellite communications systems, principles, space platforms, orbital mechanics, up/down links and link budgets, modulation techniques.

E E 474 Satellite Communications Systems (3)

This course is designed to give seniors and graduate students an overview of the principles of satellite communications systems. Building on junior-level courses in electromagnetics and communications, it shows how complex satellite systems operate and provide services that we depend on, such as telephone, television, weather forecasting, and global positioning. Specific topics include: historical background on how satellite systems came to be, present uses of satellite systems, and future trends in satellite systems design, construction, and uses; orbital mechanics and launch systems and vehicles; earth stations; radio propagation and link analysis; signals and satellite access methods. Student performance is evaluated via exams, homework assignments, and projects. Hands-on experience in the design of satellite communications links is gained through the use of industry-standard satellite system analysis software. In their design, the student must achieve specific goals of satellite accessibility, earth coverage footprint, orbital launch and stability, and communications link budget.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330 andE E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 480 Linear Systems: Time Domain and Transform Analysis (3) Signals and systems representations, classifications, and analysis using; Difference and Differential equations, Laplace transform, z-transform, Fourier series, FT, FFT, DFT.

E E 480 Linear Systems: Time Domain and Transform Analysis (3)

Linear Systems: Time Domain and Transform Analysis, is a recommended graduate level course for the Master of Engineering in Electrical Engineering at Capital College, since it is a prerequisite for most of the E E prefixed courses offered at this location. The major topics covered in this course include; Signals and Systems representations, classifications, and analysis using; Difference and Differential Equations, Laplace Transform, z-transform, Fourier series, Fourier Transform, Fast Fourier Transform (FFT), Discrete-Time Fourier Transform (DTFT) and Discrete Fourier Transform (DFT). The objective of this course is to develop intuitive and practical understanding of the essentials in signals and systems. The stress is on fundamentals of representation, and analysis of signals and their applications to systems in both discrete and continuous time and frequency domains. This course is designed to prepare the graduate students for more advanced work in broad range areas including communications, control systems, power systems, computer engineering, signal processing and image processing. The quality of students' performances and therefore their course grades are determined via their performance in a midterm exam, a comprehensive final exam, homework assignments, and a course project in accordance with the university's grading policy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 481 Control Systems (4) Classical/modern approaches to system analysis/design; time/frequency domain modeling, stability, response, optimization, and compensation.

E E 481 Control Systems (4)

This course is designed to provide students with strong foundation in introduction to control systems analysis and design both in the classroom and laboratory settings. This course is a required course in the Electrical Engineering BS curriculum and is intended to be taken by students who have completed their circuits, signals, and systems course requirements as well as having background in mechanics. As such, the course integrates materials from the above undergraduate courses in addition to related math, engineering, and science courses. No special facilities are required for this course other than laboratories available to the Electrical Engineering Program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211;PHYS 211;E E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 483 Introduction to Automation and Robotics Systems (3) Introduction to robotics systems with emphasis on robotic motion and control, and robotic components such as actuators and sensors.

Introduction to Automation and Robotics Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: E E 481

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 482 Introduction to Digital Control Systems (3) Sampling and hold operations; A/D and D/A conversions; modeling of digital systems; response evaluation; stability; basis of digital control; examples.

E E 482 Introduction to Digital Control Systems (3)

E E 482 introduces fundamental concepts that will enable the student to analyze, design, and synthesize closed-loop systems that contain a digital computer. In order to successfully complete this course the student must have a foundation in classical control (E E 380 or equivalent) and discrete-time system concepts (E E 351 or equivalent). Problem solving is emphasized. Concepts introduced in lecture are reinforced by a series of laboratory projects and weekly problem sets. Through these exercises the student will acquire competence in analytical and computer aided analysis techniques.

The course covers several topic areas including modeling of sampled-data systems, system identification using the batch least squares method, time response characteristics, stability analysis techniques, discrete-time approximation of continuous-time controllers, classical design methods based on root locus and frequency response, and modern design methods including state and observer feedback design.

Laboratory projects include system identification and control design based on the root locus, frequency response, and state-feedback methods. Each project involves the use of either a servomechanism or a fluid testbed. Laboratory projects and problem sets will develop the student's appreciation for computer aided control system analysis and design techniques. Student performance is assessed using homework, laboratory projects, hour exams, and a final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 380;E E 351 orE E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 484 Control System Design (3) Analysis and design of automatic control systems using time, frequency domain and state variable methods.

Control System Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 481

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 485 Energy Systems and Conversion (3) Overview of energy alternatives available, and study of theory of operation and models of major energy conversion devices.

E E 485 Energy Systems and Conversion (3)

The course is designed to give students an overview of available energy alternatives, and to study the fundamental theory of operation and system models for major energy conversion devices. The topics covered give students the tools to assess the viability of various energy options, their applications, and their impact on the environment. Various forms of raw energy sources used in powering conventional electric generating plants such as coal, natural gas, oil, and uranium will be studied, along with worldwide distribution and reserves. The analytical tools for determining quantities of energy that could be extracted from the wind, water falls, and solar energy sources using practical devices will be presented in the course as well as various case studies. The state of the art in energy storage technology and its impact on electrical vehicle range will be presented in the first half of the semester. The second half of the semester 's devoted to studying the theoretical fundaments and applications of major energy conversion devices. Magnetic circuits covers the electrical circuit model and analog for studying energy transfer involving magnetic systems. The link to a direct application - power transformers is established, and then to rotating magnetic machines in general. The poly-phase AC induction motor circuit model, energy flow, and selection for various load types will be covered. Modem speed control techniques using inverters will also be covered. The principles of operation of the synchronous energy converter will be explored and its unique features. The power angle characteristics and its relationship to stability of a power system will be covered. Presentation on theory and applications of classical DC motors and generators, and the newer permanent magnet (PM) machines with their superior performance characteristics and energy density will conclude the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 314 orE E 315;MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 487 Electric Machinery and Drives (3) Analysis of variable-speed drives comprised of AC electric machines, power converters, and control systems.

E E 487 Electric Machinery and Drives (3)

This course is a technical elective intended for seniors and graduate students interested in electromechanical systems. The first part of the course (approximately two thirds) is devoted to fundamental theory in the modeling and analysis of power converters and AC electric machines. The second part is devoted to the theory and implementation of two specific control schemes: simple volts-per-hertz control applied to the induction machine and high-performance field-oriented control applied to the induction machine and to the permanent magnet machine. The course includes a significant laboratory component consisting of hands-on experience with DSP-based control of drives. Each station in the Electric Machinery and Drives Laboratory is comprised of a dynamometer, an induction machine, a permanent magnet machine, a 3-phase inverter with built-in diode rectifier, a 3-phase power supply, and a DSP-based controller. The DSP-based controller is programmed in the MATLAB/Simulink graphical environment, allowing a student to modify control algorithms easily. Separate computer software allows easy access to controller variables for modification and display. This course builds upon basic knowledge of continuous-time linear systems theory and electric machine modeling. The materials in this course has applications in hybrid/electric vehicles and other transportation systems, industrial processes and automation, and power generation/energy storage systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: E E 387

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 488 Power Systems Analysis I (3) Fundamentals, power transformers, transmission lines, power flow, fault calculations, power system controls.

Power Systems Analysis I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 387 orE E 485

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 489 Power Systems Analysis II (3) Symmetrical components, unbalanced networks, unsymmetrical faults, unbalanced operation of rotating machines, transient transmission line modeling, system protection.

Power Systems Analysis II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 488

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 494 Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 494H Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 497A Biomedical Signal Analysis (3) Deals with the development of techniques to analyze biomedical signals, such as EKG, EEG, EMG, etc.

Biomedical Signal Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 497B Probability and Stochastic Processes for Electrical Engineers (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Probability and Stochastic Processes for Electrical Engineers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: E E 350, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 497B Electronic Design with ICs (3) Design and application of electronic circuits and systems using operational amplifiers and analog integrated circuits.

Electronic Design with ICs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: E E 310 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 497E Space Systems Engineering Seminar (1) This 1-credit seminar is for students completing the Space Systems Engineering certificate.

Space Systems Engineering Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electrical Engineering (E E)

E E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 230 Computerized I/O Systems (3) Introduction to concepts of structured programming, data acquisition, computerized interfaces, and graphical user interfaces.

EMET 230 Computerized I/O Systems (3)

EMET 230 is designed to provide the students with the knowledge of steps and issues to be addressed when deciding on computerized input-output systems. Understanding the basics property, classification and types of signals, significant figures, rounding off, etc. Steps in choosing hardware and understanding the principles used in the software design to develop friendly user interfaces.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Concurrent: EET 213W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 222 Mechanics for Technology (4) Strength of materials and dynamics, including axial, shear, torsion, and bending stresses, beam deflection, kinematics and kinetics of rigid bodies.

EMET 222 Mechanics for Technology (4)

Mechanics for Technology is a required course for sophomore-level students in the Electro-Mechanical Engineering Technology (EMET) baccalaureate degree program. The purpose of this course is to give students the ability to calculate engineering stresses, strains, and deflections using the applied forces and reactions obtained from static equilibrium calculations. It also teaches students how to determine the displacement, velocity, and acceleration of some particle and rigid body motions.

EMET 222 contributes to the following two EMET Program Outcomes. The specific performance measures supporting the program outcomes are listed following each outcome.

OUTCOME 2:
Students should be able to apply concepts of calculus, differential equations, and probability and statistics to the design and analysis of electromechanical systems.

OUTCOME 5:
Students should be able to apply engineering mechanics, engineering materials, machine design, and fluid mechanics to the development, operation, troubleshooting, and maintenance of electromechanical systems.
The specific course outcomes supporting the program outcome are presented below:

OUTCOME 2:
- Students will use the laws of beam diagrams to relate the load, shearing force, and bending moment diagrams to each other and to draw complete shear and bending moment diagrams for beams carrying a variety of loading patterns and with a variety of support conditions.
- Students will be able to apply the differential calculus relationships between displacement, velocity, and acceleration to calculate kinematic and kinetic quantities for rectilinear and curvilinear motion.

OUTCOME 5:
- Students will be able to calculate normal stresses, shear stresses, bearing stresses in axially loaded structural members.
- Students will be able to compute the maximum shear stress and angle of twist of members loaded in torsion.
- Students will be able to compute the stress at any point within the cross-section of a transversely loaded member and to describe the variation of stress with position in the beam.
- Students will be able to determine the required dimension of various key mechanical and structural components based upon the principles of static analysis of forces/moments and the determination of force induced tension/compression and shear stresses. The applicable material failure stresses will be used as a basis for determining the required safe dimensions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MCH T 111 andMATH 083 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 310 Digital Electronics (3) Fundamentals of digital circuits including analysis and design of combinational and sequential logic circuits, multiplexers, demultiplexers, flip-flops, and counters.

Digital Electronics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 101, EET 109

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 311 Spatial Analysis and Advanced CAD (3) Spatial relations of points, lines, and solids with engineering applications; laboratory emphasis placed on CAD and parametric analysis.

Spatial Analysis and Advanced CAD (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994 Ending: Fall 2010
Prerequisite: EG T 101, EG T 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 321W Electrical Machines (4) Electro-mechanical energy conversion, AC and DC rotating machines, transformers, system protective devices, and solid state power control.

EMET 321W Electric Machines (3)

EMET 321W is devoted to the study of ac and de electrical machines and power conversion equipment. Students learn the fundamental concepts of electromagnetic circuits as they relate to physical forces that act on electrical conductors moving in magnetic fields, and the electrical currents and voltages induced in those conductors by that characteristics of magnetic materials and how they influence the operation of electrical machines, and they learn how these properties and principles are used to develop practical models of various electromotive and power conversion devices. Presentation of principles and theory are rigorous; however, the level of modeling detail and the sophistication of mathematical analyses of machine operation are limited to first-order (i.e., linear) and some simple second-order (non-linear) approximations. Students in EMET 321W gain a sound understanding of how ac and de motors and generators, and single-phase ac transformers work. This understanding will encompass most types of motors, generators, and transformers commonly used in industry. Students will also understand and be able to apply basic mathematical and electrical models to determine power requirements, power capability, efficiency, operating characteristics, control requirements, and electrical demands of these machines when used in typical applications. EMET 321W is also a "writing-intensive" course, which means that a significant portion of the course is dedicated to improving students' technical writing skills. As a result, students are required to do considerable writing and oral presentations of technical topics, typically in the context of lab activities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 320 Analog Electronics (4) Fundamentals of circuits using diodes, bipolar junction transistors, and other discrete electronic components; introduction to integrated circuits including op amps.

EMET 320 Analog Electronics (4)

EMET 320 is designed to provide students with backgrounds in mechanical engineering technology with a basic understanding of the operation and functions of general-purpose linear electronic circuits typically found in industrial applications. The course will provide some background on the basic operating characteristics of semiconductor devices (diodes, transistors, FETS, etc.); however, the main focus will be on the design, operation, and application of circuits built using op-amps and linear integrated circuit devices. Topics covered will include:
open- and closed-loop amplifier operation and feedback concepts
inverting, non-inverting, differential and instrumentation amplifier designs
summers, integrators and differentiators
filters and oscillators
comparators and converters

In all topics the course will emphasize the concepts, principles, procedures, models, and computations used by engineers and technologists to analyze, select, specify, test, maintain, and design modern electronic systems. Particular emphasis will be given to circuits and applications prevalent in modern instrumentation and control systems. Presentation of principles and theory will be relatively rigorous; however, the level of modeling detail and the sophistication of mathematical analyses will emphasize the application of standard methods with the aid of computers.

Lectures will be supported by laboratory exercises in which students will investigate actual operating characteristics of devices and circuits explained in the classroom. Lab activities will emphasize comparisons of theoretical and actual performance, and students will be expected to identify and understand reasons for differences in the two. Students will also be expected to develop proficiency making electronic circuit measurements using standard laboratory instruments.

A complete understanding and analysis of linear electronic circuits requires the use of computers. Thus, students in EMET 320 will be expected to apply computers in the completion of both class assignments and laboratory exercises. Computer activities will include:
preparation of formal, written lab reports using word processing software
modeling and analysis of electronic circuits using computer simulation software (viz., PSpice, Electronic Workbench, MicroCAP, etc.)
numerical calculations and problem solving using mathematical analysis software (viz., spreadsheets, MatLab, MATHCad, Mathematica, etc.)

EMET 320 is a junior-level course required only in the Electro-Mechanical Engineering Technology baccalaureate degree program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: EET 114;MATH 083 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 325 Electric Drives (3) Study of operation, application and specification of AC/DC electrical drive motors, servos, actuators, control units and power converters.

EMET 325 Electric Drives (3)

EMET 325 provides students with a basic understanding of the operation, capabilities, limitations, and selection of electrical drive devices and drive controls typically found in industrial manufacturing and production systems. The course provides background on the basic operating characteristics of variety of drive devices, both AC and DC; however, the emphasis is on the practical limitations and typical application of these devices. Particular emphasis will be given to concepts and topics important to the selection, implementation and operation of electrical drives in common industrial applications.
Lectures will be supported by classroom demonstrations of setup, connection, and operating characteristics of devices covered in lectures. These demonstrations will emphasize typical uses of the devices studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EET 212W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 326 Mechanical Drives (3) Transmission of force and motion using linkages, cams, gears, belts, and hydraulic and pneumatic drives.

EMET 326 Mechanical Drives (3)

EMET 326 is designed to provide the students with the knowledge of various mechanical drives used in engineering. The course introduces the concepts displacement, velocity and acceleration analysis of linkages, cams, gears and belts. Instructor may employ purely geometric methods or combine it with vector approaches. Differential and integral calculus for some of the topics and may considering using techniques of optimizations for mechanism synthesis. Static and dynamic force analysis of linkages is studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EMET 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 350 Quality Control, Inspection, and Design (3) Fundamentals of quality including statistics, probability, and design of experiments.

EMET 350 Quality Control, Inspection, and Design (3)

The purpose of EMET 350 is to familiarize students with the use of statistical methods to measure, describe, and control the quality of products and processes. This will be done by teaching students the statistical and probabilistic methods that are applied to quality monitoring and quality control; the typical methods used to monitor, describe, and control quality; and the accepted methods for designing effective statistical experiments to characterize quality.

Specific topics that will be covered include:
Basic statistical concepts, measures, and tools
Basic concepts of continuous and discrete probability, probability distributions, populations, and samples
Standard sampling methods
Data presentation tools, including histograms, frequency charts, stem-leaf plots, Pareto charts, etc.
Control charting tools and methods as applied to both variables and attributes, including x-bar/R charts, x-bar/s charts, median/R charts, trend charts, charts of non-conforinities or nonconforming items, etc.
Standard measures of process capability
Acceptance sampling techniques, methods, and tools
Concepts of gage control
Methods and tools for design of statistical experiments

The course will also introduce students to standard computer tools for statistical and quality control computations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 330 Measurement Theory and Instrumentation (3) Fundamentals of measuring, transmitting, and recording temperature, pressure, flow, force, displacement, and velocity; laboratory component emphasizes systems used in manufacturing.

EMET 330 Measurement Theory and Instrumentation (3)

The purpose of EMET 330 is to familiarize students with the measurement and instrumentation systems typically used in automated manufacturing and automated process industries. The primary focus of the EMET degree program is the technology of automated control, and measurement and instrumentation systems are essential elements in the control of any industrial or manufacturing process. This course is designed to cover those topics in process measurement, data monitoring, signal conditioning, and data acquisition that are typical in such control systems.

The majority of industrial instrumentation systems involve measurement of position, displacement, velocity, force, flow, pressure, or temperature. EMET 330 will cover the common techniques used to make these types of measurements. Measurement systems also require signal conditioning and amplification to convert primary sensor signals into practical analogs that can be used in electronic controls. EMET 330 will also cover fundamentals of signal conditioning and amplification, including analog and digital data acquisition techniques, D-to-A and A-to-D conversion methods and equipment, and fundamentals of automated data acquisition and instrumentation-computer interfacing. Finally, accurate application of any measurement requires an understanding and proper application of basic statistical methods of data reduction. EMET 330 will include coverage of these topics as well.

EMET 330 is also a lab-based course. Thus, students in the course will be required to conduct lab exercises in which they actually use industrial-quality sensors, transmitters, signal conditioning equipment, and data acquisition systems to gain experience with how these devices actually perform.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EMET 230 andMATH 211 orMATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 396 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 397C Introduction to Applied Finite Element Analysis (3) Students will learn how to create 2-D and 3-D finite element models using start-of-the-art finite element software.

Introduction to Applied Finite Element Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 402 Fundamentals of Engineering Review (2) Overview of the topics covered on the Fundamentals of Engineering Exam administered by the NCEES for the purpose of earning a Professional Engineering license.

EMET 402 Fundamentals of Engineering Review (2)

EMET 402 Fundamentals of Engineering Review is intended to provide students with an overview of topics covered on the morning portion of the Fundamentals of Engineering Exam. Passage of the exam, administered twice per year by the National Council for Examiners for Engineering and Surveying (NCEES), is the first step toward Professional Engineering licensure. Since students have already taken courses that cover all of the subject areas, this course merely serves as a review of these topics in order to help the student prepare for the exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: seventh semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 401 Engineering Technology Career Development (1) Career planning, preparation, and decision making for students enrolled in an Engineering Technology baccalaureate degree program.

EMET 401 Engineering Technology Career Development (1)

EMET 401 Engineering Technology Career Development is intended to offer students skills relating to career planning, preparation, and decision making. Traditionally, students in technical programs are trained well in the technical skills, but are not necessarily educated with regard to job search skills or career-related topics. The intent of this course is to make students aware of the resources available to them, to educate them with regard to career planning activities, to engage students in the job search process early in their academic careers, and to enlighten students with regard to the multitude of options available to them, both upon graduation and later in their careers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: seventh semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 403 Electromechanical Design Project Preparation (1) This course involves the planning and preliminary design activities for the capstone electro-mechanical design project.

EMET 403 Electromechanical Design Project Preparation (1)

EMET 403, Electromechanical Design Project Preparation, involves the planning and preliminary design for the capstone electro-mechanical design project required for all Electro-Mechanical Engineering Technology baccalaureate degree students. EMET 403 is intended to prepare students who will register to take EMET 440, Electromechanical Project Design, in the subsequent semester. The Electromechanical Project Design course involves the planning, development, and implementation of an electro-mechanical design project. Both courses require formal report writing, project documentation, and group presentations. In EMET 403, students will present to a faculty panel, and proposed projects will be reviewed and approved by the panel. EMET 403 will include instruction in the use of project management software. In the planning and preliminary design of the project, students will follow a rigorous design methodology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: seventh semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 405 Fluid Mechanics and Thermodynamics (3) Introduction to the principles of fluid mechanics, thermodynamics, and heat tranfer with emphasis on the applications to practical problems.

EMET 405 Fluid Mechanics and Thermodynamics (3)

This course is designed to provide students with background in fluid statics, fluid dynamics, thermodynamics, and heat transfer. The emphasis of the course is to introduce students to the fundamental laws and principles of these engineering sciences, and to give them experience in solving problems using these laws and principles. The instructor may employ methods of differential and integral calculus as a part of selected topics. The fluid statics portion of the course introduces students to fluid properties, fluid pressure, manometers, and fluid forces on surfaces. The fluid dynamics portion of the course introduces them to the continuity equation, the energy equation, and pump and turbine head values. It also introduces laminar and turbulent flow, the Reynolds number, fluid flow friction losses, and series and parallel piping systems. It covers some additional fluid dynamics topics as well. The thermodynamics portion of the course introduces students to thermodynamic properties of vapors and gases, the first and second laws of thermodynamics with applications, the Carnot cycle, and entropy. It also introduces power cycles and refrigeration. The heat transfer portion of the course introduces the three modes of heat transfer: conduction, convection, and radiation. It also covers an important type of heat transfer equipment, the heat exchanger.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EMET 326 andMATH 211 orMATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 410 Automated Control Systems (4) Introduction to analog feedback control theory and computer simulation and analysis using Matlab; laboratory study of feedback systems.

EMET 410 Automated Control Systems (4)

Automated Control Systems is a required course for senior-level students in the Electro-Mechanical Engineering Technology (EMET) baccalaureate degree program. The main goal of the course is to teach students the concepts of automated control by coupling theory, industrial practices, and appropriate laboratory activities. The course demonstrates that physical processes can be represented by differential equations and hence, Laplace transforms. It teaches students how to measure and modify a system's performance in a variety of ways as well as how to make use of time-domain techniques, root locus and Bode plots. Improving student communication skills is also a goal of this course.

The specific EMET program outcomes addressed by the course are:
OUTCOME 1:
- Students will readily recognize the availability of and be able to apply electrical, fluid and mechanical analogues for use in system models.
- In laboratory exercises, students will correctly design and test control systems as applied to integrated electrical and mechanical systems.

OUTCOME 2:
- Students will develop linear, constant coefficient, ordinary differential equations from electromechanical system models, and solve them using Laplace transform techniques.

OUTCOME 6:
- Students will correctly analyze and design analog control systems to meet performance requirements by using computer tools to perform root locus, frequency domain, and time domain analysis and design.

OUTCOME 8:
- Students will correctly design and test analog control systems, including proportional, integral and derivative (PID) feedback control and other compensators in laboratory exercises. This includes tuning PID controllers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EMET 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 430 Programmable Logic Controls II (3) A second course in PLCs covering sequencing/shift instructions, program flow control, data and math instructions, PID loops, and machine communication.

EMET 430 Programmable Logic Controls II (3)

The objective of EMET 430 - Programmable Logic Controls (PLC) II course is to give students an in-depth understanding of the advanced control, programming, I/O, communications, and distributed processing capabilities of modem PLCs. The objective is achieved through coordinated lecture and laboratory activities. Lectures cover theoretical and operational concepts; laboratory exercises will require students to apply lecture concepts to actual control problems using real equipment.

EMET 430 is a senior-level elective in the Electro-Mechanical Engineering Technology program. It is intended for those students who want to expand their PLC knowledge beyond the basics covered in required courses in the EMET curriculum. Students must have prior knowledge of basic PLC capabilities, ladder logic programming, and general methods of interfacing PLCs with external devices. This background is typically obtained via the EE T 220 - Programmable Logic Controls (or equivalent) course.

By building on prior concepts of ladder logic and simple relay/contactor style programming, EMET 430 can focus on the applications, programming, and use of specialty I/O modules and advanced control technologies available in state-of-the-art PLCs. The following major topical areas will generally be covered:
advanced programming instructions related to program flow control, data manipulation, mathematical computations, and timing/sequencing functions;
use of specialty processor and I/O modules (viz., analog current and voltage I/O, digital I/O, thermocouple and RTD interface devices, specialized motor controls, etc.);
advanced technology that adapts PID capabilities to PLC systems permitting them to be used when circumstances require dynamic, closed-loop feedback control; and
standard installation and safety practices for PLC installations.

Programming tasks in the course will be carried out using modern operator interface equipment and software to ensure that students understand the capabilities and limitations of those systems. The course will also examine the capabilities, flexibility, and limitations of computer-linked, distributed PLC systems, including study of the communication technologies and systems currently used by industry. Generally, a capstone student project will be used to tie all these concepts together and to give students direct, hands-on experience with actually setting up and operating a PLC-based control system.

Performance in the lecture portion of the course will typically be evaluated by a combination of major exams, short quizzes, and out-of-class problem and programming assignments. Performance in the laboratory will typically be evaluated based on a series of both formal and informal lab reports documenting programming solutions to assigned control problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EET 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 432 Electromechanical Devices for Biomedical Instrumentation (3) A study of electromechanical devices, transducers, and instrumentation used in the biomedical field.

EMET 432 Electromechanical Devices for Biomedical Instrumentation (3)

This course concentrates on electromechanical devices and equipment (used in a hospital setting) that involve determining information about a patient's health or controlling treatment. Basic components of such equipment include transducers that convert physiological events to electrical signals, imaging devices such as charge coupled arrays, electronic control systems, and mechanical systems such as pumps. The design and use of such equipment will be demonstrated.

Upon completion of this course, the student should be able to: describe basic human physiology and systems; explain how various biomedical instrumentation functions and how biomedical measurements are made; explain how a variety of biomedical transducers work and how they are interfaced to biomedical equipment; describe various physiological signals such as ECG and EEG; perform various mechanical and electrical calculations that are used in biomedical instrumentation; complete and explain a block diagram for the design process of biomedical instrumentation; design electronic amplifier circuits used in biomedical instrumentation; explain how various regulatory agencies such as the FDA, FCC, IEC, and UL are involved in the regulation of biomedical equipment.

This course is a 400 level technical elective course in the EMET program. Students will use their knowledge in math, science, and physics to understand biomedical instrumentation devices and systems. This course will apply previous knowledge in measurement theory and instrumentation to various devices and measurements in the biomedical field. In addition, this course will look at total systems for biomedical instrumentation, including transducers, data acquisition, analysis and feedback. System design that includes both digital and analog circuits will be covered in detail.

The type of required equipment that should be demonstrated and explained should include: electrodes, sensors, cardiovascular measurement devices such as EKG equipment, respiratory therapy equipment, and ultrasound equipment. In addition, a study of the electrical, mechanical, and system schematics should be included. A hospital demonstration tour should be included for larger radiological equipment.

Students’ academic achievement will be evaluated using exams, quizzes, term paper and/or research project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: EMET 330;PHYS 151 orPHYS 212 orPHYS 251 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 440 Electro-Mechanical Project Design (3) Planning, development, and implementation of electro-mechanical design project; includes formal report writing, project documentation, group presentations, project demonstrations.

EMET 440 Electro-Mechanical Project Design (3)

This course is designed to provide students with theoretical and practical experience associated with the integration of the various disciplines within the field of electromechanical engineering technology. Students working in teams will employ previously learned material to plan, develop, and construct an integrated, electromechanical system. Projects will be required to use a variety of electromechanical equipment, including such items as robots, machine vision systems, programmable logic controllers, personal computers, electric motors, CNC equipment, etc. Appropriate project documentation exercises, project presentations, progress reporting, budgeting and scheduling, and development of final design reports will be required elements of the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EMET 325;EMET 326;EMET 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Electro-Mechanical Engineering Technology (EMET)

EMET 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 395W Field Experience for Urban Teacher Preparation (2 per semester, maximum of 6) Structured opportunities for investigating and understanding the work of teachers within urban schools and communities.

Field Experience for Urban Teacher Preparation (2 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: C I 295, EDPSY 014, EDTHP 115
Concurrent: SPLED 444 ELEDM 400 ELEDM 401A OR ELEDM 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 400 Schools, Families and Communities (3) Cultural and ethnic dimensions of family-school-community communications and the resultant impact on student-teacher relations.

ELEDM 400 Schools, Families and Communities (3)

This course examines the cultural and ethnic dimensions of multicultural schools, families, and communities. It examines some of the contextual challenges of multicultural schools in several communities and their impact upon students and teachers. In response to these challenges, the course explores specific strategies for making classrooms responsive to diverse learners. Thus, the course is designed to help prospective teachers begin to formulate a comprehensive understanding of the challenges facing diverse learners and develop knowledge-based responses to those challenges that promote success for the learners. A major emphasis of the course is upon the strengths of diverse learners and the school's responsibility for building upon those strengths in order to enhance student learning. This course also emphasizes the importance of families, schools, and communities working together to support students' development. It is expected that this course will help prospective teachers develop understandings, skills, and positive attitudes that will enable them to work successfully with diverse learners in the elementary grades.

This course requires extensive reading, in-class discussion, writing, research, and weekly field experiences. The latter provides opportunities to observe and interview teachers and work closely with small groups of students. Readings may include chapters from texts, scholarly articles, and materials from appropriate web sites. After readings, analysis and discussion, students will conduct a final research project that includes a research paper and an oral presentation. The purpose of the project is to provide a description and analysis of a multicultural community. The paper must include a detailed history of the community, a description of the community today, major changes that have taken place and their impact upon the quality of life for its residents. This project provides students an opportunity to discover first hand the nexus between schools and communities. Students must present their research in class during the last week of the semester.

Because of the interactive nature of the class, active participation is expected. As the first required major course in the Elementary Education in Multicultural Settings (ELEDM) program, it contributes to the body of knowledge and the practicum courses designed for students interested in working with multicultural learners.

This course is offered fall semester only at the Delaware Campus. Because of the weekly field experiences, the interactive nature of the class, and the need to provide students with detailed feedback on their assignments, class size should not exceed 20-25.

Student performance will be assessed by objective midterm and final examinations; projects showing extensions and applications; student participation in class; and practicum assessment (concurrent).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: C I 295, EDPSY 014, EDTHP 115 6 credits of social/behavioral sciences
Concurrent: EDTHP 411 ELEDM 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 401A Teaching Reading in Multicultural Elementary Schools (3) An exploration of current research, practices, strategies and materials in the development of reading skills in multicultural schools.

ELEDM 401A Teaching Reading in Multicultural Elementary Schools (3)

This course provides an exploration of current research, practices, strategies and materials in the development of reading skills in multicultural elementary schools. The development of literacy skills is fundamental to learning at the elementary school level. Thus, it is critical that prospective teachers develop the knowledge, skills, and attitudes that foster the development of successful strategies for teaching reading skills.

Among the topics explored in the course are: principles of reading instruction, balanced literacy instruction, word identification strategies, directed reading activities, comprehension strategies, guided reading, language experience activities, and literature-based reading programs. Particular emphasis is given to cultural and linguistic diversity, learning differences/special needs/gifted.

A major requirement of the course is the development of lesson plans for teaching reading. Lesson plans must incorporate state literacy standards. Students are expected to implement some of their reading plans during their weekly field experiences and receive feedback from their mentor teacher as well as their university supervisor. It is the combination of intensive coursework and concurrent field experiences that enable prospective teachers to acquire some of the knowledge, skills, and attitudes needed to successfully teach diverse learners.

This course is part of a three-course literacy focused program of study: ELEDM 401A, TEACHING READING, ELEDM 401B TEACHING LANGUAGE ARTS, and ELEDM 401C CHILDREN'S LITERATLTRE. Each of these courses is taken during the spring semester of the junior year along with the field experience course. They contribute to the body of knowledge and the practicum courses designed for students interested in working with multicultural learners.

The objectives of ELEDM 400, 401A, 401B, 401C, 402, and 403 are consistent in that each course develops understandings, skills, and positive attitudes toward the multicultural/urban/multilingual learner. From the research literature on theoretical and pedagogical orientations, ELEDM students acquire a theoretical appreciation of a research base, unique to each of the ELEDM courses, that permits knowledge-based responses to special contextual problems. In addition, processes inherent in multicultural schooling, committees, and related institutions highlight the impacts of these orientations on multicultural learners. Finally, the courses identify the implications of these orientations for schools, families, programs, staff development, the assessment of children, and the reporting of assessment of results.

Because of the weekly field experiences, the interactive nature of the class, and the need to provide students with detailed feedback on their assignments, class size should not exceed 20-25. This course is offered during the spring semester.

Student performance will be assessed by objective midterm and final examination; projects showing extensions and applications; student participation in class; and practicum assessment (concurrent).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: ELEDM 400
Concurrent: ELEDM 395W ELEDM 401B ELEDM 401C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 401B Teaching Language Arts in Multicultural Elementary Schools (3) An exploration of current research, practices, strategies and materials in the development of language arts skills in multicultural schools.

ELEDM 401B Teaching Language Arts in Multicultural Elementary Schools (3)

This course explores current research, practices, strategies, and materials in the development of language arts in multicultural schools. The course enables prospective teachers to apply research in literacy to the development of teaching methods in the language arts. The course emphasizes the principles, problems, materials, and techniques involved in teaching reading, writing, listening, and speaking in the elementary schools. Particular attention is given to the nature of literacy development and teaching language arts in multicultural schools

This course requires extensive reading, discussion, writing, research, and weekly field experiences. The latter provides opportunities to observe teachers and work closely with small groups of students on a variety of language arts activities. Readings may include chapters from texts, scholarly articles, and materials from appropriate web sites. After readings, analysis and discussion, students will conduct a final research project explaining how they will teach language arts. Their paper must summarize relevant research and ideas from the course and describe how they plan to teach listening, reading, speaking, and writing. Finally, students must describe a lesson they taught at their practicum site. Students are also expected to develop a thematic unit and present it in class.

This course is part of a three-course literacy focused program of study: ELEDM 401A, TEACHING READING, ELEDM 401B TEACHING LANGUAGE ARTS, and ELEDM 401C CHILDREN'S LITERATURE. Each of these courses is taken during the spring semester of the junior year along with the field experience coruse. They contribute to the body of knowledge and the practicum courses designed for students interested in working with multicultural learners.

The objectives of ELEDM 400, 401A, 401B, 401C, 402, and 403 are consistent in that each course develops undestandings, skills, and positive attitudes toward the multicultural/urban/multilingual leaner. From the research literature on theoretical and pedagogical orientations, ELEDM students acquire a theoretical appreciation of a research base, unique to each of the ELEDM courses, that permits knowledge-based responses to special contextual problems. In addition, processes inherent in multicultural schooling, committees, and related institutions highlight the impacts of these orientations on multicultural learners. Finally, the courses identify the implications of these orientations for schools, families, programs, staff development, the assessment of children, and the reporting of assessment of results.

Because of the weekly field experiences, the interactive nature of the class, and the need to provide students with detailed feedback on their assignements, class size should not exceed 20-25. This course is offered during the spring semester.

Student performance will be assessed by objective midterm and final examination; projects showing extensions and applications; student participation in class; and practicum assessment (concurrent).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: ELEDM 400
Concurrent: ELEDM 395W ELEDM 401A ELEDM 401C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 402 Teaching and Assessment in Multicultural Elementary Schools (3) Multicultural education; elementary education; pluralistic pedagogical foundations, assessment, child's play, instrumental activites, State/Federal initiatives, and parent programs.

ELEDM 402 Teaching and Assessment in Multicultural Elementary Schools (3)

This course examines growth characteristics of diverse learners in elementary schools, successful pluralistic pedagogical strategies used in multicultural schools, and the use of appropriate qualitative and quantitative assessment techniques. The latter is a particularly timely topic given the current frenzy over high-stakes tests at both the State and Federal levels and their resultant impact upon student achievement especially in largely poor and minority communities. Special attention is given to the importance of using developmentally appropriate instructional and assessment strategies.

This course requires extensive reading, in-class discussion, writing, research, and weekly field experiences. The latter provides opportunities to observe and interview teachers and work closely with small groups of students. Readings may include chapters from texts, scholarly articles, and materials from appropriate web sites. After readings, analysis and discussion, students will conduct a final research project that synthesizes what they've learned over the course of the semester.

The objectives of ELEDM 400, 401A, 401B, 401C, 402, 403 are consistent in that each course develops understandings, skills, and positive attitudes toward the multilingual/multicultural learner. From the research literature on theoretical pedagogical orientations, ELEDM students acquire a theoretical appreciation of a research base, unique to each of the ELEDM courses, that permits knowledge-based responses to special contextual problems. In addition, processes inherent in multicultural schooling, committees, and related institutions highlight the impacts of these orientations on multicultural learners. Finally, the courses identify the implications of these orientations for schools, families, programs, staff development, the assessment of children, and the reporting of results.

As a required course in the ELEDM program, this course contributes to the body of knowledge and the practicum courses designed for students interested in working with multicultural learners. This course complements other major courses in ELEDM program and does not duplicate other courses.

This course is offered fall semester only. Because of the weekly field experiences, the interactive nature of the class, and the need to provide students with detailed feedback on their assignments, class size should not exceed 20-25.

Student performance will be assessed by objective midterm and final examinations; projects showing extensions and applications; student participation in class; and practicum assessment (concurrent).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: A ED 303;MUSIC 241, ELEDM 400
Concurrent: ELEDM 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 401C Teaching Children's Literature in Multicultural Elementary Schools (3) Survey of children's literature with an emphasis on multicultural literature and its application in multicultural elementary classrooms.

ELEDM 401C Teaching Children's Literature in Multicultural Elementary Schools (3)

This course provides a survey of children's literature with a particular emphasis upon multicultural literature and its application in elementary classrooms. This course enables prospective teachers to recognize books that appeal to children, analyze and evaluate children's literature, use literature to affirm cultural diversity, develop greater sensitivity to biases and cultural assumptions in children's books, and learn about significant authors, illustrators and trends in the field of children's literature.

Readings, class discussions, and weekly field experiences provide some of the major learning experiences of the course. In addition, students are expected to create book files consisting of five children's books from each of six genre (i.e. picture books, poetry, fantasy, contemporary realistic fiction, and non-fiction). To improve their reading skills, students are required to perform a dramatic reading and tape themselves reading a children's book.

This course is part of a three-course literacy focused program of study: ELEDM 401 A, TEACHING READING, ELEDM 401B TEACHING LANGUAGE ARTS, and ELEDM 401C CHILDREN'S LITERATURE. Each of these courses is taken during the spring semester of the junior year along with the field experience course. They contribute to the body of knowledge and the practicum courses designed for students interested in working with multicultural learners.

The objectives of ELEDM 400, 401A, 401B, 401C, 402, and 403 are consistent in that each course develops understandings, skills, and positive attitudes toward the multicultural/ urban/ multilingual learner. From the research literature on theoretical and pedagogical orientations, ELEDM students acquire a theoretical appreciation of a research base, unique to each of the ELEDM courses, that permits knowledge-based responses to special contextual problems. In addition, processes inherent in multicultural schooling, committees, and related institutions highlight the impacts of these orientations on multicultural learners. Finally, the courses identify the implications of these orientations for schools, families, programs, staff development, the assessment of children, and the reporting of assessment of results.

Because of the weekly field experiences, the interactive nature of the class, and the need to provide students with detailed feedback on their assignments, class size should not exceed 20-25. This course is offered during the spring semester.

Student performance will be assessed by objective midterm and final examination; projects showing extensions and applications; student participation in class; and practicum assessment (concurrent).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: ELEDM 400
Concurrent: ELEDM 395W ELEDM 401A ELEDM 401B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 403 Using Science and Mathematics Knowledge and Assessment in Urban Settings (6) Knowledge, skills, and assessment pertaining to science and mathematics education in urban schools.

Using Science and Mathematics Knowledge and Assessment in Urban Settings (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: CMPSC 101, MATH 200, ELEDM 400 and 9 credits of natural sciences
Concurrent: ELEDM 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Elementary Education in Multicultural Settings (ELEDM)

ELEDM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy & Mineral Eng (EME)

EME 301 Thermodynamics in Energy and Mineral Engineering (3) Treatment of classical thermodynamics targeted to the needs of students in the Department of Energy and Mineral Engineering.

Thermodynamics in Energy and Mineral Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 112, PHYS 212 andMATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy & Mineral Eng (EME)

EME 303 Fluid Mechanics in Energy and Mineral Engineering (3) Treatment of fluid mechanics targeted to the needs of students in the Department of EME.

Fluid Mechanics in Energy and Mineral Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: MATH 250 orMATH 251 andPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy & Mineral Eng (EME)

EME 444 Global Energy Enterprise (3) Industry perspective on the resources, technologies, engineering approaches and externalities involved in satisfying worldwide energy demand profitably and sustainably.

Global Energy Enterprise (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ECON 004 or equivalentEGEE 102, EGEE 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy & Mineral Eng (EME)

EME 432 (GEOG 432) Energy Policy (3) Analysis, formulation, implementation, and impacts of energy-related policies, regulations, and initiatives.

Energy Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: E B F 200, EGEE 120, PL SC 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy & Mineral Eng (EME)

EME 466 Energy and Sustainability in Society (3) Capstone course in energy technology and policy options for reduced-carbon communities. Covering agent/stakeholder relations, sustainability, communication and public engagement.

Energy and Sustainability in Society (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: GEOG 030, METEO 469, EME 437

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 200 (GS) Introduction to Energy and Earth Sciences Economics (3) Resource use decisions and their effect on local, national, and global development.

Introduction to Energy and Earth Sciences Economics (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 301 Global Finance for the Earth, Energy, and Materials Industries (3) The aim of this course is to introduce fundamental concepts of financial management and illustrate their global applications.

Global Finance for the Earth, Energy, and Materials Industries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 304W Global Management for the Earth, Energy, and Materials Industries (3) This class is designed to introduce students to modern management and organization strategies for resource businesses.

Global Management for the Earth, Energy, and Materials Industries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: ENNEC 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 304W Global Management for the Earth, Energy, and Materials Industries (3) This class is designed to introduce students to modern management and organization strategies for resource businesses.

Global Management for the Earth, Energy, and Materials Industries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: E B F 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 401 Strategic Corporate Finance for the Earth, Energy, and Materials Industries (3) Financial decisions corporations in the earth science area make and the tools and analyses used to make these decisions.

Strategic Corporate Finance for the Earth, Energy, and Materials Industries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: E B F 200, E B F 301 and junior or senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 401 Strategic Corporate Finance for the Earth, Energy, and Materials Industries (3) Financial decisions corporations in the earth science area make and the tools and analyses used to make these decisions.

Strategic Corporate Finance for the Earth, Energy, and Materials Industries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: ENNEC 100, E B F 301 and junior or senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 472 Quantitative Analysis in Earth Sciences (3) Quantitative analysis of decision making in atmospheric/geophysical sciences: exploratory data analysis, quantification of uncertainty, parametric/non- parametric testing, forecasting, time series analysis.

Quantitative Analysis in Earth Sciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 473 Risk Management in Energy Industries (3) Analysis of strategies for mitigating business risk from market, atmospheric, geophysical uncertainties including the use of energy/mineral commodity futures/options, weather derivatives, and insurance.

Risk Management in Energy Industries (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MSIS 200 orSTAT 200 orE B F 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy Bus & Finance (E B F)

E B F 484 Energy Economics (3) Economics of energy demand, production, storage, and pricing; advanced energy policy issues including regulation, climate change, new energy technology.

Energy Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ECON 002 orE B F 200;MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 012 Energy Science and Engineering Lectures (1) Lectures and discussion by faculty and visiting scientists/engineers on energy science and engineering, job selection, patents, licensing, ethics, and other professional issues and challenges.

EGEE 012 Energy Science and Engineering Lectures (1)

The objective of the course is to expose students through a lecture or seminar format to a wide range of topics on energy science and engineering. The lectures would be presented by faculty and visiting scientists. Occasionally, students may be asked to make presentations. Students would be required to write a short summary of each presentation and provide a critique of the presentation. Seminar topics will cover aspects of energy production, processing, utilization, and conservation, and the associated environmental, health and safety, and policy, economics, and management issues. Students are expected to keep up with current developments on each topic and to actively participate in the discussions. Students will be evaluated based on their class participation, and written summary and critique of each presentation. This is a required course in the energy engineering major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: fifth-semester standing in Energy Engineering major or Energy and Fuels Engineering Option in Chemical Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 101 (GN) (MATSE 101) Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.

EGEE (MATSC) 101 Energy and the Environment (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Energy is the life-blood of any society. The information and principles learnt in this course will allow the students to make sound judgments in the area of "personal energy choices." There is increasing concern about the influence of human activities, particularly energy use, on global climate change. This has an impact on global business aspects. Students in all walks of life need to be exposed to the basic concepts to appreciate the positions of policymakers, scientists, and industry over the interrelationship between greenhouse gas emissions and global climate change. The students will acquire knowledge, which will enable them to critically evaluate any energy-related concerns of the society. This is important for any college graduate for responsible citizenship and stewardship.

The main objectives of this course are to: provide basic understanding and appreciation of energy and environmental concepts and interconnectedness; analyze energy consumption patterns; discuss various energy resources that power the modern society; examine the energy conversion processes; explore interrelationships between energy use and industrial progress and environmental consequences; discuss future energy alternatives.

Student performance will be evaluated continuously through homework assignments, exams, group activities, class participation and a final examination. Position papers or term papers may be used in lieu of homework assignments in some sections. This course is a stand-alone General Education course. The course is currently offered in four sections every semester (Spring and Fall) with a total target enrollment of approximately 200-250 students per semester.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 101H (GN) Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.

EGEE 101H Energy and the Environment (3) (GN)

Energy is the life-blood of any society. The information and principles learnt in this course will allow the students to make sound judgments in the area of "personal energy choices." There is increasing concern about the influence of human activities, particularly energy use, on global climate change. This has an impact on global business aspects. Students in all walks of life need to be exposed to the basic concepts to appreciate the positions of policymakers, scientists, and industry over the interrelationship between greenhouse gas emissions and global climate change. The students will acquire knowledge, which will enable them to critically evaluate any energy-related concerns of the society. This is important for any college graduate for responsible citizenship and stewardship.

The main objectives of this course are to: provide basic understanding and appreciation of energy and environmental concepts and interconnectedness; analyze energy consumption patterns; discuss various energy resources that power the modern society; examine the energy conversion processes; explore interrelationships between energy use and industrial progress and environmental consequences; discuss future energy alternatives.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 101A (GN;IL) (MATSE 101A) Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.

EGEE (MATSC) 101A Energy and the Environment (3)
(GN;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Energy is the life-blood of any society. The information and principles learnt in this course will allow the students to make sound judgments in the area of "personal energy choices." There is increasing concern about the influence of human activities, particularly energy use, on global climate change. This has an impact on global business aspects. Students in all walks of life need to be exposed to the basic concepts to appreciate the positions of policymakers, scientists, and industry over the interrelationship between greenhouse gas emissions and global climate change. The students will acquire knowledge, which will enable them to critically evaluate any energy-related concerns of the society. This is important for any college graduate for responsible citizenship and stewardship.

The main objectives of this course are to: provide basic understanding and appreciation of energy and environmental concepts and interconnectedness; analyze energy consumption patterns; discuss various energy resources that power the modern society; examine the energy conversion processes; explore interrelationships between energy use and industrial progress and environmental consequences; discuss future energy alternatives.

Student performance will be evaluated continuously through homework assignments, exams, group activities, class participation and a final examination. Position papers or term papers may be used in lieu of homework assignments in some sections. This course is a stand-alone General Education course. The course is currently offered in four sections every semester (Spring and Fall) with a total target enrollment of approximately 200-250 students per semester.

General Education: GN
Diversity: IL
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 102 (GN) Energy Conservation for Environmental Protection (3) Exposure to energy efficiency in day-to-day life to save money and energy, and thereby protect the environment.

EGEE 102 Energy Conservation for Environmental Protection (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Energy is a vital component of modern society. Much of the general population believes that the energy sources we depend on are perpetual. While people believe that the energy use is the culprit for environmental damage, they are not aware of the methods and principles by which energy conversion devices operate. This general education course provides students with necessary knowledge and information on the main operating principles of devices/appliances that are in common use and information on which to make the right decision in selecting the most energy efficient and economical choice. These devices are day-to-day appliances such as refrigerators, washers and dryers, ovens, etc., and home heating or cooling and transportation choices. The course also provides necessary information on heating furnaces, insulation, doors and windows, lighting, and air conditioning principles. The objective of the course is to expose students to energy efficiency in day to day life in order to save money and energy and thereby protect the environment. This education is very important for all college students to turn them into environmentally-responsible individuals of this Global Village.

The course entails various simple but important group-activities/projects to reinforce the information taught through formal lectures. This is not meant to be a laboratory course or a research project. The group activities include conducting a set experiments and/or gathering and analyzing the data informally (at home) and formally presenting the observations to their peers both in writing and orally. Examples of group activities (fun) are: 1) conducting a home energy audit while walking around a house, apartment, trailer, etc. and taking notes on the cracks openings, caulking condition, insulating materials used, data on heating system, windows etc., and suggesting specific ways to conserve energy in the residence and 2) Energy usage analysis- involves analysis of home utility bills and energy consumption patterns and costs related to those for a year.

Student performance will be evaluated continuously through group activities, one mid-term exam, class participation and a final examination. Collaborative-activities are used in lieu of homework assignments. This course is a stand-alone General-Education course. The course is currently offered every Fall and Spring semesters with a total target enrollment of approximately 40 students per semester.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 110 (GN) Safety Science for the Rest of Your Life (3) Survey of applications and technologies associated with safety in our every day life with associated review of scientific principles and economic, social and political impacts.

EGEE 110 Safety Science for the Rest of Your Life (3)
(GN)

Safety is an applied field with many aspects. It has engineering, science, psychology and management components. For an understanding of how humans interact with their working and living environment, one has to understand the basic sciences of physics, biology, chemistry, mathematics and psychology as well as some of the traditional engineering disciplines. This general education course is intended to provide students with a basic understanding of how these science and engineering principles are applied in a safety context to every day life, products, hobbies, finances and human interaction. The material that will be discussed, presented, assigned, tested, etc. is the fundamental science and engineering principals behind each applied safety-related activity discussed.

The history discussion will include bacteria exposure and ergonomic aspects (such as cumulative trauma, impact on the body of hot environments, long shifts, etc.) of meat packers, railroaders and miners. It will include discussion of air pollution associated with industry's early development and toxicological effects of exposure to methyl iso-cyanate associated with Union Carbide's 1984 incident in Bhopal, India. Ventilation, water influx and collapse hazards associated with the mining industry (e.g. Quecreek) are discussed. The science of finding the right drill shaft location for air and rescue at Quecreek will be discussed. Economic coverage will include the societal costs of inadequate safety measures. The hazards and control sections will cover structural and impact resistant aspects of sports equipment and the biomechanics of sports injuries. The inner workings of smoke detectors, how fires progress through a home, fire extinguishers, quenching, smothering, combustion reaction interruption mechanisms of fire suppression will also be covered. In fleet safety, applied physics concepts such as friction, acceleration, momentum and force will be presented. Electrical concepts such as static generation, grounding, current flow, etc. will be covered in a safety context (filling a gas can). Toxicology of chemical exposure, biomechanics and ergonomics of materials handling, moving, lifting, climbing, etc. will be dealt with through examples, discussions and presentations. Bacteria sanitization, disinfection, freezing, cooking, etc. and other food science concepts will be presented in a safety context. Emergency response issues from catastrophic incidents (natural or purposeful attack) will be addressed and practiced.

This course will be offered in the spring and fall semesters. Performance assessment will be through on-line quizzes, a short individual and a longer group analytical and reflective paper and a group presentation of the results of an outside deductive analysis activity.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 102H (GN) Energy Conservation for Environmental Protection (3) Honors level exposure to energy efficiency in day to day life to save money and energy, and thereby protect the enviroment.

EGEE 102H Energy Conservation for Environmental Protection (3) (GN)

Energy is a vital component of modern society. Much of the general population believes that the energy sources we depend on are perpetual. While people believe that the energy use is the culprit for environmental damage, they are not aware of the methods and principles by which energy conversion devices operate. This honors level general education course provides students with necessary knowledge and information on the main operating principles of devices/applications that are in common use and information on which to make the right decision in selecting the most energy efficient and economical choice. These devices are day-to-day appliances such as refrigerators, washers and dryers, ovens, etc.,, and home heating or cooling and transportation choices. The course also provides necessary information on heating furnaces, insulation, doors and windows, lighting, and air conditioning principles. The objective of the course is to expose students to energy efficiency in day to day life in order to save money and energy and thereby protect the environment. This education is very important for all college students to turn them into environmentally-responsible individuals of this Global Village. Students will be doing two energy related projects and one presentation in class. This honors course also requires two additional home activities compared to a regular course. This honors class is designed to be more discussion based.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 120 (GS;US;IL) Oil: International Evolution (3) Survey of the commercial development of the world petroleum industry from various international, historical, business, and cultural perspectives.

EGEE 120 Oil: International Evolution (3)
(GS;US;IL)

Oils is the world's most important commodity. Access to oil was decisive in the great military struggles of the 20th century. The economic and strategic value of oil has led to the evolution of a fascinating array of business, political, and strategic alliances around the world. The objective of this course is to describe this evolution and the technological, commercial, and political innovations shaping its current face. This knowledge is vital in achieving a more complete understanding of the role of oil in international affairs and economic development.

The course begins with a discussion of the development of the American and European oil industries during the 19th century and the formation of the first great industrial oil monopolies. The emergence of oil as a strategic commodity prior to and during World War I will then be discussed. The economic and technological reasons for the recurring boom-bust cycles of oil markets and the political arrangements developed to cope with their effects is the third major topic of the course. The focus then shifts back to military affairs with a discussion of the role of oil in the battles of World War II.

We then examine the social and cultural roots of the post-war dissolution of company ownership and the nationalization of oil reserves. Also in the policy arena, is a discussion of the policy response of western governments to a growing dependence upon low-cost oil from the Middle East, Africa, and South America. The analysis then focuses on the ideology and strategy behind the formation of the Organization of Petroleum Exporting Countries (OPEC) and the motivations and execution of their strategies to drive up oil prices during the 1970s and early 1980s.

The last part of the course discusses the emergence of oil as a commodity traded in open commodity market exchanges, the development of reserves in deep water and in Africa, and the relationship between oil policy and the war on international terrorism.

The course will be offered during the spring semester and will include a field trip to the Pennsylvania oil region. Evaluation and assessment of student performance will rely on grading on-line quizzes and assignments, team papers and presentations, and examinations.

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 210 (GN) Technological Legacy of Pennsylvania Coal (3) Survey of coal technologies with a review of scientific principles and economic, social, and political impacts.

EGEE 210 Technological Legacy of Pennsylvania Coal (3)
(GN)

Pennsylvania Coal, a natural resource, has touched many lives from past to present with profound influence on employment, economic growth, social and political relationships, culture, and the natural environment in the state. The heritage and legacy of Pennsylvania coal weave the story of the Industrial Revolution in the U.S., including technological, social, and environmental aspects. Coal continues to be an important natural resource for electricity generation and metallurgical coke production to manufacture iron and steel. In 2000, approximately 80 million tons of coal was mined in Pennsylvania, most of which was used to generate electricity (approximately 62% of total electricity generated in Pennsylvania). Development of new technologies addresses the challenges of preserving and protecting the environment while mining and burning large quantities of coal. Health and safety of U.S. coal miners have been improved significantly over the past century. However, the recent Quecreek Coal Mine incident in Somerset, Pennsylvania reminded that underground coal mining is still a dangerous profession. Many PSU students have personal links to the coal industry through family members who have been engaged in coal related careers over several generations. This course will provide an opportunity to study coal mining practices in Pennsylvania that their parents and previous generations experienced with a review of recent improvements in these practices.

This course will survey the development of the science and technologies (utilizing a multi-disciplinary approach) of coal formation, coal mining, coal transportation, and coal utilization. The integrated EGEE 211 course will study the social and environmental aspects of coal technologies to focus on labor-management relationships, immigration, culture, and environmental pollution. EGEE 210 and EGEE 211 will be held in the same classroom to integrate natural science and social science education.

This course will be offered during both fall and spring semesters and will include a field trip to the Pennsylvania anthracite region. There are no in-class exams. Evaluation and assessment of student performance will rely on grading minute papers, analytical and reflective essays, individual and team papers, on-line quizzes/assignments, team presentations/discussions, and on-line learning portfolios.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 211 (GS;US) Social Legacy of Pennsylvania Coal (3) Survey of coal technologies with economic, social, and political impacts discussed with historical, cultural, and international perspectives.

EGEE 211 Social Legacy of Pennsylvania Coal (3)
(GS;US)

Pennsylvania Coal, a natural resource, has touched many lives from past to present with profound influence on employment, economic growth, social and political relationships, culture, and the natural environment in the state. The heritage and legacy of Pennsylvania coal weave the story of the Industrial Revolution in the U.S., including technological, social, and environmental aspects. Coal continues to be an important natural resource for electricity generation and metallurgical coke production to manufacture iron and steel. In 2000, approximately 80 million tons of coal was mined in Pennsylvania, most of which was used to generate electricity (approximately 62% of total electricity generated in Pennsylvania). Development of new technologies addresses the challenges of preserving and protecting the enviroment while mining and burning large quantities of coal. Health and safety of U.S. coal miners have been improved significantly over the past century. However, the recent Quecreek Coal Mine incident in Somerset, Pennsylvania reminded that underground coal mining is still a dangerous profession. Many PSU students have personal links to the coal industry through family members who have been engaged in coal related careers over several generations. This course will provide an opportunity to study coal mining practices in Pennsylvania that their parents and previous generations experienced with a review of recent improvements in these practices.

This course will survey the development of the science and technologies (utilizing a multi-disciplinary approach) of coal formation, coal mining, coal transportation, and coal utilization. The integrated EGEE 211 GS course will study the social and environmental aspects of coal technologies to focus on labor- management relationships, immigration, culture, and environmental pollution. EGEE 210 GN and EGEE 211 GS will be held in the same classroom to integrate natural science and social science education.

This course will be offered at the University Park campus during both the Fall and Spring semesters and will include a field trip to the Pennsylvania anthracite region. There are no in-class exams. Evaluation and assessment of student performance will rely on grading minute papers, analytical and reflective essays, individual and team papers, on-line quizzes/assignments, team presentations/discussions, and on-line learning portfolios.

General Education: GS
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 304 Heat and Mass Transfer (3) Introduces the fundamentals of heat and mass transfer. Conduction, convection, radiation, and diffusion mass transfer will be emphasized.

EGEE 304 Heat and Mass Transfer (3)

This course will emphasize the modes of heat and mass transport in energy engineering systems. Students will know, understand, and solve heat transfer problems that involve conduction, convection, and radiation. The course will provide an integrated treatment of heat, mass and momentum transfer by convection and mass transfer by diffusion. Students will also learn and use software that will enable them to solve problems that involve exploratory, what-if, and parameter sensitivity considerations. The course will also assist students to understand the design and operation of different types of heat exchangers. This course also enables students to identify and describe the energy transformations in energy systems. The examples of the processes we would be applying energy conservation principles to include power plant, geothermal energy systems, and industrial reactors and combustors. This is an essential and required thermal science course in the BS in Energy Engineering degree program. Students will be evaluated based on homework, projects, class participation, and mid term and final exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301 andEGEE 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 302 Principles of Energy Engineering (3) Basic engineering calculations and mathematical methodologies on material and energy balances and reaction rates during chemical transformations in energy systems.

EGEE 302 Principles of Energy Engineering (3)

This introductory energy engineering course enables students to identify and apply fundamental principles of chemistry and physics, as they pertain to energy and fuels, and mathematics to describe materials and energy flow through a process. Examples of the processes studied will include stoichiometry in combustion and other reactions and material flows with recycle streams. This course also enables students to describe the energy transformations in energy systems. The examples of the processes we would be applying energy conservation principles to include calculation of adiabatic flame temperature during combustion of fuels. In addition, the course will present an introduction to chemical kinetics with an overview of solid, liquid and gaseous fuel transformations. This is a required introductory course to the BS in Energy Engineering degree program. It will be a prerequisite to several of the 400 level energy engineering curriculum courses. Students will be evaluated based on homework, projects, class participation, and mid term and final exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112 andMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 401 Energy in a Changing World (3) Energy is in transition, with increased international energy demand and increasing environmental pressures. Energy transitions, approaches, and outcomes are addressed.

EGEE 401 Energy in a Changing World (3)

The role of energy is increasingly important with increasing environmental constraints, transitioning energy policies, supply disruption, international pressure on climate change compliance and competition for energy. This course evaluates the existing energy infrastructure and energy/fuel use, both domestic and international, along with evolving technologies, implementation and challenges in meeting energy demands. The class provides a holistic view and serves all students interested in an energy or energy-related career. Students will understand the interrelationship between legislative, technology, environmental, and international factors associated with energy production, processing, distribution and utilization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EGEE 101 orEGEE 102 orCHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 412 Green Engineering & Environmental Compliance (3) Material and energy flows as they relate to industrial systems, environmental concerns, pollution prevention, and the development of clean technologies.

EGEE 412 Green Engineering & Environmental Compliance (3)

The primary objective of EGEE 412 is to introduce students to how engineering and industrial decisions affect the environment and how clean technologies can reduce environmental impact. Students will also be exposed to global mass and energy flows from an environmental perspective that relate to both industrial and natural systems. Students will be exposed to environmental concepts, principles, and evaluation techniques within the framework of green engineering, pollution prevention, and environmental sustainability. The course is for students with a general science or engineering background.

By examining mass and energy flows on the unit operation, plant-wide, local and regional scale, students will understand the interaction of anthropogenic flows with natural cycles of materials and energy. Students will understand how environmental concerns and regulations provide the motivation and incentive behind reducing pollution during the design phase rather than as an "add-on" or "end of pipe" treatment technology. Students will evaluate plant flow sheets to identify engineering means by which to reduce plant-wide environmental impact.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: EGEE 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 411 Energy Science and Engineering Lab (3) A comprehensive introduction to classic and modern laboratory skills and experimentation of relevance to energy science and engineering practice.

EGEE 411 Energy Science and Engineering Lab (3)

The role of energy in society is increasingly important with increasing environmental constraints, transitioning energy policies, supply disruption, and international pressure on climate change compliance and competition for energy. Both conventional (fossil fuels) and renewable energy sources are being explored. This course will provide hands on laboratory exposure to the techniques, tools, and analytical methods used in addressing energy science and engineering problems. Students will be exposed to probability, statistical and experimental design methods. Students will perform a variety of lab experiments, analyze the data and write reports on each experiment. Statistical analysis of the data is required where applicable. For the final lab assignment, each student will be given a "mystery" hydrocarbon-based fuel and will be required to characterize or identify the unknown fuel using the practical knowledge of the instrumentation they have learned during the semester. This is one of the required laboratory-based courses in the Energy Engineering Major and the Energy and Fuels Option in Chemical Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: F SC 401 orEGEE 302 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 420 Hydrogen and Fuel Cells (3) Course will cover the fundamental principles of electrochemical engineering, hydrogen production and storage, and the design and application of the main types of fuel cells.

EGEE 420 Hydrogen and Fuel Cells (3)

The primary objective of the course is to help students understand the fundamental principles of electrochemistry, the production and storage of hydrogen from biomass and fossil fuels, and the design and operation of different types of fuel cells. Students will begin with electrochemistry and electrochemical engineering systems including fuel cells. The chemical and biochemical methods used for producing hydrogen for fuel cells applications and the current technologies available for hydrogen storage will follow next. Students are expected to be able to apply their knowledge and understanding in the analysis of fuel cell systems. Students are also expected to be able to distinguish between the design, operation, and advantages and disadvantages of the different types of fuel cells available. This is an elective course for the energy engineering major. It complements the required course on electrochemical energy conversion in the energy engineering curriculum.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 433 Physical Processes in Energy Engineering (3) Introduces fluid flow, heat transfer, phase equilibrium and mass transport phenomena in energy separation processes.

EGEE 433 Physical Processes in Energy Engineering (3)

The objective of the course is to expose students to the physical flow and separation processes that occur in energy engineering systems. Students will be exposed to gas, liquid and solid phase separation processes. The heat, mass and momentum phenomena involved will be discussed. In particular, phase equilibria and mass transfer in the behavior and performance of gas, liquid and solid fuels will be emphasized. Students will be exposed in the class to the operation and design of absorption, adsorption, fluidization, size reduction, filtration, dissolution, entrainment, and heat exchange units. Students will understand the differences between chemical processes that involve chemical reactions and transformations and physical processes that involve mainly phase changes and separation. This is an elective course for the energy engineering major. It will be offered once per year in the spring semester with an estimated enrollment of 40. Assessment of student performance will be based on homework, student projects, mid-term exams, class participation, and final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: EGEE 304 or concurrent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 430 (M E 430) Introduction to Combustion (3) Concepts related to laminar and turbulent premixed and nonpremixed combustion with applications to propulsion and stationary systems.

EGEE (M E) 430 Introduction to Combustion (3)

This course provides an introductory treatment of combustion science. The objectives of the course are to develop in the students an understanding of combustion kinetics, combustion thermochemistry, flame dynamics, flame stability, and pollutant formation. Coverage includes laminar and turbulent flames, premixed and diffusion flames, and detonations. Emphasis is placed on the role that Kinetics, heat transfer, mass transfer, and fluid dynamics have on flame structure and flame stability. The course includes some laboratory demonstrations of flat flame and diffusion flame burners, and incorporates numerical calculations of thermodynamic and kinetic combustion phenomena. The course begins with a review of transport phenomena, physical gas dynamics, and thermochemistry. Then, the concept of the laminar flame speed is introduced in the context of a one-dimensional flame and a propagating chemical wave. Issues of premixed flame structure and stability are presented along with a discussion of flammability limits. Next, laminar diffusion flames are presented via the Burke-Schumann analysis. From laminar flames, the emphasis shifts to turbulent premixed and diffusion flames, and the concepts of flame stretch and strain. Detonations are considered, with emphasis on thermodynamic analysis of the detonation and the structure of the detonation wave. Details of chemical kinetics for the hydrogen-oxygen and hydrocarbon-air reaction systems are presented, with linkage back to earlier topics such as flame stabilization and flammability limits. After kinetic phenomena, the course then considers pollutant formation focusing on soot and NOx. The fundamental aspects of combustion are applied to analysis of the combustion process and pollutant formation in international combustion engines and catalytic combustors. The course wraps up with discussion of atmospheric chemistry, the fate of pollutants, and the formation of secondary pollutants.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: M E 201 orM E 300 orEME 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 436 Modern Thermodynamics for Energy Systems (3) Thermodynamics of external fields, theory of stability and fluctuations, irreversible and non-linear thermodynamics, and bifurcation theory and their applications in energy and environmental processes are discussed.

EGEE 436 Modern Thermodynamics for Energy Systems (3)

This course will be an advanced thermodynamics class that will expose students to the thermodynamics of irreversible processes and the thermodynamic analysis of dynamic systems. Students will learn to analyze the thermodynamics of conductivity, diffusion, gravitation, electrochemical systems, stability, fluctuations and critical phenomena. Students are expected to be able to understand and apply their knowledge to analyze problems involving fuel cells, membrane potential in electrolysis systems for hydrogen production, and other energy and environmental processes. This is an elective course in the energy engineering major and will be offered once a year in the spring semester to about 40 students. Student performance will be evaluated based on homework, mid term exams, class participation, project, and final exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301, EGEE 302, MATH 231 andMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 438 Sustainable Energy Options (3) Principles and operation of sustainable energy conversion units with emphasis on wind, water, and geothermal energy.

EGEE 438 Sustainable Energy Options (3)

This course examines the principles of sustainability and renewable energy conversion with emphasis on wind, water, and geothermal energy resources and the associated environmental impacts. It will complement the existing courses on fossil fuels and new courses on other forms of renewable energy resources, including solar and biomass energy. Students will actively participate in learning through team projects, semester papers, class presentations, and field trips. Energy conservation methods will be emphasized. Students will be able to understand and analyze the technical and environmental aspects of wind, hydro, and geothermal energy. This is a required course in the energy engineering major. Assessment of student performance will be through homework, team project, class participation, semester paper, quizzes, and final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301 andEGEE 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 437 Design of Solar Energy Conversion Systems (3) A review of fundamental concepts in solar energy conversion including photovoltaic (PV) and solar thermal conversion systems.

EGEE 437 Design of Solar Energy Conversion Systems (3)

The course examines the principles of solar energy conversion to build a foundation for explaining the basic concepts and implementation of conversion processes. It reviews the properties and availability of solar radiation and geometric relationship of sun/collector, principles of photovoltaic conversion and properties of materials used in PV systems, designing PV systems, procedures for solar thermal engineering calculations, and thermal power plants for electricity generation. This course will complement the existing courses on fossil fuels and other renewable energy sources. Students will be engaged to actively participate in learning through team projects, semester papers, class presentations, and field trips.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: EGEE 304 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 441 Electrochemical Energy Conversion (3) Course covers fundamental principles of electrochemistry, including electrochemical thermodynamics, kinetics, catalysis, and corrosion and focuses on applications such as fuel cells, batteries, and photovoltaics. Each application covers: principles of method, criteria determining performance, present state of development, and advantages/disadvantages. Laboratory demonstration of the performance (current-voltage) measurements of an electrochemical converter is scheduled in this course.

EGEE 441 Electrochemical Energy Conversion (3)

The course will cover the fundamental principles of electrochemistry, including electrochemical thermodynamics, kinetics, catalysis, and corrosion. Students will be exposed to the application of these principles in fuel cells, batteries, and photovoltaics. Students will be able to perform efficiency analysis in these systems. They will also be able to understand the differences between types of fuel cells and distinguish between electrochemical and chemical energy systems. For each of the above application areas students will learn the criteria used to determine their performance, their current state of development, and their advantages/disadvantages. Laboratory demonstration will help to enhance student knowledge and understanding. Student performance will be evaluated through problem sets, quizzes, midterm, project papers, class participation, and final examination. This is a required course in the energy engineering major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301, EGEE 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 451 Energy Conversion Processes (3) Emphasizes processes for conversion of fossil fuels, nuclear and biomass to other fuel forms as transportation fuels and electricity.

EGEE 451 Energy Conversion Processes (3)

The primary objective of this course is to expose students to the principles of chemical and nuclear reactions that underlie most major energy conversion processes, particularly with reference to the conversion of energy resources such as fossil and nuclear energy to fuels and electric power. The emphasis of the first major unit of the course is on fundamental reaction chemistry including nuclear. The second objective is to connect chemical and nuclear principles to practical energy conversion processes by an analysis of case studies used as examples of such processes as ethanol via fermentation, biodiesel via transesterification, formation of light liquids by pyrolysis, coal gasification and Fischer-Tropsch synthesis, direct coal liquefaction, fissionable and fertile isotopes chain reactions, breeding cycles and reactors, and electric power from nuclear reactions. This is a required course for the energy engineering major and will be offered in fall semester with an enrollment of about 50. Student performance will be assessed through weekly homework, mid-term tests, student projects and final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: F SC 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 456 (E E 456, E SC 456) Introduction to Neural Networks (3) Artificial Neural Networks as a solving tool for difficult problems for which conventional methods are not applicable.

EGEE (E E/E SC) 456 Introduction to Neural Networks (3)

This course is in response to students' needs to learn Artificial Neural Networks (ANN) as a solving tool for difficult problems for which conventional methods are not available. The objective of this course is to give students hands-on experiences in identifying the best types of ANN, plus developing and applying ANN to solve difficult problems. Students will be introduced to a variety of ANN and will use their training skills to solve their own applications. During this course the students will develop a final project, in which they will apply ANN to widely varied problems.

Examples:
I) students from E E may be interested in applying ANN to solve control problems
II) students from Material Sciences may be interested in applying ANN to predict the pitting corrosion of components
III) students from Petroleum Engineering may be interested in applying ANN to characterize the life of a reservoir
IV) students from Agricultural Engineering may be interested in applying ANN to sort apples automatically, etc.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 455 Materials for Energy Applications (3) Overview of key principles and technologies for materials relevant to energy applications, including membranes, catalysis, supercapacitors, adsorbents, and semi-conductors.

EGEE 455 Materials for Energy Applications (3)

The primary objective of this course is to introduce engineers and scientists to key principles in the design of materials relevant to energy applications. Application areas will include separations, catalysis, adsorption, semi-conductors, and photovoltaics. Students will be able to understand and apply principles in solid state chemistry/physics, material science and engineering, adsorption, surface science, and catalysis in analyzing materials for energy applications. Introductory information will be followed by case studies, state of the art review of current materials, and research needs for development. Students will be evaluated on their ability to understand and apply basic concepts in material science, solid state chemistry, and surface chemistry; report on an in depth study of one surface characterization technique; perform literature search and understand basic technical concepts in one application area. Term projects will provide an opportunity to apply concepts and skills to real world applications, and require students to report on current 'state of the art' technology and research needs. Groups of three or four students will be asked to choose from a variety of applications and then asked to present their findings. This is an elective course for energy engineering majors with particular interest in materials for energy applications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: EGEE 302, MATSE 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 464W Energy Design Project (3) A team and capstone design project on an industrial energy-related problem.

Energy Design Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: seventh-semester standing in energy engineering or chemical engineeringENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 470 Air Pollutants from Combustion Sources (3) Generation of pollutants in combustion chambers; reduction by combustion control; pre- and post-combustion treatment of fuels and effluents.

Air Pollutants from Combustion Sources (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 494A Research Project (2) Supervised research on a selected topic of energy science and engineering and preparation of written and oral presentation of the research results.

EGEE 494A Research Project (2)

The primary objective of the course is to expose students to supervised independent research and presentation of results. Students will embark on an independent research project under a faculty member. The research topic will depend on the student's interest and may cover topics ranging from the production, processing, and utilization of different forms of energy and the associated environmental, health and safety, and policy and economics issues. Students will be expected to undertake the literature review, design and experiments, conduct the study and perform a detailed analysis of the results. The work will be presented in a final report and presentation. Students will also be expected to explore the implications of their data and conclusions and outline further research opportunities. In particular, the societal impact of their work should be emphasized. This is a required class in the energy engineering major and will be offered each semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: Seventh semester standing in energy engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 497B Geo-Resource Evaluation, Investment Decision Methods, and Financial Analysis (3) Cost engineering methodology and engineering for Geo-resources including energy, mining, mineral processing, oil, and gas exploration and production. Industrial safety and health, and earth-system based environmental projects, and weather.

Geo-Resource Evaluation, Investment Decision Methods, and Financial Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy and Geo-Environmental Engineering (EGEE)

EGEE 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 100 (GS) Introduction to Energy and Earth Sciences Economics (3) Resource use decisions and their effect on local, national, and global development.

ENNEC 100

ENNEC 100 Minerals and Resources (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This class introduces the economic method of analysis to the environmental and resource questions facing society. It introduces a "paradigm", a way of thinking, that has four elements:
1) What advantages can be gained by using market forces?
2) What are the drawbacks of the market ("market failures") that may lead to a rationale for government intervention?
3) What are the drawbacks of using government intervention ("government failure")?
4) How to apply these three concepts to real-world situations.

By the end of the course students are expected to be able to combine these four aspects and use them to analyze a particular environmental or resources problem in the final paper for the class. As a result of this class students are expected to be able to synthesize information to better appreciate the complexity of modern resource policy. In addition, they are expected to be in a position to make more informed judgments on the nature and seriousness of these issues. The course is offered both spring and fall at University Park. The course methods of evaluation are a combination of exams, papers, homework, in-class assignments, and in-class experiments.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2006 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 401 Case Studies of Industrial Ecology (1-3) The objective of this course is to introduce life cycle analysis and design for the environment.

Case Studies of Industrial Ecology (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: junior or senior standing with background in earth and environmental studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 420 Economics of Natural Hazards (3) Covers economic aspects of natural hazards: impacts, loss estimation, mitigation, recovery, modeling, policy analysis, risk, insurance, resiliency, and sustainability.

ENNEC 420 **ENNEC 420 Economics of Natural Hazards (3)**

This course will be taught annually during the spring semester. It is intended for a) students in the ENNEC major, specifically those taking the Nonrenewable Resource and Environment Option and b) science majors who are interested in learning more about economics, risk management, and coping with natural hazards. A basic course in economics, such as ECON 002, is preferred but not required if students are willing to do some additional background reading during the first few weeks of the course.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 425 Simulation Methods in Earth and Social Sciences (3) This course will provide students with computer programming skills/ knowledge in statistics, stochastic process, and simulation applicable to earth/managerial sciences.

Simulation Methods in Earth and Social Sciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: CMPSC 101, MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 472 Quantitative Analysis in Earth Sciences (3) Quantitative analysis of decision making in atmospheric/geophysical sciences: exploratory data analysis, quantification of uncertainty, parametric/non- parametric testing, forecasting, time series analysis.

ENNEC 472 **ENNEC 472 Quantitative Analysis in Earth Sciences (3)**

This course presents quantitative methods in atmospheric and geophysical sciences with significant emphasis on natural hazards, including extreme weather events, earthquakes, and volcanic eruptions. The primary audience includes undergraduate students and first-year graduate students in meteorology, geosciences, and energy, environmental, and mineral economics.

A broad overview of the role of quantitative analysis in scientific and business decision making is the first topic of this course. The discussion then examines classical and modern techniques for exploring the nature and properties of data. The next topic is quantification of uncertainty surrounding atmospheric and geological events. Mathematical models of stochastic processes in atmospheric and geosciences are then developed. These models provide the basis for testing various scientific hypotheses and for qualifying our degree of confidence in the results. The course then introduces statistical weather forecasting models and geophysical prediction models. Types of forecasts and appropriate verification methods constitute the next topic. The course concludes with an introduction to the use of time series methods in the atmospheric sciences.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004 Ending: Summer 2010
Prerequisite: MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 473 Risk Management in Energy Industries (3) Analysis of strategies for mitigating business risk from market, atmospheric, geophysical uncertainties including the use of energy/mineral commodity futures/options, weather derivatives, and insurance.

ENNEC 473 **ENNEC 473 Risk Management in Energy Industries (3)**

The course begins with an overview of markets and financial instruments designed to manage risks associated with climate, market, and geophysical events. We then examine the mechanics of trading energy commodities and the role of climate information in trading strategies. More exotic trading instruments, including options and swaps, are the subject of the next section. We then analyze the time series properties of energy prices, providing a basis for valuation of commodity derivatives. A discussion of the use and valuation of weather derivatives then follows. The course concludes with an analysis of climate insurance and natural hazard risk-management strategies.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004 Ending: Summer 2010
Prerequisite: MSIS 200 orSTAT 200 orENNEC 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 482 Economic Analysis of Minerals in the Environment (3) Economics of exploration and mining methods, future mineral availability, mineral and environmental law, mineral industries and the environment, current issues.

Economic Analysis of Minerals in the Environment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002 Ending: Summer 2010
Prerequisite: ECON 002, ENNEC 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 482 Economic Analysis of Minerals in the Environment (3) Economics of exploration and mining methods, future mineral availability, mineral and environmental law, mineral industries and the environment, current issues.

Economic Analysis of Minerals in the Environment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002, E B F 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 483 Materials Policy and Markets (3) Integrated economic and institutional analysis of policy issues facing material markets, including recycling, pollution control, advanced materials, and industrial policy.

Materials Policy and Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ECON 002, E B F 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 484 Energy Economics (3) Economics of energy demand, production, storage, and pricing; advanced energy policy issues including regulation, climate change, new energy technology.

Energy Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: ECON 002 orENNEC 100;MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 484 Energy Economics (3) Economics of energy demand, production, storage, and pricing; advanced energy policy issues including regulation, climate change, new energy technology.

Energy Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002 orE B F 200;MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 490 Applied Financial and Investment Analysis (3) Valuation/investment analysis of mineral properties; commodity market analysis; introduction to principles of financial/investment analysis applied to natural resources/environment.

Applied Financial and Investment Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 491 Business and Public Policy Analysis (3) Capstone course integrating theory and empirical methods in the analysis of business and public policy.

Business and Public Policy Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: 12 credits in ENNEC ECON AG EC or BUS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 492 Econometric Applications to Mineral Markets (3) Statistical tools as used by mineral economists, econometric models of mineral, material, and energy markets.

Econometric Applications to Mineral Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: ECON 002, MATH 220, ECON 490 orSTAT 451 ; 3 additional credits in economics or mineral economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 497A The Transformation of Electricity Markets (3) The electricity inudstry has undergone major transformations in structure, regulation and market design in the past decade. This course will introduce students to the structure of regulated and deregulated electricity markets; emerging environmental regulations shaping the electricity industry; and the potential impacts of the "smart grid" on electricity generation, transmission and utilization.

The Transformation of Electricity Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Energy, Environmental, and Mineral Economics (ENNEC)

ENNEC 499 (IL) Foreign Study--Mineral Industries (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Mineral Industries (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 097S Firsr Year Seminars-Engineering (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Firsr Year Seminars-Engineering (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 097S First Year Seminars-Engineering (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

First Year Seminars-Engineering (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 195 Engineering Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Engineering Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 100S Introduction to Engineering (1) A seminar providing information about different engineering majors, coping with college life, and exploring educational and career goals.

ENGR 100S Introduction to Engineering (1)
(FYS)

Engineering 100 is a First-Year Seminar designed as an introduction to the majors available to students in engineering. There are three main goals:

1. To introduce students to the areas of study that the college has to offer - this is to assist students in deciding whether engineering is for them. It also helps students decide which major within engineering is for them. This introduction is accomplished through homework exercises and guest speakers - graduates in industry, graduate students, department heads, faculty, and current undergraduates.

2. To introduce students to the university in general - what resources are available and what it means to be a student at a university instead of high school. This is accomplished through guest speakers, lectures by your professor, and homework exercises.

3. To provide students with an opportunity to interact with faculty members, academic advisers, and other students.

The class meets twice a week. All sections meet together once a week to listen to presentations from people representing each major. On the other class day, sections meet separately with their professor for presentations and activities unique to that instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 195A Engineering Internship (1 credit per semester/maximum of 4 credits) A supervised work experience in a professionally relevant position in research, industry or government.

ENGR 195A Engineering Internship (1 per semester/maximum of 4)

This course provides students the opportunity to apply fundamental skills and academic concepts in a professional laboratory, industry, or government agency setting within the United States. The final grade (SA/UN) will be based on the final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters, and may be repeated.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 195I Engineering International Internship (1 per semester/maximum of 4) A supervised work experience in a professionally relevant position in research, industry or government.

ENGR 195I Engineering International Internship (1 per semester/maximum of 4) (IL)

This course provides students the opportunity to apply fundamental skills and academic concepts in a professional laboratory, industry, or government agency setting outside of the United States. The final grade (SA/UN) will be based on the final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters, and may be repeated.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 197A Impact of History, Culture, Society, and Environment on Engineering Design in China (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Impact of History, Culture, Society, and Environment on Engineering Design in China (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 295 Engineering Co-Op Work Experience I (1-3) A supervised work experience where the student is employed in an engineering position in industry or government. (To be offered only for SA/UN grading.)

Engineering Co-Op Work Experience I (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 110, CMPSC 122, MATH 140, MATH 141 orPHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 295A Engineering Cooperative Education (1) A supervised work experience in research, industry or government relevant to a student's major.

ENGR 295A Engineering Cooperative Education (1)

This course provides students the opportunity to apply the fundamentals and academic concepts learned in their major classes in a professional laboratory, industry, or government agency setting in the United States. This course is the first of three courses that provide progressive, multiple, alternating semesters of career-related experience in the Cooperative Education Program. The final grade (SA/UN) will be based on the final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 295I (IL) Engineering International Cooperative Education (1) A supervised work experience in research, industry or government relevant to a student's major.

ENGR 295I

ENGR 295I Engineering International Cooperative Education (1)
(IL)

This course provides students the opportunity to apply the fundamentals and academic concepts learned in their major classes in a professional laboratory, industry, or government agency setting outside of the United States. This course is the first of three courses that provide progressive, multiple, alternating semesters of career-related experience in the Cooperative Education Program. The final grade (SAIUN) will be based on the final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 297A Wellness Strategies for Women Engineers (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Wellness Strategies for Women Engineers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 297B 2010 Women in Engineering Program Orientation (0.5) An orientation program for first-year women students to provide them with skills and resources necessary for success in engineering.

2010 Women in Engineering Program Orientation (0.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 297C 2010 Multicultural Engineering Program Orientation (0.5) An orientation program for first-year Multicultural Engineering students to provide them with skills and resources necessary for success in engineering.

2010 Multicultural Engineering Program Orientation (0.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 297D (SC 297D) Science/Technology/Engineering/Mathematics Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Science/Technology/Engineering/Mathematics Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 301 (IL) International Engineering Orientation (1) This course will prepare engineering students for an international educational experience, including study abroad and international internships.

ENGR 301

ENGR 301 International Engineering Orientation (1)
(IL)

This course will prepare engineering students for an international educational experience, either study or work abroad. The course is conducted as a group seminar, with topics covered to include how engineering is practiced overseas, cultural differences in engineering around the world, recognizing cultural issues, understanding how to conduct oneself in a foreign environment, and preparing for an international educational experience. Students are expected to actively participate in discussions and hands-on activities that will allow them to gain a better understanding of what it will be like to spend time as an engineering student in a different cultural environment. Students are evaluated based on active class participation, team exercises, written assignments, and class presentations. This course is open to undergraduate students in the College of Engineering.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 310 Entrepreneurial Leadership (3) This course develops leadership and entrepreneurial skills using collabora- tive, problem-based projects, with engineering and business students working in teams.

ENGR 310 **ENGR 310 Entrepreneurial Leadership (3)**

ENGR 310 is a problem-based learning course; learning by doing is fundamental. Faculty members serve as mentors for student team activities and projects. Teams are composed of students from colleges across Penn State, especially in engineering, business and IST. Clear expectations are set for students to take charge of their own learning. Written and oral communication skill development is a key objective; leaders and entrepreneurs must be clear, persuasive speakers and writers. From the first day of class, constructive feedback is provided after each presentation to improve quality, persuasion, and "thinking-on-your-feet" skills. Completion of a course portfolio, idea journal ,and weekly class analysis reports are required.

The first half of the course focuses on leadership skill development, including understanding leadership theory, individual leadership styles, group and organizational leadership, the role of values and ethics, and life cycles of organizations.

The last half of the course focuses on entrepreneurship, including basic market research, product prototyping, strategic planning, business feasibility analysis, basic costing and financial analysis, grant proposal or business plan generation, and final project presentations as part of the College of Engineering Design Showcase.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 320 Materials Properties Measurement I (3) Measurement and experimental procedures determination of the mechanical properties of engineered materials under deflection, compression, tension, fracture and fatigue conditions.

ENGR 320 Materials Properties Measurement I (3)

Materials Laboratory I introduces students to the experimental procedures in determining mechanical properties (elastic modulus, shear modulus, Poisson’s ratio, and fracture toughness) of engineered materials. Students gain hands-on experience in strain gage mounting and material properties measurement using strain gages. In conjunction with mathematical modeling software, finite element analysis is used to analyze engineering components subjected to mechanical and thermal loading (static and dynamic). Experiments and lectures are designed to demonstrate the theory and practice of mechanical measurement of material. Students utilize state-of-the-art equipment for experimentation in conjunction with advanced modeling software such as ANSYS to predict and evaluate material behavior under mechanical and thermal loading.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: E MCH 213;ENGR 350, E MCH 407 Prerequisiste or concurrent:E MCH 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 312 Sustainable Energy Entrepreneurship (3) Three interrelated modules guide students through technical, global/business, and entrepreneurial aspects of sustainable energy.

ENGR 312 Sustainable Energy Entrepreneurship (3)

ENGR 312 examines three integrated components of the sustainable energy business: technical adaptability , financial structure , and entrepreneurial.

The technical component of the course provides an overview of the concept of energy and sustainable forms of energy, energy auditing process, as well as, the integration between supply, capacity, demand, and usage technology. Technical calculations of the power capacity of sustainable energy systems and the technical limitations, specifications, and feasibility studies of energy systems are also addressed.

The business component of the course provides an overview of the market and finance aspect of sustainable energy systems. Students will study the feasibility of sustainable energy systems from a business perspective, as well as perform quantitative cost-benefit analyses that include depreciation of sustainable energy systems and return on investment. Students will also evaluate existing energy business plans.

The entrepreneurial component focuses on the skills needed to perform a feasibility study of market opportunities related to sustainable energy, including entrepreneurial risk and sustainability ethics. Government incentives and the impact of policy issues on business decisions for sustainable energy systems will also be addressed. Students will learn how to take a global view in the assessment of market needs and they will gain in-depth knowledge of ways to obtain public and private financing for a prospective venture. A justification of sustainable energy applications, including environmental impact, will also be discussed.

The capstone project will link all three components of the course by requiring students to create their own energy business plan for a residential or commercial site of their choice. The energy business plan will focus on the best technical and economic practices in the sustainable energy marketplace.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: EGEE 102, E B F 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 350 Computational Modeling Methods (3) Theoretical and hands-on experience of mathematical modeling in mechanical systems; 2D thermal stresses, beam elements, solid modeling and vibrations.

ENGR 350 Computational Modeling Methods (3)

Computation and Modeling Methods is intended to introduce students to strategies in mathematical modeling of physical phenomena using ANSYS. The course provides theoretical understanding and hands-on experience of the modeling techniques used in engineering practice and allows students to apply these skills to engineering computational problems. Modeling of engineering processes requires users to have a working knowledge of ANSYS and modeling techniques such as mesh construction and analysis. This course teaches the principles of mathematical modeling of various physical phenomena and allows students to learn the basic strategies of mathematical modeling and advanced mesh analysis on topics involving structural, thermal, and materials engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: CHEM 112;CMPSC 201;E MCH 213;MATH 231;M E 300 orEME 301;PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 395A Engineering Cooperative Education (1-2 per semester) A supervised work experience in research, industry or government relevant to a student's major.

ENGR 395A

ENGR 395A Engineering Cooperative Education (1-2)

This course provides students the opportunity to apply the fundamentals and academic concepts learned in their major classes in a professional laboratory, industry, or government agency setting in the United States. This course is the second of three courses that provide progressive, multiple, alternating semesters of career-related experience in the Cooperative Education Program. The final grade (SA/UN) will be based on the final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: ENGR 295A orENGR 295I

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 395 Engineering Co-Op Work Experience II (1-3) A supervised work experience where the student is employed in an engineering position in industry or government. (To be offered only for SA/UN grading.)

Engineering Co-Op Work Experience II (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: ENGR 295

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 395I (IL) Engineering International Cooperative Education (1-2 per semester) A supervised work experience in research, industry or government relevant to a student's major.

ENGR 395I

ENGR 395I Engineering International Cooperative Education (1-2) (IL)

This course provides students the opportunity to apply the fundamentals and academic concepts learned in their major classes in a professional laboratory, industry, or government agency setting outside of the United States. This course is the second of three courses that provide progressive, multiple, alternating semesters of career-related experience in the Cooperative Education Program. The final grade (SA/TJN) will be based on the -final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: ENGR 295A orENGR 295I

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 407 Technology-Based Entrepreneurship (3) Technology innovation coupled with business planning and development.

Technology-Based Entrepreneurship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 408 (US) Leadership Principles (2) An introduction to an exploration of theories and principles of leadership, supplemented by presentations given by industry and government leaders.

Leadership Principles (2)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 409 (US) Leadership in Organizations (3) Development of leadership skills essential for engineers to guide colleagues or an organization in a productive direction.

Leadership in Organizations (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 420Y (US;IL) Design for Global Society (3) An interdisciplinary study of the engineering design process and the influence of society and culture on design.

ENGR 420Y

ENGR 420Y Design for Global Society (3)
(US)

An interdisciplinary study of the engineering design process and the influence of society and culture on design. Engineering is the application of pure scientific principles to benefit society. Engineers design and build various products and processes as identified by commercial and industrial needs. Just as societal needs affect which products and processes should be built, their designs affect society as they are built. The manifestation of the latter effect comes in the form of environmental impact. There is no entity more intercultural than the global environment. International societies and cultures express different views on their relationships with the environment. No matter what the relationship, the interplay between society and environment exists and is compounded by engineering influences on each. The course intends to achieve the following learning outcomes:
a. Students explore and compare what is meant internationally by "human scale," "appropriate technology," and "sustainability" in selected industrialized and less-industrialized countries.
b. Students investigate professional codes of ethics, ethical dilemmas, and resolution of dilemmas.
c. Students examine and describe connections between technological and cultural development in the US and a variety of international societies.
d. Students learn and apply the engineering design process in US and international societal and cultural contexts.
e. Students practice writing and reporting skills in an internationally-focused course, where they focus analytical skills on societal and cross-cultural issues.

As a writing course, students are assessed using a variety of methods. Students write short papers on social & cultural topics, such as environmental justice and eco-feminism. Students participate in online discussion forums to evaluate classroom discussions and related topics. Students form teams and work on semester-long projects about which they write team papers and make formal presentations.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 411 Entrepreneurship Business Basics (3) Three critical entrepreneurship skills are covered for non-business majors: business finance, intellectual property, and marketing.

Untitled Document

ENGR 411 Entrepreneurial Business Basic (3)

ENGR 411 covers three critical skill areas of non-business students: business finance, intellectual property, and marketing. These business areas are covered in three sequential 5-week modules over the semester. This course emphasizes problem-based learning (PBL), in which students engage in real-world problem-solving exercises each and every class period. With this learning approach, students develop and use skills sets in financial management, intellectual property management, and both business-to-consumer marketing (B2C) and business-to-business marketing (B2B). Each student is responsible for all course material and completing all PBL exercises covered in class, whether present or not. Student presence and preparation in every class period id expected.

To encourage active learning of ENGR 411 course material, students are divided into small discussion and working teams. Discussion teams will be responsible for : 1) developing questions for class interaction; 2) highlighting the important points of the readings/case studies; and 3) solving problems and presenting solutions to the class.

Up to three technology businesses or events of current interest will be analyzed during the semester. These case studies bring out the interdependence of finance, intellectual property, and marketing decisions in product creation. Example business case studies include Napster and the Bridgestone/Firestone litigation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: three credits in economics or economics-related course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 421 Materials Properties Measurements II (4) Materials powder characterization, compaction and densification techniques, density measurements, micro structural evaluation, thermal and electrical properties of materials.

ENGR 421 Materials Properties Measurement II (4)

Materials property measurement II introduces students to experimental procedures in the determination of thermal properties (heat transfer/conduction and thermal expansion) and electrical properties (resistance and dielectric measurements) of materials through demonstrations and experiments. Lectures provide a theoretical understanding of the characterization techniques and provide information for the design and interpretation of experimental results. This laboratory complements lectures in materials characterization, materials processing and materials design courses allowing students to apply theoretical knowledge to experimental processes. Students gain hands-on knowledge of testing equipment and experience in data acquisition and interpretation. Students gain experience in the processing of material (powder characterization, consolidation, and densification), the analysis of material microstructures and investigations of structure property relationships.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGR 320, MATSE 201, MATSE 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 426 (IST 426, MGMT 426) Invention Commercialization (3) Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path each technology.

ENGR 426

ENGR (MGMT/IST/ENTR) 426 Invention Commercialization (3)

The goal of ENGR (MGMT/IST/ENTR) 426 is to have students understand why invention commercialization is complicated and difficult by participating in the process. For example, the inventor rarely has insights into the markets for his/her invention, is often not interested in the details of commercialization, and can be secretive. In addition, the business and financial communities often do not take the time, or have the resources, to understand new technologies and perform complex due diligence. Thus lack of due diligence often leads to rejection of innovation because existing companies often discount new technologies from outside the company as NIH - "not invented here".

Effective transfer of new invention or innovation to a commercial product requires at least three different functional communities to interface: technical, legal and business. Each uses a different language, comes from different educational and cultural backgrounds, and may have an inherent distrust of the others. These functional barriers are difficult to overcome.

This course teaches how these barriers can be broken down as student teams help bridge the perceived chasm between key players in the invention commercialization process. In these teams, students bring the skills and knowledge from their major to develop an invention commercialization recommendation for the Technology Transfer Office and the inventor. For example, business students focus on finance and market opportunity assessment; engineering and IST students focus on design refinements, prototyping support, and (if appropriate) making technology suggestions to the inventor.

Upon completing the course, the students will have a working knowledge of different university and corporate technology or invention commercialization processes, important intellectual property management tools for inventions (patents, license agreements, option agreements) source of funding to move inventions toward product development, and delivering top quality presentations which outline the recommended commercialization path. Students who enjoy open-ended projects which involve the interplay of business and invention of who wants to work on interdisciplinary teams with the newest inventions will find this course a valuable course. NOTE: Because the inventions/products are based on Penn State faculty intellectual property, students must sign the Penn State Special Intellectual Property Agreement For Students - For Use When Assigning Intellectual Property to The Pennsylvania State University. The form can be viewed at http://guru.psu.edu/policies/RAG13.html

The course will be offered both Spring and Fall semesters with an enrollment of 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 425 (IST 425, MGMT 425) New Venture Creation (3) Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors.

ENGR 425

ENGR (MGMT/IST/ENTR) 425 Introduction to Entrepreneurship (3)

The goal of ENGR (MGMT/IST/ENTR) 425 is to better prepare undergraduate students to be business leaders in adaptive, globally-minded, technology-savvy companies. The course is structured so students develop skills that are of high value in any workplace: they develop improved leadership skills, higher self-efficacy, creativity and the ability to deal with ambiguity. On course completion, students will have a working knowledge of traditional and non-traditional ways for identifying a new product or business opportunity, quantifying the potential, understanding the key competitive factors, researching the audience and producing a convincing executive summary for internal or external financing and launch. Students who want to augment the skills and knowledge from their major with the ability to refine a new product/service process in an interdisciplinary team will find ENGR (MGMT/IST/ENTR) 425 a valuable course.

This is a novel problem-based learning (PBL) course, where the learning is student-centered, with faculty acting primarily in the role of facilitators. Active learning happens in this course because students develop ownership in their new business venture concept and are fully responsible for the genesis of the idea. The course leverages the on-line course management system (ANGEL) to define weekly learning objectives, support electronic delivery of assignments, robust video content with entrepreneurs is provided on CD-ROM or via ANGEL, providing additional insights into entrepreneurship. The technology or business segment focus of the class is easily adapted by using different case studies and course mentors.

This will be one of two courses in the new two-course sequence for business students in entrepreneurship. This course will be accepted as a supporting course in the Engineering Entrepreneurship Minor (E-SHIP) and in the Engineering Leadership Development Minor (ELDM). ENGR (MGMT/IST/ENTR) 425 can be used as a technical elective in many of the engineering departments. It will be accepted as a Support of Option course for the Information Sciences and Technology (IST) major.

This course will be offered each Fall and Spring semester with two sections each semester. Class enrollment per section will be set at 60 total.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 450 Materials Design and Applications (3) Engineering design considerations for materials selection, organization of property trends of materials families, materials design strategies and property compatibility.

ENGR 450 Materials Design and Applications (3)

ENGR 450 introduces students to the process of materials organization and selection for application needs. Students select materials for applications based on desired properties, materials compatibility, and economic factors and learn how to design materials (composites) to fulfill critical materials requirement of an engineering application. The course facilitates students with the understanding of the engineering design process to make educated decisions on the materials selection and/or design for industry application needs. Students learn to understand trends in property characteristics associated within given families of materials, i.e. metals, ceramics and polymers, and to balance engineering needs and economic considerations with the application design process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGR 350, E MCH 407 orE MCH 461;ENGR 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 490W Senior Design I (1) Analysis of environmental impacts on a design, designing products for the global environment and discussion on engineering ethics and professionalism.

ENGR 490W Senior Design I (1)

Senior design I provides students with experience in solving engineering problems independently and/or working in groups on an open-ended design problems. Students refine skills in information gathering, analysis of market and technical considerations, critical thinking of project/design scope and effective communication of project/design objectives. This course builds on previous knowledge and applies it to a global consideration of design criteria to a specific projects provided by relevant faculty. The course is the first installment of a senior capstone program in which students start to understand the global aspects of the engineering design process with respect to individual/group projects. Students gain perspective on project selection and research expectations from faculty and gather the relevant technical knowledge required to initiate the project. Projects are appropriately scoped for undergraduate research and are faculty initiated sponsored by regionally based industry (similar to The Learning Factory Experience at UP). Faculty provides research opportunities and external industry collaborations to students for selection based on common interest.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGR 350, E MCH 407 orE MCH 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 491W Senior Design II (3) Capstone of research projects from conception to prototype through industry sponsored collaboration on common technical interests between faculty and student.

ENGR 491W Senior Design II (3)

Senior design I provides students with experience in solving engineering problems independently and/or working in groups on an open-ended design problems. Students refine skills in information gathering, analysis of market and technical considerations, critical thinking of project/design scope and effective communication of project/design objectives. This course builds on previous knowledge and applies it to a global consideration of design criteria to a specific projects provided by relevant faculty. The course is the first installment of a senior capstone program in which students start to understand the global aspects of the engineering design process with respect to individual/group projects. Students gain perspective on project selection and research expectations from faculty and gather the relevant technical knowledge required to initiate the project. Projects are appropriately scoped for undergraduate research and are faculty initiated sponsored by regionally based industry (similar to The Learning Factory Experience at UP). Faculty provides research opportunities and external industry collaborations to students for selection based on common interest.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGR 490W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 493 Individual Leadership Experience (1) Approved individual project or internship for students to practice the leadership skills developed in the Engineering Leadership Development Minor.

Individual Leadership Experience (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: Prerequisite or concurrent:ENGR 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 495 Engineering Co-Op Work Experience III (1-3) A supervised work experience where the student is employed in an engineering position in industry or government. (To be offered only for SA/Un grading.)

Engineering Co-Op Work Experience III (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: ENGR 395

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 495A Engineering Cooperative Education (1-3 per semester) A supervised work experience in research, industry or government relevant to a student's major.

ENGR 495A

ENGR 495A Engineering Cooperative Education (1-3)

This course provides students the opportunity to apply the fundamentals and academic concepts learned in their major classes in a professional laboratory, industry, or government agency setting in the United States. This course is the third of three courses that provide progressive, multiple, alternating semesters of career-related experience in the Cooperative Education Program. The final grade (SAFUN) will be based on the final report submitted by the student and a mid-term and final evaluation subn-titted by the employer. This course will be offered fall, spring, and summer semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: ENGR 395A orENGR 395I

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 495I (IL) Engineering International Cooperative Education (1-3 per semester) A supervised work experience in research, industry or government relevant to a student's major.

ENGR 495I

ENGR 495I Engineering International Cooperative Education (1-3)
(IL)

This course provides students the opportunity to apply the fundamentals and academic concepts learned in their major classes in a professional laboratory, industry, or government agency setting outside of the United States. This course is the third of three courses that provide progressive, multiple, alternating semesters of career-related experience in the Cooperative Education Program. The final grade (SA/UN) will be based on the final report submitted by the student and a mid-term and final evaluation submitted by the employer. This course will be offered fall, spring, and summer semesters.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: ENGR 395A orENGR 395I

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497B International Leadership Practicum - Hungary (1) Hosted by Corvinus University in Budapest, students and presentations on Entrepreneurship/Leadership/Business by invited lecturers, tours of local businesses etc., and collaborative activities by PSU and Corvinus University students.

International Leadership Practicum - Hungary (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: ENGR 497C andENGR 497B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497E Project Management Professionals (3) This practical course for professionals covers the essential concepts and skills needed to make effective contributions and have an impact on the successful accomplishment of projects.

Project Management Professionals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497C Global Engineering Teams (1) Preparation for a career in international business. Prerequisite for students traveling internationally with the Engineering Leadership Development Program to Hungary/Morocco. Students must earn a B or better in this class to quality for travel.

Global Engineering Teams (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGR 408 andENGR 493

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497E Project Management for Professionals (3) This practical course covers the essential concepts and skills needed to make effective contributions.

Project Management for Professionals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497E Project Management for Professionals (3) This practical course covers the essential concepts and skills needed to make effective contributions and have an impact on the successful accomplishments of projects.

Project Management for Professionals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497F (SCIED 497F) Fundamentals of Science, Technology & Engineering (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Fundamentals of Science, Technology & Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497G Career Development Seminar (2) This Career Development Seminar offers upper-class engineering students information on the tools and current practices in industry. Topics range from communication skills, leadership strategies, teambuilding skills, personal management, etiquette and knowledge about the corporate culture. The seminar will cover a variety of topics and is designed to create a successful transition to the workplace and a successful career. Industry representatives will participate in the course as guest speakers. They will provide presentations in-person and through methods used in industry including telephone conference call and Skype.

Career Development Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497K Social Entrepreneurship (3) Explore intriacies of social innovation. Work in teams to develop feasibility plans for social ventures in the US, Asia, and Africa.

Social Entrepreneurship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 497I Engineering Teaching Intern (0.5) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Engineering Teaching Intern (0.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering (ENGR)

ENGR 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 010 Introductory Engineering Graphics (1) Multiview projections, pictorial drawings, dimensioning, engineering standards, and working drawings.

Introductory Engineering Graphics (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 012S Solar Racers First-Year Seminar (1) Students explore solar energy engineering by designing, building, testing, and racing a model car powered by a photoboltaic panel.

EDSGN 012S Solar Racers First-Year Seminar (1)

This engineering First-Year Seminar, Solar Racers, is intended as a topical introduction to the field of solar engineering with a focus on solar electricity. Through hands-on activities, readings, and research, students explore the application of solar energy to power a model car (and by extension, solar electricity generation in general). Working in small teams, students design, build, and test a model solar-powered car. This seminar emphasizes active learning via project-oriented teamwork. Solar principles to be demonstrated include solar angles, solar resource, and conservation of energy. Students also use spreadsheets and computer models to perform parametric studies as an aid in the design process.

Classes typically begin with a review and overview of the topics for that day. Class time is spend discussing new material, recent assignments, and working in the lab. Students also serve as mentors and advisors for local middle school students who will also be building and racing similar model solar cars.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 011S Explorations in Design First-Year Seminar (1) Students explore topical issues in engineering design.

Explorations in Design First-Year Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 013S Ethics of Star Trek First-Year Seminar (1) The Star Trek television series is used as an introduction to ethics, with application to student life and engineering practice.

EDSGN 013S Ethics of Star Trek First-Year Seminar (1)

In this first-year seminar, *The Ethics of Star Trek*, students explore ethical issues that arise in various episodes of *Star Trek,* from *The Original Series* with Captain James T. Kirk and company, through *The Next Generation,* with Captain Jean Luc Picard. Students learn how to methodically approach tough ethical decisions in their lives, especially those in professional life. This course helps them to identify, understand, and examine their moral values, and especially to plan actions that are consistent with these values. The class explores the current thinking on the responsibilities of engineers to society, community, family, and themselves. This is a discussion and application oriented course with emphasis placed on applying key concepts to realistic problems and on developing skills such as team work, argumentation, and communication skills.

Underpinning the viewing of Star Trek episodes, the course starts with a foundation on moral and ethical theory. After discussing the ethical issues faced by the Star Trek crews, the class investigates similar situations faced by students and by engineers. Teams analyze and solve progressively more complex ethical cases in engineering and in general. The goal of the course is for students to develop their moral imagination and to understand how to make the best choices in difficult circumstances.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 015S Transformations by Design: First-Year Seminar (1) Examination of the social and environmental transformations that follow engineering design, and of the transformations of students by higher education.

EDSGN 015S Transformations by Design: First-Year Seminar (1)

Engineering design is a diverse field of study with many emerging topics and applications. The goal of this first-year seminar course is to introduce first-year students to engineering design. In turn, design is set within the essential dynamic context of technology: the transformation of the environment and society. Hence, doing design well means creating a better world and a sustainable environment. Students examine the global networks of product life cycles from extraction to disposal that is triggered by engineering design and how it affects people's lives and the environment.

Since much engineering design is integrated design that brings together the disciplines and people necessary to achieve a design solution to a given problem, this FYS provides students with a vivid glimpse of engineering careers. This is developed further by student presentations that focus on their life goals and how their expected career in a given field of engineering will help them to achieve their goals.

This course will combine lectures, discussions, teamwork, projects, and hands-on activities, with an emphasis on active learning and an examination of the transformations of technology from transducers to product life cycles.

In addition to introducing first-year students to design topics and careers in engineering, this seminar course will help incoming students develop success skills and become acclimated to University life. But higher education is also presented to the students as a transformative process that reshapes their social relationships and determines much of their future.

The course will be offered once a year in the fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 100H Introduction to Engineering Design (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.

Introduction to Engineering Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 100 Introduction to Engineering Design (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.

Introduction to Engineering Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 100S Introduction to Engineering Design (3) Introduction to engineering design processes, methods, and decision making using team design projects; design communication methods including graphical, verbal, and written.

Introduction to Engineering Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 110 Spatial Analysis in Engineering Design (2) Spatial analysis techniques using advanced computer-aided drafting and design systems, with an emphasis on engineering concepts, analysis and design.

ESDSGN 110 Spatial Analysis in Engineering Design (2)

EDSGN 110 is a continuation of EDSGN 100, moving toward an introduction to computer-aided engineering. Emphasis is on the design of mechanical systems using two-dimensional (2D) drawings and three-dimensional (3D) solid modeling techniques commonly used in the mechanical design and structural systems.
This course covers spatial relationships using the advanced functionality of computer-aided drafting and design systems. Students will be able to: (1) create and interpret advanced 2D engineering models and drawings; (2) create and manipulate 3D solid models; and (3) use these techniques in practical engineering design problems.
Students will become proficient in the use of computers for the simulation of mechanical systems, design documentation, network storage and retrieval, and presentation technologies. The student will create and interpret advanced 2D engineering drawings which may include auxiliary views and working drawings. Using the engineering design process and solid modeling software, the student will create and manipulate 3D solid models and assemblies to aid in the design and documentation of simple mechanical systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: EDSGN 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 130 Architectural Graphics and CAD (3) Principles of architectural drawing; spatial relations with architectural applications; introduction to computer graphics (CAD) with project.

Architectural Graphics and CAD (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 210 Tolerancing and Spatial Models (2) Tolerances; form and size; unilateral, bilateral, and symmetric; form control, critical fits, tolerances specifications precedence; applications in spatial models.

EDSGN 210 Tolerancing and Spatial Models (2)

Professional parametric solid modeling software will be applied to produce complete, industry-typical and standard working drawings, including part detail drawings and various types of assembly drawings; to implement the appropriate tolerance design of interfacing components and to explore advanced productivity-enhancing add-in modules. Students will be introduced to the variety and relative precedence of specifications for feature tolerances, and to the basic differences between form and size tolerance. Topics covered include: unilateral, bilateral and symmetric size tolerances, form control and tolerances, calculations for critical fits, specification precedence for tolerances, e.g., stock size vs. size directly specified in the drawing field vs. title block tolerances vs. drawing notes, etc.
Laboratory assignments will include: part drawing with standard three orthographic views, complete dimensions, and a section view; part drawing with complete dimensions and a broken view; part drawing with complete dimensions and a primary auxiliary view; part drawing with complete dimensions and a secondary auxiliary view; part drawing with complete dimensions and removed detail view(s); detail drawing with correct limit tolerances on features which are critical for fit and function, assembly file with separate sub-assemblies, assembly drawing (with part identification balloons and a bill-of-material) which uses sectional views to expose fine internal detail and part interrelationships, assembly drawing (with part identification balloons and a bill-of-material) which is based upon an exploded view, assembly drawing of a tooling fixture (with part identification balloons and a bill-of-material) which shows the subject work piece transparently with phantom lines, Configured part file with tabulated drawing, welding of an assembly using advanced software capabilities and production of a welding drawing with correct symbols, production of an injection mold cavity from the subject part file, exploration of the functionality of sheet metal modules, applications of top down design and layout sketches, application of motion-simulating modules and functionality. The differences between coordinate tolerancing and geometric tolerancing are included in the course.
The American Society of Mechanical Engineers Y14.5M will be referenced. The following topics will be covered: Eight key GD&T terms, GD&T modifiers and symbols, Rule #1 and #2, concepts of GD&T, introduction to the flatness control, straightness control, circularity control, perpendicularity control, angularity control, parallelism control, concentricity control, symmetry control, the datum system (planar datum, introduction to datum targets, FOS datum specifications (RFS), FOS datum specifications (MMC).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: EDSGN 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 352 Fundamentals of Community Service Engineering (1) Students collaborate on community service engineering projects. Course modules cover engineering design, teamwork and topics relevant to project work.

EDSGN 352 Fundamentals of Community Service Engineering (1)

EDSGN 352 is intended to assist students with improving their engineering skill through design/build activities. Students are required to design and construct an appropriate technology of their choice--a technology useful and commonly found in community settings. Examples of such appropriate technologies include projects related to water treatment and testing, wastewater treatment and testing, housing, energy, agriculture and mechanical devices.

Lectures and presentations are provided, along with associated student activities, addressing skills needed by design engineers when engaging in community-based projects. These include topics related to (among others): laboratory/shop training, project management techniques, teambuilding exercises, creation and implementation of community assessment tools, project management and leadership skills, as well as issues related to ethics and sustainability.

Students will also collaborate with EDSGN 452 students on actual, real-life projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 394 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique or activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 396 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 479 (I E 479) Human Centered Product Design and Innovation (3) Consumer product design for a global market, incorporating human factors principles and user desires in a multicultural perspective.

EDSGN (I E) 479 Human Centered Product Design and Innovation (3)

This course will focus on consumer product design for a global market, incorporating human factors and ergonomics principles as well as user needs and emotional desires. The students will be led through product design process, various product design strategies, product planning, managing the development process, product evaluation, decision making tools, and market entry. Special emphasis will placed on user centered design, incorporating user characteristics, user needs and emotional desires (including Kansei engineering approaches), survey methodology, and usability testing. To emphasize the multicultural perspectives in today’s global product design, interdisciplinary teams from two universities on opposites of the globe will apply these principles on actual industrial product designs for leading consumer product manufacturers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: I E 408 orI E 419 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 452 Projects in Community Service Engineering (1-2) Students engage in research and design of appropriate solutions to real-life community-based problems and project management of such projects.

EDSGN 452 Projects in Community Service Engineering (1-2)

EDSGN 452 is intended to promote civic responsibility and enhance the student's abilities to engage in research and design, project management, communications, professional conduct and the understanding of user needs. This is accomplished by students undertaking team-based engineering projects in community service with partner community organizations. The projects offer real-world engineering design experience, from problem formulation through performance assessment. The project offerings will include a mix of local and international offerings. Students work on multidisciplinary teams with a project supervisor (i.e., faculty or practicing engineer) and a representative from the partner community organization. Projects are selected based on academic content, potential significance to the partner community, commitment of the partner community organization, and student safety.

Students also examine the politics of technology, the relationship between engineering and communities (either domestic or international), and ethics in engineering practice. This includes the ways that engineering can be used positively and negatively in development. In the course of their work, the students will examine the ways that economic, social, cultural, political, and other contextual considerations are implicated in engineering design. Students are challenged to think critically about how engineering can be done most effectively to support community goals, and how engineering can weaken community efforts if done insensitively. These issues are explored through discussions of the relevant scholarly theory and through their manifestation in the course projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: EDSGN 352 ; 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, pracrica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 496A Solidworks Fundamentals (3) Fundamentals of solid works.

Solidworks Fundamentals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 496A Solidworks Fundamentals (3) Fundamentals of solidworks.

Solidworks Fundamentals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 496A Solidworks Fundamentals (3) Fundamentals of solidworks.

Solidworks Fundamentals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 496C Catia Fundamentals & Applications (3) Students will learn fundamentals of part, assemble, and shape design, digital mock up tooks and parametric design basics. Students will explore digital mock up workbench tools and learn building and optimizing various mechanisms. As reverse engineering exercises, each student will have to reconstruct a part from a 3D model and also construct and optimize a selected machine or mechanism.

Catia Fundamentals & Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497D Multidisciplinary Capstone Design Project (3) The course focuses on multidisciplinary industry-sponsored and community service-based design projects offered in conjunction with the College of Engineering's Learning Factory.

Multidisciplinary Capstone Design Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: senior level standing in BIOE CMPEN EE IE or ME;BIOE 440 orE E 330 orE E 350 orE E 316 orI E 302 orI E 305 orI E 323 orI E 327 orI E 330 orI E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497E Sensor and Controller System Integration (3) Hands-on course covers the interfacing of various sensors and actuators to computers to build proof-of-concept prototypes of innovative products.

Sensor and Controller System Integration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497F Sensor and Controller System Integration: Practicum (1) Hands-on course covers the interfacing of various sensors and actuators to computers to build proof-of-concept prototypes of innovative products.

Sensor and Controller System Integration: Practicum (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497G AutoCAD 2010 Tutorial (3) Students will use the latest version of AutoCAD as a design tool for 2D and 3D applications in a variety of disciplines.

AutoCAD 2010 Tutorial (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497G Current CAD Applications (3) Students will use the latest version of AutoCAD as a design tool for 2D and 3D applications in a variety of disciplines.

Current CAD Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497G Current CAD Applications (3) Students will use the latest version of AutoCAD as a design tool for 2D and 3D applications in a variety of disciplines.

Current CAD Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 497K Engineering Design and Analysis with CATIA (3) The first part of the course covers the fundamentals of CATIA V5 in solid modeling, part design and assembly design prototyping, and design documentation. The second part of this course covers the basic FEA (finite element analysis) capabilitites in CATIA V5. Students will learn how to quickly generage a finite element model for surface and/or solid parts of how to perform analysis using the finite elements method with CATIA V5.

Engineering Design and Analysis with CATIA (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Design (EDSGN)

EDSGN 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 101 Technical Drawing Fundamentals (1) Technical skills and drafting room practices; fundamentals of theoretical graphics; orthographic projection including sectional and auxiliary views; dimensioning.

Technical Drawing Fundamentals (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 060 3D Visualization and Spatial Development (1) Supplemental course designed to improve spatial skills through the use of interactive hands-on activities, such as clay modeling and multi-media software.

EG T 060 3D Visualization and Spatial Development (1)

The ability to visualize objects and situations in one's mind, and more specifically the ability to manipulate those visualizations is an important skill for those in the engineering field. For example, EG T 120 Introduction to Graphics and Solid Modeling requires strong visualization skills to create orthographic (2D) and isometric (3D) representations of mechanical parts. Students must also be able to sketch an object 3-dimensionally from a 2D drawing and vice-versus. Strong visualization skills are also essential to successfully model 3D parts in a solid modeler, such as Pro/ENGINEER. In addition, research has shown students with poorly developed spatial skills, especially women, tend to become discouraged and drop out of engineering altogether if they are struggling in their very first "engineering" course. EG T 060 is designed to improve these spatial skills through the use of interactive hands-on activities, such as clay modeling (building a 3D object from a 2D drawing), snap cubes, and multi-media software specifically designed to improve these skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 102 Introduction to Computer Aided Drafting (1) A first course presenting an intensive study utilizing a computer assisted drafting and design system to obtain graphic solutions.

Introduction to Computer Aided Drafting (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 114 Spatial Analysis and Computer-Aided Drafting (2) Spatial relations of applications in engineering technology with more advanced functionality of computer-aided drafting and design systems.

EG T 114 Spatial Analysis and Computer-Aided Drafting (2)

The EG T 114, Spatial Analysis and CAD course is a continuation of CADD (Computer Aided Drafting and Design) and an introduction to CAE (Computer Aided Engineering) with an emphasis on the state-of-the art 2-D drawing and 3-D solid modeling techniques commonly used in mechanical design and analysis of structural systems.

This course is also designed to cover spatial relations of applications in engineering technology, with more advanced functionality of computer-aided drafting and design systems.

Building on the knowledge and experience of Engineering Design from prior courses, the student will be able to: understand, create and interpret more advanced 2-D Engineering drawings; understand, create and manipulate 3-D solid models; use these two techniques in practical Engineering Design problems.

Having an understanding of computer systems, students will become proficient in the use of computers for the simulation of mechanical systems, design documentation, network storage and retrieval, and presentation technologies.
With a basic understanding of 2-D drawing software, the student will also be able to understand, create and interpret more advanced 2-D Engineering drawings, which may include auxiliary views and working drawings.

Finally, having an understanding of the Engineering Design process and a basic understanding of solid modeling software, the student will be able to understand, create and manipulate 3-D solid models and assemblies to aid in the design and documentation of simple mechanical systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EDSGN 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 120 Introduction to Graphics and Solid Modeling (3) Development of visualization skills; introduction to parametric solids modeling techniques with constrained and unconstrained geometry, and assemblies.

Introduction to Graphics and Solid Modeling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 119 Introduction to CAD for Electrical and Computer Engineering (2) Introduction to computer-aided drafting (CAD) for Electrical and Computer Engineering Technology students with a focus on three dimensional assemblies.

EG T 119 Introduction to CAD for Electrical and Computer Engineering (2)

This course is intended to teach Electrical and Computer Engineering Technology students to use a 3-D CAD software package to communicate their ideas so that they may transfer their ideas to others including engineers, designers, and lay people.

Students will successfully create 3-D objects such as rectangular solids, spheres, and cylinders. Those 3-D objects will then be employed to create actual samplings of electrical and electronic components (such as resistors, capacitors, transformers, etc), as well as electro-mechanical components (such as relays, motors, solenoids, etc), enclosures (chassis), and operator interfaces (knobs, buttons, displays, etc) and similar items. Students will successfully create 3-D assemblies. Students will successfully create working drawings of components and assemblies.

The designated course outcomes are as follows: visualize mechanical part(s) 2-D to 3-D and vice versa; incorporate design intent into solid models using extrusions, revolves, shells, ribs, chamfers and rounds; construct datum references (e.g. planes and axes) to facilitate solid modeling; properly execute duplicating operations to create circular and linear patterns of features and mirrored features; use mathematical relations to drive solid models; create a detail drawing of a mechanical part; create 3-D assemblies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 121 Applied Solid Modeling (3) Creation of working drawings from solid models; dimensioning, GD&T, fastener, weld and finish symbols, layouts and bill of materials.

Applied Solid Modeling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EG T 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 205 Transition From 2-D CAD to Solid Modeling (1) Supplemental course designed to introduce students (primarily transfer) to a solid modeling program.

EG T 205 Transition From 2-D CAD to Solid Modeling (1)

This is a one credit course in parametric solid modeling. Students will learn how to do basic geometry creation as well as how to create and use reference geometry such as points and planes. Duplicating features though the use of patterns and mirroring will be covered. More advanced geometry creation such as sweeps and blends are introduced, as well as the use of top-down as well as bottom-up modeling techniques. Assembly modeling and detailing topics are covered. Evaluation is done through both weekly homework assignments and a final, comprehensive project. This course is designed to bring students (especially transfer students who already have taken EG T 201) up to a base level of proficiency on the specific CAD package used in MET 306.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: EG T 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 201 Advanced Computer Aided Drafting (2) Application of the principles of engineering graphics; preparation of working drawings; details, examples, and bill of material using CAD.

EG T 201 Advanced Computer Aided Drafting (2)

Professional parametric solid modeling software will be applied to produce complete, industry-typical and standard working drawings, including part detail drawings and various types of assembly drawings; to implement the appropriately toleranced design of interfacing components; and to explore advanced productivity-enhancing add-in modules. Additionally, students will be introduced to the variety and relative precedence of specifications for feature tolerances and to the basic differences between form and size tolerancing. Topics that will be covered in the course include: Unilateral, bilateral and symmetric size tolerances, Form control and tolerances, Calculations for critical fits, Specification precedence for tolerances, e.g., stock size vs. size directly specified in the drawing field vs. title block tolerances vs. drawing notes, etc The following laboratory assignments will include: Part drawing with standard three orthographic views, complete dimensions, and a Section View, Part drawing with complete dimensions and a Broken View, Part drawing with complete dimensions and a Primary Auxiliary View, Part drawing with complete dimensions and a Secondary Auxiliary View, Part drawing with complete dimensions and removed Detail View(s), Detail drawing with correct limit tolerances on features which are critical for fit and function, Assembly file with separate sub-assemblies, Assembly Drawing (with part identification balloons and a bill-of-material) which uses Sectional Views to expose fine internal detail and part interrelationships, Assembly Drawing (with part identification balloons and a bill-of-material) which is based upon an Exploded View, Assembly Drawing of a tooling fixture (with part identification balloons and a bill-of-material) which shows the subject workpiece tranparently with phantom lines, Configured part file with tabulated drawing, Welding of an assembly using advanced software capabilities and production of a welding drawing with correct symbols, Production of an injection mold cavity from the subject part file, Exploration of the functionality of sheet metal modules, Applications of Top Down Design and Layout Sketches, Application of motion-simulating modules and functionality. The differences between coordinate tolerancing and geometric tolerancing are included in the course. The American Society of Mechanical Engineers Y14.5M will be referenced. The following are among the topics that will be covered: Eight key GD&T terms, GD&T modifiers and symbols, Rule #1 and #2, Concepts of GD&T, Introduction to the flatness control, straightness control, circularity control, perpendicularity control, angularity control, parallelism control, concentricity control, symmetry control, The datum system (planar datums, Introduction to datum targets, FOS datum specifications (RFS), FOS datum specifications (MMC).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EDSGN 100, EG T 114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 222 Geometric Dimensioning and Tolerancing (3) Study of methods of geometric dimensioning and tolerancing used in technical graphics; CAD drawing applications are used to strengthen proficiency.

Geometric Dimensioning and Tolerancing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EG T 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Graphics Technology (EG T)

EG T 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 120S Adventures in Mechanics--First-Year Seminar (1) First-year seminar that introduces students to basic concepts in engineering mechanics.

E MCH 120S Adventures in Mechanics (1)
(FYS)

Students will be introduced to some basic engineering mechanics concepts in an active way. The students will experience how mechanics is involved with familiar products such as bicycles, lawn chairs, silly putty, and bungee cords. Issues in engineering design are examined including the open-endedness of design problems and use of technology. The three general components of mechanics: theory, experiment, and computation, will be addressed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 210 Statics and Strength of Materials (5) Equilibrium of particles, rigid bodies, frames, trusses, beams, columns; stress and strain analysis of rods, beams, pressure vessels.

E MCH 210 Statics and Strength of Materials (5)

This course is a combination of E MCH 211 and E MCH 213. Students taking E MCH 210 may not take E MCH 211 or 213 for credit, or vice versa. Students will learn how forces and moments acting on rigid and deformable bodies affect reactions both inside and outside the bodies. Students will study the external reactions, and their inter-relationships; the discipline of statics (E MCH 211), as well as the associated internal forces and deformations, quantified by their corresponding stresses and strains; the discipline of strength of materials (E MCH 213). The student will be able to analyze and design simple structural components based bon deflection, strength, or stability. Students will be prepared to analyze and design simple structures and take upper division courses in mechanics of materials and structural analysis and design. Students will communicate their analysis through the use of free-body diagrams and logically arranged equations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: or concurrent:MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 211 Statics (3) Equilibrium of coplanar force systems; analysis of frames and trusses; noncoplanar force systems; friction; centroids and moments of inertia.

E MCH 211 Statics (3)

Engineering Mechanics is the engineering science that relates forces and moments to the motion (displacement, velocity, acceleration) of bodies. The understanding of the concepts of force, moment, and motion is essential to design efficient engineering components ranging from a bridge to a wing strut to a robot arm to the mother board of a computer. Statics (E MCH 211) is the foundational course for both Dynamics (E MCH 212), which is the study of motion and the forces causing motion, and Strength of Materials (E MCH 213), which is the study of deformation and strength design of solids. Statics will provide students with the tools and guidance to master the use of equilibrium equations and Free Body Diagrams (FBD's) and to solve real engineering problems. Students should leave this class with the ability to logically approach a variety of static engineering problems, to translate a physical situation into an analytic model, and to use various mathematical tools to determine desired information. Course topics include: introduction and vectors, problem solving, force vectors, particle equilibrium, moments/couples, equivalent systems, distributed loads/FBDs, rigid body equilibrium, trusses, frames and machines, 3-D equilibrium, friction, centroids and center of gravity, and moments of inertia.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 210H Statics and Strength of Materials, Honors (5) Equilibrium of particles and rigid bodies, frames, trusses, beams, columns; stress and strain analysis of rods, beams, pressure vessels.

E MCH 210H Statics and Strength of Materials, Honors (5)

This honors course is a combination of E MCH 211 and E MCH 213. Students taking E MCH 210H may not take E MCH 211 and 213 for credit, or vice versa. The same general topics are covered as in E MCH 210, but in a more advanced fashion and with more advanced applications. Students will learn how forces and moments acting on rigid and deformable bodies affect reactions both inside and outside the bodies. Students will study the external reactions, and their inter-relationships - the discipline of statics (E MCH 211), as well as the associated internal forces and deformations, quantified by their corresponding stresses and strains - the discipline of strength of materials (E MCH 213). The student will be able to analyze and design simple structural components based on deflection, strength, or stability. Students will be prepared to analyze and design simple structures and take upper division courses in mechanics of materials and structural analysis and design. Students will communicate their analysis through the use of free-body diagrams and logically arranged equations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 212 Dynamics (3) Motion of a particle; relative motion; kinetics of translation, rotation, and plane motion; work-energy; impulse-momentum.

E MCH 212 Dynamics (3)

Dynamics (E MCH 212) is the study of forces causing motion and, at least in engineering, its primary goal is the determination of loads on moving structures for the purpose of design. Dynamics will provide students with the tools and guidance to analytically model a wide variety of mechanical and structural systems. In Dynamics, this is done by drawing free-body diagrams of the relevant parts of the system and then applying the laws of Newton and Euler, laws governing material behavior, and equations describing the geometry of motion of points and bodies (kinematics) to those free-body diagrams to obtain the equations governing the motion of the system. Once a system has been modeled, Dynamics will also provide students with the tools to obtain desired information from those models by solving the equations governing the motion of the system. Topics covered in Dynamics include: kinematics of particles, application of Newton's laws to particles, energy and momentum methods for particles, kinematics of rigid bodies, application of the laws of Newton and Euler to rigid bodies, and energy and momentum methods for rigid bodies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211 orE MCH 210;MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 213 Strength of Materials (3) Axial stress and strain; torsion; stresses in beams; elastic curves and deflection of beams; combined stress; columns.

E MCH 213 Strength of Materials (3)

In this elementary course on the strength of materials the response of some simple structural components is analyzed in a consistent manner using i) equilibrium equations, ii) material law equations, and iii) the geometry of deformation. The components analyzed include rods subjected to axial loading, shafts loaded in torsion, slender beams in bending, thin-walled pressure vessels, slender columns susceptible to buckling, as well as some more complex structures and loads where stress transformations are used to determine principal stresses and the maximum shear stress. The free body diagram is indispensable in each of these applications for relating the applied loads to the internal forces and moments and plotting internal force diagrams. Material behavior is restricted to be that of materials in the linear elastic range. A description of the geometry of deformation is necessary to determine internal forces and moments in statically indeterminate problems. The underlying mathematics are boundary value problems where governing differential equations are solved subject to known boundary conditions. Students will be able to:

a) Identify kinematic modes of deformation (axial, bending, torsional, buckling and two dimensional) and associated stress states on infinitesimal elements and sketch stress distribution over cross sections
b) Analyze determinate and indeterminate problems to determine fundamental stress states associated with kinematic modes of deformation
c) Apply strength of materials equations (and formulas) to the solution of engineering and design problems
d) Recognize and extract fundamental modes in combined loading and do the appropriate stress analysis
e) Extract material properties (modulus of elasticity, yield stress, Poisson's ratio) from data and apply these in the solution of problems
f) Calculate the geometric properties (moments of inertia, centroids, etc) of structural elements and apply these in the solution of problems.

which will enable them to solve real engineering problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 212H Dynamics (3) Motion of a particle; relative motion; kinetics of translation, rotation, and plane motion; work-energy; impulse-momentum.

E MCH 212H Dynamics (3)

Dynamics (E MCH 212) is the study of forces causing motion and, at least in engineering, its primary goal is the determination of loads on moving structures for the purpose of design. Honors Dynamics (E MCH 212H) will provide students with the tools and guidance to analytically model a wide variety of mechanical and structural systems. In Dynamics, this is done by drawing free-body diagrams of the relevant parts of the system and then applying the laws of Newton and Euler, laws governing material behavior, and equations describing the geometry of motion of points and bodies (kinematics) to those free-body diagrams to obtain the equations governing the motion of the system. Once a system has been modeled, Honors Dynamics will also provide students with the tools to obtain desired information from those models by solving the equations governing the motion of the system. Topics covered in Honors Dynamics include: kinematics of particles, application of Newton's laws to particles, energy and momentum methods for particles, kinematics of rigid bodies, application of the laws of Newton and Euler to rigid bodies, and energy and momentum methods for rigid bodies. In addition to what is done in Dynamics (E MCH 212), students in Honors Dynamics will typically do a project in which they design an experiment and use what they have learned to compare theory with experiment. They will also make use of modern mathematical software to solve the nonlinear differential equations obtained in their analysis of mechanical and structural systems to obtain further understanding of the behavior of these systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211, E MCH 210H orE MCH 210;MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 213D Strength of Materials with Design (3) Stress and deformation in members under axial, bending, and torsional loads, combined stress; columns. Design with a project.

E MCH 213D Strength of Materials with Design (3)

Strength of Materials with Design adds depth and breadth to the traditional course material, provides an understanding of how the course topics are applied in engineering, introduces the student to information resources crucial to doing engineering and requires teamwork, research and decision-making.

The student is expected to learn: the fundamentals of strength of materials which include the ability to analyze stress and strain structural elements under axial, bending, torsional and multi-axial behavior and predict the onset of buckling in columns. These objectives are the same for E MCH 213, the traditional course. Distinguishing features of E MCH 213D, Strength of Materials with Design, are: application of fundamental analysis to design of simple structures, application of the design process, research for data in the library and on the web, team-work, organization and writing a report which consists of a design drawing, supporting data and calculations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211, ED&G 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 313 Statics of Deformable Bodies (3) Coplanar equilibrium; stress and strain. Elastic and inelastic response; applications to chemical processing equipment. Intended for students in chemical engineering.

Statics of Deformable Bodies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: CH E 302 or fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 315 Mechanical Response of Engineering Materials (2) Mechanical response measures and design theories for engineering materials; elastic and plastic response as affected by stress, strain, time, temperature.

E MCH 315 Mechanical Response of Engineering Materials (2)

The main goal of E MCH 315 is to present mathematical models to describe mechanical behavior of materials and develop skills relevant to understanding the mechanical response of an engineering design using realistic materials. Engineering analysis is emphasized by introducing various material responses to external factors including static loading, cyclic loading, and elevated temperatures. The student will gain a broad base in this area that serves as a foundation for subsequent employment in systems design and testing, or further study in engineering analysis, mechanical design, materials engineering or materials selection. E MCH 315 is an extremely useful and versatile class that has many applications in all engineering disciplines. The general topics include: elastic, viscoelastic, plastic, and creep deformation; temperature effects, stress based failure criteria for ductile and brittle material behavior; creep rupture; fracture mechanics prediction of brittle failure; and failure by fatigue.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 316 Experimental Determination of Mechanical Response of Materials (1) Experimental techniques for mechanical property measurement and structural testing.

E MCH 316 Experimental Determination of Mechanical Response of Materials (1)

The objective of EM CH 316 is to introduce students to the relevant technology and methods used to determine the mechanical responses of engineering materials and structural components. Student teams will apply stress and strain measurement techniques; conduct tensile, torsion, creep, internal pressurization, and fatigue tests; then characterize mechanical behavior and explain the material parameters obtained. The laboratory assignments are designed to complement the lecture course E MCH 315, which must be taken as a prerequisite of concurrently.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrent:E MCH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 400 Advanced Strength of Materials and Design (3) Combined stresses; energy methods; special problems in bending and torsion; plates; thin-walled structures; buckling and stability; design projects.

Advanced Strength of Materials and Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 403 Strength Design in Materials and Structures (4) Determination, interpretation, significance, and application of mechanical properties such as plastic flow, fatigue strength, creep resistance, and dynamic properties.

Strength Design in Materials and Structures (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 315, E MCH 316

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 402 Applied and Experimental Stress Analysis (3) Experimental design of structural and machine components; photoelasticity, electrical resistance strain gauge techniques, Moire techniques, interferometry, holography.

Applied and Experimental Stress Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 407 Computer Methods in Engineering Design (3) Computer methods in mechanical design: solid modeling, graphics, surface smoothing/interpolation and underlying numerics: simultaneous equations, quadrature, eigen problems, discrete models.

E MCH 407 Computer Methods in Engineering Design (3)

E MCH 407 teaches computer methods and the use of modeling tools for doing mechanical design and the underlying numerical methods necessary to design, design analysis and development of design-related computer tools. The programming tool used in the course is MATLAB. E MCH 407 provides preparation for study of finite element analysis and professional practice. It is well suited to students who expect to work in design, manufacturing and/or project engineering. E MCH 407 is not a typical numerical methods course; for example, it treats solution of differential equations using finite differences only as minor application. Nonetheless the mathematics is at times rather abstract.
Course Objectives (labels for ABET criterion met are appended to each objective). Students will be able to:
Apply methods prerequisite to finite element analysis to solve well-defined problems (a, e, f, g, i, k)
Generate splines and curves for the smoothing of surfaces (a, b, e, f, g, h, i, j, k)
Write computer code to do computer graphics and object manipulation (a, c)
Do solid modeling, create rapid-prototypes, generate meshes using a commercial package (c, e, h, j, k)
Calculate eigenvalues/eigenvectors and plot mode shapes (a, e, j, k)
2. Evaluation Methods include homework, mini-project submittals, midterm and final exams.
3. Special Facilities: E MCH 407 is taught in classrooms with computers.
4. Frequency of Offering/Enrollment: E MCH 407 is offered every spring semester. Enrollment is limited to the number of computers in the classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201, CMPSC 202 orE SC 261M;E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 408 Elasticity and Engineering Applications (3) General equation of stress and strain in rectangular, cylindrical, and spherical coordinates; applications in structural and machine design.

Elasticity and Engineering Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 412 Experimental Methods in Vibrations (3) Systems of one or more degrees of freedom, mechanical vibrations, vibration properties of materials, vibration techniques in nondestructive testing.

E MCH 412 Experimental Methods in Vibrations (3)

E MCH 412 is an approved technical elective for students pursuing a bachelor's of Engineering Science. At the conclusion of this course, students will be able to:

1. Connect fundamental concepts from mathematics and physics to experimental practice and results.

2. Apply fundamental ideas, methods and hardware needed to design and conduct experiments on mechanical and electromechanical dynamical systems, and to interpret the resulting data.

3. Bridge the gap between theory and experiments by applying both mathematical theory and experimental craft.

4. Apply basic concepts from probability and statistics, Fourier analysis, and linear and nonlinear system theory relevant to experimental dynamics.

5. Develop a working knowledge of available techniques and hardware for sensing and data acquisition along with concepts needed for specifying and evaluating sensor performance.

6. Master essential methods for data analysis and signal processing.

7. Learn to effectively work in a group to execute an experiment and analyze the results.

8. Learn to effectively communicate, in a report, the nature of an experiement and its results.

Topics include measurement process and components of a measurement system; error analysis of measurements; dimensional analysis; time and frequency domains; Fourier analysis and Fourier transforms; probability and noise; types of sensors and measurement instruments; sensors for vibration measurements; performance characteristics of instruments; measurement of instrumentation; Fast Fourier Transform; Power Spectrum estimation' Correlation and Envelope Measurements; Histograms and Probability Density Functions; damping estimates; frequency response functions; coherence; introduction to modal analysis; techniques for nonlinear systems.

A typical course assessment includes laboratory experiments; homework assignments; a midterm and final examination. The course is offered in a lecture/lab format odd year spring semesters. A typical enrollment is 15 students. This course is not a prerequisiste for other courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: E MCH 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 409 Advanced Mechanics (3) Continuation of E MCH 012; Euler's equations for the rotation of a rigid body, gyroscopic motion, impulsive motion, Lagrangian mechanics.

Advanced Mechanics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 416H Failure and Failure Analysis of Solids (3) Examination and analysis of the various modes of failure of solid materials.

Failure and Failure Analysis of Solids (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210 orE MCH 210H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 446 Mechanics of Viscoelastic Materials (3) Nature of viscoelastic materials, constitutive relations, thermorheological materials, viscoelastic stress analysis, rubber elasticity, viscoelastic liquids, experimental techniques for material characterization.

Mechanics of Viscoelastic Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 315, E MCH 316

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 440 (MATSE 440) Nondestructive Evaluation of Flaws (3) Methods and limitations of nondestructive evaluation of mechanical flaws; optical, acoustical, electromagnetic, x-ray, radiography, thermography, and dye techniques.

Nondestructive Evaluation of Flaws (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 461 (M E 461) Finite Elements in Engineering (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.

E MCH (M E) 461 Finite Elements in Engineering (3)

This is an introductory course in the Finite Element Method. Through this course, students gain knowledge in finite element theory and problem modeling. The mathematical formulation of the method is presented and then applied to problems in elasticity and heat transfer. Projects are assigned to demonstrate the finite element method in simplified problems using hand- calculations and computer programs such as Matlab. The use of commercial FEA programs is introduced and problems of increased complexity are assigned to demonstrate their use in a computer lab. Finally, problems of realistic complexity are assigned such that students can practice solving, documenting and presenting their use of commercial FEA programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: CMPSC 201, CMPSC 202 orE SC 261M;E MCH 213, E MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 470 (M E 470) Analysis and Design in Vibration Engineering (3) Application of Lagrange's equations to mechanical system modeling, multiple- degree-of-freedom systems, experimental and computer methods; some emphasis on design applications.

Analysis and Design in Vibration Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;M E 370 orE SC 407H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 461 (M E 461) Finite Elements in Engineering (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.

E MCH (M E) 461 Finite Elements in Engineering (3)

This is an introductory course in the Finite Element Method. Through this course, students gain knowledge in finite element theory and problem modeling. The mathematical formulation of the method is presented and then applied to problems in elasticity and heat transfer. Projects are assigned to demonstrate the finite element method in simplified problems using hand- calculations and computer programs such as Matlab. The use of commercial FEA programs is introduced and problems of increased complexity are assigned to demonstrate their use in a computer lab. Finally, problems of realistic complexity are assigned such that students can practice solving, documenting and presenting their use of commercial FEA programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;CMPSC 200, CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 471 Engineering Composite Materials (3) Properties, manufacture, forms of composites; micromechanics; orthotropic lamina properties; laminate analysis; theories; failure analysis; thermal, environmental effects.

Engineering Composite Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;E MCH 315, E SC 414M orMATSE 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 473 (AERSP 473) Composites Processing (3) An introduction to the principles of mechanics governing manufacturing, computer-aided design, and testing of composite materials and structures.

Composites Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988
Prerequisite: E MCH 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Mechanics (E MCH)

E MCH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 120S Design for Failure--First-Year Seminar (1) This seminar, through the utilization of commonly used examples, discusses the engineering principles which are exploited by such designs.

E SC 120S Design for Failure (1)
(FYS)

Although an important facet of engineering design is to minimize the possibility of failure of a system component, there are many devices which actually protect a system by their controlled "failure". Further, some components are designed to "work" through failure. In the former situation are such devices as: a shear pin in an outboard motor driveline, a fuse in an electrical circuit, a valve actuated by heat in a sprinkler system. In the latter situation, "tab tops " allow one to open a beverage can, perforations cause the paper towel to "tear" in a prescribed manner, plasticity/elasticity allows stamped parts, such as automobile hoods, to retain their new shape following stamping.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 121S Science/Engineering Fiction and the Engineering Sciences--First-Year Seminar (1) Examines the technology predictions of authors in view of the engineering sciences on which the underlying devices of their stories are based.

E SC 121S Science/Engineering Fiction and the Engineering Sciences (1)
(FYS)

From the times of Jules Verne, books, then movies and TV, have utilized engineering/science and pseudo-engineering, in envisioning devices which were not then available, but perhaps became so in later times. From Verne's nuclear driven submarine to his voyage to the moon; to Mary Shelly's electrically created monster; to Dick Tracy's wrist radio (cell phone); to the warp speed of the Jedi, there are successes and failures as to predictions of what would some day be possible. These are examined and discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 122S Weird, Wild, and Wonderful Materials and Devices--First-Year Seminar (1) First-year seminar that surveys the use of novel materials and material systems to create practical devices.

E SC 122S Weird, Wild, and Wonderful Materials and Devices (1) (FYS)

There are many materials whose response to a particular stimulus (mechanical, thermal, electrical, etc.) is of a completely different type. For example, if a piezoelastic material is mechanically "squeezed" (stimulus) the response is the creation of an electrical signal. Birefringent (photoelasticity) materials change their optical properties under mechanical displacement. Thermoluminesent "remember" their configuration under certain environmental combinations, to which they will abruptly return when these same combinations are repeated. This seminar surveys many classes of such materials and material systems and provides examples of engineers utilizing their behavior for sensors, transducers, and actuators. Examples include acoustic refrigerators, phonograph cartridges, door openers, and stress concentration locators.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 123S Catastrophic Failures--First-Year Seminar (1) First-year seminar that explores design deficiencies through the study of case histories of a number of famous failures.

E SC 123S Catastrophic Failures (1)
(FYS)

Engineered Systems sometimes fail in catastrophic ways. Bridges collapse, buildings bum, airplanes explode, ships break in two, spontaneous combustion occurs, automobiles crash, etc. Virtually all such failures occur because the designers, builders, and or the users have overlooked some unexpected combination of inputs (they seldom fail due to simple overload). For example, a bridge designer may have overlooked (a) the potential danger of aerodynamic loading and mechanical resonance; (b) having a bridge mooring struck by a tugboat; or, (c) the possibility of an earthquake. The ship designer may not have expected a combination of very cold weather and large waves or bad materials, etc. This seminar explores design deficiencies through the study of cash histories of a number of famous failures such as the explosion of the Challenger (modern era) and the sinking of the Titanic that caused catastrophic loss of life. A primary objective of reliving such failures is to alert students to the myriad factors that must be considered for a safe and effective engineering system, and to encourage them to broaden their education so that they will not repeat the mistakes of the past in their own careers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 124S Green Engineering--First-Year Seminar (1) This First-year seminar introduces students to basic concepts in green engineering practices and processes.

E SC 124S Green Engineering (1)
(FYS)

Engineering activities materially alter the environment so all engineers are effectively environmental engineers. Incorporating the principles of green engineering in industry is not only cost-effective, it is also environmentally sound. Engineers can make a difference in reducing pollution, alleviating the solid waste crisis, and in arresting source depletion. This course is designed to be taken by freshmen engineers. It exposes them to achievement of cost-effectiveness in industry by proper selection of materials and materials at every step of the manufacturing process. Focus lies on waste reduction, repairability, recyclability, planned degradation, life-cycle analysis, etc. The course consists of 14 weekly seminars. The course grade evaluation uses a mixture of tests, presentations, reports, and project assignments. Teaming and team problem solving are stresses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 130S Selected Topics in Engineering Science (1) Introduction to basic concepts of engineering practices, processes, and research across the engineering sciences.

E SC 130S Selected Topics in Engineering Science (1)

This course is designed for first-year (freshman) students. It is an introduction to the rational utilization by engineers of particular aspects of the engineering sciences to solve historical and/or contemporary societal problems. Of special interest are those situations where several of the engineering sciences must be utilized to achieve desired goals. Such situations are frequently described as multi-disciplinary. For example, optics, electricity and magnetism, and materials are combined to design photo-electronic cells, which can be utilized in remote locations to create electrical power over the long term in spite of environmental degradation. Thermodynamics, special material systems, dynamics, and durability are utilized in the creation of more efficient and less polluting internal combustion engines. Utilization of techniques and machines designed for the making of micro-electronic "chips", plus knowledge of dynamics and strength of materials led to the creation of MEMS (micro-electrical-materials systems) such as the simple, ultra-small, and inexpensive switches used for air-bag deployment. Examples of such devices under development at Penn State are exhibited in class. The course will consist of both classroom lectures and laboratory visits to observe the mechanisms for testing and in what environment such devices are tested. The lessons of history, ethical considerations, and futuristic expectations are integrated into the seminar.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 197A Disappearing w/out a Trace: New Engineering Ideas in Energy & Biomedicine (1) This course consists of technological challenges awaiting WCE and ethical issues to consider in your professional career.

Disappearing w/out a Trace: New Engineering Ideas in Energy & Biomedicine (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 211 Material, Safety, and Equipment Overview for Nanofabrication (3) Nanofabrication processing equipment and materials handling procedures with a focus on safety, environment, and health issues.

E SC 211 Material, Safety, and Equipment Overview for Nanofabrication (3)

This course provides an overview of the materials, safety and equipment issues encountered in the practice of "top down" and "bottom up" nanofabrication. It focuses on safety, environmental and health issues in equipment operation and materials handling as well as on cleanroom protocol. Topics to be covered include: cleanroom operation, OSHA lab standard safety training, health issues, Biosafety Levels (BSL) guidelines, and environmental concerns. Safety issues dealing with nanofabrication equipment, materials, and processing will also be discussed including those pertinent to biological materials, wet benches, thermal processing tools, plasma based equipment, stamping and embossing lithography tools, vacuum systems and pumps, gas delivery systems and toxic substance handling and detection. Specification material handling procedures to be discussed will include corrosive, flammable, and toxic materials, biological materials, carcinogenic materials, DI water, solvents, cleaners, photo resists, developers, metals, acids, and bases.

The course will also concentrate on safe equipment maintenance and operation. Students will be given an overview of basic nanofabrication materials, equipment and equipment operation. This technical overview and operational introduction to processing equipment and characterization tools will include: chemical processing, furnaces, vacuum based processing (physical vapor deposition equipment, chemical vapor deposition equipment, and dry etching equipment), and lithography as well as scanning probe microscopy (e.g., atomic force microscopy), optical microscope, electron microscopy (e.g., scanning electron microscopy) ellipsometer, nanospec, and profilometer equipment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CHEM 101, MATH 081, PHYS 150 orPHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 212 Basic Nanofabrication Processes (3) Step-by-step description of equipment and processes needed in top-down, bottom-up, and hybrid nanofabrication.

E SC 212 Basic Nanofabrication Processes (3)

This course is the hands-on introduction to the processing involved in "top down", "bottom up", and hybrid nanofabrication. The majority of the course details a step-by-step description of the equipment, facilities processes and process flow needed to fabricate devices and structures. Students learn to appreciate processing and manufacturing concerns including process control, contamination, yield, and processing interaction. The students design process flows for micro- and nano-scale systems. Students learn the similarities and differences in "top down" and "bottom up" equipment and process flows by undertaking hands-on processing. This hands-on exposure covers basic nanofabrication processes including colloidal chemistry, self-assembly, catalyzed nanoparticle growth, lithography, wet and dry etching, physical vapor deposition, and chemical vapor deposition.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Concurrent: E SC 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 214 Lithography for Nanofabrication (3) Lithographic process from substrate preparation to exposure; process from development through inspection; advanced optical lithographic techniques.

E SC 214 Lithography for Nanofabrication (3)

This course is a hands-on treatment of all aspects of advanced pattern transfer and pattern transfer equipment including probe techniques; stamping and embossing; e-beam; and optical contact and stepper systems. The course is divided into five major sections. The first section is an overview of all pattern generation processes covering aspects from substrate preparation to tool operation. The second section concentrates on photolithography and examines such topics as mask template, and mold generation. Chemical makeup of resists will be discussed including polymers, solvents, sensitizers, and additives. The role or dyes and antireflective coatings will be discussed. In addition, critical dimension (CD) control and profile control of resists will be investigated. The third section will discuss the particle beam lithographic techniques such as e-beam lithography. The fourth section covers probe pattern generation and the fifth section explores embossing lithography, step-and-flash, stamp lithography, and self assembled lithography.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Concurrent: E SC 211 E SC 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 213 Materials in Nanotechnology (3) The use of materials for nanotechnology as well as the unique material properties available at the nano-scale.

E SC 213 Materials in Nanotechnology (3)

This course is an in-depth, hands-on exposure to materials fabrication approaches used in nanofabrication. Students learn that these processes can be guided by chemical or physical means or by some combination of these. Hands-on exposure will include self-assembly; colloidal chemistry; atmosphere, low-pressure and plasma enhanced chemical vapor deposition; sputtering; thermal and electron beam evaporation; nebulization and spin-on techniques. This course is designed to give students hands-on experience in depositing, fabricating and self-assembling a wide variety of materials tailored for their mechanical, electrical, optical, magnetic, and biological properties.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Concurrent: E SC 211 E SC 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 215 Materials Modification in Nanofabrication (3) Processing steps used in modifying material properties in nanofabrication.

E SC 215 Materials Modification in Nanofabrication (3)

This course will cover in detail the processing techniques and specialty hardware used in modifying properties in nanofabrication. Material modification steps to be covered will include etching, functionalization, alloying, stress control and doping. Avoiding unintentional materials modification will also be covered including such topics as use of diffusion barriers, encapsulation, electromigration control, corrosion control, wettability, stress control, and adhesion. Hands-on materials modification and subsequent characterization will be undertaken.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Concurrent: E SC 211 E SC 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 216 Characterization, Testing of Nanofabricated Structures and Materials (3) Measurements and techniques essential for controlling device fabrication.

E SC 216 Characterization, Testing of Nanofabricated Structures and Materials (3)

This course examines a variety of techniques and measurements essential for testing and for controlling material fabrication and final device performance. Characterization includes electrical, optical, physical, and chemical approaches. The characterization experience will include hands-on use of tools such as the Atomic Force Microscope (AFM), Scanning Electron Microscope (SEM), fluorescence microscopes, and fourier transform infrared spectroscopy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Concurrent: E SC 211 E SC 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 261M Computational Methods in Engineering (3) Modeling, solving engineering problems using FORTRAN, software libraries, graphics. Reports on root search, curve fitting, finite differences, algebraic equations.

Computational Methods in Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: or concurrent:MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 312 Engineering Applications of Wave, Particle, and Ensemble Concepts (3) The engineering applications of the wave and ensemble pictures of the physical world.

E SC 312 Engineering Applications of Wave, Particle, and Ensemble Concepts (3)

This course covers the engineering applications of wave based and ensemble-formulated pictures of the physical world. It begins by discussing criteria for the applicability of geometrical optics and of physical optics and moves into a general discussion of wave phenomena. An introduction to the formalism of physical optics is then given along with examples of its use in engineering applications. The course then moves to discussing the criterion for the applicability of classical mechanics and of quantum mechanics. The parallelism between the geometrical optics/physical optics and classical mechanics/quantum mechanics criteria is underscored. An introduction to the formalism of quantum mechanics is then undertaken followed by a discussion of engineering applications of quantum mechanics. The impact of quantum mechanics on particle, quasi-particle, and cooperative phenomena is discussed. The course then treats the problem of determining the physical properties of ensembles of particles and quasi-particles. Statistical mechanics concepts are introduced and the effects of quantum mechanics on ensemble predictions is covered. Fermi-Dirac, Bose-Einstein, and Boltzmann statistics are developed and discussed. The connection is also made between statistical mechanics and thermodynamics. Engineering applications of statistical mechanics are presented and discussed.

The objective of this course is to give engineering students a broad technical picture of physical concepts that will affect much of the engineering advances of this century. Students will be exposed to the duality of the wave-particle picture and to that picture's critical engineering important to the fields of optics and mechanics. They will be taught the influence of quantum mechanics on physical properties and the need for ensemble approaches for predicting the expected values of those properties for many particle systems. The impact of wave and ensemble approaches on engineering applications will be stressed and the students will be given hands-on exposure to this impact in three laboratory experiences.

Evaluation methods to be used in this course will be two in-class examinations and one final period examination.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: Prerequisite or concurrent:PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 313 Introduction to Principles, Fabrication Methods, and Applications of Nanotechnology (3) Principles, fabrication methods and applications of nanoscale.

E SC 313 Introduction to Principles, Fabrication Methods, and Applications of Nanotechnology (3)

This course covets the unique opportunities provided by the nano-scale and focuses on the engineering issues of fabricating and applying structures designed to take advantage of these opportunities. The course begins with defining nanotechnology and nanofabrication. It then moves to the unique features available in nano-scale structures such as large surface-to-volume ratios, quantum size effects, unique chemical bonding opportunities, dominance of physical optics, surface control of reactions and transport, and the creation of structures on the same size scale as basic features in living cells. With this understanding of the uniqueness of the nano-scale, the course progresses into the fabrication methods used in nanotechnology and then into nanostructure applications. The various nanofabrication approaches found in top-down, bottom-up, and hybrid fabrication approaches are explained and discussed in the lecture format. The principles behind the application of structures fabricated at the nano-scale are then addressed in more depth. This section of the course includes an introduction to nano-scale electronic devices, an introduction to nano-scale sensing devices, an introduction to nano-scale optics and optical devices, an introduction to material property modification at the nano-scale, and an introduction to the biology/nano-scale interface. Specific applications of the structures made using various combinations of top-down and bottom-up fabrication techniques are overviewed in various applications including sensors, nano-electronics, molecular electronics, photonics, nano-optics, information storage and computing, materials, nano-mechanics, and nano-biotechnology and medicine. The course concludes with an introduction to the manufacturing issues encountered when fabricating, assembling, and interfacing nano-scale structures as well as with an overview of health, environmental, and societal issues
The objective of this course is to give a broad technical picture of nanotechnology to engineering students from various engineering disciplines. In so doing, the course will develop a sound background for making informed judgments concerning the potential of nanotechnology for various technical applications and a sound background for assessing the societal and health issues as well as environmental impact of nanotechnology. The course objectives are to have students be able to consider nanotechnology solutions to technical problems, be able to fabricate these nanotechnology solutions in a manufacturable manner, be able to determine if there are any potential health or environmental issues involved in their solutions, and be able to assess the societal impact of their solutions. The course will require a college-level chemistry and physics background. Evaluation methods to be used in this course will be two in-class examinations and one final period examination.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, PHYS 212, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 314 Engineering Applications of Materials (3) Basic concepts of material structure and their relation to mechanical, thermal, electrical, magnetic, and optical properties, with engineering applications.(E SC 314 is not intended for students in E SC major)

E SC 314 Engineering Applications of Materials (3)

This course is intended primarily for Electrical Engineering and Materials Science and Engineering majors, as a core-level exposure to the electron-based properties of materials and their engineering applications. Building upon a basic foundation from early Physics courses, it offers an introduction to the behavior of electrons in crystalline as well as non-crystalline solids, and its impact on properties. A comprehensive treatment of electrons in solids is essential to understand the electronic, optical, thermal, magnetic and other properties of materials and their incorporation in functional devices. The topics are chosen to deal with all the basic facets of electrons in solids and their response to external fields and waves, and lead up to a broad range of elementary device applications. It thaws upon the results of quantum mechanics and band theory of solids that provide the broad umbrella needed for understanding the properties of materials and designing them into practical devices including the new class of nanosystems. The development of the energy band diagram is shown to offer a convenient model for understanding the properties of materials and designing device structures. The overwhelming role of semiconductors as building blocks of modern electronics is emphasized by introducing the key concepts of doping, electron transport by drift and diffusion, and electron-photon interactions. The students are shown the strong link connecting atomic bonding, physical structure and material properties in order that they understand the need for and emergence of artificially synthesized structures and new device phenomena. Along with a detailed coverage of semiconductors due to their widespread applications and their dominance in modern micro- and optoelectronics, a basic introduction to dielectric and magnetic properties is also included. Engineering applications involving sensing and transduction as well as signal amplification and energy conversion will be interspersed in the discussions of properties throughout the course. The role of defects, impurities and interfaces on electrical, optical and other properties are introduced briefly, along with corresponding applications in device structures The devices discussed include p-n junctions, metal-semiconductor contacts, bipolar and field effect transistors, optical detectors and light emitting diodes.
The broad topical coverage will prepare students for advanced studies in a variety of fields including micro- and optoelectronics and functional microsystems. The course provides essential background for senior technical electives on semiconductor devices and processing as well as nanotechnology, and also complements courses that deal with atomic structure and mechanical properties of materials.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 400H Electromagnetic Fields (3) Irrotational and solenoidal fields, potentials, vector and scalar field and wave equations, harmonic and wave functions in various coordinates, radiation.

E SC 400H Electromagnetic Fields (3)

E SC 400H is a required senior-level course for students pursuing a bachelor's of Engineering Science. At the conclusion of this course, students will be able to:
1. Apply the basic principles of electrostatics, such as Coulomb's Law, electric field intensity, electric flux density, Gauss's Law, the concepts of divergence and gradient, and potential functions to solve basic and applied problems.
2. To compute resistance and capacitance for a variety of geometric configurations.
3. They will apply the basic principles of steady magnetic fields, such as the Biot-Savart Law, Amper6s Circuital Law, magnetic flux and flux density, Stoke's Theorem and the concept of the curl and Maxwell's equations for static electric and steady magnetic fields to solve basic and applied problems.
4. Compute self and mutual inductance for a variety of geometric configurations.
5. Understand the necessary modifications of Maxwell's equations for time varying fields including Faraday's Law and the concept of displacement current and apply these to solve basic and applied problems.
6. Understand the solutions of the reduced wave equation, for time-harmonic excitations, for plane wave propagation in both perfect and lossy dielectrics, the concepts of skip depth and wave polarization, plane wave reflection at planar boundaries, Snell's Law, Brewster's angle, and the concept of standing wave ratio and apply these to solve basic and applied problems.
7. Understand the basic principles of waves on transmission lines and apply these to solve basic and applied problems.

Topics include: Vector Analysis; Coulomb's Law and Electric Field Intensity; Electric Flux Density, Gauss's Law, and Divergence; Energy and Potential; Conductors, Dielectrics, and Capacitance; Poisson's and Laplace's Equations; the Steady Magnetic Field; Magnetic Forces, Materials, and Inductance; time-Varying Fields and Maxwell's Equations; the Uniform Plane Wave; Waves at Boundaries and in Dispersive Media. A typical course assessment includes homework assignments, mid-semester examinations and a final examination. The course is offered, in a lecture format, each spring at the University Park Campus. A typical enrollment is 25-30 students. This course is not a prerequisite for other courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: E E 210, MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 404H Analysis in Engineering Science (3) Unified application of coordinate transformations; Laplace's, heat, and wave equations to boundary value problems and problems of continua in engineering.

Analysis in Engineering Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 405H Engineering Applications of Field Theory, Honors (3) Field concepts in engineering, derivation of field equations, mathematical solutions, applications stressing universality of approaches to all fields of engineering.

Engineering Applications of Field Theory, Honors (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988
Prerequisite: MATH 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 406H Analysis in Engineering Science II, Honors (3) Application of complex variable theory, integral equations, and the calculus of variations to engineering problems.

Analysis in Engineering Science II, Honors (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: E SC 404H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 407H Computer Methods in Engineering Science, Honors (3) Numerical solution of differential equations including fundamentals: roots of single nonlinear and simultaneous (Matrix) equations, least squares fitting and staistical goodness, interpolation, finite differences, differentiation, integration, eigensolutions.

E SC 407H Computer Methods in Engineering Science, Honors (3)

The overall objective of this course is the creation of mathematical continuum models in the form of differential equations and the application of numerical methods to solve them. To reach this goral, fundamental methods dealing with numerical approximation, specifically starting with Taylor's series, are covered: differentiation, integration, and root search of single nonlinear equations. Mathematical models are transformed into discrete models using the finite difference method, hence the solution of simultaneous algebraic equations in matrix and iterative forms is also covered. In addition, eigenvalue problems are also covered in order to characterize models, both continuous and discrete. The concept of vector-variable and vector-valued functions are used to form algorithms, cast them into computer code, in a language of student choice, usually Mathematica or MATLAB because graphical output is required in doing assignments. This course relates to programs of study in most engineering disciplines based upon the physics of solids and fluids. Evaluation methods include assessment of written reports, at least one midterm examination and either a final examination or a final report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CMPSC 201C orCMPSC 201F orE SC 261M
Concurrent: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 410H Senior Design Project, Honors (3) Design and synthesis in the context of a specific design project undertaken during the senior year.

Senior Design Project, Honors (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: E SC 407H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 414M Elements of Material Engineering (3) Structure and imperfections in engineered materials; their influence on properties, behavior, and processing. Applications of metals, ceramics, polymers, and composites.

E SC 414M Elements of Material Engineering (3)

This course is a junior-level, writing-intensive engineering science course designed to introduce students to the fundamentals of materials science and engineering. In the early part of this honors course, structure property relationships in materials are explored. The student will examine how atomic structure and bonding influence engineering properties such as strength and electrical properties Next, solidification, strengthening mechanisms, and phase diagrams for some common engineering materials are discussed to further examine structure property relationships and to provide the basis for the study of more complex materials The second half of the course introduces properties and attributes of each of the major classes of materials (metals, ceramics, polymers, and composites) to acquaint the student with the wide array of material properties and choices available for design. Next, electrical, optical, and thermal properties of the various classes of materials are introduced Finally, the course closes with an introduction to the topics of materials selection and design Throughout the course, integrated writing assignments allow the student to explore the properties of a specific material or materials process in detail and gain insight the design process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210 . Prerequisite or concurrent:E SC 312 orPHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 411H Senior Research and Design Project II, Honors (3) Design and synthesis in the context of a specific design project undertaken during the senior year.

E SC 411H Senior Research and Design Project II, Honors (3)

E SC 411H is the continuation of E SC 410H. Both courses are required of Engineering Science majors and together they comprise the capstone research and design project, which integrates the scientific principles of research, design, and analysis and applies them to a particular field of engineering. In-class lectures and discussions on engineering ethics, engineering management, safety, government and public policy, workforce preparation and graduate school occur in tandem with the students' development of their individual topics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: E SC 410H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 417 (MATSE 417) Electrical and Magnetic Properties (3) Electrical conductivity, dielectric properties, piezoelectric and ferroelectric phenomena; magnetic properties of ceramics.

E SC (MATSE) 417 Electrical and Magnetic Properties (3)

E SC 417 is designed to provide students with a fundamental understanding of the different responses a material can have to applied electrical or magnetic fields. Important properties are introduced and correlated with knowledge of material chemistry, crystal structure, and microstructure to provide an understanding of the mechanisms responsible for controlling the observed properties, as well as the ways in which properties can be engineered. Electronic and magnetic properties encompass dielectric, ferroelectric, conductor, superconductor, and ferromagnetic materials. Material properties and structures are related to sensors, energy storage and conversion devices, biomedical devices and electronic components in telecommunications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MATSE 400, MATSE 402, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 419 Electronic Properties and Applications of Materials (3) The course covers the electrical, optoelectronic, dielectric, and other electron-based properties of solids, semiconductors in particular, and their engineering/ device applications.

E SC 419 Electronic Properties and Applications of Materials (3)

This course is designed primarily as a Foundation Elective for Engineering Science majors. It covers the electron-based properties of materials and their engineering applications. Building upon the strong foundation of wave, particle and ensemble concepts covered in the prerequisite course (E SC 312), it will offer an advanced introduction to the behavior of electrons in crystalline as well as non-crystalline solids, and its impact on properties. A comprehensive treatment of electrons in solids is essential to understand the electronic, optical, thermal, magnetic and other properties of materials and their incorporation in functional devices. The topics will address many facets of electrons in solids, their interaction with fields, cooperative phenomena and low-dimensional effects, and lead up to a broad range of elementary device applications. It will draw upon the results of quantum mechanics and band theory of solids that will provide the broad umbrella needed for understanding the properties of materials and designing them into practical devices and nanosystems. The importance of structure on material properties will be emphasized, so as to bring forth the importance of artificially synthesized structures and emergence of new phenomena. Along with a detailed coverage of semiconductors due to their widespread applications and their dominance in modern micro- and optoelectronics, dielectric, magnetic and superconducting materials will also be discussed in the course. The role of defects, impurities and interfaces on electrical, optical, dielectric and other properties will be discussed, along with corresponding applications in device structures.
The broad topical coverage will prepare students for advanced studies in a variety of fields including micro- and optoelectronics, functional nanosystems and synthesized nanostructures. The course will provide a solid background for senior technical electives such as E SC 481 (Elements of Nano/Micro-electromechanical Systems Processing and Design) E SC 445 (Semiconductor Optoelectronic Devices) offered in ESM, as well as Electrical Engineering and Materials Science and Engineering Courses. It will also complement (and be independent of) E SC 414M that encompasses atomic structure and mechanical properties of materials.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: E SC 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 433H Engineering Science Research Laboratory Experience (1) Hands-on lab experience and exposure to campus-wide interdisciplinary experimental research. Experimental probability and statistics. Appplications across all Engineering Science disciplines.

E SC 433H Engineering Science Research Laboratory Experience (1)

This course provides an introduction to experimental research, including hands-on laboratory experience. In addition, students take part in campus-wide laboratory tours that illustrate the variety of experimental practice, as well as the strongly interdisciplinary nature of contemporary experimental research in Engineer Science. Lab tours involve laboratories in a variety of disciplines, both within the Department of Engineering Science and Mechanics, and in other departments with related interdisciplinary activities. The classroom content focuses on the fundamentals of experimental probability and statistics, including: the experimental process; probability distributions and error; statistical estimators; least squares; and confidence limits and hypothesis testing. Applications of the statistical analysis of experimental data are drawn from across all Engineering Science disciplines and illustrated in the labs and lab tours. There will be three hands-on laboratories. Each lab will include additional introductory lecture material, specific handouts, and readings A report will be required for each lab that represents a significant writing component to the class, and includes both descriptive and analytical components Assessment for the course is based on the laboratory reports, which include analytical and descriptive components, as well as exercises involving the material discussed in lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 445 Semiconductor Optoelectronic Devices (3) The course will present the basic engineering science and technology involved in modern semiconductor optoelectronic devices.

E SC 445 Semiconductor Optoelectronic Devices (3)

This course deals with the optoelectronic properties of semiconductors and their application in functional devices for detection, emission, amplification and conversion of optical and electrical signals. A comprehensive introduction to the various optical absorption and emission processes in semiconductors is followed by an outline of specific properties of important optoelectronic semiconductors. The physical basis of detectors operating in the visible and near-visible regions is covered with an exploration of various photon detection phenomena present in solids. The devices discussed at length include intrinsic and extrinsic photoconductive detectors, p-n and Schottky detectors, p-i-n and heterojunction devices, avalanche photodiodes and photoemissive detectors, and light emitting and laser diodes Novel structures based on variable gap and superlattice structures are also considered The topical coverage includes basic operating principles, design considerations and performance assessment of each of these devices The course will enable students to apply the physics of optoelectronic devices to applications such as displays, fiber optic communications, imaging, and integrated optoelectronics.

The course is offered once every year, and complements related courses on semconductor device offered by the departments of Engineering Science and Mechanics, and Electrical Engineering. Student assessment is from homework, exams and a writing assignment involving a device application note.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: E SC 419 orE SC 314 orE E 368

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 450 (MATSE 450) Synthesis and Processing of Electronic and Photonic Materials (3) The materials science of applying thin film coatings, etching, and bulk crystal growth; includes materials transport, accumulation, epitaxy, and defects.

Synthesis and Processing of Electronic and Photonic Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATSE 201 orE SC 414H sixth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 455 (MATSE 428) Electrochemical Methods in Corrosion Science and Engineering (3) The objective of the course is to give students hands-on experience in assessing environmental degradation of engineering materials.

E SC 455 Electrochemical Methods in Corrosion Science and Engineering (3)

The objective of the course is to give students hands-on experience in assessing environmental degradation of engineering materials. Students will be introduced to a variety of experimental electrochemical methods and will use their training to evaluate corrosion of steel, stainless steel, and aluminum. Techniques that will be used in this laboratory-intensive course include potentiodynamic and potentiostatic polarization, galvanic corrosion measurements, localized corrosion measurements (scratch, critical pitting temperature, and metastable pitting experiments), evaluation of sensitization (double-loop electrochemical potentiokinetic reactivation), cyclic voltammetry, and electrochemical impedance spectroscopy of painted and unpainted specimens.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: E SC 414M orMATSE 259;MATSE 420 orMATSE 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 456 (E E 456, EGEE 456) Introduction to Neural Networks (3) Artificial Neural Networks as a solving tool for difficult problems for which conventional methods are not available.

E SC (E E/EGEE) 456 Introduction to Neural Networks (3)

This course is in response to students' needs to learn Artificial Neural Networks (ANN) as a solving tool for difficult problems for which conventional methods are not available. The objective of this course is to give students hands-on experiences in identifying the best types of ANN, plus developing and applying ANN to solve difficult problems. Students will be introduced to a variety of ANN and will use their training skills to solve their own applications. During this course the students will develop a final project, in which they will apply ANN to widely varied problems.

Examples:
I) students from E E may be interested in applying ANN to solve control problems
II) students from Material Sciences may be interested in applying ANN to predict the pitting corrosion of components
III) students from Petroleum Engineering may be interested in applying ANN to characterize the life of a reservoir
IV) students from Agricultural Engineering may be interested in applying ANN to sort apples automatically, etc

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 475 (MATSE 475) Particulate Materials Processing (3) Fundamentals of processing particulate materials including production, characterization, handling, compaction, and sintering of metal, carbide, intermetallic, and composite powders.

Particulate Materials Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 315, E SC 414 orMATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 481 Elements of Nano/Micro-electromechanical Systems Processing and Design (3) Interdisciplinary fundamentals of nano/microelectromechanical systems (NEMS/ MEMS), including design, fabrication and machining of miniature systems. Draws from mechanics, science and materials.

E SC 481 Elements of Nano/Micro-electromechanical Systems Processing and Design (3)

The objective of the course is to introduce students to the theory and technology of nanofabrication. This objective is realized via the study of materials and devices for NEMS as well as nano-system's design, manufacture and packaging,. Emphasis on the interrelationships between material properties and processing, device/system structure, and the mechanical, electrical, optical, or (bio)chemical behavior of devices/systems. As taught, the course is multidisciplinary and requires adequate background in materials science, mechanics, and device physics. The course comprises lecture presentations and laboratory demonstrations. Students attending this course come from different engineering majors, physics, and materials science. The students are assessed using a combination of homework assignments, class presentations, group projects, and written quizzes and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213 orE MCH 315 orE SC 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 482 Micro-Optoelectromechanical Systems (MOEMS) and Nanophotonics (3) Principles and applications of Micro-Optoelectromechanical and Nanophotonic devices and systems.

E SC 482 Micro-Optoelectromechanical Systems (MOEMS) and Nanophotonics (3)

E SC 482 provides the engineering student with a unifying and multifaceted description of MOEMS and nanophotonics. Students will learn the fundamental principles behind many novel micro- and nanophotonic devices and systems and their practical applications in the fields of communication, sensor and image technology.

The course starts with an overview of the fundamental physics of semiconductors with emphases on silicon, III-V and II-V compound semiconductors due to their important applications in MOEMS and active nanooptoelectronic devices. Semiconductor nanostructures, such as epitaxial grown quantum wells and quantum dots, and chemically synthesized nanowires and collodial nanocrystals will be introduced through discussions on their unique electronic structures carrier transport and excitonic dynamics. In addition to inorganic materials, the structures and critical characteristics of electro-optic and light emitting polymers will also be reviewed for their fast-growing applications in display technology, sensory and information processing systems.

The general principles for the design and operation of MOEMS and nanooptoelectronic devices will be discussed in the frame of geometrical optics, electromagnetic theory, and semiconductor physics. The reflection of light at dielectric interfaces will be reviewed to reveal the critical features of optical waveguide structures and to introduce the concept of surface plasma waves. In-depth descriptions will be given for the interband-and intraband- electron transition and exciton emission process in semiconductor quantum structures. Important instances of applying the "quantum confinement" in nanostructures to tailor their optical and optoelectronic properties will be underscored during the mechanism-analysis of laser diodes, detectors and modulators. The new concept of "photonic crystals" will be introduced through the analysis of parallelism between electron transport in semiconductor lattices and light propagation in periodic dielectric media.

Following a brief survey of the state-of-the-art technologies for the fabrication of MOEMs and nanophotonic devices, the course topics will move to their application examples in the fields of communication, sensor and image technology. For each application example, analysis will be carried out on the design, fabrication, and characterization issues of the involved systems/devices. Their merit-of-performance will be linked to the application practice to illustrate how the introduction of MOEMs/nanophotonic devices advances the technology in each specific field. Important topics to be covered in this part include micromachined lightwave systems, microcavity light emitting devices, fiber based biological nanosensors, nanoparticle enhanced surface plasma resonance sensors, microspectrometers, and digital micromirror device (DMD)-based projection display engine.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: PHYS 212, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 483 (MATSE 483) Simulation and Design of Nanostructures (3) Introduction to computer simulation techniques and their applications at the physical/life sciences interface.

E SC (MATSE) 483 Simulation and Design of Nanostructures (3)

Students will learn the simulation techniques and the design rules of nanostructures. Basic concepts of computer modeling will be introduced using quantum and classical approaches. Fundamental physical phenomena encountered in the molecular fields of computational physics, chemistry, and biology will be studied. Applications are drawn from a broad range of fields including soft and condensed matter to build an understanding of nanostructures.

The course will assume knowledge and skill developed in the prerequisite courses of PHYS 214 and MATH 230. Students are expected to combine knowledge from other courses with information presented here to develop sophisticated interpretations and understanding of physical and chemical principles of nanostructures and their design rules.

Evaluation methods to be used in this course will be two in-class examinations and one final period examination. The course contains a computer code generation and implementation component. Students will use commercial or educational computer codes (e.g. Matlab, Mathematica, AMBER, CHARMM, VASP, etc.) which are available at our high performance computing clusters (http://gears.aset.psu.edu/hpc/)/ Students will use the computing clusters to perform simulations which are accessible from any classroom or laboratory at Penn State.

The principal objectives of the course is to learn the fundamental physics of nanostructures and to design them with computer simulations. This approach starts from classical molecular dynamics that apply on the large scale biological and synthetic assemblies and encompasses quantum mechanics for the molecular and atomic sizes. This course will give a broad scientific picture of simulation techniques in the area of nano-science and technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: PHYS 214 orE SC 312, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 494 Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 484 Biologically Inspired Nanomaterials (3) Advances in biomolecular-based Science and technology at the physical/life sciences interface.

E SC 484 Biologically Inspired Nanomaterials (3)

Students will learn the concepts of molecular engineering and the advances in biomolecular-based science and technology at the physical/life sciences interface. Basic concepts of protein structure and function will be introduced. Applications from a broad range of fields, including condensed and living matter to build an understanding of device applications including biologically-inspired molecular-scale devices will be introduced.

The course will assume knowledge and skill developed in the prerequisite courses of PHYS 214 and MATH 230. Students are expected to combine knowledge from other courses with information presented here to develop sophisticated interpretations and understanding of physical and chemical principles of molecular structures and their design rules.

Evaluation methods to be used in this course will be two in-class examinations and one final period examination. The course contains a substantial writing component. Students will prepare bio-science and technology reports.

The principal objective of the course is to learn and analyze molecular engineering technologies at the bio and nano interface. This course will give a broad technological picture of emerging protein technologies in the area of biomolecular materials.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: PHYS 214, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 494H Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 496A Independent Study: Business Opportunities in Engineering (1) The principal goal of this course is to inform engineering students of business opportunities in Engineering.

Independent Study: Business Opportunities in Engineering (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Science (E SC)

E SC 497A Business Opportunities in Engineering (2) The principal goal of this course is to inform engineering students of business opportunities in Engineering.

Business Opportunities in Engineering (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 002 Engineering Technology Orientation (1) Introduction to computer methods for analyzing and solving engineering technology problems; microcomputer fundamentals, word processing, spreadsheet, and database software packages.

ET 002 Engineering Technology Orientation (1)

Engineering Technology Orientation is one of the first technology-related courses taken by EE T students. It is a 1 credit, 2-hour combined laboratory and lecture course designed to develop basic computer skills in engineering technology students. Students are exposed to the basic concepts and features of computer hardware and operating systems, including key topics in software operation and file management. They are then taught basic word processing, spreadsheet, and database skills and are introduced to electronic communications and information retrieval via the Internet, World-Wide-Web, and e-mail. All topics are presented in the context of how they can and will be used in coming technology classes. The course concludes with an introduction to electronics simulation software (e.g., PSpice, Electronic Workbench, etc.) that students will be obligated to use in future courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 200 Graphic Communications (3) The study of graphic communications relating to the design and construction industry.

Graphic Communications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 2-credit drafting course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 300 Mechanics I: Statics (3) Equilibrium of coplanar force systems; analysis of frames and trusses; shear and moment diagrams; friction; centroids and moment of inertia.

ET 300 Mechanics I: Statics (3)

This course is intended to provide the students with both the theory and application of the fundamental principles of static analysis by introducing free-body diagrams as a tool for solving statics problems. Students gain knowledge of Vector Mechanics, representation of physical quantities
by a vector notation. Grasp the meaning of magnitude and direction of a vector; understand the definition of a unit vector. Master the mechanics of Vector Algebra. Emphasis will be placed on equations of equilibrium for particles and rigid bodies. Students are able to understand the physical meaning of a force and moment equilibrium. Master the balance of forces and moments to ensure equilibrium for 2D and 3D structures. This will be followed by analyzing internal forces in cables and bending moments in beams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MATH 140;PHYS 150 orPHYS 211 orPHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 302 Mechanics II: Dynamics (3) Kinematics of a particle; relative motion; kinematics of a mass-point; kinematics of a rigid body; work-energy; impulse-momentum.

Mechanics II: Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: statics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 301 Newtonian Mechanics (4) Treatment of forces on rigid bodies at rest and in motion. Practical applications in electrical and mechanical systems.

Newtonian Mechanics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: or concurrent:MATH 140, PHYS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 321 Dynamics (3) Motion of a particle, relative motion; kinetics of translation; rotation and plane motion; conservation of energy and momentum.

ET 321 Dynamics (3)

The students will be introduced to the fundamental concepts of dynamics for particles motion along straight and curved paths. The students will learn and utilize concepts in particle kinematics and study the relationship between the forces acting on a body, the mass of the body and the motion of the body by using Newton's second law of motion, the principle of work and energy and the principle of linear momentum and impulse. This will be followed by analyzing the rotation of a rigid body about a fixed axis, and extending kinematic concepts to plane motion of rigid bodies.
The concepts of work, energy, linear momentum and angular momentum of a rigid body in plane motion will be introduced. The students will learn how to apply the principle of impulse/momentum to solve rigid-body planar kinetic problems that involve force, mass, velocity and time, and the principle of work/energy to solve problems that involve force, mass, velocity and displacement.
Dynamics course will also provide students with the tools to obtain desired information from those models by solving the equations governing the motion of the system. Topics covered in Dynamics include: kinematics of particles, application of Newton's laws to particles, energy and momentum methods for particles, kinematics of rigid bodies, application of the laws of Newton and Euler to rigid bodies, and energy and momentum methods for rigid bodies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ET 300, E MCH 211 orMCH T 111
Concurrent: statics integral calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 323 Strength of Materials Laboratory (1) Measurement of mechanical properties of materials, structural testing.

ET 323 Strength of Materials Laboratory (1)

The objective of the strength of materials laboratory is to demonstrate the basic principles in the area of strength and mechanics of materials to the undergraduate students through a series of experiments. Students will be conducting experiments using Universal Testing Machines to calculate tensile strength of steel and aluminum samples and experiments to measure hardness of non-heat treated and heat treated steels. Students will also test steel samples in single shear, double shear and impact loading, followed by experiments on the torsion testing machine to calculate torsional strength of aluminum samples and the strut apparatus to analyze different modes of buckling in a slender aluminum column. The laboratory demonstrates important concepts from the strength of materials theory course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: or concurrent:ET 322, E MCH 213 orMCH T 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 322 Strength of Materials (3) Axial, torsional, bending, and combined stress analysis; deformation and deflection analysis of cables, shafts, and beams; column design and analysis.

ET 322 Strength of Materials (3)

Strength of materials deals with the relationship among the external forces acting on a body, the resulting stresses (intensity of internal forces) and the deformation (change of size or shape). The determination of proper sizes and material of construction of mechanical components and structural members to satisfy strength and deformation requirements are important topics of strength of materials. The students will be introduced to the concept of stress – normal, shear and bearing stress, and relate strain to stress using material properties. The students will develop an understanding of design parameters such as design stresses, factors of safety for axial loads, transverse loads and torsional loads, to design components such as beams and circular shafts satisfying strength and deformation requirements. The students will also learn to calculate moments of inertia, centroids and apply parallel axis theorem for moment of inertia. The students will be introduced to the concept of combined stresses and their analysis using graphical and analytical methods. Finally, the concept of buckling in columns will be introduced.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ET 300, E MCH 211 orMCH T 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written or oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering Tech (ET)

ET 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering/Laser Operation (ELOP)

ELOP 201 Industrial Applications of Lasers (3) Introduction to principles of operation of lasers, properties, and propagation of laser beams, laser/material interactions and industrial applications of low/high power lasers.

ELOP 201 Industrial Applications of Lasers (3)

ELOP 201 is designed to give students the fundamental knowledge to understand lasers, beam propagation, and the utility of lasers in meteorology, diagnostics, telecommunications, and material processing. The course material and the hands-on experience with the accompanying lab provide the student with the general preparatory background for technical applications and development work in the field of electro-optics. Students will understand the principles of laser operation, properties of laser beams, safety procedures, and operation and maintenance requirements for lasers. Interaction of lasers with materials and beam characteristics, propagation and delivery will be discussed. Applications of low-power lasers for meteorology, alignment and telecommunications, and high-power lasers for surface modification, welding, cutting, drilling and machining will be investigated. Laboratory experience will accompany the didactic portion. Laboratory topics include applications of low-power lasers, distance measurement, diode laser beams, measurements of beam reflection, absorption and transmission through different media, operation and control of laser systems for cutting and welding.

This course is offered as a technical elective in the manufacturing option of the Associate in Mechanical Engineering Technology program.

Students' academic achievement will be evaluated using formal written exams, classroom assignments, and laboratory work and reports.

The course will be offered once each year at any campus offering the manufacturing option to the Associate in Mechanical Engineering Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering/Laser Operation (ELOP)

ELOP 202 Sensors and Detectors (3) Introduction to principles of operation of sensors and detectors.

Sensors and Detectors (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Engineering/Laser Operation (ELOP)

ELOP 203 Introduction to Electro-Optics (3) Introduction to electro-optics, properties and fabrication of materials in electro-optics.

ELOP 203 Introduction to Electro Optics (3)

ELOP 203 is designed to provide students with an overview of the electro-optics industry with an emphasis on the materials used to create electro-optics devices and the methods of manufacturing these materials and devices. The course material and the hands-on experience with the accompanying lab provide the student with the general preparatory background for technical applications and development work in the field of electro-optics. Students will understand the application and fabrication of optical materials and explore the fundamentals of fiber optics, material properties, fiber losses, and fabrication methods. Students will learn the basics of high-vacuum technology, an integral part of materials fabrication for electro-optics. They will examine different types of vacuum pumps, gauges, and analyzers and explore how these devices are integrated into vacuum systems and used in leak detection. Laboratory experience will accompany the didactic portion. Laboratory topics include material fabrication, polishing, and characterization, fiber specification and design, fiber connections, transmitters and receivers for fiber optic communication, and application of vacuum pumps, gauges, analyzers, and leak detection.

This course is offered as a technical elective in the manufacturing option of the Associate in Mechanical Engineering Technology program.

Students' academic achievement will be evaluated using formal written exams, classroom assignments, and laboratory work and reports.

The course will be offered once each year at any campus offering the manufacturing option to the Associate in Mechanical Engineering Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 001H (GH) Understanding Literature (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.

Understanding Literature (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 001 (GH) Understanding Literature (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.

ENGL 001 Understanding Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

In ENGL 001 students will study a wide variety of genres of literature --- poetry, novel, short story, drama, perhaps even genres like the comic book --- from different time periods and cultures to gain a better understanding of how literature explores human values and issues. These readings will be organized around important issues that relate to each other, or are in tension with each other, such as "Love," "Violence," and "Recuperation," asking basic questions about how the different genres convey meaning, and how they ask significant questions about human relationships and ideals. For instance, readings including works by Toni Morrison, Shakespeare, J. M. Coetzee, August Wilson, Art Spiegelman, selections from each year's new *Best American Short Stories*, and others might raise questions about volition and responsibility in times of extreme violence (like American slavery, South African apartheid, or the Holocaust), and speak to how we can judge violent acts during violent times, or how love can flourish or languish in the face of such horrors. Throughout the course, students will use the texts to ask such questions as: of what value is a play, a novel, a poem, or a short story? Is literature worthwhile for its ability to tell a good story or for its questions that do not lend themselves to easy answers? Are we "better" for having experienced literature? The course will also take advantage of literary events occurring on campus each semester--such as poetry readings, dramatic performances, even films relating to the course --- to enrich the experience both of literature and of campus life. By addressing issues of contemporary significance, the course will not only prepare students for other literature courses, but will also help them make literature a regular part of their lives. ENGL 001 serves as a bedrock course in the mission of the humanities at Penn State. It prepares students for other academic courses that engage in the verbal and written analysis of complex written texts, and prepares them for other courses that explore human values and social and cultural elaborations of them (for instance, basic philosophy and history courses). Students should expect to complete three exams. The first two will consist of identification questions and short essays, and the third and final exam will be a combination of identification questions and a take-home essay. Moreover students will write at least two papers for the course, demonstrating their abilities at literary analysis, and grappling with the themes of the course. Classroom discussion and general class participation will also be a factor in evaluation. ENGL 001 can be used as a general elective credit toward the major. The course will be offered once or twice a year with 60 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 001S (GH) Understanding Literature (3) Explores how major fiction, drama, and poetry, past and present, primarily English and American, clarify enduring human values and issues.

ENGL 001S Understanding Literature (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

In ENGL 001 students will study a wide variety of genres of literature --- poetry, novel, short story, drama, perhaps even genres like the comic book --- from different time periods and cultures to gain a better understanding of how literature explores human values and issues. These readings will be organized around important issues that relate to each other, or are in tension with each other, such as "Love," "Violence," and "Recuperation," asking basic questions about how the different genres convey meaning, and how they ask significant questions about human relationships and ideals. For instance, readings including works by Toni Morrison, Shakespeare, J. M. Coetzee, August Wilson, Art Spiegelman, selections from each year's new *Best American Short Stories*, and others might raise questions about volition and responsibility in times of extreme violence (like American slavery, South African apartheid, or the Holocaust), and speak to how we can judge violent acts during violent times, or how love can flourish or languish in the face of such horrors. Throughout the course, students will use the texts to ask such questions as: of what value is a play, a novel, a poem, or a short story? Is literature worthwhile for its ability to tell a good story or for its questions that do not lend themselves to easy answers? Are we "better" for having experienced literature? The course will also take advantage of literary events occurring on campus each semester--such as poetry readings, dramatic performances, even films relating to the course --- to enrich the experience both of literature and of campus life. By addressing issues of contemporary significance, the course will not only prepare students for other literature courses, but will also help them make literature a regular part of their lives. ENGL 001 serves as a bedrock course in the mission of the humanities at Penn State. It prepares students for other academic courses that engage in the verbal and written analysis of complex written texts, and prepares them for other courses that explore human values and social and cultural elaborations of them (for instance, basic philosophy and history courses). Students should expect to complete three exams. The first two will consist of identification questions and short essays, and the third and final exam will be a combination of identification questions and a take-home essay. Moreover students will write at least two papers for the course, demonstrating their abilities at literary analysis, and grappling with the themes of the course. Classroom discussion and general class participation will also be a factor in evaluation. ENGL 001 can be used as a general elective credit toward the major. The course will be offered once or twice a year with 60 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 002 (GH) The Great Traditions in English Literature (3) Major works of fiction, drama, and poetry from the Middle Ages to the twentieth century expressing enduring issues and values.

ENGL 002 The Great Traditions in English Literature (3)
(**GH)**

(BA) This course meets the Bachelor of Arts degree requirements.

Students are expected to learn fundamental skills of close textual analysis in the context of established literary texts of English and Irish fiction, drama, and poetry from the Middle Ages to the twentieth century that address large questions of ethical and social value. They are also expected to learn to talk and write clearly about the issues and ideas generated by the texts that they are directed to read. ENGL 002 will fulfill the writing component of the Active Learning Elements by requiring a minimum of three writing assignments. These assignments will be drawn from the following kinds of writing: essay, essay exam, or a semester-long reading journal. ENGL 002 will require all students to confront the major interpretive problems found in their assigned readings and to participate actively in the various forms of critical thinking required to comprehend and resolve those problems. ENGL 002 will require all students to participate in an assessment of the social behavior and other values, both communal and scholarly, relevant to the texts being read and discussed in the course. This course fulfills a General Education humanities requirement or a Bachelor of Arts humanities requirement. This course will be offered once a year with a limit of 60 seats.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 001W (GH) Understanding Literature (3) Studies the various critical ways of reading, understanding, and writing about fiction, poetry, and drama.

Understanding Literature (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 003 (GH) The Great Traditions in American Literature (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.

ENGL 003 The Great Traditions in American Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

English 003 will constitute a wide ranging study of American literature, including novels, poems, plays, and prose, from a variety of thematic historical and/or generic vantages. Topics under consideration will vary from class to class, but may include such rubrics as autobiographical modes of American writing, the notion of America as a nation and the myth of American opportunity, the situating of "great " American literature within context of American history, the representation of "American family" and its values, for the construction of ideas of American character. The class will routinely address works by writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Witman, Dickinson, Twain, James, Cather, Frost, O'Neill, Hurston, Faulkner, Hemingway, Hughes, Wright, and Morrison. Students are expected to learn fundamental skills of close textual analysis in the context of their reading of a variety of established works of American literature from across a range of genres. They are expected to learn to write and think clearly about issues and ideas generated by the texts that they are directed to read. They are also expected to learn to write and think clearly about the issues raised by the discussion of these texts in the classroom. This course will satisfy a General Education Humanities requirement or a Bachelor of Arts Humanities requirement. This course will be offered at least once a year and will have an upper limit of 60 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 003S (GH) The Great Traditions in American Literature (3) Major works of fiction, drama, and poetry from the colonial to the modern periods expressing enduring issues and values.

ENGL 003S The Great Traditions in American Literature (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

English 003 will constitute a wide ranging study of American literature, including novels, poems, plays, and prose, from a variety of thematic historical and/or generic vantages. Topics under consideration will vary from class to class, but may include such rubrics as autobiographical modes of American writing, the notion of America as a nation and the myth of American opportunity, the situating of "great " American literature within context of American history, the representation of "American family" and its values, for the construction of ideas of American character. The class will routinely address works by writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Witman, Dickinson, Twain, James, Cather, Frost, O'Neill, Hurston, Faulkner, Hemingway, Hughes, Wright, and Morrison. Students are expected to learn fundamental skills of close textual analysis in the context of their reading of a variety of established works of American literature from across a range of genres. They are expected to learn to write and think clearly about issues and ideas generated by the texts that they are directed to read. They are also expected to learn to write and think clearly about the issues raised by the discussion of these texts in the classroom. This course will satisfy a General Education Humanities requirement or a Bachelor of Arts Humanities requirement. This course will be offered at least once a year and will have an upper limit of 60 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 005 Writing Tutorial (1) Tutorial instruction in composition and rhetoric for students currently enrolled in Engl. 4 or 15. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

Writing Tutorial (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 004 Basic Writing Skills (3 per semester/maximum of 6) Intensive practice in writing sentences and paragraphs and instruction in grammar, usage, and punctuation. Designed for students with deficient preparation. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

Basic Writing Skills (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 006 Creative Writing Common Time (1 per semester/maximum of 8) Required one hour a week meeting time; readings, professional development, advising, community-building.

ENGL 006 Creative Writing Common Time (1 per semester/maximum of 8)

This course is to be required of all B.F.A. in Creative Writing majors at Penn State Erie as long as they are students in that degree program. This means that every semester they are working toward the B.F.A. in Creative Writing they must sign up for this course, and they must complete it successfully. Successful completion is based on regular attendance at the various functions, all held at the same one hour time period each week. The purpose of this course is to provide students with the necessary experience of listening to the writers of national stature brought to campus through The Smith Series, to provide them with lectures by both faculty and outside experts to help them develop professionally as writers, to allow for essential group advising for successful completion of the major, and to foster a sense of community among the student writers in the program.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 015A (GWS;US) Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.

Rhetoric and Composition (3)

General Education: GWS
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 015 (GWS) Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.

Rhetoric and Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 1991
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 015H (GWS) Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.

Rhetoric and Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 015S (GWS) Rhetoric and Composition (3) Instruction and practice in writing expository prose that shows sensitivity to audience and purpose.

Rhetoric and Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: ENGL 004 or satisfactory performance on the English proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 030 (GWS) Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.

Honors Freshman Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 030H (GWS) Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.

Honors Freshman Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 030S (GWS) Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.

Honors Freshman Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 030T (GWS) Honors Freshman Composition (3) Writing practice for specially qualified and screened students. Students who have passed a special writing test will qualify for this course.

Honors Freshman Composition (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 050 (GA) Introduction to Creative Writing (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.

ENGL 050 Introduction to Creative Writing (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

If you believe that the heart of a poet beats inside you anyway-or if you simply enjoy writing to express yourself creatively--you will be at home in this course. You will also be at home here if you are an avid reader of fiction, poetry, and nonfiction, but have never tried your hand at writing it. In English 050 you will explore the genres of nonfiction, fiction, and poetry by reading published essays, short stories, and poems and by writing personal essays, sketches, scenes, and poems. We'll discuss the relationship between the genres and also discuss what makes each a distinct art form. You'll hand in weekly writing assignments in addition to completing longer writing projects. You'll make copies of some of your creative work to distribute and discuss in class.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 050H (GA) Introduction to Creative Writing (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.

Introduction to Creative Writing (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 050H (GA) Introduction to Creative Writing (3) Practice and criticism in the reading, analysis and composition of fiction, nonfiction and poetry writing.

Introduction to Creative Writing (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 083S (GH) First-Year Seminar in English (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.

First-Year Seminar in English (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 083T (GH) First-Year Seminar in English (3) Critical approaches to the dimensions and directions in English/American literature and rhetoric.

First-Year Seminar in English (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 088 (GH) Australian/New Zealand Cultural Perspectives (3) Australian and New Zealand cultural and social perspectives, with emphasis on the historical development of intellectual, aesthetic, and humanistic values.

ENGL 088 Australian/New Zealand Cultural Perspectives (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Students are expected to learn fundamental skills of close textual analysis in the context of the study of a variety of works by authors from Australia and New Zealand. Studying a range of novels, poems, plays, and works of non-fiction, students will discuss the development of Australian and New Zealander literatures in historical context and gain understanding of the historical development of societal values in nations other than the U.S.A. The course aspires to relate geography and history to emerging social and cultural developments as the state and status of the two countries changed during the nineteenth and twentieth centuries, and to track their increasing separation from the "Mother Country" (i.e. Great Britain) as they developed a sense of themselves as different and separate from European societies. The process was neither comfortable nor easy, nor steadily progressive, but the record of it is an often fascinating story of human endeavor and struggle, very frequently against great odds and disappointments, which in turn affected the development of national character if such a thing can be said to exist.

The literatures reflect some of the attitudes and qualities that emerged as the two societies were coming into being and forging their own unique identities.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 100 English Language Analysis (3) An examination of English sounds, words, and syntax using traditional, structural, and transformational grammar.

English Language Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 105 (GH;US) (AM ST 105) American Popular Culture and Folklife (3) Survey of popular culture, folklife, and ethnicity, synthesizing material from such areas as literature, media, entertainment, print, music, and film.

ENGL (AM ST) 105 American Popular Culture and Folklife (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

AM ST/ENGL 105 covers a broad scope of materials, which may range from early to contemporary American folk and popular cultures. While selected topics for reading and discussion often vary from class to class, all courses focus on a critical examination of a variety of popular and fold cultures in order to produce an enriched understanding of America and its inhabitants. To meet this goal, popular and folk cultures will be examined from a variety of perspectives, including literature, history, politics, film, race, gender, class, and geography. Course requirements frequently include: essay exams, papers, journal entries, vigorous class discussion, and course talk participation. Technology is often incorporated into the class well, this course (or AM ST 100) is a requirement for the American Studies major and minor, and offers students valuable experience in critical thinking, analysis, and writing. Non-American Studies majors and minors may use this course to fulfill a general education or Bachelor of Arts/Humanities credit. AM ST/ENGL 105 serves as a broad introduction to American popular and folk cultures as well as interpretive strategies relevant to the study of cultures and individuals. The course, as a result, provides preparation for more advanced courses in American studies, American literature, and American history.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 104 (GH) The Bible as Literature (3) Study of the English Bible as a literary and cultural document.

ENGL 104 The Bible as Literature (3)
(GH)

(**BA) This course meets the Bachelor of Arts degree requirements.**

The purpose of this course is to acquaint students with the literature of the Bible, particularly in the King James translation, the translation that has been most influential in the English-speaking world. Throughout this course, students will examine the language, thought, images, and structures of the book that has arguably proved the central text of Western literature. Students will also actively explore the ways in which the Bible has shaped the literature of English-speaking cultures. Students will read substantial portions of the Old and New Testaments, including the Book of Genesis, the Book of Job, and selections from the histories, the prophets, the Book of Psalms, the Gospel of John, the Gospel of Matthew, and the Book of Revelation. Students will learn to read the Bible critically and interpret the book as they would any other literary text. They will also learn about the historical construction of the Bible and contemplate the competing versions of existing Biblical texts. Students will be asked to complete at least three writing assignments drawn from the following kinds of writing: essay, essay exam, or semester-long reading journal. This course will prepare students for additional college-level literature courses by helping them to develop the analytical skills necessary to analyze complex written texts.

This course fulfills a General Education Humanities requirement or a Bachelor of Arts requirement. It will be offered twice a year and is capped at 35 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 110 Newswriting Practicum (2 per semester, maximum of 6) Practice in writing and editing articles for the campus newspaper.

Newswriting Practicum (2 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 129 (GH) Shakespeare (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.

ENGL 129 Shakespeare (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL 129 constitutes a broad introduction to Shakespeare's dramatic works from a variety of thematic, historical, formal, and/or generic vantages. Approaches taken to the plays will vary from class to class, but may include a chronological introduction to the development of Shakespeare's plays, a consideration of a principal Shakespearean theme or themes through a number of plays from across Shakespeare's career, a consideration of Shakespeare's protagonists through a number of plays from across Shakespeare's career, or a consideration of a number of Shakespeare's plays in historical context. Time allotted for the discussion of each play will vary, but students should expect to read, on average, a play a week. This class will prepare students for advanced courses in early modern literatures as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course is a basic introduction to Shakespeare's works suited for non-majors, but may be used as English major elective credit or as credit toward the English minor. The course will be offered three times a year with 60 seats per offering. The course will be offered once a year as an honors course--ENGL 129H.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 111 The Possibilities of English (2) This course familiarizes students with the range of professional possibilities offered by the English major.

The Possibilities of English (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 129H (GH) Shakespeare (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.

Shakespeare (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 129H (GH) Shakespeare (3) A selection of the major plays studied to determine the sources of their permanent appeal. Intended for non-majors.

Shakespeare (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 130 (GH) Reading Popular Texts (3) Popular texts (printed, visual, and aural texts) and their social, political, and cultural significance in the contemporary world.

ENGL 130 Reading Popular Texts (3)
(GH)

ELISH 130: Reading Popular Texts explores a variety of popular texts with the goal of enabling students to sharpen their ability to interpret the social, political, and cultural significance of such texts in the contemporary world. For the purposes of this course, the term "texts" is defined broadly, to include printed texts (books, periodicals, and hypertext), visual texts (film, television, visual arts and graphics), and aural texts (music, sound, and spoken word). Since these texts are primarily examples of popular culture-pervasive, self -replicating, commercialized artifacts of the contemporary scene-they are familiar to the general student outside the classroom. Too often, however, students have not seen such texts subjected to the same kind of critical reading as more elite cultural forms (e.g., canonized literature, art, and music). As a result, the general student in particular benefits from learning that cultural phenomena to which she or he is exposed on a daily basis have layers of significance as yet unexplored or unrealized. The purpose of the course is fulfilled if such students come away from it with a sharpened awareness of the role that popular texts play in their daily lives and the means to discuss and explain their influence-in short, to read their culture more critically.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 130H (GH) Reading Popular Texts (3) Popular texts (printed, visual, and aural texts) and their social, political, and cultural significance in the contemporary world.

Reading Popular Texts (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 132 (GH;US) (J ST 132) Introduction to Jewish American Literature (3) A historical and thematic survey of Jewish Literature of the United States.

ENGL (J ST) 132 Introduction to Jewish American Literature (3)
(GH) (US)

This course will provide an introduction to Jewish American literature through a historical survey of the tradition's key texts, figures, and themes. the course will focus on the defining aspects of the literature and on what the literature "thinks" about Jewish American culture and identity. But rather than assuming a unity to Jewish-American culture, this course will use Jewish literature to seek ways of articulating and representing both the points of cohesion and the points of divergence that characterize Jewish life in America. the United States has absorbed large numbers of Jewish immigrants hailing from many parts of the world, holding many different ideas about Jewish practice, and affiliating themselves with many different political, social, and cultural traditions. Moreover, Jews have settled and made homes in a wide variety of American communities. This course aims to explore Jewish American culture's marked diversity by offering a literary window onto the major fault-lines running through Jewish American culture: lines demarcated by gender, by political affiliation, by geography, by pre-immigration community by religious practice, by attitude toward world Jewry, by national allegiance, and by minhag (or custom), to name just a few. The class therefore provides an opportunity to consider the constitution, origin, and development of Jewish American's identity and social formations by looking at how that identity and those social formations exist and what they "do" in literature written by and about Jews in America. Materials will consist predominantly of primary texts, including prose fiction and nonfiction, poetry, drama, and film. Course methodology will emphasize the close reading of these texts. Through occasional writing exercises, formal papers, in-class projects, and essay examinations, students will respond to, integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies and English, and it will satisfy the GH and US requirements. Most obviously, the course will offer students of Jewish literature, world literature, and American literature an opportunity for contextualization. It enables students in Jewish Studies to study the rich literature of American Jews, and it adds to courses covering Jewish American history, religion, and culture. The course offers students in English a valuable, sustained introduction to an important U.S. and world sub-culture.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 134 (GH) American Comedy (3) Studies in American comedy and satire, including such writers as Mark Twain, Faulkner, Vonnegut, Ellison, O'Connor, Welty, and Heller.

American Comedy (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 133 (GH) Modern American Literature to World War II (3) Cather, Eliot, Frost, Faulkner, Fitzgerald, Hemingway, Hurston, Wharton, Wright, and other writers representative of the years between the world wars.

ENGL 133 Modern American Literature to World War II (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

English 133 will constitute a wide ranging study of modernist American literature, including novels, short stories, poems, plays, and prose, written roughly between the turn of the 19th century and the end of the Second World War. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Topics under consideration will vary from class to class, but may include a chronological introduction to the development of modernist American literature, a consideration of a principle theme or themes common to modernist American literature through a number of works from across the period, a consideration of a number of modernist works in the context of historical events central to the period, such as the American participation in the First World War and/or the effect on American literature of the ensuing world-wide depression. Time allotted for the study of the works under consideration will vary. This class will prepare students for advanced courses in modernist literatures as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor. Non-English majors may use this course to fulfill a general education or Bachelor of Arts/Humanities. English 133 will be offered once a year with 60 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 134H (GH) American Comedy (3) Studies in American comedy and satire, including such writers as Mark Twain, Faulkner, Vonnegut, Ellison, O'Connor, Welty, and Heller.

American Comedy (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 135 (GH;US) Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.

Alternative Voices in American Literature (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 135S (GH;US) Alternative Voices in American Literature (3) United States writers from diverse backgrounds offering varying responses to issues such as race, class, gender, and ethnicity.

Alternative Voices in American Literature (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 136 (GH) The Graphic Novel (3) The graphic novel as a literary and visual form (produced primarily in English).

ENGL 136 The Graphic Novel (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course considers the graphic novel as a literary medium which joins text and image. The course explores the aesthetic of sequential narrative, its methods of production and consumption, and its place in contemporary culture.

I. Introduction
A basic outline of the medium, its generic range, and its reception in the United States.

II. History of Comics
An overview of the history of comics in the United States, with some discussion of Japan and Europe. The unit covers the development of comics in the United States during the twentieth century: newspaper strips, the comics boom of 1930s and 40s, the 1950s Senate hearings on the ‘corrupting influence’ of comics, and the abiding perception of comics as juvenile fare. This component also considers questions of marketing, reception, and gender across various genres.

III. Formal Analysis of Comics
Introduction to critical terminology and methods for the critique of the medium: panel layout, interplay between text and image, visual vocabulary and icons, and narrative techniques. This component will provide students with language and concepts necessary for critical analysis of graphic novels.

IV. Graphic Novels
This unit presents graphic novels primarily from the United States, all single volume works and nearly all the work of a single creator. The course primarily focuses on works originally written in English. The unit targets texts that have established an abiding influence in the medium (Maus) or received critical esteem (Fun Home, Jimmy Corrigan). Students will conduct close reading and analysis of specific texts using terms and concepts learned in the ‘Formal Analysis of Comics’ unit.

This course uses readings, images, lectures, and discussion to introduce students to the medium of graphic novels.
- Students will analyze formal techniques of the medium and understand its development as a popular form in the modern era.
- Students will encounter a range of perspectives and consider the challenges of representing history through an artistic medium.
- Students will learn to think critically about issues of identity, ethnicity, sexuality, history, and religion.

Individual instructors may vary their evaluation methods. One option might be:
Class participation: 20%
1 take-home exam: 20%
2 analytical papers: 40%
Presentation of secondary research: 10%
Book review: 10%

Students will gain a sense of the development of the medium across time, as well as an understanding of the place graphic novels hold in contemporary culture.

This course would be most effective in a technology classroom. The unit on formal analysis in particular demands projection capabilities.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 139 (GH;US) Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.

Black American Literature (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 139S (GH;US) Black American Literature (3) Fiction, poetry, and drama, including such writers as Baldwin, Douglass, Ellison, Morrison, and Wright.

Black American Literature (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 140 (GH) Contemporary Literature (3) Writers such as Baldwin, Beckett, Bellow, Ellison, Gordimer, Lessing, Lowell, Mailer, Naipaul, Pinter, Plath, Pynchon, Rushdie, and Walker.

ENGL 140 Contemporary Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL 140 will constitute a wide-ranging study of contemporary literature written in English, including novels, short stories, poems, plays, and prose, written roughly between the end of the Second World War and the present. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Baldwin, Beckett, Bellow, Ellison, Erdrich, Delillo, Kingston, Lee, Pynchon, Gordimer, Lessing, Lowell, Mailer, Naipaul, Pinter, Plath, Rushdie, Silko, and Walker. Topics under consideration will vary from class to class, but may include a chronological introduction to the development of contemporary literature, a consideration of a principle theme or themes common to contemporary literature through a number of works from across the period, a consideration of a number of contemporary works in the context of historical events central to the period, a consideration of a number of contemporary works in the context of formal or aesthetic elements common to those works and their various effects. Time allotted for the study of the works under consideration will vary. This class will prepare students for advanced courses in post-modern and contemporary literatures as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as English major elective credit or as credit towards the English minor. Non-English majors may use this course to fulfill a General Education or Bachelor of Arts/Humanities. The course will be offered once a year with 60 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 145 (GH;IL) Modern Irish Literature (3) Irish literature in the twentieth century and beyond; focus on the interplay of poltical, social, and cultural, forces on literature.

ENGL 145 Modern Irish Literature (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL 145, Modern Irish Literature, will concentrate on Irish literature, history, and politics from the early twentieth century to the present. The course will begin with the socio-political implications of the Home Rule movement and the important figures associated with the rise of the Irish Literary Renaissance. Instructors will spend much of the course focusing on canonical figures of modern Irish Literature (such as Joyce, Yeats, Synge, Beckett, Shaw,O'Casey,O'Flaherty,and Lady Gregory). The course will introduce students to the political context and themes of Irish Literary Renaissance (Irish Literary Renaissance), including the notion of “cultural nationalism.” Instructors may draw upon contemporary literary critics, such as Declan Kiberd, Seamus Deane, and Terence Brown, by way of introduction to the ILR. The class will then move on to Post-World War II Irish Literature. In this component of the course, instructors will select literature from writers who began publishing in the Post-War era. These authors may be examined as they follow the legacy of the ILR, or as they challenge it and forge new courses for Irish literature. In other words, these authors can be writing within or against the traditions and themes of ILR artists—or, more likely, doing both things at once. This component of the course will help students see the enduring legacy of the themes and forms of the ILR, as Irish authors continually reckon with its massive political and cultural inheritance. The course fulfills IL requirements in its emphasis on postcolonial relationships between Irish identity and culture and issues of British colonial occupation and the influence of American popular culture in the later twentieth century. The interpretive framework of postcolonial studies will inform the instructor’s approach to the literature. Postcolonial studies seeks to examine the conditions and tropes of colonial and post-colonial writers and peoples. While postcolonial studies offers broad theories and concepts that can be applied to any postcolonial scene, the movement nonetheless has an interest in studying and honoring the regional particularities and the specific reaction of its writers to the postcolonial moment. This interplay of the unifying, international experience of colonialism with the particularity of individual nations and writers helps students to become sensitive to ideas of nation, unity, and difference. More so, the tropes of postcolonial literature—and Irish literature especially--focus on concepts of hybridity, the Other, contact zones, modernity vs. tradition, national identity, and personal identity, all on which seek to understand the self and others within an intercultural context. The literature of the IRL also explores the corrosive effects of British imperialism, which helps students to consider whether “might makes right” and interrogate various forms of cultural imperialism, then and now. The literature of the IRL also promotes themes of intercultural understanding, featuring examples of reconciliation and compromise between tradition and modernity, and, more importantly, between Irish, American, and British characters. Students will be evaluated through writing assignments (about 15 pages of formal writing—the instructor can decide upon the number of papers and page length for the assignments), a midterm and final exam that feature essay responses, and class participation, which may include an online discussion forum (on ANGEL) and group presentations. These assignments will help students focus on issues of identity construction, and social and political conflicts within and between cultures (Ireland in relationship to British and American culture and influence) within a post-colonial context.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 182A (GH;US;IL) Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.

ENGL 182A Literature and Empire (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

English 182A will constitute a wide ranging study of literature written in English, including novels, short stories, poems, plays, and prose, from countries that were once part of the British Empire or some other European empire. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Chinua Achebe, Buchi Emecheta, Alan Paton, David Malouf, Robertson Davies, Ngugi Wa Thiongo, J. M. Coetzee, R. K. Narayan, Amitabha Ghosh, Salman Rushdie, Christina Stead, Thomas Keneally, Jill Ker Conway, V. S. Naipaul, Wilson Harris, and Michael Ondaatje. Topics under consideration will vary from class to class, but the course will often discuss matters of race and ethnicity, as well as matters of religion, gender, sexual orientation and global context, where appropriate. The principle emphasis of the works in this course will be the recognition of non-European/non-American societies and the differences between their culture and that of Europeans or Americans. The conflicts generated by clashing cultures will drive the choice of readings. By the end of the course, students will have studied works from a minimum of five different cultural perspectives. This class will also prepare students to consider social and cultural problems from a variety of cultural perspectives. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a mimimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year, when staffing restrictions permit, with 35 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 180 (GH) Literature and the Natural World (3) Literary representations of the natural world, focusing on English language traditions.

Literature and the Natural World (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 182B (GH;US) Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.

ENGL 182B Literature and Empire (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

English 182B will constitute a wide ranging study of literature written in English, including novels, short stories, poems, plays, and prose, from countries that were once part of the British Empire or some other European empire. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Chinua Achebe, Buchi Emecheta, Alan Paton, David Malouf, Robertson Davies, Ngugi Wa Thiongo, J. M. Coetzee, R. K. Narayan, Amitabha Ghosh, Salman Rushdie, Christina Stead, Thomas Keneally, Jill Ker Conway, V. S. Naipaul, Wilson Harris, and Michael Ondaatje. Topics under consideration will vary from class to class, but the course will often discuss matters of race and ethnicity, as well as matters of religion, gender, sexual orientation and global context, where appropriate. The principle emphasis of the works in this course will be the recognition of non-European/non-American societies and the differences between their culture and that of Europeans or Americans. The conflicts generated by clashing cultures will drive the choice of readings. By the end of the course, students will have studied works from a minimum of five different cultural perspectives. This class will also prepare students to consider social and cultural problems from a variety of cultural perspectives. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a mimimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year, when staffing restrictions permit, with 35 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 182C (GH;IL) Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.

ENGL 182C Literature and Empire (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

English 182C will constitute a wide ranging study of literature written in English, including novels, short stories, poems, plays, and prose, from countries that were once part of the British Empire or some other European empire. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Chinua Achebe, Buchi Emecheta, Alan Paton, David Malouf, Robertson Davies, Ngugi Wa Thiongo, J. M. Coetzee, R. K. Narayan, Amitabha Ghosh, Salman Rushdie, Christina Stead, Thomas Keneally, Jill Ker Conway, V. S. Naipaul, Wilson Harris, and Michael Ondaatje. Topics under consideration will vary from class to class, but the course will often discuss matters of race and ethnicity, as well as matters of religion, gender, sexual orientation and global context, where appropriate. The principle emphasis of the works in this course will be the recognition of non-European/non-American societies and the differences between their culture and that of Europeans or Americans. The conflicts generated by clashing cultures will drive the choice of readings. By the end of the course, students will have studied works from a minimum of five different cultural perspectives. This class will also prepare students to consider social and cultural problems from a variety of cultural perspectives. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a mimimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year, when staffing restrictions permit, with 35 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 182S (GH;US;IL) Literature and Empire (3) Literature written in English from countries that were once part of European empires, e.g., India, Canada, South Africa, and others.

ENGL 182S Literature and Empire (3)
(GH;US;IL;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

English 182 will constitute a wide ranging study of literature written in English, including novels, short stories, poems, plays, and prose, from countries that were once part of the British Empire or some other European empire. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Chinua Achebe, Buchi Emecheta, Alan Paton, David Malouf, Robertson Davies, Ngugi Wa Thiongo, J. M. Coetzee, R. K. Narayan, Amitabha Ghosh, Salman Rushdie, Christina Stead, Thomas Keneally, Jill Ker Conway, V. S. Naipaul, Wilson Harris, and Michael Ondaatje. Topics under consideration will vary from class to class, but the course will often discuss matters of race and ethnicity, as well as matters of religion, gender, sexual orientation and global context, where appropriate. The principle emphasis ofthe works in this course will be the recognition of nonEuropean/non-American societies and the differences between their culture and that of Europeans or Americans. The conflicts generated by clashing cultures will drive the choice of readings. By the end of the course, students will have studied works from a minimum of five different cultural perspectives. This class will also prepare students to consider social and cultural problems from a variety of cultural perspectives. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a mimimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year, when staffing restrictions permit, with 35 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 184 (GH;IL) (CMLIT 184) The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.

ENGL 184 The Short Story (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce students to the art of the short story and to acquaint them with some of its most talented writers. During the semester we will read short stories from various cultures and countries, ranging from stories written in the early nineteenth-century to those written within the last few years. Readings will include works from authors like Hawthorne, Melville, Toistoy, Dostoevsky, Gogol, Bierce, Chekhov, Kafka, Chopin, Crane, Gilman, James, Cather, Joyce, Woolf, Faulkner, Hemingway, Lawrence, Orwell, O'Connor, Baldwin, Olson, Silko, Erdrich, Ondaatje, Coover, Bafth, Bafthelme, DeLillo, Atwood, Mukherjee, Walker, Tan, Calvino, Garcia M,irquez, and Cortizar. All readings will be in English. We will usually read one story for each class meeting and it is important that the story is read in advance of our discussion. This course is intended to help one learn how to read fiction, how to understand it, and how to talk about it. The desire to tell stories and to be told stories is one of th most basic human needs, and all cultures have been defined in part by the stories they hear and the stories they tell. We are not born, however, knowing how to read the short story or any fiction for that matter. Rather it is a skill that one acquires, and the more one does it, like playing tennis or any other activity, the better one becomes at it, for we learn what to look for. We will also explore the historical development of the short story genre, and examine how historical contexts relate to the content and style of the stories under discussion. We become familiar with how stories are put together and with the vocabulary that is used to discuss fiction--terms such as plot, narrative, character, tone, language, closure, irony, imagery, and so forth. Students will be evaluated by class participation, a group oral presentation on the historical contexts of a story, small group problem solving exercises, out of class essays, a reading response journal, and in-class exams (such as a mid-term and a final). ENGL/CMLIT 184 will complement a wide variety of offerings in the English curriculum, especially those examining fiction or prose narratives. Non majors may use this to fulfill a humanities requirement. This course may be used as English Major elective credit or as credit towards the English minor. This course may be used as English Major elective credit or as credit towards the English minor. Non-majors may use this to fulfill a humanities requirement. ENGL/CMLIT 184 is not required for the Comparative Literature major but may be selected to fulfill one of the course requirements for the major or the World Literature Minor. This course also fulfills the General Education Humanities requirement and the Bachelor of Arts Humanities requirement. It will be offered two times per year, with 60 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 184S (GH;IL) The Short Story (3) Lectures, discussion, readings in translation, with primary emphasis on major writers of the nineteenth and twentieth centuries.

ENGL 184S The Short Story (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce students to the art of the short story and to acquaint them with some of its most talented writers. During the semester we will read short stories from various cultures and countries, ranging from stories written in the early nineteenth-century to those written within the last few years. Readings will include works from authors like Hawthorne, Melville, Toistoy, Dostoevsky, Gogol, Bierce, Chekhov, Kafka, Chopin, Crane, Gilman, James, Cather, Joyce, Woolf, Faulkner, Hemingway, Lawrence, Orwell, O'Connor, Baldwin, Olson, Silko, Erdrich, Ondaatje, Coover, Bafth, Bafthelme, DeLillo, Atwood, Mukherjee, Walker, Tan, Calvino, Garcia M,irquez, and Cortizar. All readings will be in English. We will usually read one story for each class meeting and it is important that the story is read in advance of our discussion. This course is intended to help one learn how to read fiction, how to understand it, and how to talk about it. The desire to tell stories and to be told stories is one of th most basic human needs, and all cultures have been defined in part by the stories they hear and the stories they tell. We are not born, however, knowing how to read the short story or any fiction for that matter. Rather it is a skill that one acquires, and the more one does it, like playing tennis or any other activity, the better one becomes at it, for we learn what to look for. We will also explore the historical development of the short story genre, and examine how historical contexts relate to the content and style of the stories under discussion. We become familiar with how stories are put together and with the vocabulary that is used to discuss fiction--terms such as plot, narrative, character, tone, language, closure, irony, imagery, and so forth. Students will be evaluated by class participation, a group oral presentation on the historical contexts of a story, small group problem solving exercises, out of class essays, a reading response journal, and in-class exams (such as a mid-term and a final). ENGL/CMLIT 184 will complement a wide variety of offerings in the English curriculum, especially those examining fiction or prose narratives. Non majors may use this to fulfill a humanities requirement. This course may be used as English Major elective credit or as credit towards the English minor. This course may be used as English Major elective credit or as credit towards the English minor. Non-majors may use this to fulfill a humanities requirement. ENGL/CMLIT 184 is not required for the Comparative Literature major but may be selected to fulfill one of the course requirements for the major or the World Literature Minor. This course also fulfills the General Education Humanities requirement and the Bachelor of Arts Humanities requirement. It will be offered two times per year, with 60 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 185 (GH;IL) (CMLIT 185) World Novel (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.

ENGL (CMLIT) 185 The Modern Novel in World Literature (3)
(GH)

(**BA) This course meets the Bachelor of Arts degree requirements.**

In this course, which is cross-listed with Comparative Literature, students will read examples of the modern novel from around the world. Focusing on novels written outside of America and England, this class will explore the development of the modern novel as a genre across a number of world cultures. As an example, moving from the beginnings of literary modernism (the late nineteenth century) through the early and mid twentieth century, the course will consider works by writers such as the following: Chinua Achebe, Italo Calvino, Albert Camus, Simone deBeauvior, Fyodor Dostoevsky, Isak Dinesen, Marguerite Duras, Natalia Ginzburg, Herman Hesse, James Joyce, Thomas Mann, Gabriel Garcia Marquez, Kenzaburo Oe, and Marcel Proust. This course will address the ways in which the world novels under consideration constitute examples of various literary forms and styles. The class will examine the differences and distances between literary movements such as social realism and magical realism, modernism and postmodernism. The goals of this course will be to hone students' critical reading and writing skills while granting them the ability to think about the modern novel as a distinct genre in a comparative global context. Students will be asked to read a minimum of five to six novels, spending an average of two weeks studying each work. They will be asked to complete at least three writing assignments including at least two kinds of writing such as the: essay, essay exam, or semester-long reading journal. This course will prepare students for additional college-level literature courses by helping them to develop the analytical skills necessary to analyze complex written texts. This course fulfills a General Education Humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 185 (GH;IL) (CMLIT 185) The Modern Novel in World Literature (3) Development of the modern novel in the last century (outside the British Isles and the United States); lectures, discussions, readings in translation.

ENGL (CMLIT) 185 The Modern Novel in World Literature (3)
(GH)

(**BA) This course meets the Bachelor of Arts degree requirements.**

In this course, which is cross-listed with Comparative Literature, students will read examples of the modern novel from around the world. Focusing on novels written outside of America and England, this class will explore the development of the modern novel as a genre across a number of world cultures. As an example, moving from the beginnings of literary modernism (the late nineteenth century) through the early and mid twentieth century, the course will consider works by writers such as the following: Chinua Achebe, Italo Calvino, Albert Camus, Simone deBeauvior, Fyodor Dostoevsky, Isak Dinesen, Marguerite Duras, Natalia Ginzburg, Herman Hesse, James Joyce, Thomas Mann, Gabriel Garcia Marquez, Kenzaburo Oe, and Marcel Proust. This course will address the ways in which the world novels under consideration constitute examples of various literary forms and styles. The class will examine the differences and distances between literary movements such as social realism and magical realism, modernism and postmodernism. The goals of this course will be to hone students' critical reading and writing skills while granting them the ability to think about the modern novel as a distinct genre in a comparative global context. Students will be asked to read a minimum of five to six novels, spending an average of two weeks studying each work. They will be asked to complete at least three writing assignments including at least two kinds of writing such as the: essay, essay exam, or semester-long reading journal. This course will prepare students for additional college-level literature courses by helping them to develop the analytical skills necessary to analyze complex written texts. This course fulfills a General Education Humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 187 English Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

English Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 189 (GH;IL) (CMLIT 189) The Founders of Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.

ENGL (CMLIT) 189 The Founders of Modern Drama (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/CMLIT 189 will constitute a wide-ranging study of plays by authors often credited with the making of modernist drama. The class will approach these plays from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Ibsen, Strindberg, Chekhov, Shaw, Wilde, Galsworthy, O'Neill, Beckett, and Yeats. Topics under consideration will vary from class to class but may include a chronological introduction to the development of modern drama, a consideration of a principal theme or themes in modern drama through a number of plays, or a consideration of plays in the context of historical events or formal or aesthetic elements. Time allotted for the study of the works under consideration will vary. This class will prepare students for advanced courses in dramatic literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means such as essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as an English or Comparative Literature major credit or as credit towards the English or Comparative Literature minor and will be offered once a year, with 60 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 189 (GH;IL) (CMLIT 189) Modern Drama (3) Playwrights who set the world's stage for twentieth-century drama; issues that continue to shape the contemporary theatrical world.

ENGL (CMLIT) 189 The Founders of Modern Drama (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/CMLIT 189 will constitute a wide-ranging study of plays by authors often credited with the making of modernist drama. The class will approach these plays from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Ibsen, Strindberg, Chekhov, Shaw, Wilde, Galsworthy, O'Neill, Beckett, and Yeats. Topics under consideration will vary from class to class but may include a chronological introduction to the development of modern drama, a consideration of a principal theme or themes in modern drama through a number of plays, or a consideration of plays in the context of historical events or formal or aesthetic elements. Time allotted for the study of the works under consideration will vary. This class will prepare students for advanced courses in dramatic literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means such as essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as an English or Comparative Literature major credit or as credit towards the English or Comparative Literature minor and will be offered once a year, with 60 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 191 (GH) Science Fiction (3) Science fiction as the literature of technological innovation and social change--its development, themes, and problems.

Science Fiction (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 192 The Literature of Fantasy (3) Major realms of fantasy in English and American literature: daydream and nightmare, the pastoral, dystopia, utopia, apocalypse, and the heroic.

ENGL 192 The Literature of Fantasy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Perhaps more than any other genre of speculative fiction, fantasy is richly varied. This course examines the development of literary traditions in fantasy literature from their earliest origins in mythology and folklore, through the historical development of classic fantasy works, into the books, movies and other fictions of the modern day. The course also explores different critical and theoretical approaches to the student of fantasy literature and related artistic traditions, as surrealism and magical realism¬. In addition to completing primary readings, students will engage in weekly lecture/discussions of materials. Evaluation for the course includes essay exams and a course project. English 192 satisfies the GH requirement. The course can count toward the major and toward the minor in English. Class size, frequency of offering, and evaluation methods will vary by location and instructor.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1993 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 193 (AM ST 193) American Folk Song in English (3) British songs in America; native repertories, white and Negro; folk ballad; and musical development.

American Folk Song in English (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 192 (GH) The Literature of Fantasy (3) Literature(s) of fantasy from early forms through a variety of contemporary traditions.

ENGL 192 The Literature of Fantasy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Perhaps more than any other genre of speculative fiction, fantasy is richly varied. This course examines the development of literary traditions in fantasy literature from their earliest origins in mythology and folklore, through the historical development of classic fantasy works, into the books, movies and other fictions of the modern day. The course also explores different critical and theoretical approaches to the student of fantasy literature and related artistic traditions, as surrealism and magical realism¬. In addition to completing primary readings, students will engage in weekly lecture/discussions of materials. Evaluation for the course includes essay exams and a course project. English 192 satisfies the GH requirement. The course can count toward the major and toward the minor in English. Class size, frequency of offering, and evaluation methods will vary by location and instructor.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 194 (GH;US;IL) (WMNST 194) Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.

ENGL (WMNST) 194 Women Writers (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

English 194 will constitute a wide ranging study of works by American, British, and other English-speaking women writers, including novels, short stories, poems, plays, and prose. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Bradstreet, Wollstonecraft, C. Rosefti, M. Shelley, Austen, C. Bronte, E. Bronte, G. Eliot, D. Wordsworth, Dickinson, Wharton, Stowe, Freeman, Jewett, Fuller, H.D., Moore, Sitwell, Bishop, Brooks, Plath, Cather, Woolf, Stein, Lessing, Bowen, O'Connor, Welty, Porter, Oates, Olsen, Sarton, Gordimer, Atwood, Morrison, Kinkaid, McCarthy, and Churchill. The course seeks to make students aware of the extensive body of literature written by women through the analysis, evaluation, and appreciation of specific works by women writers. The course also seeks to help students understand the female perspectives-the varying values and interests of women--reflected in the texts at hand and to position these perspectives within wider social, historical, and political contexts. The course also seeks to make students aware of the special problems faced by both women writers and the female inhabitants of the societies they describe in their work. As a course in women's literature, ENGL/WMNST 194 concerns itself with questions of gender. In so far as some of these women writers are black or women of color, it concerns itself with questions of race and ethnicity. In as far as the course looks at women's literature in the context of men's literature, it is concerned with the inter-relationship between dominant (male) and non-dominant (female) culture in the United States as well as in Britain. In so far as the course covers lesbian writers, it is concerned with sexual orientation. Topics under consideration will vary from class to class, but may include a chronological introduction to the development of women's literature, a consideration of a principle theme or themes common to women's literature through a number of works from across a number of historical periods, a consideration of a number of women's works in the context of historical events central to their creation, a consideration of a number of women's works in the context of formal or aesthetic elements common to those works and their various effects. Time allofted for the study of the works under consideration will vary. This class will prepare students for advanced courses in women's literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year with 60 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 194H (GH;US;IL) Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.

Women Writers (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 194S (GH;US;IL) Women Writers (3) Short stories, novels, poetry, drama, and essays by English, American, and other English-speaking women writers.

ENGL 194S Women Writers (3)
(GH;US;IL;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

English 194 will constitute a wide ranging study of works by American, British, and other English-speaking women writers, including novels, short stories, poems, plays, and prose. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Bradstreet, Wollstonecraft, C. Rosefti, M. Shelley, Austen, C. Bronte, E. Bronte, G. Eliot, D. Wordsworth, Dickinson, Wharton, Stowe, Freeman, Jewett, Fuller, H.D., Moore, Sitwell, Bishop, Brooks, Plath, Cather, Woolf, Stein, Lessing, Bowen, O'Connor, Welty, Porter, Oates, Olsen, Sarton, Gordimer, Atwood, Morrison, Kinkaid, McCarthy, and Churchill. The course seeks to make students aware of the extensive body of literature written by women through the analysis, evaluation, and appreciation of specific works by women writers. The course also seeks to help students understand the female perspectives-the varying values and interests of women--reflected in the texts at hand and to position these perspectives within wider social, historical, and political contexts. The course also seeks to make students aware of the special problems faced by both women writers and the female inhabitants of the societies they describe in their work. As a course in women's literature, ENGL/WMNST 194 concerns itself with questions of gender. In so far as some of these women writers are black or women of color, it concerns itself with questions of race and ethnicity. In as far as the course looks at women's literature in the context of men's literature, it is concerned with the inter-relationship between dominant (male) and non-dominant (female) culture in the United States as well as in Britain. In so far as the course covers lesbian writers, it is concerned with sexual orientation. Topics under consideration will vary from class to class, but may include a chronological introduction to the development of women's literature, a consideration of a principle theme or themes common to women's literature through a number of works from across a number of historical periods, a consideration of a number of women's works in the context of historical events central to their creation, a consideration of a number of women's works in the context of formal or aesthetic elements common to those works and their various effects. Time allofted for the study of the works under consideration will vary. This class will prepare students for advanced courses in women's literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year with 60 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 196 (GH;US) (AM ST 196, AMSTD 196) Introduction to American Folklore (3) A basic introduction to verbal and nonverbal folklore stressing the basic procedures of collection, classification, and analysis.

ENGL (AM ST; AMSTD) 196 Introduction to American Folklore (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

English 196 is an introduction to the verbal and nonverbal folk traditions characteristic of several American subcultures, including Native Americans, Hispanic Americans, African Americans, and immigrants. It will cover important genres of folklore, including folk speech, folk narrative, beliefs and religious experiences, use of space, and material culture. Topics under consideration will include ethnicity and cultural identity, the ways in which verbal and material cultures have influenced the literary, political, and economic development of the United States. Students will learn strategies for "reading" and valuing the folklore of subcultures other than their own. This class will prepare students to be able to perform well in future courses that deal with analyzing written, oral, and nonverbal texts and being able to analyze their significance within the subculture that produced them. By the end of the course, students will be able to recognize the cultural, political, and historical implications of such traditions. Additionally, they will have received first-hand practice in compiling a fieldwork project from first-hand interviews and site observations, combined with archival research. Students will be evaluated on the basis of class discussion, oral presentation and group exercises, in-class examinations, and a fieldwork portfolio, based on the fieldnotes, research, and analysis done as part of their project. This course may be used by English majors for English Major elective credit or as credit toward the English Minor, and (as AMST 196) also by American Studies majors in the same way. Non majors may use this course to fulfill a general education or Bachelor of Arts Humanities requirement. English 196 will be offered twice a year with 60 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 197A Introduction to the Sub-genres (1) This course introduces students to the primary tenets of the sub-genres songwriting, sci-fi writing, script writing or graphic novel writing.

Introduction to the Sub-genres (1)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 197A Possibilities for English (2) This class will introduce students to the wide range of paths they might pursue as English majors and to the destinations that those paths might lead.

Possibilities for English (2)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 197B Graphic Novel Writing (4) This course will explore the relationship between words and images and how both are used together to form a narrative.

Graphic Novel Writing (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 199 (IL) Foreign Study--English (3-6) Studies in English language and/or literature.

Foreign Study--English (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 200 Introduction to Critical Reading (3) Responses to a variety of literary texts written in English that evoke different approaches.

Introduction to Critical Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1991
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 200H Introduction to Critical Reading (3) Responses to a variety of literary texts written in English that evoke different approaches.

Introduction to Critical Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 201 (GH) What is Literature (3) Acquaints students with theory and practice relevant to studies of narrative, lyric poetry, and drama.

ENGL 201 What is Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

English 201 will familiarize students with theories and practices that are foundational for thinking about literature, and for studying narrative fiction, poetry, and drama. The course will pose such questions as “what is narrative fiction?”, “what is poetry?”, “what is drama?” It will introduce students to how conventions of literary genres operate, how they generate meaning, and how they require and manipulate readers’ responses. English 201 will also encourage students to explore whether or not literary discourse, as instanced in the genres that have been named, can be distinguished from other written or spoken discourses. While asking such questions, the course will acquaint students with technical vocabularies used by literary scholars and literary historians, and will provide students with sample scholarly rationales for hypothesizing the singularity of literary discourse, for constructing literary history, and for understanding literature’s relation to life. It will teach students close analytic practices of reading, both those that have shaped the discipline of English studies and those emerging currently. Students will be evaluated in English 201 by means of essays written in and out of class, essay exams, and class participation. The course will be required of all English majors and will be a part of their 36 credit degree requirement. The course will be offered in both Fall and Spring semesters with 25 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2006
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 200W Introduction to Critical Reading (3) Responses to a variety of literary texts written in English that evoke different approaches.

ENGL 200W Introduction to Critical Reading (3)

(BA) This course meets the Bachelor of Arts degree requirements.

When we read a work of literature, how do we determine what it means? Why do readers and critics come up with different interpretations of the same work? How do we decide if a literary work is valuable or not? This course addresses these and other questions by introducing students to the variety of literary questions on which critics and scholars base their interpretations of literature. Each theory poses different questions about a literary text's meanings and focuses our attention on different aspects of a text's language and background. We will examine the theory and practice the application of the following schools of criticism: formalism, psychoanalytic criticism, new historicism, Marxism, and feminism. We will apply different methods to particular literary texts, and students will practice different types of approaches in in-class writing assignments as well as in four papers (4-5 pages each). At the end of the semester, each student will put together a portfolio containing careful revisions of three of those papers as well as an introductory commentary of 1-2 pages.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001
Prerequisite: 6 credits of ENGL ENLSH or LIT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 201H (GH) What is Literature (3) Acquaints students with theory and practice relevant to studies of narrative, lyric poetry, and drama.

What is Literature (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 202A (GWS) Effective Writing: Writing in the Social Sciences (3) Instruction in writing persuasive arguments about significant issues in the social sciences. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)

Effective Writing: Writing in the Social Sciences (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 202B (GWS) Effective Writing: Writing in the Humanities (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)

Effective Writing: Writing in the Humanities (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 202C (GWS) Effective Writing: Technical Writing (3) Writing for students in scientific and technical disciplines. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)

Effective Writing: Technical Writing (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 202D (GWS) Effective Writing: Business Writing (3) Writing reports and other common forms of business communication. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)

Effective Writing: Business Writing (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 202H (GWS) Honors Writing in the Humanities (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)

Honors Writing in the Humanities (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 202H (GWS) Honors Writing in the Humanities (3) Instruction in writing persuasive arguments about significant issues in the humanities. (A student may take only one course for credit from ENGL 202A, 202B, 202C, and 202D.)

Honors Writing in the Humanities (3)

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 209 Journal or Magazine Practicum (1-6 per semester/maximum of 8) A practicum in the editing and publishing of a magazine or journal.

Journal or Magazine Practicum (1-6 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 211 Introduction to Writing Studies (3) This course introduces students to the most salient issues and theories in writing studies. Students explore contemporary theories and issues about writing in order to understand writing as a skill and a complex object of study in various professional contexts.

Introduction to Writing Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ENGL 015 orENGL 030 ; third semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 210 The Process of Writing (3) Examination of the relation between fiction and nonfiction; practice in principles common to all writing.

The Process of Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 211W Introduction to Writing Studies (3) This course introduces students to the most salient issues and theories in writing studies. Students explore contemporary theories and issues about writing in order to understand writing as a skill and a complex object of study in various professional contexts.

ENGL 211W Introduction to Writing Studies (3)

Most students know that writing is something one does; they are less aware that writing is something one studies, and that doing so is a challenging and fascinating intellectual endeavor. In this class, students explore the multifaceted nature of writing. As the list of major topics indicates above, students study a broad range of contemporary theories and issues, from the socially-constituted self in the act of writing, to plagiarism as it is variably defined in professional settings, to the role of the writer in social change.

The course is designed for both breadth and depth. Breadth is achieved through the many topics described above. The exams are designed to encourage students to make connections from one topic to another, to see how each builds on and intertwines with others. For example, early semester study on a writer’s individual agency is later complicated by issues of power determined by race, class, and gender. Writers’ ethical choices are made more challenging when confronted with questions of ideology and social justice.

Depth is achieved through the written essays. Each essay requires that students examine a narrow topic in depth, building on an assigned reading with limited and manageable primary and secondary research. For example, students may study their own writing as intertextual, drawing conclusions about originality and creativity in the process.

Throughout the course, students are encouraged to apply issues and theories to real-world situations, in such realms as professional settings, politics, media, and social justice. Several speakers come to class throughout the semester to expose students to the many kinds of writing professional writers do, the expectations and standards required of professional writers, and the avenues to success as professional writers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGL 015 orENGL 030 ; third semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 213 Introduction to Poetry Writing (3) Written exercises in the components and techniques of poetry writing in conjunction with selected readings.

Introduction to Poetry Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 212 Introduction to Fiction Writing (3) Written exercises and short readings in the elements of fiction writing; the writing of at least one short story.

Introduction to Fiction Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 215 Introduction to Article Writing (3) Written exercises in, and a study of, the principles of article writing; practice in the writing of specific articles.

Introduction to Article Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1985
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 221W British Literature to 1798 (3) Introduction to literary history and analysis. Beowulf and writers such as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, and Fielding.

British Literature to 1798 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 221 British Literature to 1798 (3) Introduction to literary history and analysis; Beowulf and writers such as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, and Fielding.

British Literature to 1798 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 222 British Literature from 1798 (3) Introduction to literary history and analysis; writers such as Austen, Wordsworth, Keats, Browning, Dickens, The Brontes, Yeats, Joyce, and Woolf.

British Literature from 1798 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 222W British Literature from 1798 (3) Introduction to literary history and analysis. Writers such as Austen, Wordsworth, Keats, Browning, Dickens, the Brontes, Yeats, Joyce, and Woolf.

British Literature from 1798 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 226 (GH;US;IL) (LTNST 226) Latina and Latino Border Theories (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.

ENGL 226 Latina and Latino Border Theories (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on contemporary Latina/o cultural production, placing it in historical context and analyzing it through the framework of borders. We make connections between Latina/o groups, showing both similarities and differences. We examine the politics of representation, asking how artistic texts define community and individual identities that are coherent yet also embody the complexity of these identities. The texts cross and claim borders—cultural, sexual, gender, geographical, generational, spiritual, and institutional. We will ask how these art forms work to claim border spaces: How are cultural differences retained without constructing hierarchies of exclusion? What models of identity do these artists propose in response to structures of domination? We'll read novels, short stories, poems, history, and theoretical essays; we will also watch several films. Throughout the course, we will attend to particular histories and cultures of Latina/o groups; it is crucial to both maintain the specificity of each culture (Chicana/o, Puerto Rican, Cuban-American, and Dominican-American) and their connections to each other as Latinas/os in the U.S. Inquiring into these intersections leads one to ask the following: how can Latinos unite against the assault on immigrants and bilingual education without erasing very important differences among Latina/o populations? How can Latinas unite against ongoing sexism and homophobia within their communities and the U.S. in general? How should we view the marketing category "Hispanic" and/or "Latino," and how do artists offer alternative conceptions of group identity?

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 225 (GA;GH) (ART H 225, WMNST 225) Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.

ENGL 225 Sexuality and Modern Visual Culture (3)
(GA;GH)

The terms "feminist" and "homosexual" were invented by the Victorians and reflect profound shifts in conceptions of identity. Another invention of the nineteenth century was the idea of the literary and artistic "avant-garde," a minority contingent with politically and/or aesthetically advanced views. These ideas of minority culture were deeply enmeshed with one another, and have exerted profound influence ever since. This course explores that history with the objective of developing a more sophisticated understanding of how the history of ideas affects our sense of who we are and how we read both texts and images. The course will be relevant to students of American and English studies, art, art history, and women's and sexuality studies.

General Education: GA;GH
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 227 (GH;US;IL) Introduction to Culture and Sexuality (3) A course addressing the relationships between sexuality, literature, and culture.

ENGL 227 Introduction to Sexuality Studies (3)
(GH;US;IL)

This course focuses primarily on queer literature, theory, and culture in the post-Stonewall (1969) decades in the United States and Britain. The course will interrogate sexual norms and their deviations, with a particular focus on the relationships between sexuality, imagination, and ethics in the making of sexual communities and in the fostering of sexual activism. We will focus on how class, race, and gender have been shaped, historically, through the production of sexuality, and the resistances offered to the formation and sedimentation of rigidly sexed bodies.

We will examine the relationships of memory, temporality, and spatial location in contemporary queer culture and theory. We will explore the relationships between sexuality and ethics, and how both shape the history of queer activism. Above all, we will study the connections between fantasy, imagination, and sexuality in shaping the literary and visual cultures of the U.S. and Britain. We will focus on the ways marginalization, shame, and criminalization are transformed, in the history, culture, and theory of queer people, into visionary acts of "world-making" that have changed contemporary understandings of bodies, identities, social formations, and literary and cultural forms.

General Education: GH
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 231W American Literature to 1865 (3) Introduction to literary history and analysis. Writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Whitman, and Dickinson.

American Literature to 1865 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 231 American Literature to 1865 (3) Introduction to literary history and analysis; writers such as Bradstreet, Franklin, Emerson, Hawthorne, Douglass, Thoreau, Fuller, Melville, Whitman, and Dickinson.

American Literature to 1865 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 232 American Literature from 1865 (3) Introduction to literary history and analysis; writers such as Mark Twain, James, Cather, Frost, O'Neill, Faulkner, Hemingway, Hughes, and Morrison.

American Literature from 1865 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 232W American Literature from 1865 (3) Introduction to literary history and analysis. Writers such as Mark Twain, James, Cather, Frost, O'Neill, Faulkner, Hemingway, Hughes, and Morrison.

American Literature from 1865 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 233 (GH;GN) (CHEM 233) Chemistry and Literature (3) Exploration of key concepts of chemistry, the reciprocal influence of chemistry and literature through history, and the relationship of science to society, culture, and values.

ENGL (CHEM) 233 Chemistry and Literature (3)
(GN or GH)

ENGL/CHEM 233 is a pedagogically innovative course that will be team taught by an instructor from the English department and one from the Chemistry department. Both instructors will be present in the classroom throughout the semester, providing joint presentations and leading discussions. Students may earn either GH or GN credit for the course, but not both. This course teaches both basic concepts of chemistry and their cultural elaboration in literature. It seeks to provide students with a nuanced understanding of how literature and science inform each other and negotiate cultural, religious, and political tensions. The course seeks to explore ways in which our modern world is defined by and dependent on a variety of sciences and technologies. The impact of scientific and technological discoveries continues to dominate discussions of who we are, where we come from, where we are going, and our place in the universe. Understanding how we, as a society, have acquired knowledge is especially important when the ideas, perspectives, and discoveries are perceived to be in conflict with our religious, cultural, or political beliefs. Understanding the origin and development of these ideas, perspectives, and discoveries is an essential component of science and scientific achievement, but too often our methods of teaching science focus almost exclusively on teaching facts and theories at the expense of the historical discovery and development of those facts and theories. This course teaches both the scientific facts and theories and the contexts of their production in order to sharpen students' abilities at critical evaluation of facts. The literary and scientific focus will vary from class to class, but may include writings by literary authors such as Edward Bulwer-Lytton, Bram Stoker, H. G. Wells, Garrett Serviss, William Butler Yeats, Arthur Machen, D. H. Lawrence, A. E. Waite, Aleister Crowley, Arthur Conan Doyle, and Camille Flammarion, and scientific texts by scientists such as William Crookes, William Ramsay, Frederick Soddy, Ernest Rutherford, Wilhelm Comad Roentgen, Henri Bequerel, J. J. Thomson, Niels Bohr, and Marie Curie. Like many literature courses, ENGL/CHEM 233 interprets history, assesses individual and social behavior, engages philosophical ideas, and expresses ethical and aesthetic values. It is especially useful at exploring cultural and social tensions involving scientific knowledge. For students in science programs, the course will explore the technical and conceptual dimensions of scientific knowledge in historical and cultural context. Political, cultural and personal motivations are integral components of the scientific method and deeply influenced the discovery of many of the fundamental chemical and physical concepts students are expected to master in their science curricula.

Students should expect to take two exams consisting of a midterm and a final, to write at least two papers for the course demonstrating their abilities at literary analysis and grappling with the themes of the course, and to make a group presentation to the class. Classroom discussion and general class participation will also be a factor in evaluation.

The course can be used as an elective credit toward the English Major and Minor, and can help students in English, Chemistry, or any other major fulfill General Education degree requirements It will be offered once every other year with 20 seats per offering.

General Education: GH;GN
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 235 (US) (AAA S 235) African-American Oral Folk Tradition (3) The origins, forms, and function of the oral folk tradition of African Americans.

ENGL (AAA S) 235 African-American Oral Folk Tradition (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

By its concentration on ethnic and racial difference, AAA S/ENGL 235 fulfills the requirements of the University for the designation of an Intercultural/International Competence (GI) course. This lower division course provides an opportunity for undergraduate students to examine the origins, forms, and function of the oral folk tradition of Americans of African descent, especially the speech and music, from signifying to rap. Beginning with the issues of African or European origins, students will explore questions concerning the definitions, source, transmission, variation, meaning, and function of African-American folklore as the basis for a better understanding and appreciation of the distinctiveness of African-American culture and character. Assessment of student performance will include two oral reports, a folklore collection project, two (outside of class) essays of 5-10 pages typed, and a final examination consisting of essay questions and short answers. Students will also be evaluated upon their participation in class discussions. AAA S/ENGL 235 will be a basic core course for students emphasizing African-American literature within the English major. It will also be important in the offerings of African and African American Studies. AAA S/ENGL 235 will satisfy one of the five 200-level courses required for the major in English. It can also satisfy one of the six courses required for a minor in English. It will also be important in the offerings of African and African American Studies. This course can be used to fulfill a major requirement for African and African American Studies. It also will fulfill the University's cultural diversity requirement. The course will be offered once a year with an enrollment of 35 students per section.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 240 Exploring Literary Traditions (3 per semester, maximum of 6) The examination of specific literary traditions in English-language texts and an inquiry into the question of tradition itself. (Section subtitles may appear in the Schedule of Courses.)

Exploring Literary Traditions (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 245 (GH;US) Introduction to Lesbian and Gay Studies (3) An introduction to the study of sex and (homo)sexual identity across a wide range of disciplines and methodoligies.

Introduction to Lesbian and Gay Studies (3)

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 250 Peer Tutoring in Writing (3) Introduction to skills and attitudes required for successful peer tutoring in writing. Provides internship experience in a writing center.

Peer Tutoring in Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D ; approval of department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 261 Exploring Literary Forms (3 per semester/maximum of 6) The examination of specific genres in English-language texts and an inquiry into the question of genre itself. (Section subtitles may appear in the Schedule of Courses.)

Exploring Literary Forms (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 262 (GH) Reading Fiction (3) Elements of fiction including plot, character, viewpoint, and fictional genres in British, American, and other English-language traditions.

Reading Fiction (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 263 (GH) Reading Poetry (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.

Reading Poetry (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 263S (GH) Reading Poetry (3) Elements of poetry including meter, rhyme, image, diction, and poetic forms in British, American, and other English-language traditions.

Reading Poetry (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 265 (GH) Reading Nonfiction (3) Forms of nonfictional prose such as autobiography, biography, essay, letter, memoir, oration, travelogue in British, American, and other English-language traditions.

Reading Nonfiction (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 268 (GH) Reading Drama (3) Elements of drama including plot, character, dialogue, staging, and dramatic forms in British, American, and other English-language traditions.

Reading Drama (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 281 Television Script Writing (3) An introduction to the writing of scripts for television production.

Television Script Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 294 Research Topics (1-12) Individual or small group instruction.

Research Topics (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 296C Mythology and Folklore of the British Isles (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Mythology and Folklore of the British Isles (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 297A Exploring Cape Cod: Its Nature and Culture (4.5) This is a course that proposes to study the environment and culture of one of the most famous localities in the US.

Exploring Cape Cod: Its Nature and Culture (4.5)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 297B Sailing the Chesapeake: Natural and Cultural Landscapes (4.5) Students read Bay history and work with the Chesapeake Bay Foundation to plant riparian buffers and travel to the Eastern Shore of Maryland.

Sailing the Chesapeake: Natural and Cultural Landscapes (4.5)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 297C Reading & Writing Microfiction (3) Students will analyze short-short stories (sudden stories, flash fictions, micro-fications) to understand the narrative structure, then write their own.

Reading & Writing Microfiction (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 297E Motion Picture Screenwriting (3) Study screenplays for full-length motion pictures, including examination of form, dialogue, narrative, plotting, scene structure, setting, character creation, and conflict.

Motion Picture Screenwriting (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 300M Honors Course in English (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.

Honors Course in English (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 302M Honors Seminar in English: Literature After 1800 (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.

Honors Seminar in English: Literature After 1800 (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 301M Honors Seminar in English: Literature Before 1800 (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.

Honors Seminar in English: Literature Before 1800 (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 303M Honors Seminar in English: American Literature & Culture (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.

Honors Seminar in English: American Literature & Culture (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 304M Honors Seminar in English: Creative Writing (3-12) Reading, group discussions, and oral and written reports on various specific authors and literary works.

Honors Seminar in English: Creative Writing (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2005
Prerequisite: ENGL 015 orENGL 030 ; approval of the departmental Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 310H Honors Thesis in English (3) Research paper or creative project on a topic approved by the Departmental Honors Committee.

Honors Thesis in English (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: 9 credits of ENGL 300H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 311 The Canon and Its Critics (3) History and formation of literary canons, and challenges to canon ideology by writers and critics, through readings in English and American literature.

The Canon and Its Critics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 312 Globality and Literature (3) Examines relationships between literature and culture, through the study of major texts in English by writers of various cultures.

Globality and Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 400 Authors, Texts, Contexts (3 per semester, maximum of 6) Styles, cultural milieus, critical perspectives toward particular English- language authors and/or movements they represent, and the idea of authorship. (Section subtitles may appear in the Schedule of Courses.)

Authors, Texts, Contexts (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 399 (IL) Foreign Study--English (3-6) Advanced studies in English language and/or literature.

Foreign Study--English (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 401 Studies in Genre (3 per semester, maximum of 6) English-language texts exemplifying particular genres, with attention to critical theories, historical development, rhetorical strategies, and social, cultural, and aesthetic values. (Section subtitles may appear in the Schedule of Courses.)

Studies in Genre (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 401H Studies in Genre (3 per semester, maximum of 6) English-language texts exemplifying particular genres, with attention to critical theories, historical development, rhetorical strategies, and social, cultural, and aesthetic values. (Section subtitles may appear in the Schedule of Courses.)

Studies in Genre (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 401W Creative Writing Theory (3) Theories of art and creativity which inform the making of literary works.

Creative Writing Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 200;ELISH 201, ELISH 209, ENGL 212 orENGL 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 402 Literature and Society (3 per semester, maximum of 6) Texts confronting social, political, technological, or other issues in the English-speaking world. (Section subtitles may appear in the Schedule of Courses.)

ENGL 402 Literature and Society (3)

(BA) This course meets the Bachelor of Arts degree requirements.

One variation will focus on Literature and Censorship by first considering general arguments for and against censorship and then by examining texts by writers who sought publication in their own country but whose books were censored or banned. The course will consider such questions as, Are there ever legitimate grounds for censorship? How do standards of censorship differ between countries? What is the relation between censorship on political and on moral grounds? What does artistic merit have to do with concern about moral or political subversion? Works from England, South Africa and the United States will be read and discussed, and where available, excerpts from trial transcripts will be read in order to examine arguments for and against publication. Readings will include works by Milton, D. H. Lawrence, Alan Paton, Nadine Gordimer, Athol Fugard, Eugene O'Neill, Henry Miller, and Alan Ginsberg.

Another variation will focus on war and gender in 20th century American literature by examining the ways male and female authors write about war. Texts will vary from battlefield experiences to repercussions of war to the symbolic implications of war. Questions will be raised about literary authority: Does one need to be combatant to write about war? If not, how does one find the authority to speak, particularly as a woman? How does race and/or ethnicity complicate one's perceptions of American participation in war? Readings will include works by Ernest Hemingway, William Faulkner, Joseph Heller, Cynthia Ozick, Leslie Marmon Silko, Norman Mailer, Bobbie Mason, Tim O'Brien, and Toni Morrison.

Another variation will focus specifically on the writings which emerged from the postwar African-American struggle for civil rights. The course will include not only fiction and poetry but also those speeches, sermons, editorials, and other forms of discourse to have emerged from the era. The emphasis will be both traditional literary concerns as well as on the various rhetorical strategies involved in each work. Ideally, the course would make visible to students the difficulties attendant upon any attempt to separate the concerns of rhetoric and persuasion too firmly from the concerns of literature. The course could conclude with a look at some of the various biographies, autobiographies, and histories written over the last twenty-five years, which attempt to shape our national memory.

Other variations include literature as a response to Newtonian science or to Darwinism or to the American Depression or to postwar technology or to new dystopias or to AIDS or, as in the sample outline, the Civil Rights movement.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 403 Literature and Culture (3 per semester, maximum of 6) Historical, theoretical, and practical issues within cultural studies in relation to English-speaking texts. (Section subtitles may appear in the Schedule of Courses.)

ENGL 403 Literature and Cultural Studies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Topics covered in this course will vary from semester to semester, but a broad framework will be to introduce students to literary and other texts read in relation to cultural studies. Individual instructors may take up different historical periods, while other versions may suggest ways cultural studies draws on different theoretical discourses such as rhetoric, deconstruction, feminism, or the New Historicism for its problems. All Reading Culture courses should serve as an introduction to cultural studies, moving from theoretical to practical readings of literature and culture. In any case, a common goal would involve examining cultural studies as constituted by plural theories and ends.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 404 Mapping Identity, Difference, and Place (3 per semester, maximum of 6) Ethnicity, gender, class, race with reference to theoretical inquiry into identity, difference, and place in English-language literatures. (Section subtitles may appear in the Schedule of Courses.)

Mapping Identity, Difference, and Place (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 405 Taking Shakespeare From Page to Stage (3) Students experience a Shakespeare play as a text to be explicated and as a script to be performed.

Taking Shakespeare From Page to Stage (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2003
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 407 History of the English Language (3) Historical and structural study of developments in English sounds, forms, inflections, syntax, derivations, and meanings.

History of the English Language (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1987
Prerequisite: ENGL 100;ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 409 Composition Theory and Practice for Teachers (3) An overview of the theory and practice of writing for teachers, with emphasis on the writing process.

ENGL 409 Composition Theory and Practice for Teachers (3)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL 409 is intended to help teachers improve their writing instruction by immersing them in composition theory and providing them with the opportunity to learn the writing process through personal experience. On completion of the course, participants will be able to:

Articulate and test composition theory in written works
Work through each phase of the writing process in assigned essays
Develop strategies for writing effectively in various genres and styles, including journal writing
Produce written works which demonstrate an awareness of audience
Implement recommendations for effective revisions
Provide responsive feedback to peers' written work
Develop a precis for a model lesson

Evaluation: Students will be evaluated on their knowledge and understanding of instructional objectives, demonstrated in written assignments, class discussions and other projects.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2000
Prerequisite: permission of the program
Concurrent: EDUC 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 410 Postnuclear Literature (3) Examines the impact of the bomb on the literature of the period.

ENGL 410 Postnuclear Literature (3)

This course surveys selected works in American literature in the literary period following the dropping of the bomb on Hiroshima (1945-present). It examines the effect of the bomb on the literature of the period, including how the altered consciousness of writers (and others) affected shifts in human perception and ideology. The course begins with the beat poets and continues into postmodern works of writers such as Thomas Pynchon and Kurt Vonnegut, interrogating the relationship between these writers and attitudes emerging within American culture after the introduction of the bomb.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 411 Problems of Style (3) Analysis and practice of English prose styles.

Problems of Style (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D;ENGL 212, ENGL 213 orENGL 215

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 412 Advanced Fiction Writing (3 per semester/maximum of 6) Advanced study of the techniques of fiction writing; regular practice in writing the short story; group discussion of student work.

Advanced Fiction Writing (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 212 and permission of the department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 413 Advanced Poetry Writing (3 per semester/maximum of 6) Advanced study of the techniques of poetic composition; regular practice in writing poetry; group discussion of student work.

Advanced Poetry Writing (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 213 and permission of the department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 414 Biographical Writing (3) Writing of biography and autobiography, character sketches, "profiles," and literary portraits; analysis and interpretations of source materials.

Biographical Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1987
Prerequisite: ENGL 200, ENGL 202B, ENGL 210, ENGL 212 orENGL 215

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 415 Advanced Nonfiction Writing (3 per semester/maximum of 6) Advanced study of the principles of nonfiction; substantial practice in writing and submitting magazine articles for publication.

Advanced Nonfiction Writing (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 215 and permission of the department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 416 Science Writing (3 per semester/maximum of 6) Prepares scientists and writers to gather, interpret, and present scientific information to the layman with clarity and accuracy.

Science Writing (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: COMM 260W, ENGL 202C, ENGL 210, ENGL 215 orENGL 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 417 The Editorial Process (3) The process of editing from typescript through final proof.

The Editorial Process (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C, ENGL 202D, ENGL 210, ENGL 215 orENGL 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 418 Advanced Technical Writing and Editing (3 per semester/maximum of 6) Preparing and editing professional papers for subject specialists and for others interested in careers as writers or editors.

Advanced Technical Writing and Editing (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C, ENGL 202D orENGL 215

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 420 Writing for the Web (3) Analysis and composition of informative, persuasive, and "creative" Web texts, based on rhetorical principles; no prior Web writing experience required.

ENGL 420 Writing for the Web (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, designed for writers and potential writers, will explore the unique opportunities and constraints of writing for the Web. As a writing course, it should appeal to students in the Humanities; however, because of the growing importance of Web texts in fields such as business and the social sciences and given the opportunity to compose/construct a variety of fictional and non-fictional "creative" and informative/persuasive Web texts, this course should be of value to students across the college.

In this course, students will survey a wide variety of Web texts--webs, electronic journals and books, learning to analyze these as to their efficacy in light of each text's rhetorical situation. As students learn to compose and construct such texts themselves, rhetorically based principles of audience awareness and persuasive appeal will be emphasized. Rather than focusing on writing html codes and java scripts, this course will build on the rhetorical principles taught in first-year writing courses, teaching students how to apply those principles to more sophisticated, multi-sensory, multi-media hyper textual writing.

The course will be taught primarily in a hands-on workshop environment-in a PC computer lab or laptop-equipped classroom. Although no prior Web writing experience is required, some experience with Web navigation and computer word processing will be helpful. Students will be evaluated on the basis of their participation/attendance in the course's workshop environment, written web analyses, and constructed web texts.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 419 Advanced Business Writing (3) Preparing and editing reports and presentations common to business, industry, and government.

Advanced Business Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 421 Advanced Expository Writing (3) Develops skill in writing expository essays, with particular attention to style. Intended for liberal arts majors.

Advanced Expository Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1987
Prerequisite: ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 422 Fiction Workshop (3 per semester/maximum of 6) Practice and criticism in the composition of the short story and the novel.

Fiction Workshop (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1985
Prerequisite: ENGL 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 423 Poetry Writing Workshop (3 per semester/maximum of 6) Extensive practice in writing poetry; consideration of contemporary poetic forms; selected readings.

Poetry Writing Workshop (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1985
Prerequisite: ENGL 413

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 425 Nonfiction Workshop (3 per semester/maximum of 6) Extensive writing of nonfiction for publication; an introduction to the principles of writing the nonfiction book.

Nonfiction Workshop (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1985
Prerequisite: ENGL 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 426 (US) (LTNST 426) Chicana and Chicano Cultural Production: Literature, Film, Music (3) An in-depth study of Chicana/Chicano literature, film, and music from the inception of the Chicano Movement (1965-1975) to the present.

ENGL 426 Chicana and Chicano Cultural Production: Literature, Film, and Music (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL 426 will constitute an in-depth study of Chicano/a literature, film, and music from the inception of the Chicano movement (1965-1975) to the present. In addition to primary aesthetic texts, students will read historical, political, and theoretical essays designed to situate the Chicano/a cultural texts in historical and political context.

The aim of the course is to give students a better understanding of Chicano/a cultural production by situating these works of art against other U. S. artistic traditions and within wider historical and political movements. Authors and artists under consideration in this class will vary, but will likely include Luis Valdez, Tomas Rivera, Estella Portillo Trambley, Oscar Zeta Acosta, Corky Gonzales, Gloria Anzaldua, Norma Alarcon, Cherrie Moraga, Richard Rodriguez, Dagoberto Gilb, Rolando Hinojosa, Alfredo Vea, Charlie Trujillo, Diego Vasquez Jr., Joe Rodriguez, Tomas Almaguer, Jose Esteban Munoz, Manuel Ramos, Lucha Corpi, Rudolfo Anaya, Michael Nave. This class will prepare students for advanced courses in Latin/a literatures as well as other academic courses that engage in the verbal and written analysis of complex texts. Students will be evaluated by means of essays written in and out of class, essay exams, group projects, term-long journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as ENGL major elective credit or as credit towards the ENGL minor and will be offered once a year with 40 seats per offering.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2007
Prerequisite: 3 credits in English

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 427 (J ST 427) Topics in Jewish American Literature (3) An in-depth examination of important themes, writers, and/or historical developments in Jewish Literature of the United States.

ENGL (J ST) 427 Topics in Jewish American Literature (3)

This course will provide sustained examination of major themes, texts, and figures in the Jewish American literary tradition. The course will focus on depth rather than breadth in its analysis of the defining aspects of the literature and on what the literature reveals about Jewish American culture and identity. The United States has absorbed large numbers of Jewish immigrants from many parts of the world, holding many different ideas about Jewish practice, and affiliating themselves with many different political, social, and cultural traditions, and moreover Jews have settled and made homes in a wide variety of American communities. Close analysis of literature will therefore provide an opportunity to consider the constitution, origin, and development of Jewish America's wider cultural, political, and social contexts. Materials will consist predominantly of primary texts, including prose fiction and nonfiction, poetry, drama, and film, and the methodology will emphasize the close reading of these texts. Through short writing exercises, in-class projects, essay examinations, and a longer research paper, students will respond to, integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies, English, and Comparative Literature. Most obviously, the course will offer students of Jewish literature, world literature, and American literature an opportunity for contextualization. It enables students in Jewish Studies to study the rich literature of American Jews, and it adds to courses covering Jewish American history, religion, and culture. The course offers students in English and Comparative Literature a valuable, sustained introduction to an important U.S. and world sub-culture and -literature.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ENGL 015 orENGL 030;J ST 132 orCMLIT 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 428 (US) (AAS 428) Asian American Literatures (3 per semester/maximum of 6) A seminar on the literatures and cultures of Asian America, with attention to forms of geographic, historical, and ethnic diversity.

AAS (ENGL) 428 Asian American Literatures (3 per semester/maximum of 6) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course selectively examines the contemporary major works, authors, and themes of twentieth-century Asian American literature, with particular emphasis on post-1965 literary production. The course aims to give students a sense of the historical development of Asian American literary studies in addition to introducing them to some significant thematic and theoretical issues--of panethnicity and resistance; of memory, desire, and perception; of trauma and diaspora, to name a few possibilities. We will focus primarily on Asian American literatures and cultures within the contexts afforded by the histories of Asians in the United States although there will also be some attention to issues of neocolonialism, globalization, transnationalism, and militarization. Ultimately, this course proposes that the aesthetics of Asian American literature are inseparable from the politics of Asian American experiences. Issues to be discussed will include the rise of the Asian American movement in the 1960s; the emergence of diaspora; strategies for contesting canonicity and cultural authority; different versions of what it means to be an “American;” the intersections of race, class, and conflict; and the relationships between gender, sexuality, and stereotype.

The course introduces students to the diversity of Asian American literary and cultural production. It teaches them how to approach and analyze literature and other kinds of cultural formations as well as how to critically engage with texts through formal written analysis and through oral presentations.

This is an upper-level seminar course with enrollments between 15-35 students. A typical grading breakdown would look something like this:

Essay 1--20%
Attendance/Participation (which includes weekly quizzes and a group book presentation)--20%
Critical Responses--20%
Essay 2--20%
Final Exam/Project--20%

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 429 (CMLIT 429) New Media and Literature (3) New media literary genres; critical discussion of creative works in digital media.

ENGL (CMLIT) 429 New Media and Literature (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to new media literary genres. It includes reflection on the concept of mediation (electronic and otherwise); on genre in both print culture and electronic publishing; and on literariness itself. It introduces students to critical discussion of creative works in digital media, including hypertext and hypermedia fiction and nonfiction, code poetry and codework, cybertext and ergodic literature, net art and Web art, and software and electronic installation art. Students will learn about major debates in North American and European new media theory, understood as a distinct current of influence in twentieth century literary and cultural theory. They will acquire a critical vocabulary and an interpretive methodology for literary artifacts created and/or published in screen media. Finally, they will acquire a basic familiarity with the range of creative works in digital media and the critical debates animating their reception. Students will write both short written exercises (30 percent) and longer essays (40 percent), as well as give an in-class presentation (10 percent). 20 percent of the course grade may be determined by class participation or quizzes. This course is an advanced-level course, for students who have already acquired the prerequisite basic skills in interpretive reading and writing. It expands elective and post-1800 offerings at the 400 level for the English major and minor, and expands the topical range of the English studies curriculum, which currently includes no course dedicated to new media. Special facilities needed: ITEC classroom.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 430 The American Renaissance (3) Studies in the works and the interrelationships of writers such as Emerson, Hawthorne, Poe, Thoreau, Whitman, Melville, and Dickinson.

The American Renaissance (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 430H The American Renaissance (3) Studies in the works and the interrelationships of writers such as Emerson, Hawthorne, Poe, Thoreau, Whitman, Melville, and Dickinson.

The American Renaissance (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 431 (US) (AM ST 475) Black American Writers (3 per semester, maximum of 6) A particular genre or historical period in the development of Black American literature.

ENGL 431 (AM ST 475) Black American Writers (3)
(US)

A study of a particular genre or historical period in the development of Black American literature. This course will allow faculty and students to focus a semester's study on a particular genre, theme, or problem in African-American literature. The flexibility of the course will allow faculty a forum in which to share current scholarship or to relate issues in African-American literature to larger school-wide themes in a classroom environment. Because of the potential variety of topics and faculty members, specific evaluation methods will be determined by the instructor and specified in the syllabus. The course will be offered once every two years with an expected enrollment of 25 students. The course satisfies the "area" requirement in culture for American Studies majors.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 432 The American Novel to 1900 (3) Such writers as Hawthorne, Melville, Stowe, Mark Twain, James, Crane, Chopin, and others.

The American Novel to 1900 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 433 The American Novel: 1900-1945 (3) Such writers as Wharton, Dreiser, Cather, Fitzgerald, Faulkner, Hemingway, Hurston, Wright, and others.

The American Novel: 1900-1945 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 434 (AM ST 472) Topics in American Literature (3 per semester) Focused study of a particular genre, theme, or problem in American literature. (May be repeated for credit.)

ENGL 434 (AM ST 472) Topics in American Literature (3)

This course will allow faculty and students to focus a semester's study on a particular genre, theme, or problem in American literature. The flexibility of a topics course will allow faculty a forum in which to share current scholarship or to relate issues in American literature to larger school-wide themes in a classroom environment. Because of the potential variety of topics and faculty members, specific evaluation methods will be determined by the instructor and specified in the syllabus. The course will be offered once every two years with an expected enrollment of 25 students. The course satisfies the "area" requirement in culture for American Studies majors.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 6 credits of ENGL ENLSH or LIT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 435 The American Short Story (3) Development of the short story as a recognized art form, with emphasis on major writers.

The American Short Story (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 437 The Poet in America (3) American poets such as Bradstreet, Taylor, Poe, Emerson, Whitman, Dickinson, Frost, Eliot, Stevens, Hughes, Brooks, Moore, Williams, Plath, Rich, Lowell.

The Poet in America (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 436 American Fiction Since 1945 (3) Representative fiction by such writers as Barth, Bellow, Ellison, Heller, Mailer, Morrison, Nabokov, Oates, O'Connor, Pynchon, Updike, Walker.

American Fiction Since 1945 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 438 American Drama (3) Development from the colonial period to playwrights such as O'Neill, Wilder, Hellman, Miller, Williams, Albee, Shepard, Norman, Wilson, and others.

American Drama (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 440 Studies in Shakespeare (3) Intensive study of a single genre, topic, or critical approach to selected plays.

Studies in Shakespeare (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1991
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 439 American Nonfiction Prose (3) Major prose writers such as Franklin, Emerson, Thoreau, Fuller, Henry Adams, Mailer, Baldwin, McCarthy, Dillard, Didion, Angelou, and others.

American Nonfiction Prose (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 441 Chaucer (3) The principal narrative poems and their background.

Chaucer (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 442 Medieval English Literature (3) Study of major works and genres of medieval English literature, exclusive of Chaucer.

Medieval English Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1992
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 443 The English Renaissance (3) Such writers as More, Sidney, Spenser, Shakespeare, Donne, Jonson, Bacon, and Marvell.

The English Renaissance (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 444 Shakespeare (3) Selected tragedies, comedies, and histories.

Shakespeare (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 445 Shakespeare's Contemporaries (3) Selected plays by Shakespeare's major predecessors and contemporaries: Kyd, Marlowe, Jonson, Webster, Marston, Middleton, and others.

Shakespeare's Contemporaries (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 447 The Restoration and the Eighteenth Century (3) The neoclassical age (1660-1776). Such writers as Dryden, Congreve, Swift, Pope, Fielding, Goldsmith, Sheridan, Boswell, Johnson.

The Restoration and the Eighteenth Century (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 446 Milton (3) Analysis of principal poems and their background.

Milton (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1984
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 448 The English Novel to Jane Austen (3) Novelists such as Defoe, Richardson, Fielding, Smollett, Sterne, and Austen.

The English Novel to Jane Austen (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 449 (US;IL) Women Poets (3) Study of major writings by women poets; instructor chooses emphasis, language, and period.

ENGL 449 Women Poets (3)
(US;IL)

The material for this course consists entirely of poetry by women, examined from a feminist perspective, and includes the work of African-American, Hispanic-American, Native American, and Asian-American women. The course also provides for an international perspective, should the instructor wish to take such an approach. Students examine the relationships among gender, race, ethnicity, and aesthetics in the discourse that we call "poetry by women." Thus, not only do students discuss the ways in which women write poetry, but they also look at the pressures imposed by race and culture upon the content and style of their poetry. Relationships among women poets of different ethnicities and cultures are also studied; thus, students consider what it means to be a "hyphenated writer" in America, and how these writers read and relate to each other. Students also discuss the "cultural work" done by these women poets, looking at the ways in which these writers contribute to the formation of culture(s) within their worlds.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 002 orENGL 003 orENGL 167 orENGL 194;ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 450 The Romantics (3) Poets such as Blake, Wordsworth, Coleridge, Keats, Shelley, and Byron; also prose by writers such as Hazlitt, Lamb, and DeQuincey.

The Romantics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 451 Literary Modernism in English (3) Survey of literary modernism in English and English translation in a variety of genres, including poetry, fiction, and drama.

Literary Modernism in English (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030;ENGL 200, ELISH 300 orELISH 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 452 The Victorians (3) Poets such as Tennyson, Browning, Arnold, and Hopkins; also prose by writers such as Carlyle, Mill, Ruskin, and Arnold.

The Victorians (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 453 Victorian Novel (3) Novelists such as the Brontes, Thackeray, Dickens, George Eliot, Meredith, and Hardy.

Victorian Novel (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 454 Modern British and Irish Drama (3) From Wilde and Shaw to the present season.

ENGL 454 Modern British and Irish Drama (3)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL 454 will introduce students to some of the most exciting playwrights and important trends in modern British and Irish drama from the late nineteenth century to the present. The course will examine a number of plays, exploring not only how they work formally, but also how changing cultural and historical contexts helped to shape the plays and British and Irish drama more generally. Authors under consideration will vary from class to class, but may include writers such as Oscar Wilde, George Bernard Shaw, John Synge, Lady Gregory, William Butler Yeats, Sean O'Casey, Samuel Becket, Denis Johnston, Brendan Behan, Brian Friel, Tom Murphy, Martin McDonagh, Noel Coward, John Osborne, T. S. Eliot, Robert Bolt, Harold Pinter, Caryl Churchill, and Tom Stoppard. The course will explore such topics as the role of drama in the Irish Revival, nationalism, and the revolution, the use of myth and folklore in drama, the emergence of realism, the function of Wilde and Shaw's humor in their plays, drama's response to the decline of the British empire, the modernist verse drama, post-modernism in drama, issues of stagecraft and performance, and the political function of such theaters as the Abbey Theatre or the Field Day Company. Students will write at least two papers on particular plays, and can expect to take a mid-term exam and a final exam.The course may be used as English Major elective credit or as credit towards the English minor, and will be offered once a year with 40 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2004
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 455 Topics in British Literature (3) Focused study of a particular genre, theme, or problem in British literature. (May be repeated for credit.)

ENGL 455 Topics in British Literature (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will allow faculty and students to focus a semester's study on a particular genre, theme, or problem in British literature. The flexibility of a topics course will allow faculty a forum in which to share current scholarship or to relate issues in British literature to larger School-wide themes in a classroom environment. Offering such focused studies under a British literature umbrella will allow majors to apply these offerings to their upper-level British literature requirement. Because of the potential variety of topics and faculty members, specific evaluation methods will be determined by the instructor and specified in the syllabus.

This course will be offered once every two years, with an expected enrollment of 20-25 students.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001
Prerequisite: 6 credits of ENGL ENLSH or LIT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 457 British Fiction Since 1945 (3) Readings in British fiction since World War II.

British Fiction Since 1945 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 456 British Fiction, 1900-1945 (3) Major writers such as Conrad, Lawrence, Mansfield, Forster, Joyce, Woolf, Waugh, Greene, Bowen, Beckett, and others.

British Fiction, 1900-1945 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 458 Twentieth-Century Poetry (3) Poets writing in English such as Yeats, Pound, Eliot, Frost, Auden, Stevens, Plath, Bishop, Brooks, H.D., and others.

Twentieth-Century Poetry (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 462 (US) (WMNST 462) Reading Black, Reading Feminist (3) Female identity and its construction in textual representations of gender, class, color, and cultural difference in English-language literatures.

ENGL (WMNST) 462 Reading Black, Reading Feminist (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/WMNST 462 provides two important learning opportunities for undergraduate students. The first is to examine the construction of female identity in the textual representations of gender, class, color, and cultural differences by black American women. The second is to identify, explore, and analyze the major issues concerning the discovery and development of a black feminist literary tradition. Authors under consideration will vary from class to class, but may include writers such as Hortense Spillers, Harriet Jacobs, Harriet Wilson, E. Genovese, Hazel Carby, Francis Harper, J. Fauset, Nella Larsen, Zora Neale Hurston, Gwendolyn Brooks, Margaret Walker, Nikki Giovanni, Sonia Sanchez, Maya Angelou, Lorraine Hansberry, Adrienne Kennedy, E. Brown-Guillory, Toni Morrison, S. A. Williams, Alice Walker, Paula Marshall, and Octavia Butler. The course will focus on the complex relationship of slavery and post-slavery black experience to the literary imagination of African American women, and of issues of gender in black identity in America. Topics covered will vary, but will include issues of the legacy of slavery, the development of black feminist thought, nineteenth-century conceptions of black womanhood, women's roles in the Harlem Renaissance, representations of black womanhood by male writers, and self-representation by female writers, women "Black Power" poets, black female playwrights, neo-slave narratives, the aesthetics of contemporary black feminism, and post-modernism and the challenge to understandings of canonicity posed by black women's writing, and the like. This class will prepare students for advanced courses in African American and feminist literature, as well as other academic courses that engage in the verbal and written analysis of complex written forms. Students will be evaluated by class participation, a group oral presentation, small group problem solving exercises, three out-of-class essays (of 5-8 pages each), and an in-class final examination consisting of essays and short answers. In addition to satisfying requirements for students emphasizing in African American literature within the English major, this course will be important in the offerings of African/African American Studies, American Studies, Women's Studies, and History. The course may be used as English Major elective credit or as credit towards the English minor, and will be offered once every other year, with 40 seats per offering. The course can be used to complete the major and minor in Women's Studies Arts and Humanities area and it also satisfies the Women of Color (WOC) sub-requirement.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 461 (US) The Vernacular Roots of African American Literature (3) The relationship between oral tradition and literary texts and the double consciousness of African American voice in "print."

The Vernacular Roots of African American Literature (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 463 (US) African American Autobiography (3) The African American literary quest for identity and its adaptation to Euro-American culture and autobiographies.

ENGL 463 African American Autobiography (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

Starting with the slave narratives which initiate the literary quest of African Americans for identity, this upper-division course will examine the trope of writing (the "talking" book) as the (w)rite of passage into the dominant Euro-American culture. The course will identify, describe, and analyze how the major elements of the "quest" found in the slave autobiographies have been adapted as textual strategies by many contemporary African American writers of autobiography, semi-autobiography, and fictional autobiography. Authors under consideration will vary from class to class, but may include writers such as Frederick Douglass, Harriet Jacobs, W. E. B. Du Bois, Ida B. Wells, Richard Wright, Zora Neale Hurston, Maya Angelou, Martin Luther King, Alex Haley, Harriet E. Wilson, James Weldon Johnson, and Ernest Gaines. Topics explored will vary from class to class, but will likely consider slave narratives, the role of autobiography in the fashioning of identity and self, gender issues, genre questions, and the historical development of the genre and its shifting preoccupation from slave times through the early twentieth-century, the pre-Civil Rights era, the Civil Rights Movement, the Black Power Movement, and the present. The course will prepare students for other courses that engage in the verbal and written analysis of complex written texts, and will also prepare students to consider the social and cultural issues involved in the role of race in American history. Students will be evaluated by means of essays written out of class, essay and short answer exams, a term-long reading journal reflecting upon issues of the student's own "autobiography," an oral class presentation, and class participation. The course may be used as English Major elective credit or as credit towards the English Minor and will be offered once a year, with 40 seats per offering.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 467 (US) African American Novel II (3) Thematic, stylistic, and structural characteristics of the African American novel from naturalism to modernism and postmodernism.

African American Novel II (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 466 (US) African American Novel I (3) Thematic, structural, and stylistic characteristics of the African American novel from residually oral forms to satiric realism.

African American Novel I (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 468 (US) African American Poetry (3) African American poetry within the contexts of the black oral tradition and transformed European literary tradition.

African American Poetry (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 469 (US) (AAA S 469) Slavery and the Literary Imagination (3) The impact of slavery on the petitions, poetry, slave narratives, autobiographies, and novels of African Americans.

ENGL (AAA S) 469 Slavery and the Literary Imagination (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/AAA S 469 provides an opportunity for undergraduate students to examine African American petitions, poetry, slave narratives, autobiographies, and novels as literary reconstructions of the economics, politics, ethics, and poetics of slavery. Authors under consideration will vary from class to class, but may include writers such as Paul Laurence Dunbar, Phillis Wheatley, F. Harper, James Weldon Johnson, Langston Hughes, Claude McKay, Sterling Brown, Booker T. Washington, Harriet Jacobs, W. W. Brown, Harriet Wilson, Margaret Walker, Arna Bontemps, D. Bradley, S. A. Williams, Toni Morrison, Ishmael Reed, and Charles Johnson. The course will focus on the complex relationship of slavery to the literary imagination of Americans of African descent as they increasingly discovered the limitations and possibilities of reading and writing themselves into freedom, literacy, and wholeness as human beings and American citizens. Topics covered will vary, but will include issues of the legacy of slavery in the west; the political aims and rhetorical conventions of African-American autobiography; the myths and realities of slavery; economic, political, ethical, and aesthetic issues of the representation of slavery; understandings of black consciousness and black culture on the road from slavery to freedom; the rise of African American realism as a response to the legacy of slavery; Black Feminism and issues of slavery; the role of history and memory in the construction of slavery; post-modern configurations of slavery; and the like. This class will prepare students for advanced courses in African American literature, as well as other academic courses that engage in the verbal and written analysis of complex written forms. Students will be evaluated by class participation, a group oral presentation, small group problem solving exercises, three out-of-class essays (of 5-8 pages each), and an in-class final examination consisting of essays and short answers. AAA S/ENGL 469 will satisfy one of the six 300H-400 level courses required for the major in English and the required 400 level course for the emphasis in African American literature within the major. It can also satisfy one of the six courses required for a minor in English. The course may be used as English Major elective credit or as credit towards the English minor. It will also be important in the offerings of African and African American Studies, American Studies, and American History. This course can be used to fulfill major requirements on the African and African American Studies major. It will be offered once every other year, with 40 seats per offering.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 470 Rhetorical Theory and Practice (3) Application of certain rhetorical principles to problems in composition. Writing exercise. Designed as preparation for the teaching of composition.

Rhetorical Theory and Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 471 Rhetorical Traditions (3 per semester, maximum of 6) Introduces major traditions of rhetorical inquiry and their relevance for English studies. (Section subtitles may appear in the Schedule of Courses.)

Rhetorical Traditions (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 472 Current Theories of Writing and Reading (3 per semester, maximum of 6) Investigates models of textual production and reception current within English studies. (Section subtitles may appear in the Schedule of Courses.)

Current Theories of Writing and Reading (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 474 Issues in Rhetoric and Composition (3 per semester, maximum of 6) Examines selected topics in the field of rhetoric and composition. (Section subtitles may appear in the Schedule of Courses.)

Issues in Rhetoric and Composition (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 473 Rhetorical Approaches to Discourse (3 per semester, maximum of 6) Practices the criticism of written texts from selected rhetorical perspectives. (Section subtitles may appear in the Schedule of Courses.)

Rhetorical Approaches to Discourse (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1997
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 474H Issues in Rhetoric and Composition (3 per semester, maximum of 6) Examines selected topics in the field of rhetoric and composition. (Section subtitles may appear in the Schedule of Courses.)

Issues in Rhetoric and Composition (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 477 Teaching Children's Literature (3) Teaching Children's Literature in light of recent literary pedagogy, the history of childhood, and critical approaches to Children's Literature.

ENGL 477 Teaching Children's Literature (3)

This course explores the teaching of Children's Literature. Beginning with students' own interpretations of the children's books we read, we develop critical concepts through which to understand and teach children's literature. The course presumes that books written for children have an intrinsic importance as literary and cultural artifacts and so demand serious consideration. Because this course is offered as an English course, we will concentrate on such things as the formal characteristics of the works we study, the kinds of audiences they seem to solicit, their implied authors, their ideologies, and so forth. The emphasis of the course is on teaching Children's Literature as literature; the course assumes that teaching literature is teaching reading and writing. Students are evaluated according to their participation in class discussion and three required papers-one on the teaching of a particular work of Children's Literature, one on some aspect of the history of childhood, and one that analyzes a children's book.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 479 Business or Technical Writing Practicum (1-3) Practical experience applying business or technical writing principles, working with advanced business, science, or engineering students on classroom projects.

ENGL 479 Business or Technical Writing Practicum (1-3)

English 493 enables students to bring their skills as writers and their knowledge of the requirements and conventions of business or technical writing to bear on a team project assigned in an advanced business, technical, or science course. The course requires students to work with the other members of the team on all aspects of the project where they are expected to contribute their skills to writing the final report that will constitute the primary means of communicating the results of the project to an appropriate audience. The major objective of the course is to provide students with opportunities to apply the writing skills they have mastered in previous or concurrent courses to projects of the kind that they would encounter in a professional writing situation. Thus, they will learn to work effectively in a team, to contribute to the overall objectives of the project, to serve as writing "consultants" to the group, and to work with others in perfecting the final written product. Their skills in organizing, editing, assessing the audience's needs, and finding the most effective ways to meet these needs will be tested in "real life" situations. Evaluation of the student's contributions and effectiveness will be made by the instructor in charge of ELISH 493 and the cooperating instructor in the business, technical, or scientific course. Evaluation methods could include (but not be restricted to) a journal kept by the student during the course project, observations by one or both instructors of the team in operation, peer evaluations by other student members of the project, and evaluation of the final written product by one or both of the cooperating instructors.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: Prerequisite or concurrent:ENGL 418 orENGL 419

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 480 Communication Design for Writers (3) This course explores visual design, non-verbal communication, and software packages used in professional settings to most effectively present written communications.

ENGL 480 Communication Design for Writers (3)

ENGL 480 is a course designed to familiarize students with an integrated theory of the roles that visual, verbal, and non-verbal communication play in the production of professional documents using the technologies and software applications most widely used in many organizational settings. To this end, the course will focus on employing non-verbal design elements (color, photographs, graphics, page layout, typography, paper) to develop effective communications tailored to a variety of media, audiences, and purposes using software packages such as Quark XPress, Photoshop, Illustrator, InDesign, Excel. Emphasis will be placed on producing clear, insightful, polished, professional documents, both individually and as part of a team.

As part of the course, students can expect to
a.) Understand the theories, elements, and principles of visual and non-verbal communication.
b.) Appreciate the roles of the audience, purpose, and context in planning and composing documents.
c.) Value the role of ethos, pathos, and logos when planning and composing documents.
d.) Learn basic skills in a variety of software packages most widely used in the professional world.
e.) Design and compose a variety of documents for a variety of audiences that display their writing and design skills.
f.) Demonstrate through their documents an understanding of the theories of visual, verbal, and non-verbal communication.
g.) Assess their own strengths and weaknesses as writers and designers.
h.) Demonstrate the ability to reflect critically on their own and others' discourse practices.
i.) Gain an understanding of the role and scope of other professionals and other disciplines in creating professional communications.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030;ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D ; 7th semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 481 Literary Theory: Historical Perspectives (3) Selected topics in the history of literary criticism and theory within the English-language tradition.

Literary Theory: Historical Perspectives (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 482 Contemporary Literary Theory and Practice (3 per semester, maximum of 6) Contemporary literary theories and their implication for critical practice as applied to British, American, and other English-language literary works.

Contemporary Literary Theory and Practice (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: ENGL 015 ORENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 483 Problems in Critical Theory and Practice (3) Intensive study of one or more recent theoretical approaches as applied to British, American, and other English-language literary works.

Problems in Critical Theory and Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 482W Contemporary Literary and Cultural Theory (3) Contemporary literary and cultural theories and their implication for critical practice as applies to a variety of texts, e.g. literary, linguistic, visual, multimedia, and/or popular.

Contemporary Literary and Cultural Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 015 orENGL 030H;ENGL 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 484 James Joyce (3) Analysis of principal works and their background.

James Joyce (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: ENGL 002;ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 485 Australian and New Zealand Literature and Culture (3) Questions of nationality, identity, gender, race, class, colonialism, and postcolonialism in these literatures.

Australian and New Zealand Literature and Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 487W Senior Seminar (3) Issues, themes, periods, critical theories, etc., that invite students to use prior English studies, limited to seniors majoring in English.

Senior Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1997
Prerequisite: six credits of 400-level courses in English

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 486 (IL) The World Novel in English (3) Studies in the novel, written in English, by writers outside of the United States and Great Britain.

ENGL 486 The World Novel in English (3)
(IL)

This course examines the nature of the novel as written in English by writers outside of the United States and Great Britain. Such a study necessarily involves both an aesthetic and a political perspective, in that the tradition of the novel in these landscapes so often involves the aesthetic and political suppression of native literary forms and voices. Thus, this course looks at the novel as written both by the colonizer and by the colonized. It considers the politics of the aboriginal author writing in an adopted language, and the ways in which such an adoption bears upon related ethnic and gender matters; it also considers the sorts of artistic and political tensions that emerge in the work of writers who write in what might be called the dominant English tradition. This course also studies the work of what might be called the multi-cultural writer, or the writer perforce extracted from a native, non-English-speaking culture and placed within a larger, colonial, English-speaking culture. Matters of novelistic form, as they are related to ethnic and cultural identity, are also discussed. One intent of the course is to reveal the cultural, racial, and gender diversity that naturally adheres to these particular literary traditions.
General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: ENGL 002;ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 488 (IL) (CMLIT 488) Modern Continental Drama (3) From Ibsen to the drama of today: Strindberg, Chekhov, Hauptmann, Pirandello, Ionesco, Beckett, Genet, and others.

Modern Continental Drama (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 489 (WMNST 489) British Women Writers (3) A study of selected British women writers.

ENGL (WMNST) 489 British Women Writers (3)

This course provides the opportunity to study writing by British Women from a historical perspective and to explore the views these women have of themselves as artists. The course will concentrate on a careful reading of works by a variety of authors. It will address the question of the role gender plays in the selection of literary forms and the development of character, theme, symbols, and rhetorical strategies. It will also explore what particular dimensions British women writers have brought to the British literary tradition.

Students will be active learners through keeping reading journals, presenting background reports on the history of women in England, participating in small-group discussions about the texts, and writing 2 shorter essays and one longer research essay for the class. This course focuses on an area of British literature, which more traditionally structured courses tend to obscure. The course will be attractive to students from a variety of programs, including English majors, Women's Studies minors, and Interdisciplinary Humanities students. The course will be offered once every two years. Estimated class size 20.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 490 (US;IL) (WMNST 490) Women Writers and Their Worlds (3) American and British literature written from the perspective of women.

ENGL (WMNST) 490 Women Writers and Their Worlds (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/WMNST 490 covers particular aspects of American and British literature written from the perspective of women. The courses stress the diversity of women's authorial worlds, both through time and/or space. The readings and specific focus vary from semester to semester. ENGL/WMNST 490 seeks to make students aware of the extensive body of literature written by women, but, unlike ENGL 194, which is a survey course of women's literature, ENGL/WMNST 490 can be a more intensive course, focusing on selected themes and topics of particular concern to women as reflected in the poetry and fiction of twentieth-century American and British women writers. The class can also be taught in relationship to earlier periods, dealing, for instance, with English women novelists from 1775-1865. In such a class, readings would include fiction by Fanny Burney, Mary Wolistonecraft, Ann Radcliffe, Jane Austen, Mary Shelly, Emily Bronte, Elizabeth Gaskell, and George Eliot. The course would then place each novel in its historical, social, intellectual, and literary context, and explore the various ways in which some of England's best writers transformed their female experience of the world into fiction that extended the range and influenced the development of the novel. Regardless of the particular focus, all sections of the course pose the following questions throughout: Do women use the same myths, archetypes, and literary conventions as male writers? Or do they sometimes have to modify the myths, archetypes, and literary conventions originated by their male precursors in order to adapt them to female experience? Is there such a thing as a distinctively female imagination, with a symbolic language of its own? Is there such a thing as a chain of literary influence linking women writers to each other? What are the strategies for coping with the anxieties of authorship? What is the interaction between gender and genre? In what ways are creativity and procreativity modes of defying prevailing ideologies? Does a woman's psychological development have an effect on the plots a woman novelist conceives? How does women's literature reflect the realities of women's lives? As a course in women's literature, ENGL/WMNST 490 concerns itself with questions of gender. In so far as some of these women writers are black or women of color, it concerns itself with questions of race and ethnicity. In as far as the course looks at women's literature in the context of men's literature, it is concerned with the inter-relationship between dominant (male) and non-dominant (female) culture in the United States as well as in Britain. In so far as the course covers lesbian writers, it is concerned with sexual orientation. Students should expect to complete a minimum of three written assignments in the course, two course papers, and an essay final exam in class. The papers each will ask students to choose a text to analyze in relationship to one of the thematic modules the course has chosen, for instance, to discuss how Virginia Woolf s Mrs. Dalloway analyzes the position of upper-middle class women in a particular moment in history when women had achieved the vote, but were still largely constrained by patriarchal social norms. In addition to written assignments, students will be evaluated on class discussion and general participation. The course not only prepares students for taking up literary and cultural analysis in English classes, but also in any other class that engages in the verbal and written analysis of complex written texts, and in other classes in Women's Studies or in other Penn State departments that address the social, cultural, or ethical issues of gender. The course may be used as English Major elective credit or as credit towards the English Minor; it may also be used in the Women's Studies major and minor. It will be offered once a year with 40 seats per offering.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 491 The Capstone Course in Professional Writing (3) This culminating course for Professional Writing majors concentrates on reflective analyses, design, and presentation of documents in the development of professional portfolios.

ENGL 494 The Capstone Course in Professional Writing (3)

(BA) This course meets the Bachelor of Arts degree requirements.

English 494 is the capstone writing course for the Professional Writing degree program. Its overall purpose is to provide students with the opportunity to reflect on and integrate academic coursework, co-curricular activities, and internship experiences through the design and development of print and electronic professional portfolios. To this end, students will analyze and evaluate their own professional texts as well as the texts of their peers, focusing on rhetorical analysis, content, organization, and expression. Emphasis will be placed on producing clear, insightful, polished, professional documents for inclusion in both paper and digital portfolios.

As part of the course, students can expect to:
a) demonstrate the ability to reflect critically on their own and others' discourse practices
b) assess their own strengths and weaknesses as writers and evaluate their writings for inclusion in the portfolios
c) compile both paper and electronic portfolios that integrate relevant material from academic courses, internships, and other co-curricular learning experiences
d) demonstrate the ability to employ technology in the development of the portfolios
e) design materials that display their writing skills and rhetorical knowledge for a professional audience
f) develop a finished professional resume and application letter
g) discuss and demonstrate a variety of strategies for securing a professional writing position

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: ENGL 015 orENGL 030;ENGL 202A, ENGL 202B, ENGL 202C orENGL 202D ;seventh-semester standing or higher; enrollment in Professional Writing major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 493 (AM ST 493) The Folktale in American Literature (3) A survey of the literary uses of the folktale and legendary materials, with particular concentration on the literature of America.

The Folktale in American Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1986
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 492 (AM ST 476, WMNST 491) American Women Writers (3) A study of selected American women writers.

ENGL 492 (AM ST 476, WOMST 492) American Women Writers (3)

A study of selected women writers, this course provides the opportunity to study writing by American women from an historical perspective and to explore the views these women have of themselves as artists. The course will concentrate on a careful reading of works by a variety of authors. It will raise the question of the role that gender--as well as other differences such as race, class, and ethnicity--play in the selection of literary forms and the development of character, theme, symbol, and rhetorical strategy. It will also explore the dimensions American women have brought to the American literary tradition. The course satisfies the area requirement in culture for American Studies majors and is open to all majors meeting the prerequisite requirements. The course will be offered once every two years and enrollment is 25.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 494 Senior Thesis in English (1-6) Senior English (ELISH) majors write a thesis arranged with in-charge person and submit it to a faculty committee for appraisal.

ENGL 494 The Capstone Course in Professional Writing (3)

English 494 is the capstone writing course for the Professional Writing degree program. Its overall purpose is to provide students with the opportunity to reflect on and integrate academic coursework, co-curricular activities, and internship experiences through the design and development of print and electronic professional portfolios. To this end, students will analyze and evaluate their own professional texts as well as the texts of their peers, focusing on rhetorical analysis, content, organization, and expression. Emphasis will be placed on producing clear, insightful, polished, professional documents for inclusion in both paper and digital portfolios.

As part of the course, students can expect to:
a) demonstrate the ability to reflect critically on their own and others' discourse practices
b) assess their own strengths and weaknesses as writers and evaluate their writings for inclusion in the portfolios
c) compile both paper and electronic portfolios that integrate relevant material from academic courses, internships, and other co-curricular learning experiences
d) demonstrate the ability to employ technology in the development of the portfolios
e) design materials that display their writing skills and rhetorical knowledge for a professional audience
f) develop a finished professional resume and application letter
g) discuss and demonstrate a variety of strategies for securing a professional writing position

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 494H Senior Thesis in English (1-6) Senior English (ELISH) majors write a thesis arranged with in-charge person and submit it to a faculty committee for appraisal.

Senior Thesis in English (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 496 Independent Studies (1-18) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 495 Internship (3-12) Supervised practicum in fields appropriate to the English major.

Internship (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 496A American Nonfiction Prose (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

American Nonfiction Prose (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 496B Naipaul and Joyce (3) Opportunity to extend an essay written for a previous class, conducting additional research and expanding the analysis to include larger segments of the two short story collections considered.

Naipaul and Joyce (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 497A Radical Literary Innovation in the English Renaissance (3) This course will explore a variety of startling developments in English Renaissance literature.

Radical Literary Innovation in the English Renaissance (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 497B Mont Alto Film Project III (3) Practicum in filmmaking, Part III of IV covers principle photography and production for a full-length feature film.

Mont Alto Film Project III (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English (ENGL)

ENGL 499 (IL) Foreign Study--English (3-6) Studies abroad in English language and/or literature.

Foreign Study--English (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 004 ESL/Composition for American Academic Communication I (3) For beginning-intermediate level non-native speakers of English to improve their overall composition skills in preparation for future American academic writing assignments. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

ESL 004 ESL/Composition for American Academic Communication I (3)

This is a composition course for beginning/intermediate level non-native speakers of English. Students will become familiar with the various stages in the process of writing by participating in a variety of writing activities which will enable them to: 1) gather ideas from their own experience as well as outside sources, 2) organize their ideas according to the purpose, audience, and subject of written texts, 3) critically read and revise written texts, 4) edit written texts for grammatical accuracy, and 4) communicate their ideas in well-organized and well-edited compositions.

Students will participate in a variety of writing tasks including: free-writing, journal entries, descriptions, summaries of readings, drafts and complete essays. Overall, students will improve their composition skills in preparation for the demands of future academic writing assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 015 (GWS) ESL/Composition for American Academic Communication II (3) For intermediate/advanced level non-native speakers of English to develop strategies for reading and writing American academic discourse.

ESL 015 ESL/Composition for American Academic Communication II (3) (GWS)

This is a composition course for intermediate/advanced level non-native speakers of English. Students will become familiar with the various stages in the process of writing and develop strategies for reading and writing various models of American academic discourse. Overall, students will be able to use what they have learned in this course to successfully participate in academic reading and writing tasks throughout their university experience in the United States.

Students will participate in a variety of reading and writing tasks that will enable them to: 1) define the subject, purpose, audience, and appropriate organizational structure for written compositions, 2) revise and reshape their writing to improve ideas, organization, language use, vocabulary and mechanics, 3) identify and correct structural and grammatical errors within their written texts, 4) select sources, take notes, and acknowledge sources to support ideas, use the library to conduct library research, 5) become better writers in preparation for their college career.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: a grade of C or higher required inESL 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 114G American Oral English for Academic Purposes (3) Instruction in ESL for international teaching assistants that focuses on the use of oral language skills in an academic setting.

ESL 114G American Oral English for Academic Purposes (3)

This course is designed to enable non-native speakers of English to develop and improve their oral communication skills for effective interaction in social, as well as academic settings in English-speaking environments. Activities will include: a) a pre- and post-testing of oral proficiency for diagnostic and achievement purposes, b) a series of in-class oral presentations which will be audiotaped and videotaped for self, peer, and instructor evaluation, c) participation in group discussions, role plays, and impromptu speeches, d)various oral language assignments, including listening and pronunciation activities, transcriptions of recorded speech, and the creation of an audiotaped oral dialogue journal.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 115G American Oral English for ITAs I (3-9) Initial course in American Oral English for preparation of international teaching assistants.

ESL 115G American Oral English for ITAs I (3-9)

This course is designed for non-native speakers of English who wish to improve their overall speaking and listening skills in English. Through various oral and aural language activities, students will increase the intelligibility of their speech by improving their pronunciation of American English. They will also develop academic speaking skills in order to engage critically and constructively in the exchange of ideas during discussions of academic content. They will improve their overall listening comprehension, as well as their discrimination of particular sounds in English. By the end of this course, students will have improved their overall speaking and listening skills, in particular their fluency, to participate successfully in academic settings.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: score below 200 on the American English Oral Communicative Proficiency Test (AEOCPT)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 117G American Oral English for ITAs II (3-9) Intermediate course in American Oral English for preparation of international teaching assistants.

ESL 117G American Oral English for ITAs II (3-9)

This course is designed for intermediate level non-native speakers of English who need to improve their communication effectiveness in order to become teaching assistants (TAs). Through various language related activities, students will increase the intelligibility of their speech by improving their pronunciation of American English. Students will also develop oral presentation skills necessary for different types of classroom interaction. In addition, they will learn about American cultural traits as they pertain to communication in the university-level classroom. By the end of this course, students will have improved their overall communication effectiveness to participate successfully in a variety of future teaching assistant responsibilities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: score of 200-229 on the American English Oral Communicative Proficiency Test (AEOCPT) or a grade of A required inESL 115G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 116G ESL/Composition for Academic Disciplines (3) For high, intermediate, and advanced international students at the graduate level to engage in research in their academic disciplines.

ESL 116G ESL/Composition for Academic Disciplines (3)

This course is designed for high-intermediate and advanced international students at the graduate level who are preparing to engage in research in their academic disciplines. Through reading and writing selected rhetorical models of academic disclosure, students will be able to analyze and use the organizational structure of various models of academic texts. They will engage in contextualized language activities, which will enable them to match appropriate English linguistic forms to specific rhetorical purposes. Students will be expected to gather appropriate sources, organize information, and compose various models of academic essays and research papers. By the end of the course, students will be able to translate their research activities into written reports that conform to the expectations of the English-speaking academic community.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 118G American Oral English for ITAs III (3) Advanced course in American Oral English for preparation of international teaching assistants.

ESL 118G American Oral English for ITAs III (3)

This course is designed to provide English language instructional support for advanced non-native speakers of English who need to improve their communication effectiveness in order to become teaching assistants. Through various language related activities, students will increase the intelligibility of their speech by improving their pronunciation of American English. To do this, they will develop an acute awareness of their own strengths and weaknesses as a communicator in real and simulated instructional contexts. They will also develop effective oral communication strategies necessary for interaction with individual students, small groups, and large classes. Students will learn about American cultural traits and underlying assumptions as they pertain to communication in the university-level classroom. By the end of this course, students will have improved their overall communication effectiveness to carry out their future teaching assistants responsibilities successfully.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: score of 230-249 on the American English Oral Communicative Proficiency Test (AEOCPT) or a grade of A required inESL 117G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 497A Thesis/Dissertation Writing (3) Students will develop language awareness through investigating dissertations to use the language and discourse structures approporiate for their field.

Thesis/Dissertation Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

English as a Second Language (ESL)

ESL 497B Academic Presentations for Non-native English-Speakers (3) This course is designed to help non-native English speaking graduate students in planning and conducting oral presentations within academic settings.

Academic Presentations for Non-native English-Speakers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 202 (GN) The Insect Connection (3) An introduction to the diversity of insects and the ways in which they interact with humans and impact our world.

The Insect Connection (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 314 Management of Insect Pests of Ornamentals (1) Diagnosis and management of insect pests on shrubs and trees in the landscape or production nursery.

Management of Insect Pests of Ornamentals (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ENT 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 313 Introduction to Entomology (2) Introduction to basic entomology, covering insect diversity, identification, structure and function, and principles of management.

Introduction to Entomology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: 3 credits of natural science
Concurrent: ENT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 315 Teaching with Insects (1) An introduction to inquiry-based life science teaching using insects as model systems.

Teaching with Insects (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Concurrent: ENT 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 316 Field Crops Entomology (1) Laboratory-based approach to identification and management of insect pests of agronomic crops.

Field Crops Entomology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ENT 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 319 Forest Insect Management (1) Management of insects affecting development of productivity of the forest ecosystems.

Forest Insect Management (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ENT 313
Concurrent: FOR 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 317 Turfgrass Insect Pest Management (3) Introduction to entomology and management of insect pests of cool- and warm- season turfgrass.

ENT 317

ENT 317 Turfgrass Insect Pest Management (3)

This course will introduce students to a thorough understanding of insects and their relatives, IPM, and control strategies. The course will provide the students the opportunity to review EPA registered turfgrass insecticides and respective Material Safety Data Sheets, the effects of turfgrass insecticides on nontarget organisms, and the Food Quality Protection Act and how this legislation has altered public perception of insecticides. Students will be provided with a fundamental understanding of the ecology, ethology, life history and development of IPM plans for the key surface and subsurface pests of cool- and warm-season turfgrass. Students will be introduced to a wide array of commercial, educational and government web sites to strengthen their understanding of turfgrass entomology. Students also will be encouraged to develop a web based notebook which they can utilize upon completion of the course. Students will be invited to share their experiences with pest problems and methods they deployed to manage turfgrass insect species in the turfgrass environment.

Students will be evaluated by the use of class assignments, quizzes, two hour exams and a final exam, refereed journal reading assignment, and an IPM class project.

The course will be offered in the spring semester with expected enrollment of 50-58 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: TURF 235, CHEM 101 orCHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 395 Internship (10-12) Supervised field experience and study related to the student's major professional interest. Written and oral critique of activity required.

Internship (10-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984
Prerequisite: prior approval of proposed assignment by department; cumulative GPA of 2.00 or higher; 6 credits of entomology; at least fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 397I Apiculture (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Apiculture (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 402W (VB SC 402W) Biology of Animal Parasites (3) An introduction to animal parasitology. Emphasizes placed on host/parasite interactions, parasites of zoonotic importance, control programs and taxonomy.

Biology of Animal Parasites (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 412 Insect Taxonomy (3) Identification and classification of insects to family level; introduction to insect phylogeny, life history, and evolution.

Insect Taxonomy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: BIOL 110, BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 410 Insect Structure and Function (3) Integrated physiology and anatomy of insects; emphasis on unique adaptations, genetic regulation of development, insects as model systems, environmental physiology.

Insect Structure and Function (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: BIOL 110, BIOL 220W, BIOL 230W, BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 420 Introduction to Population Dynamics (3) Principles of population regulation, demographic analysis, modeling of dynamic processes are discussed; laboratories involve the exploration of population growth models.

Introduction to Population Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: BIOL 110, BIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 425 Freshwater Entomology (3) Collection and identification of insects and other arthropods in freshwater ecosystems; field study of habitats.

Freshwater Entomology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 430 (B M B 430, BIOL 430) Developmental Biology (3) Molecular and genetic analyses of mechanisms involved in differentiation and determination in biological systems.

Developmental Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: BIOL 222;B M B 252 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 497D Insection Connection Education (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Insection Connection Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 497B Insect Behavior and Neur (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Insect Behavior and Neur (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entomology (ENT)

ENT 497E Insect Natural History (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Insect Natural History (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 300 Principles of Entrepreneurship (3) Overview of the fundamental principles and processes of entrepreneurship including idea generation and opportunity analysis.

Principles of Entrepreneurship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ACCTG 211, ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 320 Entrepreneurship and New Venture Creation (3) Explores the process for starting and growing a new venture including the development of a business plan.

Entrepreneurship and New Venture Creation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ENTR 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 400 Financing Entrepreneurial Ventures (3) Overview of alternative forms of financing including seed capital, valuing a company, going public, partnerships, and acquisitions.

Financing Entrepreneurial Ventures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: B A 243 orB LAW 243;ENTR 320, FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 410 Entrepreneurial Marketing (3) Principles of Internet marketing and strategies for marketing new ventures on the Web.

Entrepreneurial Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ENTR 320, MIS 204, MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 420 Leadership and Growth of New Ventures (3) Leadership of an entrepreneurial organization, including organizational effectiveness, stages of entrepreneurial growth, strategies for the future, and developing people.

Leadership and Growth of New Ventures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ENTR 320;MGMT 100 orMGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 430 Entrepreneurship and New Product Development (3) Examines the process of designing, testing and launching new products, and developing a strategy for commercialization of the technology.

Entrepreneurship and New Product Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ENTR 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 440 Entrepreneurship and Franchising (3) Overview of the entire franchising process with a focus on licensing and distributorship, trade marks, strategy, and growing the enterprise.

Entrepreneurship and Franchising (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ENTR 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Entreprenuership (ENTR)

ENTR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 301W Environmental Microbiology (3) Fundamentals of microbial ecology and environmental microbiology with an emphasis on aspects of these fields important to environmental engineers.

ENVE 301W

ENVE 301W Environmental Microbiology (3)

This course provides students with the skills necessary to understand and effectively communicate environmental aspects of microorganisms. There are laboratory exercises associated with each of the related topics. Subjects include both water quality and treatment. The emphasis in the course will be on the development of the appropriate writing and speaking skills. As such, formal grading will be reserved for completed assignments only. This does not imply that students will be expected to produce these completed assignments quickly and in a single draft. For three assignments-the non-technical summary, the review paper, and the laboratory report-students will be required to submit draft copies for evaluation and suggestions for improvement. The students will then revise these assignments and submit them for either reevaluation or grading. For the remaining assignments in the course, students will have the option to submit a draft copy for evaluation before a final copy is graded. This, of course, necessitates that due dates for assignments be somewhat flexible. Within the time constraints of the semester, the opportunity to rewrite and revise an assignment will be given priority over a fixed due date. Examination and Grading: ENVE 301W will be divided between lecture and laboratory portions of the course. The lecture will count for 60% of the final grade; while the laboratory will count for 40% of the grade. Each will have a significant writing component.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: introductory chemistry high school biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 401 Occupational Safety and Environmental Health (1) Regulations, management practices, hazard identification, exposure assessment, monitoring, employee protection, and program management for occupational safety and health.

ENVE 401

ENVE 401 Occupational Safety and Environmental Health (1)

The passage of the Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA), a federal agency, to protect employee safety and health. In 1983 OSHA established hazard communication requirements. By May of 1988, all employees, regardless of size, were required to comply with the Right-To-Know Standards. These regulations established the need for employee training on potential occupational hazards and safe work practices. This training includes safety equipment training, management procedures to address workplace hazards, and accidental emergency response planning. Companies established safety and health managers for their facilities along with employee training. The goal of this course is to introduce students preparing for work in the environmental field to important topics, issues, and training needs for addressing environmental-occupational safety and health. Course topics include: regulations, management practices, hazard identification, exposure assessment, monitoring, employee protection, and program management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 411 Water Supply and Pollution Control (3) Water supply, wastewater characteristics, design of unit processes for water and wastewater treatment, sludge processing, and related new technologies.

Water Supply and Pollution Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 301, ENVE 301W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 413W Operation and Control of Treatment Systems (3) Wastewater treatment, water treatment, solids handling, hazardous waste site control and operations, operator certification, report writing.

ENVE 413W **ENVE 413W Operation and Control of Treatment Systems (3)**

This course provides students with knowledge and experience related to water treatment, wastewater treatment, solids handling, hazardous waste management, operator certification, and safety, through a combination of lectures, lab experiments, pilot studies, and field trips. The focus of the course is on operation and control of water and wastewater treatment plants. There is also an emphasis on technical report writing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: ENVE 411, ENVE 424
Concurrent: ENVE 416

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 415 Hydrology (3) Watershed response to rainfall events; hydrologic systems, ground water flow.

Hydrology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ENVE 361, MATH 446

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 416 Treatment Plant Design (3) Design of treatment facilities for water and waste water based on regulatory requirements and standards.

Treatment Plant Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ENVE 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 417 Hydraulic Design (3) Design of water and waste water conveyance systems and storage facilities.

Hydraulic Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ENVE 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 424 Solid Waste Management (3) Solid waste collection and disposal techniques; recycling and design optimization; including content analysis, legislation, and planning.

Solid Waste Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 425 Hazardous Waste Management (3) Overview of regulations, risk assessment, waste minimization and pollution prevention, treatment of hazardous waste, and remediation of contaminated sites.

Hazardous Waste Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 430 Sustainable Engineering (3) A course on engineering which uses ecological principles to minimize waste and maximally use input materials.

ENVE 430

ENVE 430 Sustainable Engineering (3)

This course is for upper-level and graduate students in engineering science, environmental engineering, engineering technology, or environmental pollution control. Sustainable engineering is a term that describes engineering which maximizes the use of all input materials and minimizes waste using principles of ecology. The course is designed to train engineers to use the principles of sustainable engineering in their practice. Engineers responsible for the design and operation of industrial systems have a social responsibility for not harming the environment. The topics include pollution prevention, waste minimization, process economics and resource management. Evaluation is based on both examinations and a project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: Permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 441 Water Treatment Plant Design and Operation (4) This course covers water supply, design, and operation of unit operations for water treatment, and related new technologies.

Water Treatment Plant Design and Operation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 442 Wastewater Treatment Plant Design and Operation (4) Covers wastewater generation, design and operation of unit operations for wastewater treatment, sludge handling and disposal options, related new technologies.

Wastewater Treatment Plant Design and Operation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 301, ENVE 301W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 451 Environmental Sanitation (3) Epidemiology, toxicology, radiation health and safety, vector control, food protection, air, water, and solid waste control, environmental interrelationships.

Environmental Sanitation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 470 Air Quality (3) Overview of air quality issues with regard to the sources, measurements, effects, transport and control of potential air contaminants.

Air Quality (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CHEM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 460 Environmental Law (3) This course provides a survey of Federal and State environmental laws, including statutory, common and administrative law. May not be taken for graduate credit by Dickinson School of Law students in the concurrent J.D./EPC programs.

ENVE 460

ENVE 460 Environmental Law (3)

This class is a survey of Federal and State environmental laws, including aspects of common (court-established) law, statutory (legislative) law, and administrative law. Students will become familiar with legal concepts and language; how to read and understand statutes, regulations and court decisions; how the administrative process works; and what clients and consultants need to know in order to operate within the administrative framework of environmental law. Evaluation includes examinations and briefs to be presented in class discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: senior standing graduate standing or permission of program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Engineering (ENVE)

ENVE 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 151 Careers and Issues in Environmental Resource Management (1) Career opportunities and topical issues in the environmental sciences.

E R M 151 Careers and Issues in Environmental Resource Management (1)

The course is designed to introduce students to the environmental resource management field early in their academic experience. The course is the first required E R M course for students in the major and the minor. Weekly presentations are made by E R M graduates and Penn State faculty and student interns.

Course objectives include: discuss topical issues in environmental sciences and resource management; familiarize students with career opportunities for E R M graduates; provide feedback from graduates to students on enhancing their Penn State experience; enhance critical thinking and communication skills; create an opportunity to address student questions about the E R M program.

Two types of writing assignments (PIT and PDP) are designed to enhance the learning process and to serve as a basis for awarding a course grade. The PIT (Putting It Together) is written by each student during the last 10 minutes of each class period, and requires the student to focus on one point made by the speaker and to either explain how the point contributes to the students understanding or explain why they disagree with or have questions about the point. Students are instructed to consider the audience for their PIT to be lay people and that the PIT should simulate a letter to the editor or an Op Ed piece. The PDP (Personal/Professional Development Plan) is developed by each student throughout the semester. It is designed to facilitate the establishment/refinement of career goals and objectives, and to be an action plan for their Penn State experience. Students receive feedback on their draft PDP early in the semester.

Student progress is assessed by evaluating the PITs and the PDPS. The course grade is weighted 48% PITS, 17% draft PDP, and 35% final PDP.

A conventional auditorium-style classroom that can accommodate up to 100 students is required.

The course is offered each fall semester at the University Park campus. Current and projected enrollments are 75-100 students. The course could be offered at other Penn State campuses utilizing distance learning technologies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 210 (GN) Environmental Factors and Their Effect on Your Food Supply (3) An exploration of how urban environmental problems influence our ability to obtain food and natural resources.

E R M 210 Environmental Factors and Their Effects on Your Food Supply (3) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Environmental Factors and Their Effect on Your Food Supply will study links between environmental issues and the agricultural systems from an urban perspective. Insects, one the most diverse groups of organisms, will be used to provide examples of human impact on ecosystem structure and function. Differences between sustainable and non-sustainable systems, along with efforts to create sustainable human systems, will be explored. This course looks at the Earth as a single ecosystem composed of interacting biological, chemical and physical systems. The social and economic dimensions of issues will be discussed. We will focus on how non-human systems interact with each other and with the human population. The course focus will be on the principles and concepts from biology, chemistry, geology and physics. Specific topics treated within the context of this interdisciplinary course include but are not limited to: human response to (insecticide use) and influence on (reduction in diversity) insects, the unique and life-giving properties of water, nutrient cycles, energy flows, species diversity, the dose-response relationship, risk assessment and perception, global climate change, and conservation of energy and matter.

We will also be learning about how the use of the scientific method an interdisciplinary setting. Scientific situations found in everyday life will be used to explore and practice how to ask questions, gather data, and reach conclusions.

Evaluation of student performance will be based upon critical thinking exercises, class discussion, short in-class writing assignments, and examinations. The critical thinking exercises will be assessed by written material submitted by the student. The written material will include the steps undertaken in the exploration (methods), the observations made (results) and description of what was learned (conclusions). These explorations will help students learn to solve problems and think critically using information they have discovered. The explorations will require students to supplement their observations with information found on the Web and in the Library. Students will be required to participate in class discussions using CourseTalk. Contributions will be evaluated for content and quality. Short, in-class, written student feedback will be collected frequently to determine the level of understanding and attendance. Two midterm evaluations and a comprehensive final will be given. These exams will consist of higher-order thinking questions requiring the student to synthesize information to solve problems. Self-quizzes will accompany each unit to help the student determine when they understand the concepts being learned.

Environmental Factors and Their Effect on Your Food Supply is an introductory level, general education science course without prerequisites. This course is not a prerequisite for any other course. An introductory level course in sustainable environmental systems will provide a useful context for future course work.

Recitation sections will be used to increase the student's understanding of concepts discussed during lecture. Computer exercises develop specifically for this course, the textbook

CD-ROM, and data found on the Web will be used to aid students in their understanding of course concepts.

The course will be offered annually in the spring. Expected enrollment is 100 students.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 300 Basic Principles and Calculations in Environmental Analysis (3) This course will teach basic problem solving skills while using examples taken from environmental media--air, water, and soil.

E R M 300 Basic Principles and Calculations in Environmental Analysis (3)

Students will be provided a contextual link between chemical, biological and physical principles learned in their basic science courses and the advanced environmental concepts presented in later required Environmental Resource Management (E R M) courses. This course will demonstrate the dependence of environmental science on biology, chemistry and physics. Students will integrate the knowledge from each of these disciplines into an interdisciplinary framework. This course will teach Environmental Resource Management students basic problem solving skills while using examples taken from environmental media - air, water, and soil. Students will have many opportunities to examine, manipulate, and solve quantitative problems related to the environment. This is a required course for Environmental Resource Management majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: BIOL 220W;CHEM 112, CHEM 111, CHEM 202;E R M 151, MATH 111 orMATH 141;STAT 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 300 Basic Principles and Calculations in Environmental Analysis (3) This course will teach basic problem solving skills while using examples taken from environmental media--air, water, and soil.

E R M 300 Basic Principles and Calculations in Environmental Analysis (3)

Students will be provided a contextual link between chemical, biological and physical principles learned in their basic science courses and the advanced environmental concepts presented in later required Environmental Resource Management (E R M) courses. This course will demonstrate the dependence of environmental science on biology, chemistry and physics. Students will integrate the knowledge from each of these disciplines into an interdisciplinary framework. This course will teach Environmental Resource Management students basic problem solving skills while using examples taken from environmental media - air, water, and soil. Students will have many opportunities to examine, manipulate, and solve quantitative problems related to the environment. This is a required course for Environmental Resource Management majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: 3 credits in BIOL;CHEM 111;MATH 110 orMATH 140;PHYS 250 orPHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 411 Legal Aspects of Resource Management (3) Legal systems and lawmaking processes; property rights in land, water, and wildlife resources; jurisdictional problems in planning resource use.

Legal Aspects of Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: E R M 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 309 (A S M 309) Measurement & Monitoring of Hydrologic Systems (3) Introduction to measurement and monitoring equipment/techniques commonly used in analyses and design of hydrologic systems.

E R M (A S M) 309 Measurement & Monitoring of Hydrologic Systems (3)

This course will provide students the opportunity to learn and apply basic measurement techniques that serve as critical tools in professional practice in water resources. Mapping development and use serves as a critical aspect of water resources engineering and planning, and a major portion of this course will focus on the fundamentals of surveying and translation of surveyed data into useful maps and engineering drawings. Students will learn the theory that underpins basic surveying and then apply this theory in actual survey practice. Autocad serves as a primary software tool used in engineering design and water resources planning, and students will be afforded opportunities to use Autocad to present and process various watershed- and survey-based data. Geographic information system (GIS) techniques will also be investigated as a tool to process, record, analyze, and display various spatial data commonly used in water resources planning and engineering design. Students will learn the basic techniques and processes used to transfer data between GIS and Autocad, both of which are commonly used in practice. The course will also investigate the instrumentation, techniques, and theory involved in common water resources measurements including weather conditions (which serve as the principle driving conditions in water resources), flow monitoring, basic soil properties, water movement in soils, and water quality sampling and analyses. Students will conduct hands-on exercises that will focus on the use of various instruments and techniques commonly employed to conduct such measurements. Data collected will be processed and analyzed within the context of professional practice case studies. The various aspects of the course will coalesce around the concept of the watershed being the basic unit of water resources analyses and design, and students will experience how various measurement techniques and approaches are necessary tools for practicing professionals. This course will be useful to any undergraduates seeking degrees in a major related to water resources planning, engineering, or technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: PHYS 211 orPHYS 250, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 412 Resource Systems Analysis (3) The concept of systems; techniques of analysis, including input/output, mathematical programming, and simulation; application to resource systems.

E R M 412 Resource Systems Analysis (3)

E R M 412 is a course in problem solving, as it relates to environmental and resource related issues. The course covers a variety of problems within an environmental context, including mass balance, steady-state, and dynamic problems. Students will gain experience in making assumptions and testing those assumptions in the application of biological, chemical, and physical principles to problem solving. The course is designed to develop experience in quantitative problem solving using spreadsheets, modeling tools, and computer-based statistical analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 220W, E R M 151, E R M 300 andSTAT 240;MATH 111 orMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 413W Case Studies in Ecosystem Management (3) Application of biological, physical, and social science principles to ecosystem management problems; introduction to environmental impact analysis and review.

Case Studies in Ecosystem Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 220W, SOILS 101W . Prerequisite or concurrent:E R M 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 430 (PPATH 430) Air Pollution Impacts to Terrestrial Ecosystems (3) Overview of the direct and indirect effects of air pollutants on terrestrial plants and ecosystems.

E R M (PPATH) 430 Air Pollution Impacts to Terrestrial Ecosystems (3)

Pollutant sources, transport, meteorology, and temporal and spatial trends of pollution dispersion and deposition are introduced. An overview is presented of the direct and indirect effects of air pollutants on terrestrial ecosystems with an emphasis on plant life. The effects of ozone, sulfur dioxide, nitrogen oxides, particulate matter, halogens, and combined pollutants leading to acidic atmospheric depositions are presented. Emphasis is placed on air pollutants as plant pathogens leading to symptoms and eventual long-term accumulative effects to entire ecosystems. Methods of diagnostics, factors affecting plant response, ecosystem decline and resiliency, pest interactions, assessment of loss and cost/benefit analysis leading to abatement follows. Final parts of the course include perspectives of public awareness, development of National Ambient Air Quality Standards, compliance prevention of significant deterioration, and the Clean Air Act reforms of 1990. Evaluations of student performance are made by unannounced quizzes and two scheduled examinations. The course is offered every Spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: BIOL 220W orFOR 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 431 Environmental Toxicology (3) Effects of pollutants on animal health at the chemical, physical, and cellular level.

E R M (VB SC) 431 Environmental Toxicology (3)

This ecotoxicology course is designed to provide a mechanistic understanding of how chemicals released into the environment affect individuals and populations. General concepts of fate and transport of chemicals in the environment, including sources and emission of pollutants, is a major focus of this course. In addition, the principals underlying the study of adverse health effects, toxicology, will be described. The experimental means used to assess toxicity and the regulation of chemical releases by governmental agencies will be included. Many of these concepts will be reinforced through the use of a case study approach where a pertinent, timely, environmental issue is incorporated into the ongoing lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: BIOL 110, CHEM 110, CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 431 (VB SC 431) Environmental Toxicology (3) Effects of pollutants on animal health at the chemical, physical, and cellular level.

E R M (VB SC) 431 Environmental Toxicology (3)

This ecotoxicology course is designed to provide a mechanistic understanding of how chemicals released into the environment affect individuals and populations. General concepts of fate and transport of chemicals in the environment, including sources and emission of pollutants, is a major focus of this course. In addition, the principals underlying the study of adverse health effects, toxicology, will be described. The experimental means used to assess toxicity and the regulation of chemical releases by governmental agencies will be included. Many of these concepts will be reinforced through the use of a case study approach where a pertinent, timely, environmental issue is incorporated into the ongoing lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 110, CHEM 110, CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 435 (W F S 435) Limnology (3) Biogeochemistry and natural history of freshwater ecosystems.

E R M (W F S) 435 Limnology (3)

This course will define and describe major principles (physical, chemical, biological, and ecological) that govern the structure and function of freshwater ecosystems (ponds, lakes, and rivers). Current scientific literature will be critically reviewed and discussed in relation to comparative philosophy, methodology, and case studies that cover a range of topics in limnology. The objectives of E R M (W F S) 435 are to familiarize students with the major physical properties, chemical cycles, taxonomic groups of organisms, and ecological interactions that define and describe the natural function of aquatic ecosystems. The course will use case studies to illustrate and examine pertinent issues (e.g., excessive material loading, introduction to exotic species, habitat fragmentation, and climate change) that can alter the structure and function of aquatic ecosystems. Knowledge of these basic ecosystem principles will be applied towards formulating real-life resolutions to the issues identified in class, in order to better manage aquatic resources (methods to reduce material loads, transport controls of exotic species, habitat restoration, and reduction of global gases). This course will be useful to both undergraduate and graduate students seeking degrees in Environmental Resource Management, Wildlife and Fisheries Science, Ecology, and other related subjects. At the undergraduate level, the course will serve as a 400-level selection in both the Environmental Resource Management and Wildlife and Fisheries Science degree programs. At the graduate level, the course will compliment several Wildlife and Fisheries courses that form the compliment of that degree program. Moreover, the course can satisfy the course requirement for ecosystems ecology in the inter-college Ecology graduate program and serve as a breadth course in Water Resources for graduate students in the Watershed Stewardship program. Grades will be based on three exams, individual participation and written papers. This course will generally be offered each year in the fall with expected enrollments of 20 to 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 110, BIOL 220W, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 433 Transformation of Pollutants in Soils (3) Processes regulating fate and transport of metals, organics, nutrients, salts, pathogens, and radionuclides in soil systems.

E R M 433 Transformation of Pollutants in Soils (3)

The course provides the chemical and biological basis for understanding, predicting and controlling the fate of pollutants added to the soil. The material falls distinctly into two major sections: Section I discusses the fundamental concepts of soil science as they relate to the fate of pollutants in soil systems. Section II provides specific coverage of important classes of soil pollutants. The environmental impacts associated with soil enrichment of these pollutant groups are discussed. Primary emphasis is given to pollutants having adverse effects on human health via water and the food supply, namely, trace elements, trace organic contaminants, pathogens, and radionuclides. The major plant nutrients, nitrogen and phosphorus, warrant coverage because of their potential negative impacts on aquatic systems. Salts can harm soil productivity and structure and thus represent a third distinct pollutant category.

Instructional Objectives: The course objectives are twofold: 1) to provide the chemical and biological basis for understanding the fate of pollutants added to the soil, and 2) to provide specific coverage of the important classes of soil pollutants. The students should gain the ability to predict the behavior and fate of pollutants in soils on the basis of various tabulated chemical and biological pollutant parameters.

Evaluation Methods: Performance will be evaluated based on three roughly equally weight factors: homework/quizzes; midterm exam; and final exam.

Relationship to Other Courses: This is a conversion of E R M 426 into a three credit course.

Relationship to Major, Option, Minor or General Education: The restructuring of the E R M major will require students to select two of the three credit ERM 43x courses as Prescribed Courses. In addition, E R M 430 and 432 will be on the list of courses for the ecology selection, and appropriate 43x courses could be taken in the student's specialization. Thus, it is possible that a student would take all four of the 43x course and have them "count" toward meeting the requirements in their major.

Frequency of Offering and Enrollment: E R M 433 will be offered once each year. This course has traditionally attracted 30-50 students and the future enrollments are likely to be similar or perhaps larger. The changing to three credits may actually increase enrollments from students outside the Environmental Resource Management major, including graduate programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, CHEM 111, SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 436 (W F S 436) Limnological Methods (3) Application of current methodologies to evaluate the biological, chemical, and physical characteristics of aquatic ecosystems.

E R M (W F S) 436 Limnological Methods (3)

Limnological Methods will instruct students to apply state of the art analytical measurements in order to gain an understanding of how and why ecosystems support specific biodiversity and biogeochemical cycles. The course will help students define key ecological elements (e.g., ecosystem metabolism, resource limitation, predator-prey relations) in both qualitative and quantitative terms, thereby making them tangible, tractable, and readily understandable. The course will use an instructional rubric to integrate conceptual, analytical, and communicative exercises in order to instruct students about how to evaluate variation in natural ecosystems.

This course provides experiential training in the scientific process (rubric), so students can learn by doing, thereby internalizing their knowledge. Course content is organized into three 5-week sections, each of which will emphasize one component of the biogeochemical cycle (physical, chemical, biological). In each section, students will carry out a focused group study designed to evaluate how a pertinent environmental perturbation can affect that component of the aquatic biogeochemical cycle. The course content in each five-week block will have students: 1) review the experimental design and hypothesis, 2) implement the experimental design in the field or laboratory, 3 and 4) process and analyze samples in the laboratory, and 5) make statistical and graphical evaluations of the experimental results relative to their hypothesis (in class) and present these findings in written form. Knowledge of these basic ecosystem principles will be applied towards formulating real-life solutions to the issues identified in class, in order to better manage aquatic ecosystems.

This course will be useful to undergraduate students seeking degrees in Environmental Resource Management and Wildlife and Fisheries Science, as well as graduate students pursuing degrees in Ecology, Forest Science, Wildlife and Fisheries Science, Watershed Stewardship, and other related subjects. At the undergraduate level, the course will serve as a 400-level elective in Environmental Resource Management degree program, Wildlife and Fisheries Science degree program, and the inter-college Marine Science option. At the graduate level, the course will complement several Forest Science and Wildlife and Fisheries courses. Moreover, the course can also satisfy the requirements for the ecosystems ecology focus in the inter-college Ecology graduate program. Grades will be based on three research papers, and a final laboratory practical.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 110 andCHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 447 Stream Restoration (3) Stream restoration including fluvial geomorphology, stream classification, impairment, sediment transport, stable stream design, and watershed assessment.

E R M 447 Stream Restoration (3)

Stream restoration will focus on understanding stream impairment by evaluating the stream channel, its floodplain, and the watershed supplying runoff to the stream. A wide variety of stream assessment tools will be introduced along with several stream classifications systems. Students will be expected to understand stream stability and evolution and how human activities and our infrastructure impact the health of a stream. Various restoration approaches designed to restore impaired stream reaches to stable channels will be introduced. Stream stability and the role of sediment transport in the context of pebble-count data will be introduced along with several sediment transport models. Stream biology, especially macro-invertebrates, the role of riparian buffers, and desirable plant populations will be introduced.

The laboratory experiences will focus on stream assessment tools and stream surveys needed for the stream restoration design process.

Students will be responsible for assessing a stream and developing a preliminary design for restoring an impaired local stream reach.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: A S M 327 orA B E 307 orC E 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 450 (W F S 450) Wetland Conservation (3) Wetland types, classification, functions and values; hydrology, soils, and plants; introduction to wetland identification and delineation; wetland regulations.

E R M (W F S) 450 Wetland Conservation (3)

Wetlands are unique ecosystems, differing in many ways from both terrestrial and aquatic environments. They provide recognized values and functions to society, although these values and functions remain difficult to quantify. The study of wetlands is interdisciplinary, requiring background knowledge in science, management and policy disciplines. This course will explore the variety of wetland types and functions, and emphasize the diverse hydrological, biological, chemical, and physical interactions that occur within wetlands. Because wetlands are recognized as valuable assets in the landscape, issues surrounding wetland management and regulation have taken on increased importance; we will address these issues as well. Topics will also include the restoration of degraded wetlands and wetland creation, along with the construction of wetlands for pollution abatement.

Students will become familiar with different wetland types and how they are classified, and will develop skills in understanding the interactions between wetland hydrology, hydric soils and hydrophytic vegetation. They will also develop an understanding of important national and state policies and regulations pertaining to wetlands and their protection and delineation. Classroom assessment will be based on three cumulative exams, homework assignments, and a final project.

The course will fulfill 3 credits of electives or technical selections in the Wildlife and Fisheries Science major. Other students university-wide may be interested in the course, and the intention is to develop a course that is accessible to a wide variety of traditional and non-traditional students. For proper instruction, a technology classroom with computer projection equipment will be required.

E R M 450 will be offered each fall semester. Enrollment will be limited to 60-80 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: E R M 300 orW F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 494H Honors Thesis (1-6) Independent study directed by a faculty supervisor that culminates in the production of an ERM honors thesis.

Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: Junior or senior status in the Schreyer Honors College and permission of the ERM honors advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 495 Internship (1-12) A supervised practicum in the environmental field. To be offered only for SA/UN grading.

Internship (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 497B (B A 497B) Introduction to Sustainable Business (3) An introduction to sustainable business strategies and practices.

Introduction to Sustainable Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Resource Management (E R M)

E R M 499 (IL) Foreign Studies (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 100 (GS) Visions of Nature (3) An interdisciplinary introduction to environmental studies, including perspectives from ethics, economics, public policy, art, literature, history, geology, biology, and ecology.

ENVST 100

ENVST 100 Visions of Nature (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

An interdisciplinary introduction to environmental studies, including perspectives from environmental ethics, economics, public policy, art, literature, history, geology, biology, and ecology. This course may be team-taught and include field and laboratory work. Students will be introduced to interdisciplinary study of the environment with an overview of nature's role as subject matter in a variety of academic disciplines. Students will examine the formative value of nature in our cultural history, consider the role of nature in our current value systems and social and economic structure, and be introduced to the theory and practice of ecological science. Students should achieve a broad understanding of the value (not just economic) of living things and their habitats. The course will demonstrate how information from different fields can interconnect. It also serves as the "gateway" course for students intending to major or minor in an interdisciplinary environmental studies program, introducing the program's concerns, aims, and goals and the varied academic perspectives to be built upon in later coursework.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 200 Research Methods in Environmental Studies (3) Focus on interdisciplinary research methodologies from biology, social sciences, and humanities for the study of environmental issues and problems.

ENVST 200 **ENVST 200 Research Methods in Environmental Studies (3)**

Interdisciplinary approach to various research methodologies which are necessary to study environmental issues or problems. The course will be separated into a three-part series focusing on (1) research methods in the humanities, (2) research methods in public policy and the social sciences, and (3) biological/ecological research methods and will be team-taught. Students will review the methods used to address problems in environmental studies and will work to understand environmental issues. The objective of this course is to introduce students to the interdisciplinary nature of environmental studies by combining ideas and information from the natural sciences, social sciences, and humanities, and to present a general idea of how nature works and how knowledge is acquired in the various fields of study. This course will also provide students with the experience of developing the principles and concepts learned as guidelines for future studies and for decision-making concerning environmental issues. This course is a critical element in the Environmental Studies major, and also fulfills a requirement for the minor in Environmental Studies.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 110, ENGL 015, ENVST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 400W Senior Seminar in Environmental Studies (3) Writing-intensive study of a specified topic in environmental studies integrating approaches and research from a variety of disciplines.

ENVST 400W **ENVST 400W Senior Seminar in Environmental Studies (3)**

A writing-intensive, interdisciplinary study of a specified topic in environmental studies (examples: Mountains, Water, Forest, Endangered Species), integrating approaches and research from a variety of academic disciplines, including literature, history, geography, biology, geology, microbiology, meteorology, economics, political science. Students will develop a major project in consultation with a participating faculty member. This project will include a research question, a research design, and a final project, which will be presented to the class with commentaries from other students. Focusing on a specific issue or concern in environmental studies, students will apply research methods covered in earlier coursework, to their extended project or paper. This project will require students to delve deeply into one aspect of the topic, but they will be expected to draw on information and expertise from a variety of disciplines to support their findings. This course, part of the required core for the B. A. in Environmental Studies, serves as the senior capstone course for the major, reinforcing its interdisciplinary focus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: ENVST 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental Studies (ENVST)

ENVST 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental and Renewable Resource Economics (E RRE)

E RRE 429 (AG EC 429) Natural Resource Economics (3) Optimal management of resources; roles of markets and other institutions; resources and economic development; public policy.

E RRE (AG EC) 429 Natural Resource Economics (3)

Students apply economic theory and models to the analysis of the use and management of natural resources. Central themes of the course are: 1) the role played by property rights in determining how resources are valued and used, and 2) how natural resources are used over time and whether the rate of use is economically efficient and/or sustainable. Specific resources discussed in the course will include land, soil, water, fish, wildlife, forests, mineral and energy resources, and federally-owned resources. The students are expected to be able to use calculus, but the exposition will be primarily graphical.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Environmental and Renewable Resource Economics (E RRE)

E RRE 431W (AG EC 431W) Economic Analysis of Environmental and Resource Policies (3) Economic analysis of environmental and natural resource policies, benefit-cost analysis, non-market valuation techniques; resource damage assessment.

E RRE (AG EC) 431W Economic Analysis of Environmental and Resource Policies (3)

Students learn how to apply benefit-cost analysis for selected policies. They learn about and discuss methods for estimating the value of non-marked goods and services. This course examines the role of economics at various points in the process of developing public policy for the environment and natural resources. The class discusses case studies in which economists employed by consulting firms and government agencies used economic analysis to evaluate proposed environmental and natural resources policies. In-class discussions are important for learning, and participation is a factor in the course grade. Writing-intensive assignments help students prepare an economic analysis of alternative policies to correct a specific example of a groundwater contamination problem. Students use the results of a non-market valuation study and other published economic studies in their analysis. Student-instructor interaction on several drafts develops a short report. Evaluation emphasizes the use of appropriate economic analysis and clear, concise reporting of a recommendation. Peer reviews are used in preparing the final report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003 Ending: Summer 2010
Prerequisite: ECON 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 100 Introduction to Finance (3) The nature, scope, and interdependence of the institutional and individual participants in the financial system. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 301 or FIN 301.

Introduction to Finance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 108 Personal Finance (3) Personal management of budgets, bank accounts, loans, credit buying, insurance, real estate and security buying. May not be used to satisfy Smeal College baccalaureate degree requirements.

Personal Finance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 204 Security Markets (3) Analysis of the organization and operation of stock and bond markets; security speculation, brokerage houses; exchange relations with other institutions; security price behavior; exchange regulation.

Security Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 301 Corporation Finance (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have completed B A 301.

FIN 301 Corporation Finance (3)

Finance 301, Corporation Finance, is a 3 credit course. FIN 301 is offered, at minimum, once a year during either the fall or spring semester. FIN 301 may not be used to satisfy Smeal College baccalaureate degree requirements. A student may not receive credit toward graduation for both FIN 100 and 301, or for both B A 301 and FIN 301. FIN 301 provides a basic understanding and framework of how firms acquire, allocate, and control their financial resources. It covers the acquisition and management of corporate capital; analysis of operations, forecasting capital requirements, raising capital, and planning profits. This is an introductory finance course focusing on basic financial principles and practices essential to managing a business. In addition, this course also covers financial markets, institutions, organizational forms and investments. FIN 301 relies heavily on accounting and economic principles with a strong emphasis on problem solving and decision making. One objective of this class is to be able to assess the past and present performance of the firm. This can be achieved through vertical and horizontal analysis of the financial statements as well as ratio analysis. Another aspect of this course is the financial planning process. This includes concepts such as pro forma statements, developing the statement of cash flows, as well as the budgeting process through the preparation of the cash budget. Another facet of this class is to understand how financing and investment decisions are made. Students will learn about the time value of money as well as fundamental techniques for valuing financial assets such as stocks and bonds. Additionally, capital budgeting techniques such as the net present value and internal rate of return are explained. Other important objectives include the management of working capital, the determination of the cost of capital, operating and financial leverage, and risk and return. The concepts and tools covered in this class allow the student to gain a fundamental understanding of how the finance function works within the business environment. Finance 301 promotes critical thinking and will enable the student to better integrate the individual functions of a business in order to make good business decisions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: ACCTG 211;ECON 004;MGMT 301;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 301 Corporation Finance (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. Available to Baccalaureate students only. Not available to students who have taken B A 301.

FIN 301 Corporation Finance (3)

Finance 301, Corporation Finance, is a 3 credit course. FIN 301 is offered, at minimum, once a year during either the fall or spring semester. FIN 301 may not be used to satisfy Smeal College baccalaureate degree requirements. A student may not receive credit toward graduation for both FIN 100 and 301, or for both B A 301 and FIN 301. FIN 301 provides a basic understanding and framework of how firms acquire, allocate, and control their financial resources. It covers the acquisition and management of corporate capital; analysis of operations, forecasting capital requirements, raising capital, and planning profits. This is an introductory finance course focusing on basic financial principles and practices essential to managing a business. In addition, this course also covers financial markets, institutions, organizational forms and investments. FIN 301 relies heavily on accounting and economic principles with a strong emphasis on problem solving and decision making. One objective of this class is to be able to assess the past and present performance of the firm. This can be achieved through vertical and horizontal analysis of the financial statements as well as ratio analysis. Another aspect of this course is the financial planning process. This includes concepts such as pro forma statements, developing the statement of cash flows, as well as the budgeting process through the preparation of the cash budget. Another facet of this class is to understand how financing and investment decisions are made. Students will learn about the time value of money as well as fundamental techniques for valuing financial assets such as stocks and bonds. Additionally, capital budgeting techniques such as the net present value and internal rate of return are explained. Other important objectives include the management of working capital, the determination of the cost of capital, operating and financial leverage, and risk and return. The concepts and tools covered in this class allow the student to gain a fundamental understanding of how the finance function works within the business environment. Finance 301 promotes critical thinking and will enable the student to better integrate the individual functions of a business in order to make good business decisions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ACCTG 211;ECON 002 orECON 004;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 301H Corporation Finance (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. Available to Baccalaureate students only. Not available to students who have taken B A 301.

Corporation Finance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ACCTG 211;ECON 002 orECON 004;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 301H Corporation Finance (3) Nature of finance function; risk and return concepts; working capital; dividend policies; mergers; security markets; acquisition and management of corporate capital; analysis of operations, forecasting capital requirements; raising capital; and planning profits. Available to Baccalaureate students only. Not available to students who have taken B A 301.

Corporation Finance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030;ACCTG 211;ECON 002 orECON 004;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 302 Introductory Financial Modeling (3) This course applies spreadsheets to build financial models and solve numerically intensive problems in finance.

FIN 302 Introductory Financial Modeling (3)

This course is designed to provide students with an understanding and practical application of spreadsheet skills needed in Finance. The course will introduce students to spreadsheet models and tools to solve finance problems. It will also introduce students to finance databases and data preparation for analysis. These technical skills are necessary for Finance majors to effectively apply concepts learned in advanced finance courses and be successful in their careers. The course is intended to be an introductory level so that students can apply the skills in other courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: ACCTG 211, ECON 002, MATH 110 orMATH 140 andSCM 200 orSTAT 200
Concurrent: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 305 Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in business firm.

FIN 305 Financial Management of the Business Enterprise (3)

The objective of this course is to give students an understanding, and working knowledge of the major decisions faced by corporate financial managers. In general, the course will emphasize three major areas: investment and capital budgeting, financing and capital structure, dividend policy and corporate growth. A basic understanding of financial analysis and valuation will be provided. Basic corporate securities markets will be described. Determinants of securities prices, yields, and returns will be discussed. Special emphasis is placed on the role of the capital markets in financing corporate operations and investment, in facilitating corporate reorganizations and financial restructuring, and in reflecting owners wealth and evaluating the performance of corporate management. Within the general framework, a number of special topics will be covered, including mergers and acquisitions and the market for corporate control, international financial management, derivative instruments and their applications to corporate risk management. Students taking, the course should have a working knowledge of elementary statistics, and a basic understanding of accounting and financial statements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 305 Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in business firm.

FIN 305 Financial Management of the Business Enterprise (3)

The objective of this course is to give students an understanding, and working knowledge of the major decisions faced by corporate financial managers. In general, the course will emphasize three major areas: investment and capital budgeting, financing and capital structure, dividend policy and corporate growth. A basic understanding of financial analysis and valuation will be provided. Basic corporate securities markets will be described. Determinants of securities prices, yields, and returns will be discussed. Special emphasis is placed on the role of the capital markets in financing corporate operations and investment, in facilitating corporate reorganizations and financial restructuring, and in reflecting owners wealth and evaluating the performance of corporate management. Within the general framework, a number of special topics will be covered, including mergers and acquisitions and the market for corporate control, international financial management, derivative instruments and their applications to corporate risk management. Students taking, the course should have a working knowledge of elementary statistics, and a basic understanding of accounting and financial statements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003 Ending: Fall 2010
Prerequisite: B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 305M Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in a business firm.

Financial Management of the Business Enterprise (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 305W Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in a business firm.

Financial Management of the Business Enterprise (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994 Ending: Fall 2010
Prerequisite: B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 306W Investment Valuation (3) Approaches to investment strategy, investment decisions; valuation of corporate securities, including the impact of dividend policy and capital structure.

Investment Valuation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 305W Financial Management of the Business Enterprise (3) Development of advanced practices of financial management and their application to decision making in a business firm.

Financial Management of the Business Enterprise (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 307 Applications of Financial Management (3) Applications of decision-making procedures to realistic problems in financial management, emphasizing case analysis.

Applications of Financial Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985
Prerequisite: FIN 301, FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 330 Personal Financial Planning (3) Developing financial plans including cash budgets, credit purchases, investments, and insurance.

Personal Financial Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: fifth-semester standing or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 340 Insurance Planning (3) Introduction to personal insurance including homeowner's, auto, life, disability, health, and Social Security.

Insurance Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 405 Advanced Financial Management (3) An examination of the development and application of decision rules for major long-term financial and investment problems of the firm.

Advanced Financial Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 406 Security Analysis and Portfolio Management (3) Advanced valuation theory; fundamentals of security analysis; portfolio construction and management.

Security Analysis and Portfolio Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 406H Security Analysis and Portfolio Management (3) Advanced valuation theory; fundamentals of security analysis; portfolio construction and management.

Security Analysis and Portfolio Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: B A 301W orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 406 Security Analysis and Portfolio Management (3) Advanced valuation theory; fundamentals of security analysis; portfolio construction and management.

Security Analysis and Portfolio Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301W orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 407 Multinational Financial Management (3) Analysis of the international aspects of managerial finance; emphasis on the impact of the international financial environment on firm operations.

Multinational Financial Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 408H Financial Markets and Institutions (3) Functional analysis of major credit institutions; sources and uses of funds; impact of government regulation.

Financial Markets and Institutions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 408 Financial Markets and Institutions (3) Functional analysis of major credit institutions; sources and uses of funds; impact of government regulation.

Financial Markets and Institutions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 409 (R EST 409) Real Estate Finance and Investment (3) The sources and uses of credit; instruments and methods of financing; the theory and practice or real estate investment analysis.

FIN (R EST) 409 Real Estate Finance and Investment (3)

Real Estate financial markets are rapidly changing, with new instruments and ideas introduced every day. Therefore, the emphasis of this class will be on preparing the students to tackle any new instrument that might be introduced to the market, understanding why and how people make money in the field, and be able to understand and utilize the innovations that have been introduced and are still being developed. The course will provide a broad coverage of real estate investment, finance, and valuation. We will study different measures of investment performance, the impact of the financing decision on real estate investment risks and return, and various real estate financing techniques. Specific topics include: legal considerations in real estate finance, present value concepts, fixed rate mortgage loans, adjustable rate and variable payment mortgages, underwriting and financing residential properties, income-producing properties and valuation fundamentals, leases, projecting cash flows, investment value, investment and risk analysis, financial leverage and financing alternatives, disposition and renovation of income properties, financing corporate real estate, real estate capital markets, the secondary mortgage market and REITS.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 410 Speculative Markets (3) Functions, techniques, and impact of speculation conducted through forward markets; the nature of speculative transactions, pricing, and methods of trading.

Speculative Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993 Ending: Fall 2010
Prerequisite: FIN 406

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 410 Derivative Markets (3) Functions, techniques, and impact of speculation conducted through forward markets; the nature of speculative transactions, pricing, and methods of trading.

Derivative Markets (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: FIN 406

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 412 Commercial Bank Management (3) Fundamental principles underlying management of a commercial bank; capital funds; asset and liability management; value maximization; legal and operational constraints.

Commercial Bank Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994
Prerequisite: FIN 305W, FIN 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 413 Risk Management of Financial Institutions (3) Measuring and managing risk faced by financial institutions.

FIN 413 Risk Management of Financial Institutions (3)

This course focuses on measurement and management of risk faced by managers of modern financial institutions. Students will be introduced to various tools and techniques used to measure and analyze risk from traditional balance sheet activities (such as credit risk, liquidity risk, indolvency risk, interest rate risk and market risk) and from off-balance sheet activities. In addition, students will learn strategies for controlling and managing the risks to achieve the best risk-return outcome. This course is designed to be an upper level, undergraduate course. Students will have opportunities to apply fundamental concepts learned in other finance classes. It is recommended for business students, especially finance majors, who wish to have careers in financial service firms or non-financial firms that use financial assets.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 414 Financial Trading and Applications (3) This course focuses on financial modeling and analysis of trading strategies. Bloomberg, Reuters, spreadsheets and trading simulations are used extensively.

FIN 414 Financial Trading and Applications (3)

The focus of this course is the application of financial theory and technology to the practice of financial trading. The first half of the class examines tools for constructing and evaluating trading strategies. After a short review of probability and statistics, attention turns to the analysis of models for valuing options, credit default swaps, and other financial instruments. Emphasis is placed on the assumptions underlying these models and the application of these models in the real-world. This discussion includes approaches for estimating volatility and the use of the models when underlying assumptions do not hold. The first half of the course concludes with a discussion of value-at-risk and tools for evaluating performance. The analysis of these topics highlights commonly used measures of performance and the potential pitfalls using these measures.

The second half of the class examines trading strategies commonly used be hedge funds. Strategies discussed include merger arbitrage, relative value, momentum, index arbitrage, and other quantitative based strategies. Students also study accounting based and fundamentally based trading strategies. Application of these strategies in both the equity and fixed income markets is examined. Attention is also paid to the impact of trading on market prices and other aspects of market microstructure.

Throughout the second half of the course, students participate in a project in which they form into teams of fund managers who analyze market data with the purpose of constructing and managing a portfolio that applies various trading strategies. The fund is managed using market simulation software that allows students to execute all trades using real-time market prices and allows them to go long or short equity, commodity, fixed income, and foreign exchange instruments, as well as derivative securities. Upon completion of the project, students make a pitch to a group of potential investors (the class) in which they summarize the themes underlying their strategies, provide performance metrics for their fund, and discuss their primary trading strategies if they were to continue as fund managers.

The course pedagogy is lectures, case assignments, trading and valuation simulations, and a trading project. The class will make extensive use of Bloomberg, Reuters, trading software, basic programming languages for financial software, and other technology available. Students are evaluated based on their performance on assignments, exams, and the portfolio project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: FIN 305W, FIN 406 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 420 Investment and Portfolio Analysis (3) Investment and risk, types of security investments, sources of investment information, the broker, the stock market, portfolio management.

Investment and Portfolio Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 427 Derivative Securities (3) Introduction to futures contracts and options, leading to a working understanding of their importance in financial management applications.

Derivative Securities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FIN 420 or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 450 Retirement Planning (3) Retirement planning: qualified and non-qualified plans, characteristics, provisions, regulations administration, application approach with case studies.

FIN 450 Retirement Planning (3)

This course presents retirement planning from the perspective of a financial services practitioner. Students will develop a working knowledge of both qualified and non-qualified company retirement plans including plan characteristics, provisions, applications, and qualifications. Individual retirement plans will also be covered. Explosure to the regulatory and legal basis for plans will be provided. Application case studies will be integrated throughout the course. Emphasis will be placed on designing an appropriate plan given either an individual or a company situation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 430 Estate Planning (3) Liquidity planning, titling and transfer of property, trusts, federal unified tax system, gifting, incapacity planning, legal documents.

FIN 430 Estate Planning (3)

This course addresses estate planning issues for individuals as part of an overall personal financial plan. Personal financial planning encompasses budgeting, credit management, insurance, taxes, investments and retirement planning in addition to estate planning. The objective of this course is identifying and quantifying the goals of an individual regarding their final wishes and determining how best to meet those goals given the current applicable laws and the individual's situation. The estate administration and probate process are discussed along with common estate documents. The titling and transfer of assets as well as asset valuation are covered. Methods used to provide estate liquidity are presented. Common forms of trusts that are used in estate planning are introduced along with an overview of basic methods of transferring family owned businesses. Case studies are emphasized since estate planning is unique to each individual's situation. Some legal research is commonly incorporated into the course because estate planning is based on federal and state law. Student evaluation generally consists of examinations, individual and group assignments, quizzes, and case studies. Students desiring a career in financial services, law, or tax accounting should consider incorporating this course into their program of study. Currently the course is offered once per year with a class enrollment of 40.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 310 andFIN 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 451 Intermediate Financial Management (3) Case studies are used to develop skills in solving a variety of financial management problems.

FIN 451 Intermediate Financial Management (3)

This course is designed to reinforce and extend the principles from its prerequisite, FIN 301, Corporation Finance. It is a required course for the Finance major. It will also serve as a business supporting course for students in other School of Business majors.

Students will develop skills necessary to solve a variety of complex financial problems by applying statistical and analytical techniques and utilizing electronic spreadsheets. The course will enable students to develop a firm foundation in the principles of financial management and an understanding of how concepts in financial management are used in the valuation process. The topics are consistent with the knowledge required to prepare students for the relevant portions of Level I of the Chartered Financial Analysts (CFA) Exam.

The course will address important financial management topics, including the methods of analyzing capital budgeting decisions and the unique problems they pose, long-term capital structure and dividend policy decisions, corporate financial analysis and forecasting, working capital management, and additional special topics in financial management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 460 (R EST 460) Real Estate Financial Analysis (3) Debt and equity financing, capital structure, "creative financing," risk analysis, corporate asset management.

FIN (R EST) 460 Real Estate Financial Analysis (3)

The objective of this course is to provide in-depth coverage of real estate investment and financing decisions. The focus is on the private market, including corporate asset management. Investment analysis moves from the basics of forecasting cash flows, through advanced topics including the impact of real option value on investment and development decisions. Risk measurement is given particular attention with a focus on sensitivity and simulation analysis. There is some coverage of asset pricing models like the Capital Asset Pricing Model, which is critically analyzed with respect to its applicability in real estate markets. The impact of illiquidity, management costs, and the suspicion of non-normally distributed returns are explored, as are the implications of relative market inefficiency. The financing module begins with the basics of mortgage debt mathematics, which is then extended to include comparisons of various repayment programs. Included are interest-only, balloon, shared appreciation, growing equity, graduated payment and reverse annuity loans, as well as various creative financing of commercial properties.

The latter include participating mortgages, convertible mortgages, and mezzanine debt. Featured in the corporate asset management section is the lease/buy decision. Other topics may be addresses based on current events. It is anticipated that guest speakers will be invited where appropriate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 456 (IL) International Capital Markets (3) This course develops understanding of international capital markets by striking a balance between institutional details, theoretical foundation and practical application.

FIN 456 International Capital Markets (3)
(IL)

This course extends the issues of international finance into a framework for international investing. It is designed for students aspiring to be money managers and investors operating across national boundaries.

Foreign travel enables students to contrast the micro-structure of financial markets in the United States. with those in other centers that play important roles in our global financial system.

Students are also are given an opportunity to learn about business, cultural, and political aspects of international investment. Besides class meetings on campus, students are assigned readings, videos, and research projects to be completed before the foreign experience component of the course. While abroad, students visit specific sites and attend specific lectures that will enable them to complete further course work upon their return to the United States. Topics include the case for international asset diversification, international asset pricing, international stock, fixed-income, and derivative markets, and the process of international investing. Other materials will be specific to the foreign business center visited during the course.

(The initial offering of this course included a visit to London where students toured the stock exchange and financial firms, attended lectures, and met with financial executives; this gave students exposure to a major international financial institution and the largest currency market in the world.) The travel portion requires additional costs to the student beyond tuition.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 461 Investments (3) Analysis and valuation of equity, debt, and alternative investments.

FIN 461 Investments (3)

Investments is a required course for the Finance major. It also will serve as a business supporting course for students in other School of Business majors. Students are expected to develop a working knowledge of investment analysis sufficient to prepare them for relevant portions of Level I of the Chartered Financial Analysts (CFA) Exam. Additional emphasis will be placed on accessing sources of information relevant for the integrated financial analysis term project required in FIN 481, Advanced Financial Analysis.

The course will address specific methods of analysis and valuation of equity and debt securities, as well as alternative instruments. Students will be expected to develop a working knowledge of: (1) the theory of efficient markets, the fundamental analysis of equity securities (at the market, industry, and company level), and an understanding of technical analysis; (2) the analysis of debt securities, including basic bond characteristics, valuation methods, and factors that affect bond yields; and (3) real estate, investment companies, and venture capital.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 470 (R EST 470) Real Estate and Capital Markets (3) Analysis of publicly-traded real estate of both the equity, (REITs) and debt (MBSs) sides. The course also provides international perspectives.

FIN (R EST) 470 Real Estate and Capital Markets (3)

The objectives of this course are to expose the student and explore the issues associated with the analysis of "public" ("Wall Street") real estate, including both equities (such as Real Estate Investment Trusts or REITs) and debt vehicles (such as Mortgage-Backed Securities or MBSs). In addition, the course will focus on the increasingly globalization of real estate capital markets as the real estate sector becomes integrated into the global financial system. The differences between private and public real estate analysis will also be explored, including the suitability of traditional asset pricing models for real estate analysis. Topics include the growing impact of institutional real estate forces on the real estate sector, the use of modern financial economics methods to real estate including the concept of market efficiency, modern portfolio theory applications, market measures of risk and return, the use of option-based models, and other advances. The rise of Wall Street's interest in real estate securities is an important institutional development and serves as the underlying background for the analysis of MBSs using fixed-income security techniques.

As globalization has spread, the real estate sector has moved with these changes and prospects for a global real estate market are examined and evaluated.

This course serves as a compliment to FIN 460, which emphasizes traditional financial analyses of individual real estate projects. In FIN 470, real estate securities are viewed as a natural extension towards the complete integration of real estate and capital markets. In this sense, these courses will enable traditional and modern analyses of the real estate sector for years to come.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 471 International Finance (3) Financial decision making in an international environment. Emphasis on topics relevant to small businesses and entrepreneurs.

FIN 471 International Finance (3)

This course provides an understanding of the basic terminology, structure, and importance of international finance for corporations. It will also help enhance analytical and critical thinking skills. Topics of study include foreign exchange (FX), FX markets, FX instruments, FX risk, hedging of these risks, international debt and equity markets, etc.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 475 Financial Decision Making (3) Problems and cases in financial decision making for non-financial corporations and financial institutions.

FIN 475 Financial Decision Making (3)

The objective of this course is to tie together the various topics in finance such as corporate finance, investments, and financial institutions & markets. Using the variety of different analytical tools and techniques that students have been exposed to, they will

- Evaluate the relationship between profitability and solvency of a firm.
- Project the need for short term and long term financing.
- Evaluate the various sources of financing and recommend the optimal.
- Budget the capital that is raised to identify the profitable projects that capital should be invested in.
- Evaluate different dividend policies to maximize value of a firm.
- Carefully examine the risk-return tradeoff that portfolio managers face.
- Study the relationship between assets and liabilities of financial institutions.
- Critically evaluate synergies that are created in mergers and acquisitions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: FIN 302, FIN 420 and senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 481 Advanced Financial Analysis (3) Capstone course integrating financial analysis coursework. This course is based on the case study method which provides a challenging setting in which to apply business concepts.

FIN 481 Advanced Financial Analysis (3)

It is a required course for the Finance major. Students are expected to develop a working knowledge of several advanced topics in financial analysis sufficient to help prepare them for the relevant portions of Level I of the Chartered Financial Analysts (CFA) Exam. They also are expected to demonstrate their ability to integrate the tools and knowledge developed in their previous coursework by completing cases. Each class is devoted to discussion of firms in various situations. Class participants are challenged to apply financial concepts and concepts from other disciplines. This course requires extensive, detailed pre-class prep for each class. Use of spreadsheets is required. The course objectives include the following:
*Application of financial concepts and related tools.
*Further develop decision making skills.
*Enhance critical thinking skills.
*Augment written and oral communication skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ACCTG 426, FIN 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 494 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 489 Seminar in Finance (3) In-depth study of new trends, concepts, and practices in financial or portfolio management.

FIN 489 Seminar in Finance (3)

New financial institutions or practices are created to address the needs of financial managers and investors as a result of changes in economic conditions, government legislation and regulation, geopolitical events, or financial markets. Examples of changes during the past decade that effect financial managers are elimination of the Glass-Steagall Act that separated commercial and investment banking activities, evolution of nation-wide branch banking, development of financial derivatives markets that can be used to manage financial risk exposure, creation of the European Monetary Union and the Euro currency, and growth of private (defined contribution) pension plans. The Seminar will give students the opportunity to rigorously examine one of these current developments before they are included in textbooks and regular courses. As such, the Seminar will rely primarily on recent publications in academic and practitioner journals.

The Seminar will start by studying the problems that motivated financial innovation.

Students will consider the economic difficulties that existed, or would have existed, in the absence of the financial innovation(s) covered by the Seminar. This will be followed by comparing methods of financial management before and after the financial innovation.

In examining innovative practices in financial management, Seminar participants will study the strengths and weaknesses of the specific financial institutions that facilitate the innovations they examine, such as the organized exchanges where financial derivatives are traded.

Participants will also learn the nature of related government regulation and judge the effectiveness of this regulation. In the case of financial derivatives a federal regulatory agency oversees the operation of financial derivatives markets.

An important component of the Seminar is the study of specific practices for utilizing financial innovations. Business firms have developed sophisticated methods for using financial derivatives. These practices will be carefully assessed from the standpoint of the practitioner.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FIN 301 or equivalent; 3 additional credits of course work in Finance

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 494H Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 497D Trading Room Intern (1) Students work with financial databases in the Smeal Trading Room helping develop educational materials and assisting users.

Trading Room Intern (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 497D Trading Room Intern (1) Students work with financial databases in the Smeal Trading Room helping develop educational materials assisting users.

Trading Room Intern (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Finance (FIN)

FIN 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Financial Services (FINSV)

FINSV 400 Investment Valuation for the Financial Services Professional (3) Approaches to investment strategies, investment decisions, and the valuation of corporate securities.

FINSV 400 Investment Valuation for the Financial Services Professional (3)

FINSV 400 is one of the required courses for the the Financial Service Option of the Bachelor of Science in Business (BSB) degree program. The purpose of FINSV 400 is to attain an understanding of investment analysis and portfolio management. A key focus is given to the study of the pricing of corporate securities and the relationship between investment risk and return.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: FIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Financial Services (FINSV)

FINSV 411 Federal Income Taxation for the Financial Services Professional (3) Tax regulations, tax policy, tax determination, and tax planning applicable for personal/business decision making; emphasis on taxation of individuals.

FINSV 411 Federal Income Taxation for the Financial Services Professional (3)

The purpose of this course is to attain an appreciation of and a familiarity with the Federal Income Tax Code as well as develop the analytical skills to evaluate potential tax liability and tax planning on a situational basis. Furthermore, the student should attain a working knowledge and comfort level in the use of tax software. This will be accomplished via a five module approach. The modules are:

a. Module 1 An Introduction to United States Taxes and the Basic Tax Model: An introduction to both income taxation and other types of United States taxes. The purposes of the Federal tax law are examined and the legislative, administrative, and judicial sources of Federal tax law are analyzed. Module 1 concludes with the introduction of the basic tax model for the individual taxpayer.

b. Module 2 Gross Income: Presents the income component of the basic tax model. Included in this module are the determination of what is income and the statutory exclusions that are permitted in calculating gross income.

c. Module 3 Deductions: Presents the deduction component of the basic tax model. Deductions are classified as business versus--non-business, "for" versus "from", employee versus employer, active versus passive, and reimbursed versus unreimbursed. The effect of each of these classifications is analyzed. The presentation includes deductions that are permitted, limitations and disallowances associated with deductions, and the treatment of losses.

d. Module 4 Tax Computation Methods, Payment Procedures, and Tax Credits: Presents several topics that relate to tax liability determination. The calculation of tax liability, the use of tax credits to reduce calculated tax liability, and the timing of the payment of the calculated tax liability are discussed.

e. Module 5 Property Transactions: Presents the tax treatment of sales, exchanges, and other dispositions of property. Included are the determination of the realized gain or loss, recognized gain or loss, and the classification of the recognized gain or loss as capital or ordinary. The topic of basis is evaluated both in terms of its effect on the calculation of the gain or loss and in terms of the determination of the basis of any subsequent acquisition of property.

The use of a tax software program is embedded within each module.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: ACCTG 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Financial Services (FINSV)

FINSV 420 Estate Planning for the Financial Services Professional (3) Studies the processes relating to the use, conservation, and transfer of an individual's wealth; emphasizing investments, insurance and taxation.

FINSV 420 Estate Planning for the Financial Services Professional (3)

This course examines the why and how people plan for their retirement. The course examines the various aspects of estate planning: wills and trusts, estate and gift tax planning, estate administration and taxation. The course guides the student in a step-by-step process through the entire estate planning process. Critical to the process is gathering the necessary financial facts, setting realistic objectives, and planning the requisite income tax and investment strategies. Students will utilize a range of personal financial statements and planning forms to assist in the gathering, organization, and use of pertinent data.

This course has four objectives: (1) To understand the motives for why people plan for their retirement. Related to retirement planning is the disposition of the residual value of their estate in a financial and tax prudent manner. (2) To understand the process by which individuals explore the various decision options. The most frequently cited motivation for estate planning is to minimize the tax burden on beneficiaries and to maintain the integrity of the planning process. (3) Students are motivated to understand how estate planners manage their client's wealth portfolios. The increasing wealth of the baby--boomer generation and those that follow make this process more important than for earlier generations. (4) To help students prepare for the Certified Financial Planner certification exams.

FINSV 420 is an additional course in the Financial Services Option of the Bachelor of Science in Business (BSB) program. It is a relatively sophisticated course and students who select FINSV 420 will complete it only after completing courses in investments, insurance, and taxes.

Evaluation will normally take the form of examinations, a research project, and class participation. At most campuses, the course will be offered once per year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: FINSV 400, FINSV 411, INS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

First-Year Seminar (CAP)

CAP 100S Orientation to the Undergraduate Experience (1) To facilitate transition of new students through active engagement and introduction to university and campus resources.

CAP 100S Orientation to the Undergraduate Experience (2)

This course, CAP 100S, which is a one-credit course, completes the Penn State Capital College's first year seminar. The overarching goal of the FYS is to provide students with an introduction to Penn State culture and resources, information literacy and collaboration skills needed for academic success, as well as an introduction to majors and careers relevant to the discipline. These core elements of the FYS will aid students in the professional/academic community both inside and outside Penn State University. The instructor will place emphasis on having students work in collaborative groups on academically themed project(s) deemed relevant to the discipline.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

First-Year Seminar (CAP)

CAP 110S First-Year Seminar for Capital College, The School of Behavioral Sciences and Education (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.

CAP 110S First-Year Seminar for Capital College, The School of Behavioral Sciences and Education (1)

This course is a one-credit course, completes Penn State Capital College's first-year seminar for The School of Behavioral Sciences and Education. The overarching goal of the FYS is to provide students with an introduction to Penn State culture and resources, information literacy, and collaboration skills needed for academic success, as well as an introduction to majors and careers relevant to the discipline. These core elements of the FYS will aid students in the professional/academic community both inside and outside Penn State. The instructor will place emphasis on having students work in collaborative groups on academically themed project(s) deemed relevant to the discipline.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

First-Year Seminar (CAP)

CAP 120S First-Year Seminar for Business (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.

CAP 120S First-Year Seminar for Business (1)

This course, which is a 1 credit course, completes the Penn State Capital College's first-year seminar for the School of Business Administration. The overarching goal of the FYS is to provide students with an introduction to Penn State culture and resources, information literacy and collaboration skills needed for academic success, as well as an introduction to majors and careers relevant to the discipline. These core elements of the FYS will aid students in the professional/academic community both inside and outside Penn State. The instructor will place emphasis on having student's work in collaborative groups on academically themed project(s) deemed relevant to the discipline.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

First-Year Seminar (CAP)

CAP 140S First-Year Seminar for Humanities (1) Introduction to the discipline including: ethics, research methods, communications, career opportunities/issues and applied technology.

First-Year Seminar for Humanities (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: or concurrent:CAP 100S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

First-Year Seminar (CAP)

CAP 160S First-Year Seminar for Capital College, The School of Science, Engineering and Technology (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.

CAP 160S First Year Seminar (1)

This one-credit course, CAP 160S, is the Penn State Capital College's first year seminar for the School of Science, Engineering and Technology. The overarching goal of the FYS is to provide students with an introduction to Penn State culture and resources, information literacy and collaboration skills needed for academic success, as well as an introduction to majors and careers relevant to the discipline. These core elements of the FYS will aid students in the professional/academic community both inside and outside Penn State University. The instructor will place emphasis on having students work in collaborative groups on academically-themed project(s) deemed relevant to the discipline.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

First-Year Seminar (CAP)

CAP 150S First-Year Seminar for Capital College, The School of Public Affairs (1) Introduction to Penn State culture, information literacy and collaboration skills, and introduction to majors and careers relevant to the discipline.

CAP 150S First-Year Seminar for Capital College (1)

This course, which is a 1 credit course, completes the Penn State Capital College's first-year seminar for the School of Public Affairs. The overarching goal of the FYS is to provide students with an introduction to Penn State culture and resources, information literacy and collaboration skills needed for academic success, as well as an introduction to majors and careers relevant to the discipline. These core elements of the FYS will aid students in the professional/academic community both inside and outside Penn State. The insturctor will place emphasis on having students work in collaborative groups on academically themed project(s) deemed relevant to the discipline.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 105 (GHA) (S T S 105) Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.

FD SC (S T S) 105 Food Facts and Fads (3)
(GHA)

(BA) This course meets the Bachelor of Arts degree requirements.

Food Facts and Fads is an introductory food course that broadly surveys various aspects of food, agriculture, nutrition, and health. Students in this course explore the components of the food system from producer to consumer; examine issues related to modern food technology, food and nutrition policies, and changes in the food industry; and assess the impact on the food system, consumers, and on society as a whole. Students will assess their own food and nutrition behaviors, become more aware of the environment in which they make food decisions, and devise strategies for improving health through better diet and increased physical activity. Students learn through lectures, videos, guest speakers, discussions, individual and group activities, and optional field trips. This course emphasizes active learning and critical thinking. Students are expected to complete electronic quizzes, write two or more short reflective papers, and complete a project on a food topic of the student's choosing, for which information must be gathered from several sources in a variety of ways.

General Education: GHA
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 200 Introductory Food Science (3) General overview and principles; food constituents and properties; quality and safety; preservation methods; processing animal and plant products.

Introductory Food Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 201 Introductory Food Science Practicum (1) Demonstration to illustrate actual chemical reactions in food systems and visits to campus and area food processing operations.

Introductory Food Science Practicum (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1984
Prerequisite: or concurrent:FD SC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 205 Food Plant Sanitation (3) Organization and administration of food plant sanitation with emphasis on the production and maintenance of safe, wholesome food products.

Food Plant Sanitation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: FD SC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 207 (AN SC 207) Animal Products Technology (2) Composition, safety, palatability, preservation, and processing of foods from animals, impact of animal production and handling practices on product properties.

FD SC (AN SC) 207 Animal Products Technology (2)

This course is intended to give students knowledge and understanding of production and processing of foods derived from animals (meat, milk, and eggs). Upon completion of this course students will be able to describe and explain the physical and biochemical characteristics of muscle foods, milk, and eggs. Students will be able to describe and compare harvesting, processing, and preservation procedures used in preparation of animal products for human consumption. Students will be prepared to predict the impact of variations in animal production, handling, harvesting, and product processing on meat, milk, and egg product characteristics. This is one of a group of courses dealing with foods from animals. Related courses offered in Animal Science covers animal growth and development and evaluation of animals and meat products. Related courses in Food Science cover food microbiology, food chemistry, and meat and dairy processing technology. The content of this course is intended to emphasize the connection between animal production and the resulting food products. FD SC/AN SC 207 is intended to be of general interest to people who produce or eat animal products and thus is an integral part of the Animal Sciences major. This course will also be useful for strengthening meat industry knowledge for students in Food Science. FD SC/AN SC 207 will be offered one semester per year. Student performance will be evaluated through written exams, quizzes, and written reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 206 Improving Food Quality (3) Modern philosophies coupled with practical information on improving product quality, including topics on HACCP, SPC, recall procedures and customer relations.

Improving Food Quality (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: FD SC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 208 (AN SC 208) Animal Products Technology Laboratory (1) Harvesting and processing of foods from animals; hands-on and demonstration exercises; industry procedures for processing meat, milk, and egg products.

FD SC (AN SC) 208 Animal Products Technology Laboratory (1)

This laboratory is intended to be taken along with or following Animal Products Technology lecture. Providing students with an opportunity to experience the procedures involved in harvesting and processing foods from animals. Upon completion of this course students will be able to describe, demonstrate, and explain procedures commonly used in harvesting and processing of muscle food, milk, and egg products. Students will be able to recognize and predict the impact of incorrect procedures for harvesting and processing muscle food, milk, and egg products. The course includes hands-on exercises and demonstrations that allow students to experience the "look and feel" of industry procedures used in harvesting and processing meat, milk, and egg products for human consumption. Focus on issues related to food safety and food quality. Student performance is evaluated through weekly written reports, and a final lab exam.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: or concurrent:AN SC 207

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 280H (GH) (PHIL 280H) Food, Values, and Health (3) The perceived relatinship between food and health, emphasizing the conceptual nature of both; and how values contribute to the relationship.

Food, Values, and Health (3)

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 404 Sensory Evaluation of Foods (3) Sensory evaluation of food, methods of test analyses, panel selection and training, taste sensation theory, consumer testing methods.

FD SC 404 Sensory Evaluation of Foods (2)

This course is designed to demonstrate how the senses function in the perception of tastes, flavors, and textures of foods and how sensory tests are used to measure human perceptions. Students will have the opportunity to design sensory tests and apply statistical methods when interpreting sensory test results. The overall objective of this course is to learn the theories and practical applications of sensory evaluation that will enable students to conduct valid sensory tests and use the test results in the decision making process in food product development.

Evaluation will be based on written essay exams, group reports, and written lab reports in which they will be expected to demonstrate their understanding of theoretical issues regarding sensory testing and how to use statistical procedures to effectively interpret the test results. This course is a support course for the Food Science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: STAT 250 Junior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 400 Food Chemistry (4) Chemical properties of food constituents as influenced by processing and storage.

FD SC 400 Food Chemistry (4)

Students successfully completing this class will be able to describe the properties of food in terms of the underlying chemistry. They will be able to conduct simple laboratory investigations of the major reactions and report the results in an acceptable scientific format. Achievement of these goals requires both an accumulation of facts and the development of an analytical approach to food.

In the context of a degree in Food Science this course builds upon core science courses to allow students to apply chemical principles to food. By understanding the important underlying chemistry of foods, students will be able to study food processing in terms of the science as well as technology involved. While the course is primarily designed as a requirement of the Food Science major, it is also expected to be useful for non-food science students as a practical application of chemical principles. The course prerequisites are B M B 211 and B M B 212 and students are expected to be familiar with the structures of the key biomolecules (i.e., proteins, lipids, carbohydrates).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 202 . Prerequisite or concurrent:B M B 211, B M B 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 405 Food Engineering Principles (3) Engineering principles of importance to food manufacturing, including units, dimensions, mass and energy balance, fluid flow, rheology, heat transfer, and psychrometrics.

FD SC 405 Food Engineering Principles (3)

Food engineering will discuss the principles of the various unit operations used in the food processing and manufacturing industry. Topics covered will include: units, dimensions, mass and energy balance, fluid flow, rheology, heat transfer, psychrometrics. Through lectures, the student will learn the principles of fluid flow, heat transfer and mass transfer as applied to food processing and manufacturing operations. Through practicum sessions, the student will be exposed to practical applications in the above three areas. Additionally, they will learn to analyze experimental data, organize and communicate thoughts in a logical fashion through cooperative and collaborative learning strategies, and to write effective lab reports. Through practicum sessions, they will also learn numerical problem solving and to size and select equipment for fluid flow, heat transfer and drying operations within the food industry.

Student evaluation within this course will be conducted through weekly quizzes, home works, lab write-ups and three exams. This is a required course for the food science major. This course serves as a prerequisite for several 4th year required courses within the food science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MATH 110, PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 406 Physiology of Nutrition (3) Physiological mechanisms involved in thirst and appetite, digestion, absorption, utilization of nutrients, respiration, and body temperature regulation.

Physiology of Nutrition (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B M B 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 408 Food Microbiology (2) Significance of microorganisms in food commodities, microbial spoilage, food- borne infections, and intoxication; methods of preservation, processing, and control.

FD SC 408 Food Microbiology (2)

Food Microbiology focuses on the application of microbiological principles to foods and food ingredients. Topics covered include: potential for microbial growth in a particular food or food ingredient based on the following parameters - biological structure, nutrient composition, naturally occurring inhibitors, pH, water activity, oxidation reduction potential, temperature, atmosphere conditions and humidity; choice of appropriate microbial detection methods for groups of organisms and foodborne pathogens; identification of types and the consequence of growth of pathogens and non-pathogens associated with particular commodities; evaluation of the effect of different processing conditions on the destruction, survival and growth of spoilage and pathogenic microorganisms; identification of significant factors affecting the association of pathogens with food and food ingredients, events leading to infection and/or intoxication, and prevention and control of foodborne illness; comprehension of the importance of food microbiology in everyday living. Student knowledge will be evaluated through three examinations during the semester and one final exam. This is a C-required course for the Food Science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 407 Food Toxins (2) Microbiological and chemical aspects of food poisoning; toxicological principles; case histories and prevention of problems.

Food Toxins (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: senior standing in food science or related majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 409W Laboratory in Food Microbiology (3) Methods of isolation, detection of spoilage, pathogenic microorganisms in foods; effects of processing and preservation on survival of food microorganisms.

FD SC 409W Laboratory in Food Microbiology (3)

Food Microbiology Laboratory is intended to demonstrate microbiological concepts through the appropriate use of equipment and laboratory procedures. The laboratory focuses on the practical application of microbiological principles to foods and food ingredients based on the following experiences: development of proficiency in using selected microbiological techniques currently employed in regulatory, quality control and research laboratories; performance of specific microbiological analyses of foods to assess numbers and kinds of spoilage organisms or foodborne pathogens; evaluation of the effects of several processing methods on growth and survival of microorganisms. In addition, this course serves as the required Writing across the Curriculum course for the Food Science Curriculum. As such, the course emphasizes problem solving and critical thinking as manifested by written and oral skills; scientific analysis of data, including statistics where applicable; demonstration of basic scientific writing and critiquing skills; usage of primary scientific sources in the food microbiology literature. Practical laboratory skills are assessed through measurement of proficiency in plating and isolation of an unknown microorganism. Writing skills are measured through development of a team project, written lab reports and journal article, and three examinations during the semester. This is a C-required course for the Food Science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MICRB 202 . Prerequisite or concurrent:FD SC 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 410 Chemical Methods of Food Analysis (3) Qualitative and quantitative determinations of food constituents.

Chemical Methods of Food Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B M B 212, FD SC 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 411 Managing Food Quality (2) Principles and applications of Hazard Analysis Critical Control Points. Statistical tools for the control and improvement of food quality.

Managing Food Quality (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: FD SC 408, STAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 413 Science and Technology of Plant Foods (3) Physical and chemical behavior of plant-based raw materials and ingredients, with emphasis on parameters influencing finished product quality.

FD SC 413 Science and Technology of Plant Foods (3)

This course focuses on the unique importance of foods produced from plants to human health and wellness. The influence of cultural practices, harvesting and handling methods and processing technology on quality and safety of whole, fresh and processed food products using minimal processing and fermentation to preserve food products from plant sources will be emphasized.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408, FD SC 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 414 Science and Technology of Dairy Foods (3) Physical and chemical behavior of dairy-based raw materials and ingredients, with emphasis on parameters influencing finished product specifications.

FD SC 414 Science and Technology of Dairy Foods (3)

FD SC 414 provides students with information about the composition, properties and physiochemical aspects of milk and milk products and an understanding of the changes that occur in milk during processing into a variety of dairy products. Laboratory exercises are held weekly and complement the topic being addressed in lecture. A semester-long group project is conducted during the course to help students integrate knowledge gained throughout the Food Science Curriculum. The project focuses on a "real life" product development problem and requires students to develop problem statements, design experiments, design formula and processing schemes, obtain ingredients and actually manufacture a product. Time is allotted in the laboratory schedule for some group activities; other are scheduled outside of class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408, FD SC 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 415 Science and Technology of Muscle Foods (3) Physical and chemical properties of muscle food commodities, with emphasis on muscle-based ingredients in formulated foods.

FD SC 415 Science and Technology of Muscle Foods (3)

This course applies food science and technology to the processing, storage and handling of red meat, poultry, and seafood products. The course includes two lectures and one lab session each week. The laboratory sessions are conducted in the Meat Laboratory located on Porter Road. Student performance is evaluated based on two mid-term exams, one final exam, lab reports including short summaries and full reports and homework exercises. Course objectives are set to: 1. help students understand the nature and importance of structure, compositional and quality differences among muscle food ingredients and their impact on product manufacturing, 2. inform students of the basic steps of primary processing for live stock, poultry and seafood species and their impact on meat properties, 3. give students first-hand experience with typical manufacturing steps and processes for fresh, cured, smoked, fermented, dried or cooked meats and help them understand how variations in processing will affect finished product properties, and 4. give students practice in applying the scientific method in answering questions or solving problems that may arise during the manufacture of muscle foods products. Course activities draw on the students' prior knowledge of food chemistry, food engineering, food microbiology and food analysis, applying concepts from those disciplines in the manufacture and evaluation of meat products. Course topics cover the range from meat science through technical and practical aspects of meat product manufacture including product quality, safety, profitability and regulatory issues. There is emphasis on meat industry practices including traditional and recent technology. Through laboratory exercises and independent group projects students gain experience in application of the scientific method for solving product development problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408, FD SC 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 417 Food Laws and Regulations (2) Historic and current aspects of government control of doing business with food (emphasis on the Food, Drug, and Cosmetic Act).

Food Laws and Regulations (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989
Prerequisite: FD SC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 430 Unit Operations in Food Processing (3) Thermal processing, refrigeration, freezing, dehydration, and concentration in the food industry, including effects on food quality; food packaging; waste management.

FD SC 430 Unit Operations in Food Processing (3)

Unit Operations in Food Processing will discuss major unit operations used in the food processing and manufacturing industry. Topics covered will include: thermal processing, microwave heating, extrusion, food packaging and waste management. Through lectures, the student will learn the principles of selected unit operations in food manufacturing, and the effects of input and operational parameters on performance and food quality. Through practicum sessions, the student will be exposed to practical applications in the above areas. Additionally, they will learn to analyze experimental data, organize and communicate thoughts in a logical fashion through cooperative and collaborative learning strategies, and to write effective lab reports. Through practicum sessions, they will also learn numerical problem solving and to size and select equipment for food manufacturing operations.

Student evaluation within this course will be conducted through weekly quizzes, home works, lab write-ups and two exams. This is a required course for the food science major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: FD SC 405, FD SC 400, FD SC 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 423 Pollutant Impacts on Foods (1) Fate and flow of pollutants; case studies of human exposure to specific pollutants.

Pollutant Impacts on Foods (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989
Prerequisite: 6 credits in biology or chemistry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of acitvity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 497A Bioactive Components in Foods (2) Lecture course covering the occurrence, evidence for activity, potential uses, and safety of important classes of non-nutrient biologically-active food components.

Bioactive Components in Foods (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Food Science (FD SC)

FD SC 497G Molecular Biology Methods for Food Microbiology (3) Lecture and laboratory-based course cofering DNA-based methods for detecting and tracking microorganisms in food products.

Molecular Biology Methods for Food Microbiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 200 (GN) Introduction to Crime Scene Investigation (3) This course offers an exploration of the science, management, and investigative techniques for the field of crime scene investigation.

FRNSC 200 Introduction to Crime Scene Investigation (3) (GN)

Students will develop the intellectual skills needed to be able to plan for and organize a crime scene investigation. Each student will understand the nature and value of each kind of physical evidence and how to recognize, collect and preserve it. They will research all the topics in this course and provide their own evidence of competency in each in the form of a professional portfolio. A student who demonstrates competency in the subject matter of this course:

*Employs the philosophies and practice of science;
*Generates hypotheses of crimes based on evidence;
*Can use deduction in a scientific manner;
*Is tenacious when recovering and developing evidence;
*Prescribes recovery and development cascades for: fingerprints; trace evidence; impression evidence; photographs; biological evidence
*Prescribes and amends crime scene search plans;
*Sketches crime scenes to scale;
*Makes competent use of limited time, human and other resources;
*Calculates: measurements for crime scene sketches; bullet trajectories; Angel of impact; and area of impact
*Provides complete, admissible reconstruction reports;
*Understands and accounts for chain of custody

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 201W Principles of Crime Scene Investigation (4) Basic principles of crime scene investigation including management, processing and investigative techniques.

Principles of Crime Scene Investigation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 294 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 301 Criminalistics IA (3) Basic concepts of criminalistics and the role of the criminalist in a forensic investigation.

FRNSC 301 Criminalistics IA (3)

In the laboratory, students will examine physical evidence that has been obtained from crime scenes mocked up at designated locations. The types of evidence chosen for analysis will be contemporary with topics covered in the classroom. Students will learn how to create a case file and to establish a laboratory notebook for their data. They will learn laboratory safety. They will establish an in-laboratory chain-of-custody for the evidence they receive and then track that evidence through its analytical scheme. They will learn to examine the physical evidence according to established forensic procedures. They will learn how to locate trace evidence and to perform presumptive and confirmatory tests when necessary. Finally, since forensic testing ultimately results in testimony in a courtroom, students will prepare written reports of their findings and then present their findings orally in a mock courtroom setting. The course will concentrate on microscopy (stereo, transmitted light, polarized light, and comparison) and its application to the analysis of physical evidence. Additionally, students will employ chemical techniques to classify evidence and pattern matching techniques to individualize impression evidence. The course is relevant to any student majoring in Forensic Science or who has an interest in obtaining employment in local, state, or federal law enforcement agencies and crime lab facilities. The course is required for accreditation through the American Association of Forensic Sciences and is recommended by the National Institute of Justice in their published recommendations for undergraduate curricula in the forensic sciences. The proposed course is a core 300-level science course required in the Forensic Sciences major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: FRNSC 201 ; major standing in Forensic Science;STAT 250;PHYS 251 orPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 302 Criminalistics IB (3) Basic concepts of criminalistics and the role of the criminalist in a forensic investigation.

FRNSC 302 Criminalistics IB (3)

In the laboratory, students will examine physical evidence that has been obtained from crime scenes mocked up at a designated campus location. The types of evidence chosen for analysis will be contemporary with topics covered in the classroom. Students will learn how to create a case file and to establish a laboratory notebook for their data. They will learn laboratory safety. They will establish an in-laboratory chain of custody for the evidence they receive and then track that evidence through its analytical scheme. They will learn to examine the physical evidence according to established forensic procedures. They will learn how to locate trace and biological evidence present and to perform presumptive and confirmatory tests when necessary. Finally, since forensic testing ultimately results in testimony in a courtroom, students will prepare written reports of their findings and then present their findings orally in a mock courtroom setting. The course will concentrate on the examination and analysis of biological evidence and other types of trace evidence in the laboratory. Additionally, students will employ chemical, biological, and biochemical techniques to classify evidence. The course is relevant to any student majoring in Forensic Sciences or who has an interest in obtaining employment in local, state or federal law enforcement agencies and crime lab facilities. The course is required for accreditation through the American Association of Forensic Sciences and is recommended by the National Institute of Justice in their published recommendations for undergraduate curricula in the forensic sciences. The proposed course is a core 300-level science course required in the Forensic Sciences major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: FRNSC 201 andMICRB 202 orBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 400 Courtroom Proceedings and Testimony (1) Introduction to courtroom proceedings and testimony as they related to forensic science.

FRNSC 400 Courtroom Proceedings and Testimony (1)

Classroom discussions will focus on the structure and procedures of the courtroom, the role of its members, admissibility issues, and how testimony is presented in court. Students will read transcripts from actual forensic cases, will discuss how the evidence was presented in court, and will have an opportunity to present data in mock proceedings.

At the end of the course, students will have a strong understanding of how courts operate regarding the introduction of forensic evidence. The course is relevant to any forensic science student who has taken FRNSC 201 and 301, and should be taken either concurrent with or before FRNSC 401. Any student in the Forensic Science major who has an interest in obtaining employment in a private forensic company or a local, state or federal law enforcement agency will benefit greatly from this course.

This is a 400-level forensics course for students in the Forensic Science major. It will also satisfy a requirement for accreditation by the Forensic Science Education Programs Accreditation Commission (FEPAC).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FRNSC 201W andFRNSC 301 prerequisite or concurrent:FRNSC 401W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 401W Criminalistics III - Advanced Analysis and Crime Scene Investigation (4) Advanced concepts in criminalistics as they apply to criminal and civil investigations.

Criminalistics III - Advanced Analysis and Crime Scene Investigation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: FRNSC 302 andFRNSC 421W or prerequisite or concurrentFRNSC 427W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 421W Forensic Molecular Biology (3) Concepts and application of serology of molecular biology techniques to analyze biological evidence collected at crime scenes.

FRNSC 421W Forensic Molecular Biology (4)

Classroom discussions will focus on the application of biochemistry and molecular biology techniques in forensic serology and DNA analysis. The course will start with a history of forensic biology techniques and move quickly to modern day techniques (e.g., STR analysis). Laboratory analysis will include population samples and mock evidence samples. Students will expand their knowledge of population genetics and fine tune their practical laboratory skills. Students will learn about laboratory safety, quality assurance and control, and ethics. They will evaluate results from actual forensic DNA cases, and both discuss how evidence is presented in court and have the opportunity to present their data in mock deposition proceedings. Laboratory exercises will result in the preparation of courtroom ready materials (data, documents, and demonstrations). Many of the classroom discussions will be problem solving exercises designed to emphasize specific applications of laboratory analysis.

At the end of the course, students will have a strong understanding of forensic screening techniques and STR analysis of biological evidence, and how to convey their findings in written format. In the laboratory, students will have analyzed different sample types, interpreted DAN profiles, prepared laboratory reports and case files, and presented the evidence in mock testimony proceedings. As a result, students will have the basic skills necessary to work in a forensic biology crime laboratory.

The proposed course is relevant to any science student who has taken B M B 342, 400, and 401, and any student in the Forensic Science major who has an interest in obtaining employment in a local, state or federal law enforcement agency and/or crime laboratory facility. This is a 400-level forensics course that will be required for students in the Forensic Science major who elect to complete the biology option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 442, B M B 400, B M B 401;FRNSC 302 or a 400-level biology or B M B course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 427W (CHEM 427W) Forensic Chemistry (4) Analytical and instrumental methods used in the forensic sciences with special emphasis on the analysis and characterization of trace evidence.

FRNSC (CHEM) 427W Forensic Chemistry (4)

The purpose of this course is to provide students with a rigorous and comprehensive exposure to the techniques and methods used in private, state and federal crime labs in the analysis of trace evidence. The course thoroughly integrates lecture and laboratory activities to explore the history, controversies and current issues related to each topic. The laboratory component incorporates skill-building exercises with open-ended guided-inquiry laboratory exercises and a semester-long laboratory- and literature-based research project. Students work in small groups (2-3 students) to complete each assignment. Students are required to write five research papers during the semester. Four of the reports are linked to the core course topics and the fifth is associated with the semester-long research project. All reports require students to search for and read the relevant published literature.

The course is relevant to any student majoring in Forensic Sciences or who has an interest in obtaining employment in a crime lab. The course is required for accreditation through the American Association of Forensic Sciences and is recommended by the National Institute of Justice in their published recommendations for undergraduate curricula in the forensic sciences. The proposed course and the course in Forensic Anthropology/Biology comprise the core 400-level science courses required in the Forensic Sciences major.

The course is designed to be rigorous and comprehensive in scope. Grades will be based on in-class lecture examinations (20%), problem sets (10%), laboratory notebooks (15%), laboratory write-ups (30%), and a term project (written and oral presentations; 25%). The writing component for this course includes: maintaining a proper laboratory notebook; five approximately 10-page reports; and an oral poster presentation. All writing elements are reviewed and graded by the instructor and teaching assistants. Students are allowed to correct, or rewrite, and resubmit notebook entries for three separate submissions (notebooks are graded a total of eight times throughout the semester) and the written reports excluding the final project report. Students are required to submit a preliminary poster for a) non-graded) review prior to the oral presentation. The writing component of the course accounts for 55% of the total course grade.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 213 andCHEM 227

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 475 Forensic Science Seminar (1) Presentation and discussion of special issues in forensic science; extension and application of background knowledge to unusual topics and cases.

Forensic Science Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent:FRNSC 401W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 494 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forensic Science (FRNSC)

FRNSC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 100S Introduction to Forestry (1) A general introduction to forest ecology, history, management, and practices.

Introduction to Forestry (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 100 Introduction to Forestry (1) A general introduction to forest ecology, history, management, and practices.

FORT 100 Introduction to Forestry (1)

FORT 100 is offered as a 1 credit, first semester course at Penn State Mont Alto. It is an introductory course designed to provide a foundation of forestry and natural resource management to first semester students in the forest technology program and to interested students in other academic programs. This course introduces topics in forestry that will be covered in more detail in subsequent courses in the Forest Technology program. An introduction to forest harvesting techniques, ecosystem management, and forest economics are covered. Alumni and other guests provide different viewpoints on future educational programs and career opportunities throughout the semester. The course is supplemented with audio--visual resources such as videos and slide shows.

The course objectives are for students to develop an understanding of the many aspects of forestry, such as collecting forest inventory data and conducting genetic research to learn about natural resource management, and to become familiar with the historical and current biological, political, and social issues in forestry.

Grades will be based on quizzes, participation in class, and individual presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 105 Forest Mensuration (3) Measurement of forests and forest products.

FORT 105 Forest Mensuration (3)

FORT 105 is a first-year, three-credit course required for the completion of the associate degree in Forest Technology. The course covers the techniques, procedures, and equipment used to measure tree and forest parameters, including various forest products. The course also covers statistical concepts and sampling and includes the use of current computer software. The course includes lectures, and students improve their skills in weekly field lab exercises.

The course objectives are for students to learn the principles and techniques used in forest mensuration, the use of tools and technology used in forest mensuration, the use of statistics as related to forest mensuration, to prepare and write comprehensive, professional reports, and to learn to work well as a member of a crew under field conditions by always performing accurate and safe work and by following directions and assignments of the instructor.

Course grades will be based on lecture exams, a cumulative final, quizzes, assignments, lab reports, and attendance and participation in class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 110 Forest Inventories (3) Application of forest mensuration, mapping, GIS, sampling, and statistical analysis to the inventory of forest resources.

FORT 110 Forest Inventories (3)

FORT 110 is a 3-credit, field-lab-oriented course that is a continuation of FORT 105 (Forest Mensuration) and builds upon other forestry, math, and English courses. Students will apply the principles of tree measurements to the inventory of forest resources. The major inventory systems will be covered as well as sampling techniques and statistical analysis of data.

The management and stewardship of forest resources depends upon the collection, analysis, and conveyance of quantitative and qualitative data that describe forest resources. The data is used to make informed, science-based management decisions concerning the growth, health, and/or volume of forest resources. The basis of the course is learning how to plan, conduct, coordinate, and summarize forest inventories.

The course objectives are for students to develop an understanding of sampling techniques and statistical analysis in the inventory of forest resources, learn how to use forest inventory systems currently used in natural resource management, conduct inventories that are cost-efficient and that meet predetermined sampling standards, learn to accurately and efficiently process and compute inventory data by hand and computer, learn to prepare and write comprehensive, professional cruise, and inventory reports for supervisors and/or clients, and learn to work well as a member of an inventory crew under field conditions. Conducting accurate and safe work, following directions, and the assignments of supervisors and instructors is imperative.

Course grades will be based on lecture exams, a cumulative final, quizzes, lab reports, assignments, and class attendance and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: FORT 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 120 Forestry Computer Applications (2) Computer hardware and software applications specific to forestry.

FORT 120 Forestry Computer Applications (2)

FORT 120 is a first-semester, two-credit course that is designed to familiarize students in the Forest Technology program with basic computer applications as well as those specific to forestry. Instruction in the use of the Internet, e-mail, word processing, spreadsheet, and database management software is provided. Students are able to demonstrate proficiency in computer operating skills at the end of the semester, including the use of forestry hardware such as data recorders and software applications.

Course objectives are to help students develop skills in using various computer software packages in forest resource management.

Grading is based on tests, quizzes, and class projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: three credits of mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 130 Forest Mapping Systems (2) Mapping forest properties, using traditional mechanical drawing techniques, geographical positioning systems, geographic information systems, and spatial analysis of resources.

FORT 130 Forest Mapping Systems (2)

FORT 130 is offered as a 2-credit, first-semester course at Mont Alto. Students will become familiar with a variety of maps commonly used in forestry, including topographic maps, vegetation classification maps, and boundary surveys. Hand compasses will be used for basic field navigation and with maps. Global Positioning System (GPS) technology will be used to record and process locational data for use in forest management. Geographic Information Systems (GIS) will be used to organize and analyze various types of geographically-related data.

The course objectives are for students to develop skills in reading and interpreting topographic and other forest maps, to learn to use a compass for navigation, to measure distances with pacing, to use GPS in forest mapping, and to use GIS.

Grades will be based on class and laboratory assignments and problems, quizzes, and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 140 Forest Surveying (3) Plane surveying including hand compass and survey equipment, map reading, deed and title research, land descriptions and property line location.

FORT 140 Forest Surveying (3)

FORT 140 is a three-credit, field-lab-oriented course that reinforces the skills gained in FORT 130 (Forest Mapping Systems) and MATH 081 (Technical Mathematics). Students will apply the principles of mapping and mathematics to land surveying techniques used by forest technicians and foresters.

The course objectives are for students to learn to measure horizontal and vertical angles and distances in the field, perform boundary, topographic, and road surveys, use USGS topographic maps, and become proficient with deed and boundary research.

Course grades will be based on exams, quizzes, lab reports, assignment,s and class attendance and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: or concurrent:FORT 130, MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 160 Silvicultural Practices (3) Principles and techniques of forest establishment, culture, and regeneration systems.

FORT 160 Silvicultural Practices (3)

FORT 160 is a second- semester, three-credit course in the Forest Technology program. It builds upon the knowledge of silvics introduced in FORT 150 (Dendrology). It combines the tools of FORT 105 (Forest Mensuration) with basic ecology and enables students to understand the processes and management alternatives in the forest ecosystem. This is a lecture class supplemented with weekly field laboratory sessions. The lab sessions allow students to experience silvicultural practices through design and implementation.

The course objectives are for students to develop an understanding of silvics of North American forests, to understand silvicultural relationships, and to be able to write and administer silvicultural prescriptions.

Course grading will be based on lecture exams, a cumulative final, lab reports, assignments, and attendance and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: FORT 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 150 Dendrology (3) Taxonomy, identification, ranges, and uses of important U.S. timber species and lesser vegetation of a regional nature.

FORT 150 Dendrology (3)

FORT 150 is a first-semester, 3-credit course for students in the Forest Technology program as well as interested students in other academic programs. It is a field course that is focused on taxonomy, nomenclature, ecology, and silvics of common forest plant species. Students are exposed to native and introduced to plant species in south central Pennsylvania. Scientific names, common names, geographic ranges, and economic importance are taught. Students learn to identify plants by key characteristics: arrangement, bark, buds, flowers, fruits, general form, and leaves. Basic plant biology as well as ecological relationships are covered. Information learned in this course serves as the foundation for future courses, including FORT 110 (Forest Inventories) and FORT 160 (Silvicultural Practices).

Course objectives are for students to gain an understanding of the rules of scientific nomenclature, to know the meanings of scientific terms used in dendrology, to identify 100-plus different woody plant species, to know ranges and site requirements for major species, and to know and be able to spell correctly the common and scientific names (family, genus, and species) of plants.

Grading and course structure will be based on daily field quizzes, a mid-term examination, and field and written final examinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 170 Forest Harvesting and Operations (3) Forest harvesting and intermediate operations: forest worker safety, hand and power tools, harvest planning, and best management practices.

FORT 170 Forest Harvesting and Operations (3)

FORT 170 is a three-credit, applied field-oriented course in the Forest Technology curriculum. The course is offered in the four-week summer intersession following completion of the second semester. Students will be introduced to woods safety and the identification of hazards; the safety and use of hand and power tools used in forest harvesting and intermediate operations; and logging equipment safety, maintenance, and operation. Axes, crosscut saws, chain saws, heavy logging equipment including logging skidder, bulldozer, and woods tractor will be used.

Students will work in crews to complete a forest harvest or thinning operation from beginning to end including: forest inventory and stand analysis; the use of best management practices; the development of an erosion and sedimentation plan; harvest planning and layout; forest stand marking; and the harvest of the marked forest stand.

Daily performance is evaluated based upon safety, effort, and motivation, skill improvement, cooperation, and attendance. Course grades will be based on quizzes, assignments, and daily performance.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: FORT 110, FORT 160 American Red Cross Standard First Aid and CPR

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 175 Forest Products Industry Tour (1) Field tour of local and regional forest products industries.

FORT 175 Forest Products Industry Tour (1)

FORT 175 is a 1-credit, field-based course in the Forest Technology curriculum. The course is offered in the 4-week summer intersession following completion of the second semester. It provides students with the opportunity to visit and tour forest products industries. Tours of sawmills, pulp and paper facilities, plywood factories, and other manufacturing industries are incorporated into a 3-to 4-day field trip in the Mid-Atlantic region. This course provides a basic understanding of forest products industries for FORT 250 (Forest Management Practices).

The course objectives are for students to develop an understanding of general industrial and manufacturing sectors of forestry and to learn and apply basic concepts of business, economics, and management in relation to forest products.

Course grades will be determined by the level of participation at each forest products industry visited and by the quality of trip reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: FORT 110, FORT 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 200 Wood Identification and Properties (1) Anatomy of wood and bark; cell wall formation and composition; and identifica- tion of wood by gross and microscopic qualities.

FORT 200 Wood Identification and Properties (1)

FORT 200 is a third-semester, one-credit course at Mont Alto. It will introduce students to the basic concepts of the anatomical properties of wood and bark cells. Students taking this class will learn: basic information on tree form and structure; basic information on cell wall chemical composition, formation, and structure. A significant part of the course will be learning to identify and differentiate selected hardwood and softwood species from gross and microscopic characteristics.

The course objectives are for students to gain an understanding of wood formation and structure and to be able to identify assigned wood samples from gross and/or microscopic characteristics.

Grades will be determined from weekly quizzes in wood identification and exams on lecture material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 210 Arboriculture (3) Selection, planting, care, and maintenance of woody ornamental plants and shade trees grown in urban, sub-urban, and rural landscapes.

FORT 210 Arboriculture (3)

FORT 210 is a third-semester, three-credit forestry elective in the Forest Technology curriculum. The course is recommended for students who have a basic knowledge of tree/plant identification and forestry but with the instructor's permission is open to third-semester-standing students interested in arboriculture. A significant portion of the course includes labs where tree-climbing skills are taught using climbing saddles, ropes, and applicable hardware.

Course objectives include an understanding of the importance of the urban-community forest, the importance of trees and woody plants, how they grow and how to care for them. Students will gain the basic knowledge and experience needed for employment in the field of urban forestry and arboriculture.

Course grades will be based on assignments, lecture exams, a final examination, lab performance, and reports and quizzes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: second-year standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 220 Forest Ecosystem Protection (4) Principles and concepts involved in managing the forest ecosystem in regard to fires, insects, and diseases.

FORT 220 Forest Ecosystem Protection (4)

FORT 220 is a third-semester, four-credit course that builds upon information learned in FORT 150 (Dendrology) and FORT 160 (Silvicultural Practices). This course will provide students with tools to identify and understand the effects of insects, disease, and fire on individual trees, forests, and ecosystems. They will learn signs and symptoms of insects and disease, integrated pest management principles, tactics of fire suppression, and will complete the PA-130 wildland fire training course. Emphasis is placed on recognition, prevention, and control of insects and pathogens. A case-study approach is used for the major pest problems of the northeastern United States.

Course objectives include development of assessment and diagnostic skills for major plant pests, recognition of signs and symptoms of abiotic and biotic disease, knowledge of integrated pest management, basic fire behavior and control techniques, and development of verbal and written communication skills.

Course grading will be based on scheduled lecture exams and quizzes, a final comprehensive examination, lab reports, and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 230 Aerial Photo Interpretation (2) Aerial photo interpretation techniques applied to land management inventories, mapping, road location, and procurement.

FORT 230 Aerial Photo Interpretation (2)

FORT 230 is a third-semester, two-credit course that explores the applications of aerial photography in forest and natural resource management. Both black-and-white and infrared photographs at diverse scales will be used. Photographic measurements of distance, area, and elevation will be studied. The use of aerial photos in ecological classification, forest vegetation mapping, and forest inventory will also be covered. Lab exercises will include forestry operations such as logging road layout, timber harvest mapping, and property boundary mapping. Linkages with global positioning system (GPS) and geographic information systems (GIS) will be stressed.

The course objectives are for students to develop skills in interpreting and using aerial photos for forest resource management.

Grading will be based on tests, quizzes, lab exercises, and student participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: FORT 130

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 240 Forest Soils and Hydrology (3) The study of forest soils and hydrology, especially as they are affected by forest management activities.

FORT 240 Forest Soils and Hydrology (3)

FORT 240 is a fourth-semester, three-credit course in the Forest Technology program. The course includes the study of soils and forest hydrology, especially as they are affected by forest management activities. Land reclamation activities in the reclamation and re-vegetation of disturbed sites found in the coal mining areas of Pennsylvania are also considered. This course uses outdoor and indoor labs to reinforce material discussed in lectures.

Course objectives are for students to develop an understanding of the physical, chemical, and organic properties of soils, of forest hydrology, and the impacts of forest management activities of the reclamation process and activities, and of the importance of soil and water resources and their conservation.

Course grades will be based on scheduled quizzes, lab reports, assignments, lecture exams, a cumulative final, and attendance and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: second-year standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 250 Forest Management Practices (3) Practical techniques for implementing management plans for forest stands under various ownerships and management regimes.

FORT 250 Forest Management Practices (3)

FORT 250 is a capstone course in the forest technology program taught in the fourth semester. It will give students the opportunity to use the various skills they have learned in other courses to develop management plans for forests managed with varying objectives. Concepts of valuation, timber procurement, and discounted cash flow will be covered. Regulatory, management certification, public sector, and private sector management issues will also be explored. The skills will be applied as students work on a semester-long management plan of a selected forest tract.

The objective of the course is for students to develop skills in creating and executing forest management and timber harvesting plans in forest stands.

Course grades will be based on quizzes, homework, laboratory exercises, management plans, and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: FORT 110, FORT 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forest Technology (FORT)

FORT 260 GIS for Natural Resources Management (3) Geographic Information Systems technology including mapping and GIS data management procedures w/ emphasis on natural resource management applications.

FORT 260 GIS for Natural Resources Management (3)

In this course, students will acquire the basics of spatial data analysis using geographic information systems technology. The course will cover acquiring data, manipulating databases, and displaying the results to solve spatial analysis problems. Problems will come largely from natural resources sciences and forest management. GIS is rapidly becoming a standard technology in many disciplines that use data having a spatial component. Students with knowledge and experience in GIS may improve their job prospects significantly.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: FORT 120, FORT 130

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 200W (W P 200W) Professional Careers in Forest Resources (3) Introduction to managing forests for products and services to meet human needs; developing career goals and an academic plan.

Professional Careers in Forest Resources (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Concurrent: FOR 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 203 Field Dendrology (3) Field identification of native and introduced trees and shrubs by leaf, fruit, twig, and bark.

FOR 203 Field Dendrology (3)

This course establishes the basic skills of woody plant and tree species identification necessary for students of forestry, ecology, and natural history. This course should be taken prior to most courses in forestry; students should be concurrently enrolled in careers in forest resources and anatomical properties of wood. The objectives of the course are for students to 1) recognize many of the common woody plant species encountered in Pennsylvania (and the region) and the taxonomic traits used in their identification, 2) employ the diagnostic skills useful for woody plant identification, including the use of dichotomous keys, and 3) identify resources for identification and continued study of woody plants in Pennsylvania and the region. Herbaceous invasive species will also be addressed. This course introduces the use of dichotomous keys for tree identification and silvics, and is almost entirely field-based. Evaluation methods include oral pop-quizzes and a written final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Concurrent: FOR 200W or W P 200W and W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 203P Field Dendrology (0) Field and laboratory identification of native and introduced trees and shrubs by leaf, fruit, bud, twig, bark.

Field Dendrology (0)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 203L Field Dendrology (2) Field and laboratory identification of native and introduced trees and shrubs by leaf, fruit, bud, twig, bark.

Field Dendrology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 204 Dendrology (2) Taxonomic and silvical characteristics, ranges, genetic relationships, and uses of important forest tree species.

Dendrology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: FOR 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 242 Elements of Project Supervision in Forestry (3) Supervisory techniques developed through an understanding of the behavioral sciences applied to field forestry personnel management.

Elements of Project Supervision in Forestry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 295 Forest Technology Internship (1-4) Supervised field experience related to the student's major.

Forest Technology Internship (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: approval of proposed assignment by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 297A Applied GPS/GIS Usage for Natural Resource Managers (2) Introduction to the use of GPS and GIS to collect, create, manipulate, analyze, and map natural resources management data.

Applied GPS/GIS Usage for Natural Resource Managers (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 301 (HORT 301) Principles of Arboriculture (3) Overview of the concepts and methods prescribed for the evaluation and care of large trees in urban settings.

FOR (HORT) 301 Principles of Arboriculture (3)

The objective of the course is to introduce students to the theories and practices related to the care of trees in developed areas. The course provides information that is especially useful to those in the Landscape Management option of the Landscape Contracting major, and the Urban Forestry option of the Forestry major. This course will provide an overview of the concepts and methods prescribed for the evaluation and care of large trees in urban settings. Emphasis will be placed on maintaining the long-term health of large trees. Major topic areas will include methods for characterization of tree health, diagnosing problems in trees, the influence of environmental factors on tree health, and the assessment of hazard trees. Proper pruning techniques and factors to consider when making decisions regarding long-term tree care in urban areas will be discussed. The course will be taught each spring semester. Students will be evaluated by quizzes, exams, and laboratory assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 110 andSOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 308 Forest Ecology (3) Effects of environment, spacing, and age on trees; forest influences; origin and development of forest communities.

FOR 308 Forest Ecology (3)

This class will provide the basic concepts of forest ecology and silvics. The class will emphasize (a) community concepts such as sampling, succession, productivity, disturbance, and animal factors, (b) ecosystem concepts such as nutrient and energy cycles and plant-soil relationships, and (c) environmental factors such as light, temperature, moisture, and pollution, and their effects on individual tree species and community structure and function. Other special topics of interest (allelopathy, seed behavior, tropical forests, etc.) will be included as time permits. The class will also include a field component that allows students to observe the effects of various conditions or treatments on forest community structure and growth, and to practice field methods commonly used to measure site factors and environmental processes in forest communities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: or concurrent:FOR 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 339 Timber Sale Administration (2) Practical aspects of the logistical, environmental, managerial, and regulatory oversight of active and retired timber sales.

FOR 339 Timber Harvesting Systems (2)

This course provides hands-on experience with all of the activities associated with overseeing a timber sale, including the legal aspects of arranging a sale, marking timber and calculating volume, road and sale layout, best management practices, inspections, harvesting equipment, working with contractors and loggers, and liability issues. It should be taken after completing coursework in mensuration. The objectives of the course are to 1) obtain and translate a property deed onto the ground and create a professional map of the timber sale area; 2) design a timber sale, including cutting boundaries, skid trails, haul roads, and landings such that site impact is minimized, harvesting efficiency and safety is maximized and productivity is maintained; 3) collect sufficient information for a professional timber sale prospectus, including which harvesting systems would be best suited to the situation; 4) complete an Erosion and Sedimentation plan, a stream crossing permit, and local harvesting ordinance requirements; 5) develop a timber sale contract and a landowner-consultant contract to protect all parties and address all possible legal scenarios; 6) work with, inspect, supervise and provide meaningful feedback to harvesting, road building and landscape contractors; 7) retire a timber sale area to prevent erosion, create habitat variety and/or recreational opportunities, and maintain aesthetic qualities. Evaluation methods include written exams, written and field projects, and participation. This course is offered every fall and class size is restricted.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: FOR 203 andFOR 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 320 Forest Fire Management (2) Principles and concepts involved in managing the forest ecosystem in regard to fire.

FOR 320 Forest Fire Management (2)

This course will cover the principles and concepts involved in managing forest ecosystems in regard to fire. It will enable students to think analytically and operationally about fire in forested landscapes, taking into account a complex of physical/biological factors, management objectives, and public interest. Wildland fire processes, fuels, and behavior, fire weather, fire ecology, the sociology of fire, fire presuppression, fire containment/suppression, post-fire rehabilitation, prescribed fire, and fire management planning will be covered. Evaluation will be based on exams, individual assignments, and group assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: FOR 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 350 Forest Resources Biometrics (3) Quantitative approaches for characterization and comparison of natural resources in forested landscapes.

Forest Resources Biometrics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: one course each in calculus statistics and computers

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 366 Forest Resources Measurements (4) Measurement systems used in forest management, wildlife management, water- shed management, urban forestry, and recreation management.

FOR 366 Forest Resources Measurements (4)

FOR 366 includes basic measurement techniques and analytical procedures essential to the management of forests, including land surveying, wood product measurements and grading, timber sampling and statistical evaluations. The course utilizes micro-computers as an interface between various aspects of field measurements and the analysis of collected data.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: STAT 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 401 Urban Forest Management (3) Uses and values of urban vegetation, open space, and wildlife; planning, financing, support, management, and administration of urban forestry programs.

Urban Forest Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992
Prerequisite: three credits in business management or economics and six credits in biology forestry or plant materials

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 409 Tree Physiology (2) Fundamentals of the relationship of the basic physiological functions of forest trees to form.

Tree Physiology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 410 Elements of Forest Ecosystem Management (3) Fundamentals of forest ecosystem management for goods and services.

Elements of Forest Ecosystem Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: 3 credits in both ecology and biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 418 (US;IL) Agroforestry: Science, Design, and Practice (3) Agroforestry integrates trees in agricultural landscapes, and/or agriculture products into forested areas for multiple benefits.

FOR 418 Agroforestry: Science, Design, and Practice (3)
(US;IL)

Agroforestry is the intentional design of land use systems that combine tree crops with plants and/or animals in a manner that seeks to promote ecological and economic benefits within the landscape. Two possible arrangements for such systems are (1) the integration of trees within non-forested settings; and/or (2) the introduction of high value 'crop' species into existing forestlands. The objective of the course is to foster a practical working knowledge of agroforestry as it is experienced both in Pennsylvania and throughout the world, so that students from a variety of backgrounds can integrate agroforestry practices and thinking into their own disciplines, interests, and lives. Although agroforestry is an ancient land use approach, it is new in many places, and improvements and adaptations to traditional practices are needed to meet local circumstances. This course will provide a framework for critical assessment and implementation within this context.

One of the fundamental aspects of agroforestry is that it is a land use system that operates at a landscape or ecosystem scale. For agroforestry to succeed, many factors, including ones external to the agroforestry practice itself must be considered. Therefore the course is interdisciplinary in nature and topics in ecology, economics, sociology, and policy that are related to agroforestry practices will be discussed. In evaluating the students, the primary emphasis is on class discussion. Students will be expected to review and discuss papers and contribute to the ongoing dialogue and debate about agroforestry as a sustainable land use. Students will be required to carry out critical reviews of agroforestry papers and publications as well as design and develop an agroforestry project pertinent to their individual field of interest and expertise. The course will be offered every Spring semester.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 416 Forest Recreation (3) The management and administration of multiple-use forest lands and wilderness for forest recreational experiences, with emphasis on public forests.

Forest Recreation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: 3 credits in social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 421 Silviculture (3) The application of the principles of forest ecology to control of establishment, composition, and growth of forest stands.

Silviculture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1984
Prerequisite: FOR 308, FOR 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 430 (W F S 430) Conservation Biology (3) The application of biological principles to issues in the conservation of biodiversity.

Conservation Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 220W orFOR 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 440 Forest Economics and Finance (3) The application of economic theory to forest resources systems, with emphasis on production and investment analyses.

FOR 440 Forest Economics and Finance (3)

FOR 440 develops the rationale and structural flow of forest resource uses within a capitalistic economy and addresses the bases for short and long run decision making within the context of forest management. Concepts of demand and supply analysis are provided relative to the market equilibrium and allied revenue and cost implications to a production firm. Production analysis in the short run is identified relative to constraints upon the firm and the marginal aspects of production decisions. Statement of earnings and balance sheets are introduced as economic decision formats. Long-term investments are analyzed through discounting, with attention directed to the major variables affecting such decisions. Forest resource applications are made to the various principles developed within the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 451 (AG 451) Artificial Intelligence and Expert Systems for Agriculture and Natural Resource Management (3)
Application of artificial intelligence in agriculture and natural resources, with emphasis on expert systems.

Artificial Intelligence and Expert Systems for Agriculture and Natural Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: one course in computer science or computer applications

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 455 Remote Sensing and Spatial Data Handling (3) Remote sensing systems, with emphasis on application to forest ecosystem analysis. Includes introduction to computer systems for spatial data handling.

FOR 455. Remote Sensing and spatial Data Handling (3)

FOR 455 imparts a basic understanding of remote sensing and related spatial data technologies such as geographic information systems (GIS) and digital elevations models (DEM) in a natural resources context. Lectures cover the nature of electromagnetic radiation, electronic remote sensing systems, airphoto systems, photogrammetry, and GIS fundamentals. Laboratory work includes stereo viewing, basic photogrammetry, introductory photointerpretation, airphoto mission planning, digital image analysis, topographic analysis and landforms, GIS mapping, and some basic GIS analysis. Emphasis is on learning by doing, with one lecture and two 2-hour labs each week.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: MATH 110 3 credits in computer science 6 credits in ecological and/or geological sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 470 Watershed Management (3) Management of wild land watersheds for control of the amount and timing of water yield, water quality, erosion, and sedimentation.

FOR 470 Watershed Management (3)

In FOR 470-Watershed Management students are expected to learn the fundamentals of watershed hydrology and how management of natural resources, especially forest resources, can be adapted to protect and enhance the natural flow, quantity and quality of water resources.

Emphasis is placed on acquisition of available hydrologic and climatic data over the internet, solving basic hydrologic problems using the proper units, writing short essays summarizing assigned papers or lectures, and in-class tests on managing impacts of timber harvesting, road construction, application of forest chemicals, and other land uses activities. The course is primarily, but not exclusively, intended as a course for upper-level undergraduate and graduate students in forest resources and wildlife and fisheries majors or other majors such as ERM with related natural resources backgrounds and interests.

The course is a Prescribed Course for Forest Resources undergraduates in the Forest Management and Watershed Management options and is a Water Science breadth course for students in the Graduate Option in Watershed Stewardship. A companion one-credit course FOR 471 -Watershed Management Laboratory - may be taken concurrently with or following FOR 470. This course is offered each Spring Semester and generally has an enrollment of about 80-90 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: 3 credits in Soils

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 466W Forest Resource Management (3) Optimum use of forest's tangible and intangible resources by application of financial and administrative management principles and management science techniques.

FOR 466W Forest Resource Management (3)

The class covers the most fundamental decisions forest managers make regarding managing a forest for timber production. These include stand-level decision for even-aged stands. The most fundamental stand-level decision for even-aged stands is deciding when the stand should be harvested. Thinning and regeneration decisions are also important. Uneven-aged management decisions include identifying a target diameter class distribution and selecting a cutting cycle. Forest level decisions include determining the long-term sustainable yield, areas to be harvested over time, and how much area to allocate to special management areas, such as extended rotation areas, aesthetic buffers, stream-side management zones, and wildlife areas. The course emphasizes basic tools used in making these decisions, including financial analysis at the stand level and linear programming at the forest level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: FOR 421 . Prerequisite or concurrent:FOR 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 471 Watershed Management Laboratory (1) Introduction to hydrologic and climatic measurements and computations useful in watershed management.

Watershed Management Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: or concurrent:FOR 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 475 Principles of Forest Soils Management (3) Effect of current forest management practices on the properties and productive capacity of forest soils.

Principles of Forest Soils Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1985
Prerequisite: FOR 308 3 credits in soils

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 480 Policy and Administration (3) Forest resources policy objectives; criteria and goals of society; policy implementation by ownership classes; planning, administration, and evaluation of programs.

Policy and Administration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: FOR 200W 3 credits of social or behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 485 Natural Resource Decisions (3) Application of previous courses and experience to decision making on forest land management and natural resource policy issues. (Students should have completed or be taking concurrently W F S 447, 463; FOR 410, 421, or 466.)

FOR 485 Natural Resource Decisions (3)

In this three-credit course, students with a background in forest resources or wildlife and fisheries sciences will apply their previous course work and life experiences to making decisions about real-world forest land management and natural resources policy issues.

The course focuses on two major projects. The first project involves development and implementation of a forest resource management plan for an actual privately owned property. The plan emphasizes managing for multiple resource uses based on intensive data collection and analysis procedures. The second project relates to a complex management problem on public lands or involving a public agency. In this project the emphasis is on developing policy while managing conflicts among polarized interest groups or disparate resource management objectives.

Students work in teams on the two major projects. Through field and laboratory experience students will understand the importance of defining objectives, establishing data requirements, developing data access protocols, and working efficiently to collect, summarize, and report information. By providing collaborative learning opportunities, the instructors require the students to grapple themselves with problem solving and conflict resolution. Students will gain an understanding of the social, economic, and political issues that affect the decision-making process in natural resources management. The projects will expose students to ethical considerations in natural resources management. Natural resource management involves group processes and the course will provide experience in making group decisions, require shared responsibility to produce reports and projects, and develop skills for writing professional reports and in delivering orally plans and reports.

Lectures and assigned readings supplement the projects. Students will be evaluated individually and in teams, based on examinations, written and oral reports, and class participation.

Students in the course must have sixth-semester or higher standing, with 12 credits in Forest Resources or Wildlife and Fisheries Sciences. Students should have completed (or be taking concurrently) either W F S 447 or W F S 463 or FOR 410, FOR 421, or FOR 466.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: sixth-semester or higher standing 12 credits in Forestry or Wildlife and Fisheries Sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 494 Forestry Research (3) Introduction to the theory, principles, and practices of forestry research; supervised research experience.

Forestry Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: FOR 350, STAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 488Y (IL) International Forestry (3) Forestry in global context, emphasizing developing countries: ecological, economic, technological, and political aspects.

International Forestry (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: E R M 413W, FOR 421 orINTAG 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 494H Forestry Research (3) Introduction to the theory, principles, and practices of forestry research; supervised research experience.

Forestry Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: FOR 350, STAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 495 Forestry Internship (1-6) Supervised field experience related to the student's major.

Forestry Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1981
Prerequisite: approval of proposed assignment by instructor prior to registration.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497A History of Logging Era in North Central Pennsylvania, Part I (3) This course will focus on the rich history of the logging era in northcentral Pennsylvania from the 1850s to 1940.

History of Logging Era in North Central Pennsylvania, Part I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497C Environmental Science/Forestry (3) This course will focus on skills used in the practice of forestry and will include hands-on activities in the field.

Environmental Science/Forestry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497B Herbaceous Forest Plants of Pennsylvania: Identification and Ecology (3) Course will cover common herbaceous plant families and representative taxa occurring in the Pennsylvania region.

Herbaceous Forest Plants of Pennsylvania: Identification and Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497D History of Loggin Era in North Central Pennsylvania, Part II (3) This follow up to the History of the Logging Era Part I covers the same time period, but the emphasis shifts to specific topics.

History of Loggin Era in North Central Pennsylvania, Part II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497F Invasive Forest Plants (3) A survey of common nonnative (exotic) herbs, forbs, shrubs, trees and vines that invade forested habitats, including riparian forests, in Pennsylvania and the region. Field identification, life history traits, ecosystem related challenges and problems, and control/management options are reviewed.

Invasive Forest Plants (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 497F Forestry Management II (3) This course deals wtih basic chain saw safety and harvesting techniques.

Forestry Management II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Forestry (FOR)

FOR 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fractnl Trans Cr (GMISC)

GMISC 001 FRACTIONAL TRANSFER CREDITS (1-99) FRACTIONAL TRANSFER CREDITS FOR ADMISSION'S USE ONLY.

FRACTIONAL TRANSFER CREDITS (1-99)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 002 Elementary French II (4) Grammar and reading continued; oral and aural phases progressively increased. Students who have received high school credit for four years of French may not schedule this course for credit, without the permission of the department.

Elementary French II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1985
Prerequisite: FR 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 001 Elementary French I (4) Grammar, with reading and writing of simple French; oral and aural work stressed. Students who have received high school credit for two or more years of French may not schedule this course for credit, without the permission of the department.

Elementary French I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 003 Intermediate French (4) Grammar, reading, composition, oral and aural exercises.

Intermediate French (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1985
Prerequisite: FR 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 051 Elementary Intensive French I for Graduate Students (3) Intensive introduction to French: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

FR 051 Elementary Intensive French I for Graduate Students (3)

This is the first in a series of three courses designed to give students an intensive introduction to French. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the French vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 052 Elementary Intensive French II for Graduate Students (3) Intensive introduction to French: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

FR 052 Elementary Intensive French II for Graduate Students (3)

This is the second in a series of three courses designed to give students an intensive introduction to French. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the French vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: FR 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 053 Intermediate Intensive French for Graduate Students (3) Continued intensive study of French at the intermediate level: reading, writing, speaking, listening, cultural contexts.

FR 053 Intermediate Intensive French for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of French. Continued intensive study of French at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: FR 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 083S (GH;IL) First-Year Seminar in French (3) Critical approaches to the dimensions and directions in French/Francophone literatures and cultures.

FR 083S First-Year Seminar in French (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Through the reading of texts, discussions (in-class, study groups, listservs), debates, and collaborative research projects, students are introduced [a] to French/Francophone literatures and/or cultures; [b] to the humanities and to the nature of research and scholarship; [c] to cross-cultural issues (international); and [d] to scholarly conduct and responsibilities. Students develop international competence by cultivating curiosity about and empathy for other cultures; by recognizing that social variables, such as age, gender, social class, religion, ethnicity, race, sexual orientation, and place of residence, affect the way people view the world, behave, and communicate; and by developing the ability to locate, organize, and evaluate information about he culture(s) from a variety of sources (print, electronic, people, personal observations). The points of departure for the development of all of these competencies are literary and cultural texts from France and French-speaking regions/counties of the world. All texts are in translation, and knowledge of the French language is not required. Students will be evaluated through written essays, quizzes, class discussions, and a collaborative group project. This course will prepare the students for other courses in the humanities by giving them the opportunity to gain insights into the study of the humanities through literary and cultural texts. In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them including the opportunity to develop relationships with faculty and other students who share their academic interests. The Department of French plans to offer three (twenty student limit per seminar) first-year seminars per academic year. The course fulfills the first-year seminar requirement as well as one of the humanities requirements in general education or a Bachelor of Arts humanities requirement. This course does not require any special facility or equipment to be taught effectively.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 111 Elementary French (6) Acquisition of basic skills in the active use of French: listening, speaking, reading, and writing.

Elementary French (6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 112 Intermediate French (6) Reinforcement of basic skills previously acquired in the active use of French in FR 111.

Intermediate French (6)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 121G Fundamentals of Reading French (3) Instruction in fundamental skills required for reading expository French prose, primarily for research purposes. (This course may not be used to satisfy any baccalaureate degree requirements. No graduate credit is given for this course.)

Fundamentals of Reading French (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 122G Practice in Reading French (3) Development and reinforcement of basic reading skills, with emphasis on the individual student's area of research. (This course may not be used to satisfy any baccalaureate degree requirements. No graduate credit is given for this course.)

Practice in Reading French (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1984
Prerequisite: FR 121G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 137 (GH;IL) Paris: Anatomy of a City (3) Survey of the cultural, artistic, literary, and social life of the city of Paris from Gallo-Roman times to the present.

FR 137 Paris: Anatomy of a City (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

FR 137, taught in English, is an introductory survey of the cultural, artistic, literary, and social life of the city of Paris. We will explore painting, sculpture, architecture, music, dance, theatre, literature, as well as the history and geography of this great city through the ages. Beginning with Gallo-Roman Paris and ending with the Paris of today, the course will explore the continuities as well as the changes in more than 2000 years of Parisian history. Students will read representative texts from every period and be exposed to the artistic movements through slides, films, and virtual tours. There will be extensive use of technology (CDs, DVDS, internet). In discussion sections, students will get a chance to discuss readings and fine-tune their analytical skills.

In addition to the three examinations (short answer and essay), there will be short writing assignments and group research projects. This course will complement the Departments of Art History, Architecture, Comparative Literature, Geography, Music History, History. It will require a room equipped for technology and will be offered every semester.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 138 (GH) French Culture Through Film (3) Introduction to French culture through film by French and francophone directors examining gender, ethnicity, and global issues. Taught in English.

FR 138 French Culture Through Film (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, taught entirely in English with no assumption of prior knowledge of French, will entail the study and analysis of a number of recent and not-so-recent French films that present, in one way or another, problems or themes characteristic of French history and society. We will not, however, be concerned primarily with watching these films as "illustrations" of various aspects of French culture; on the contrary, we will study them as films. We will be concerned with the filmic devices used, and with the intellectual and ideological orientations of the people who made them. For this reason we will discuss techniques used in the presentation of various events shown in the films, which may or may not involve war, the Occupation, city life, growing up, gender relations, the lives or immigrants, etc. From our study of these films, we will inevitably learn quite a bit about French society and its values, particularly in the period from the Occupation (World War II) to the present.

French 138 will satisfy a General Education humanities requirement for students in all majors except French. Students will be evaluated with quizzes (given after the screening of each film ... before class discussion about film) for 20% of final grade; group presentations/participation for 30% and essays (five short papers) for 50%. This course will be offered once a year with a limit of 75.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 140 (IL) French Novel in English Translation (1-6) Readings of selected French masterpieces in translation; discussion of recurring themes in several literary periods.

French Novel in English Translation (1-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 139 (GH;IL) France and the French-speaking World (3) An introduction to the culture of France and its impact on the world.

FR 139 France and the French Speaking World (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

By studying the artistic, social and intellectual components of the French cultural ethos, the undergraduate student will develop an appreciation of a major Western European humanistic tradition and its impact and adaptation on several continents. The notion of a national culture, which has become an international phenomenon integrates a broad spectrum of subject areas in the arts, humanities, and social sciences. The elements to be articulated embrace: socioeconomic, linguistic, and demographic profiles, social stereotypes (internal, external, and colonial), social structures (family, gender, childhood/old age), and selected "high" and "popular" cultural themes (cuisine, architecture, dress, painting, social philosophy). Using today's metropolitan French culture as a point of departure, and its historical legacy, the course will explore the consequences of French cultural hegemony in various French-speaking areas (Belgium, Switzerland, North and West Africa, North America, Maghreb-Middle East, Orient). In brief, the course introduces Penn State students to the dynamics of cultural pluralism, a crucial acquisition in today's "global village."

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 141 (IL) Cultural Tradition in French Cuisine (3) A study of French culture in English, emphasizing the French gastronomical traditions in literature and civilization.

Cultural Tradition in French Cuisine (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 142 (GH) French and Francophone Literatures in Translation (3) An introduction to the literature of France and French-speaking countries.

FR 142 French and Francophone Literatures in Translation (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Taught entirely in English with no assumption of prior knowledge of French, this literary course is a broad introduction to French/francophone literature and French intellectual history through a selection of some of France's and Francophone's best-known authors and world famous masterpieces from the Middle Ages to the present. The course promotes a critical reflection on French and francophone literature in its three genres; it aims at a tentative definition of what is literature; it develops critical methods to approach/enjoy a text; it provides theoretical tools to read effectively a linguistic/semiotic text, to write about it, and to enjoy it. This course may be complemented with FR 139 and/or FR 137. Evaluation will be based on active class participation (20%); one book report (20%); two exams (30%); some quizzes (10%); and a final paper (20%). The course will satisfy a General Education humanities requirement for students in all majors except French. While not required for students specializing in French, it is viewed as foundational by the Department, initiating students to basic and broad-based literary concepts and critical approaches which will enhance performance in more advanced courses in literature and/or civilization for French Minors and Majors. This course will be offered once a year with 18 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 187 French Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

French Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 199 (IL) Foreign Study--French (1-12) Intensive postintermediate grammar review, with emphasis on oral skills and vocabulary building.

Foreign Study--French (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 2005
Prerequisite: FR 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 202 (IL) Grammar and Composition (3) Grammar review and writing of short essays.

Grammar and Composition (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: FR 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 201 (IL) Oral Communication and Reading Comprehension (3) Emphasis on oral skills and reading for total comprehension.

FR 201 Oral Communication and Reading Comprehension (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to improve French language skills, with an emphasis on speaking and reading. It aims to hone students' ability to understand a wide array of native speakers and to expand their active vocabulary; to foster discussion and debate in a range of formats; to enhance the ability to analyze films and literary texts; and to increase awareness of historical and contemporary cultural issues. It also provides opportunities for reviewing selected grammatical points and for practicing writing short interpretive and imaginative exercises. Students draw on written texts, videos, the Web, and other media to explore cultural and literary aspects of France and the Francophone world from a variety of perspectives. Evaluation methods include individual oral and written exams (30%); formal debates (20%); quizzes and homework assignments (10%); class attendance and participation (20%); and a final oral presentation (20%).

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2007
Prerequisite: FR 003 orFR 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 270 (WMNST 270) Race and Gender in Literature Translated from French (3) A critical presentation, taught in English, of changing ideas and values on race and gender in French and Francophone literatures.

Race and Gender in Literature Translated from French (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1982

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1982

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 299 (IL) Foreign Study--French (3-12) Writing practice at postintermediate level. Cultural readings about French civilization.

Foreign Study--French (3-12)

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 2005
Prerequisite: FR 199

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 316 French Linguistics (3) Survey of the theory and methods of linguistics as they apply to the major subfields.

FR 316 French Linguistics (3)

The goal of this course is to provide the undergraduate student with a solid overview of the theory and methods used by linguists seeking to develop a formal account of French grammar. Specifically, the student will become acquainted with the basic assumptions of the field (e.g. the prescriptive/descriptive distinction, the notion of competence versus performance, various methods of data collection, and the notion of Universal Grammar). In addition, a selection of the major subfields of linguistics will be surveyed (these include: phonetics, phonology, syntax, semantics, and morphology with the focus being on the linguistic rules found in the French language).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 330 (IL) French Culture and Civilization (3) French history and culture from the Middle Ages through the Third Republic.

French Culture and Civilization (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 331 (IL) French Culture and Civilization I (3) French history and culture from the Middle Ages until the French Revolution.

FR 331 French Culture and Civilization I (3)
(IL)

This course, which fulfills the Humanities requirement within the Bachelor of Arts degree, will present a survey of French culture and civilization from the Middle Ages up to the French Revolution. The course aims to familiarize students with the major events and themes in French history of this period; prominent artistic and other cultural developments; and French social and daily life. Students will gain a rich appreciation of this time period through frequent exposure to web sites, films, music and other audio-visual materials. Taught in French, the course also aims to help students develop further facility in written and spoken French through a combination of readings, writing assignments, class lectures, conversation and in-class activities. The course is designed as a complement to the French literature survey sequence. In addition, it serves as an important basis for 400-level language, literature and culture courses. The course will be offered every semester or every other semester.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2006
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 351 (IL) Introduction to French Literature I (3) Introduction to close textual reading and analysis of selected works of French literature from the middle ages to 1789.

Introduction to French Literature I (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: FR 201, FR 202, FR 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 332 (IL) French Culture and Civilization II (3) French history and culture from the French Revolution through the Third Republic.

FR 332 French Culture and Civilization II (3)
(IL)

This course, which fulfills the Humanities requirement within the Bachelor of Arts degree, will present a survey of French culture and civilization from the French Revolution to the collapse of the Third Republic with the onset of World War II. The course aims to familiarize students with the major events and themes in French history of this period; prominent artistic and other cultural developments; and French social and daily life. Students will gain a rich appreciation of this period through frequent exposure to web sites, films, music and other audio-visual materials. Taught in French, the course also aims to help students develop further facility in written and spoken French through a combination of readings, writing assignments, class lectures, conversation and in-class activities. The course is designed as a complement to the French literature survey sequence. In addition, it serves as an important basis for 400-level language, literature and culture courses. The course will be offered every semester or every other semester.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2006
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 352 (IL) Introduction to French Literature II (3) Introduction to close textual reading and analysis of selected works of French Literature from 1789 to the present.

Introduction to French Literature II (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: FR 201, FR 202, FR 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 397 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 399 (IL) Foreign Study--French (3-12) Advanced training in the French language skills.

Foreign Study--French (3-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 401 (IL) Advanced Oral Communication (3) Emphasis on speaking and listening comprehension through discussion of current issues, using journalistic materials.

Advanced Oral Communication (3)

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 402Y (IL) Advanced Grammar and Writing (3) Advanced study of the structure of the French language. Intensive essay writing.

Advanced Grammar and Writing (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 407 (IL) Business Writing in French (3) Common forms of business communication; writing of reports and abstracts.

FR 407 Business Writing in French (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of this course are to: practice the basic ideas and vocabulary of business French; to acquire core knowledge about the social and economic organization of France; to improve spoken and written expression in this arena; to draft business letters; to read and understand newspaper articles dealing with economic and business problems; to understand audio and visual messages in French; and to use Francophone resources on the Web. One of several departmental offerings in the area of French Civilization, FR 407 is required for the French Business option and can also be used to fulfill a 400-level requirement for the French-Engineering and Applied French options, as well as for the French minor. The course also fulfills an "IL" requirement by developing an understanding of French economic and business cultures, values, and traditions within the context of both the European Union and global markets. Evaluation methods include several exams; a debate; a mock interview; research on and the analysis of a French or Francophone company; homework; and class participation.The course is offered once a year, usually in the fall semester.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2007
Prerequisite: FR 331 orFR 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 408 (IL) French-American Business Translation (3) Translation from French to English of actual documents from the business world; theoretical consideration and systematic vocabulary building.

French-American Business Translation (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: FR 407

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 410 (IL) French Press (3) Extensive readings of selected french daily and weekly newspapers and magazines, along with newscast viewings.

FR 410 French Press (3)
(IL)

This course, which is taught in French, is designed to introduce students to the history and current state of French press and media (including newspapers, magazines, radio and television) while introducing them to French society and culture through media coverage of current and recent events. The course is also designed to help students perfect reading, writing and oral communication in French. The course starts with a brief history of the press in France, including the creation of dailies such as Le Journal de Paris and the impact of some well-known journalists or writers upon events such as the Dreyfus Affair. It will then focus more specifically upon the origins of high-circulation, contemporary newspapers and magazines. Quickly moving to the post-WWII period, students will be introduced to radio and television in France and, as they become more familiar with French and Francophone press and media, will be given several opportunities to study current or recent events of the French and Francophone world, in fields such as sports, politics, culture and economics. Library holdings and internet sites will allow the class to regularly read daily newspapers such as Le Monde and Le Figaro and view newscasts on channels such as TF1 and FR2. Once they are familiar with the available resources, students will share research with fellow classmates through oral presentations, for example in the form of simulated newscasts. Students will also develop with the guidance of the instructor an independent, final paper which will explore some aspect of the French press and media. One of several departmental offerings in the area of French Civilization, FR 410 course can be used to fulfill a 400-level requirement for the French Business, French-Engineering, Applied French, and French Language and Culture options, as well as for the French minor. By covering the way in which the range of social identities and the cultural beliefs and values of French-speaking peoples are reflected in various media, and by assisting students in finding and assessing information about current events in the Francophone world, the course can also fulfill an "IL" requirement. Evaluation methods include a series of short quizzes to cover historical and factual data; a short midterm paper based on primary (newspaper-based) research; a longer final paper based on primary and secondary research; other written work of a short-response nature; a group oral presentation summing up the previous week's news and events; and participation, including presence. The course is offered once a year, usually in the spring semester.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2007
Prerequisite: FR 331 orFR 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 409 (IL) Commercial and Technical Translation (3) Translation from English to French of commercial and technical materials; vocabulary building; writing of abstracts and summaries.

Commercial and Technical Translation (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 402Y

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 416 (IL) Introduction to French Linguistics (3) Introduction to the theory and methods of linguistics as they apply to the major subfields.

Introduction to French Linguistics (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 418 (IL) French Syntax (3) A formal theory of word order and related issues in French grammar.

FR 418 French Syntax (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of this course is to provide the upper level undergraduate student with the background needed to understand modern generative syntactic theory, as well as to eventually enable him or her to do creative and informed research in this area. Roughly three-quarters of the semester will be devoted to an in-depth overview of the historical development of generative syntax, focusing particularly on modern Chomskyan theory - the so-called Minimalist Program. The remainder will build upon and round out this knowledge of syntax by exploring in depth a number of topics that any syntactician must be familiar with in order to do informed research in the field. This section of the course will involve lectures based on close readings of articles and book chapters exploring such topics as the syntax of negation, raising verbs, auxiliary verbs, adverbs, middle constructions, and/or verb movement. (Only a subset of these topics will be discussed, selected on the basis of student interest.)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 201 andFR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 417 (IL) French Phonology (3) A formal study of the sound pattern of French.

FR 417 French Phonology (3)
(IL)

The goal of this course is to present an introduction to the linguistic analysis of the sound pattern of French as it is actually spoken by real speakers. by the end of the semester, the student should be able to:
-transcribe French phonetically;
-understand the articulatory characteristics of French and how these differ from English;
-describe the relationship between French spelling and phonology
-examine what gives us accent in French;
-discern patterns of pronunciation in different varieties of the language;
-analyze real speakers' pronunciation on your own;
-create your own teaching/learning unit about some aspect of French phonology

Evaluative Methods: Student performance in this course is generally based on a series of assignments, quizzes, transcriptions, a research project and presentation, an evaluation of other students' presentations, and preparation/participation.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2007
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 422 (IL) Old French Literature (3) Medieval masterpieces in original and modern French versions.

FR 422 Old French Literature (3) (IL)

This course investigates one or several themes through the reading and discussion of selected French texts from the twelfth through the fifteenth centuries. Readings are in Modern French translation, with one or two classes devoted to a brief introduction to Old French and to manuscript culture. Themes of the course may include Gender and Genre, chivalry and courtly love, court and castle, Arthurian legend, comedy and humor, medieval French literature and film, or others.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 430 (IL) Contemporary France (3) Study of contemporary French society, politics, and culture from 1870 to the present.

Contemporary France (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 426Y (IL) French Literature of the Renaissance (3) Survey of key texts from sixteenth century France, with attention to historical and philosophical currents of French social thought.

French Literature of the Renaissance (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 434Y (IL) Culture and Cuisine (3) Interdisciplinary perspectives on the historical, political, and cultural dimensions of French food.

Culture and Cuisine (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 330, FR 452, FR 460

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 436Y (IL) Readings in Seventeenth-Century French Literature (3) Baroque and classicism: reappraisal of major and lesser-known 17th-century texts and theories.

FR 436Y Readings in Seventeenth-Century French Literature (3)
(IL)

Following selected theoretical approaches, the course analyzes various texts from major and lesser-known authors in the three literary genres of the French baroque era. The course examines the (de)formation of "French classicism" by taking into account the strong impact of the theories of literary baroque and concentrates on issues like theatricality and illusion, epistemology and religion, "prciosit," literary circles and acadmies, and power of theater and theater of power.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 440 (IL) Teaching of Romance Languages (3) Theories of second language acquisition. Current classroom practices in the teaching of Romance languages.

Teaching of Romance Languages (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 15 credits beyond the elementary level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 445Y (IL) Self and Society in Eighteenth-Century France (3) The changing relationship of the individual to society in pre-Revolutionary France will be explored in texts by major writers.

Self and Society in Eighteenth-Century France (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 351 . Prerequisite or concurrent:FR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 452Y (IL) Nineteenth-Century French Literature (3) Selected readings in romanticism, realism, and symbolism, including Balzac, Stendhal, Sand, Baudelaire, and others, with emphasis on cultural issues.

FR 452Y Nineteenth-Century French Literature (3)
(IL)

This course offers an overview of Nineteenth-Century French literature. It includes reading material representative of the major literary movements of the period (romanticism, realism, symbolism). It also gives students a chance to examine a great variety of literary genres (novels, plays, short stories, poems, children's narratives among others). In addition to developing close textual reading skills, emphasis is placed throughout the semester on the larger relationship between literary
production, aesthetics and Nineteenth-Century history (political systems, education, social transformations, industries and technologies, etc.). Anthologies and complete texts will be used.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 453Y (IL) La Belle Epoque: Politics, Society, and Culture in France, 1880-1914 (3) Interdisciplinary perspectives on the politics, society, and culture of France, 1880-1914.

FR 453Y LaBelle Epoque: Politics, Society, and Culture in France, 1880-1914 (3) (IL)

The goal of this course is to present and analyze the period of extraordinary changes in all domains known as the "Belle Epoque." The starting point for an examination of these changes is Guy de Maupassant's novel, Bel-Ami (1885), which describes the social and professional ascension of an egotistical Parisian parvenu, Georges Duroy. The reading of this novel will allow us at the same time to study in detail one of the novel's protagonists: Paris. Through our discussions and through consideration of a wide range of primary and secondary texts, we will examine the complex rapport between literature (as well as art) and society at the end of the nineteenth century, and we will attempt to answer questions such as: how did the changing Parisian landscape inspire the authors, artists et musicians of this era? How did the new Parisian space
encourage the development of new "places of pleasure" cafes, cabarets, cafes-concerts, theaters, racetracks, restaurants, etc.? How did innovations in architecture and the decorative arts, which flourished under the name of Art Nouveau, reflect both social developments and the transforming profile of Paris? What was, in fact, the new social and artistic geography of the capital?

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 330 orFR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 458 (IL) African Literature of French Expression (3) Genesis of Franco-African literature in the 1930s; phases of the negritude movement; colonial and national literature.

FR 458 African Literature of French Expression (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

African literature in French is one of the most vigorous of the many new literatures in French that are emerging throughout the vast francophone world. Writers from a variety of countries, from Senegal to Djibouti, from Algeria to Congo, are producing works in French, that reflect their own very distinct cultural experiences. They must often modify both the French language and traditional Western genres such as the novel to convey African ways of speaking and narrating. In this course, students will read novels, poems and an epic that has been translated into French from an African language. The subjects range from autobiographical accounts of growing up in an African town and going off to Europe to study during the colonial era to sharp criticism of both the French colonial regime and the subsequent national governments that took over after independence, an event that occurred in 1960 in most francophone African countries. For the new wave of women writers that has emerged on the literary scene in the last two decades, more personal themes such as love, family, personal freedom, and the task of balancing traditional customs with the needs of contemporary life in large cities have marked their works. Students who take this course will discover the diversity of African literature written in French, the traits that distinguish this literature from metropolitan French literature, the links between the oral tradition and the written tradition, and the changing role of women in society today. Students will be evaluated on written essays, submission of questions in advance of classroom discussion of each work, presentation of a talk in class on some aspect of the works read, a midterm and final exam. French 458 satisfies the literature course requirements in the French major and the 400-level course requirement in the French minor. It can also satisfy the diversity requirement for General Education. FR 458 will be offered once a year with 18 seats per offering.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 460 (IL) Contemporary French Literature (3) Major authors and movements in French novel, drama, and poetry from Proust to the present.

FR 460 Contemporary French Literature (3)

This course is designed for advanced undergraduate work and it is taught in French. To function well in this course, students need to have passed an intermediate introductory course to French literature. The primary goal of FR 460 is to facilitate students acquisition of a coherent view of major contemporary literary movements, from modernism in poetry and drama, through surrealism, both lay and Christian humanistic fiction, and existentialism, to the absurd theatre, the nouveau roman, and
post-modernism, ecriture feminine, anti-colonial and post-colonial literatures. Major authors are presented thru one of their works, taking into account the cultural, historical context in which they were developed. Instruction also comprises an initiation to basic theoretical notions on genres, literary techniques, and critical reading methodology. Contents will vary according to instructors choices but balance between periods, movements and genres is implied. Multi-media resources abound for the
purpose of illustration and interdisciplinary considerations but the primary thrust is cultural/ literary enrichment, and the development of students reading and analytical skills in French.

Web resources, excerpts, and shorter whole texts will be incorporated to the reading materials and will supplement the required books. Students are expected to read between ten and thirty pages according to the level of difficulty of the materials. No manual or anthology has been established a satisfactory choices for this course even though such tools exist, they generally do not treat the last third of the period properly. So FR 460 instructors have relied on a variety of primary texts to achieve as comprehensive yet coherent a survey of this overflowing century as possible. Occasionally a thematic approach has been attempted to introduce more cohesiveness in the selected readings but this must be combined with traditional, diacritical approaches so as to facilitate the students ability to see linkages between literature and history as well as other arts, as they pursue their French and other Liberal Arts majors.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 470 (IL) Race and Gender Issues in Literatures in French (3) A critical presentation, taught in French, of changing ideas and values on race and gender in French and Francophone literatures.

FR 470 Race and Gender Issues in Literature in French (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In addition to presenting subject matter that fosters an appreciation of literatures written in French while exploring racial and gender-related aspects of French and Francophone cultures, this course aims at developing a sophisticated, analytical outlook on peoples of different races and cultures and on women as authors, subjects, and literary "constrictions" evolving over time. It provides a sense of the historical development of these questions and the interconnectedness of literature with society, and culture. One example of the issues and selections is the vindication of women -including Middle Eastern and Biblical figures- in Christine de Pisan's City of the ladies, in the early 15th c.; it is shown to have links with the 1970 modernistic and satirical text by Monique Wittig, Les Guilrbres. Other examples can be the famed surrealist negritude poetry of Aim Csaire of Martinique, or a classic saga of European Jews by Andr Schwarz-Bart, or the humorous narrative of an African boy in contemporary Paris by Calixthe Beyala. Evaluation is based on a balance of in-class and take home exams and a final paper. Participation is expected, including electronic communication with the instructor. Attendance and participation are assigned a significant proportion of the grade (20%) as is feasible and desirable in small classes with fifteen students or less. The class is led in French, the language of most materials presented, and it is designed primarily for French majors and minors. The literature is supported and illustrated with video excerpts and films available outside class. Internet research is encouraged and expected. It is offered every three or four years, alternating with FR 471 (Francophone Women in Literature and Culture), or special topics courses and period-bound, advanced literature courses in French.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 471 (IL) Francophone Women in Literature and Culture (3) Women's issues in literatures and cultures of French-speaking countries in Europe, the mediterranean, Africa, the Caribbean, and Quebec.

FR 471 Francophone Women in Literature and Culture (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In addition to presenting subject matter that fosters an appreciation of documents and literary sources in French by and about women of Francophone countries in the post-colonial and post-modern era, the course initiates students to researching authentic documentation on those cultures. This course aims at developing a sophisticated, analytical outlook on Francophone women of different ethnic backgrounds and cultures and on women as authors, subjects, and literary "constructions" evolving over time. It provides a sense of the history of colonialism, slavery and Islam where Caribbean or African women are involved. One important component is sociological, demographic research and education. The Internet is a crucial tool for this course. The course contents varies by focussing on particular groups of women such as Caribbean or Islamic Francophone women. Evaluation is based on a balance of in-class and take home exams and a final paper. Participation is expected, including electronic communication with the instructor. Attendance and participation are assigned a significant proportion of the grade (20%) as is feasible and desirable in small classes with fifteen students or less. The class is led in French, the language of most materials presented, and it is designed primarily for French majors and minors. The printed sources and documents are supported and illustrated with video excerpts, films available outside class. Internet research is encouraged and expected. It is offered every three with 18 seats per offering, alternating with FR 470 (Race and Gender Issues in Literatures in French), or special topics courses ("The Francophone Short Story") and period-bound courses ('Twentieth Century French Literature"), advanced literature courses in French.This course fulfills the French major 400-level requirements in either the literature or the culture options, or the French minor similar requirement, and is also meant to fulfill the General Education requirement in race/gender and cultural diversity.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 487 (IL) Topics in French Film History and Theory I: 1895-1945 (3) Provide background needed to understand the broad outlines of French film history and theory in their first fifty years (1895-1945).

FR 487 Topics in French Film History and Theory I: 1895-1945 (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of this course is to provide the upper level undergraduate student with the background needed to understand French film in the period up to the end of World War II. This will greatly aid the student in understanding French literature and culture of the period as well. Topics will include the invention of cinema and the early days of French film; adventure serials and commercial films; avant-garde and surrealist film of the 1920s and 30s; and finally, the period often considered the "golden age" of French film, the 1930s and 40s, and the so-called "poetic realism" movement. Films will be supplemented with readings in criticism by writers and filmmakers of the period, as well as by the scholarship of critics and theorists writing today. The course would allow upper-level undergraduate students to partially fulfill the 400-level course requirement for French majors and minors. This course may also be used to fulfill a requirement in the newly proposed Film Studies minor. A student's performance in this course will normally be evaluated through an in-class expose, two in-class essay tests, and a short research paper. The class will be offered once a year with 50 seats per offering.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 351 andFR 352 orCOMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 488 (IL) Topics in French Film History and Theory II: 1945-2002 (3) Provide background needed to understand the broad outlines of French film history and theory in their second half-century (1945-2002).

FR 488 Topics in French Film History and Theory II: 1945-2002 (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of this course is to provide the upper level undergraduate student with the background needed to understand French film in the period from the end of World War II to the present. This will greatly aid the student in understanding French literature and culture of the period as well. Topics will include the French commercial film of the early postwar period; the ground breaking film criticism of the 1950s, and the films it spawned (the early "New Wave"); the later, more experimental films done in the later 1960s and 1970s by other critic-directors; and, finally, films made in more recent years specifically concerned with the historical memory of social trauma-the Occupation and Holocaust-and the possibility of the cultivation and preservation of this memory in and through the film medium. The analysis will include readings by critics (many of the filmmakers) writing at the time the films were made, as well as more recent scholarship and criticism.The course would allow upper-level undergraduate students to partially fulfill the 400-level course requirement for French majors and minors. It will be offered every other year. This course may also be used to fulfill a requirement in the newly proposed Film Studies minor. A student's performance in this course will normally be evaluated through an in-class expose, two in-class essay tests that will determine the student's analytical skills; and a short research paper. This course will be offered once a year with 50 seats per offering.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: FR 351 andFR 352 orCOMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 489 (IL) French Literature and Film (3) Comparison of artistic differences between selected pieces of French literature and their film adaptations.

FR 489 French Literature and Film (3)

This course is meant to introduce students to the generic differences of narrative fiction and film, to make them aware of the constraints of each art form, and to think critically about what happens to a literary work when translated into film. It is taught in French and most of the films are not subtitled while all of the written materials are in French. The novels or stories used are considered canonical French or Francophone narratives such as Sugar Cane Alley or Madame Bovary. In some cases, several adaptations of the same story are available for viewing and analysis. So we spend the first 5 weeks reading and discussing Madame Bovary as a literary masterpiece, and viewing selected scenes from five different adaptations of this novel whose highlights in all adaptations are the agricultural fair (seduction scene), the abandonment scene, and the death scene. Basic concepts of literary criticism (narrative voice, irony, description, social criticism, gendered perspectives) and of film analysis (various types of shots, montage, ellipsis, rhythm, audience seduction and response) are presented and form the theoretical backbone of the course contents. Three more stories or novels and several adaptations are read and viewed jointly by the students to reinforce the use of the critical concepts studied earlier. By the tenth week, they must identify a fifth narrative from a list of some thirty different pairs (literary and film media) made available to them individually.   They must analyze the film adaptation as their final project and present it to the class. The term paper consists of three separate documents: the detailed narrative summary, the detailed film sequential summary, and the comparative paper, properly speaking followed by a bibliography of sources.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: FR 351 orFR 352

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

French (FR)

FR 499 (IL) Foreign Study--French (3-12) Advanced studies in French language and literature.

Foreign Study--French (3-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: FR 201, FR 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 401 Introduction to Fuel Technology (3) An introduction to the scientific and engineering principles of fuel technology. For non-fuel science majors; fuel science majors will not receive credit.

Introduction to Fuel Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 422 Combustion Engineering (3) Principles of industrial combustion engineering; structure and stability of industrial flames; heat transfer; examples drawn from industrial applications.

Combustion Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: EGEE 401 orF SC 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 431 The Chemistry of Fuels (3) Nature and properties of fossil and other fuels, including aerospace, in relation to use; preparation of fuels; by-products; fuel analysis.

F SC 431 The Chemistry of Fuels (3)

The course deals with the formation, composition and properties of the principal naturally occurring fossil hydrocarbons (coal, petroleum, natural gas), and their refining, upgrading, and conversion chemistry. The objectives of this course are to equip students with a fundamental knowledge of the chemistry for the fossil hydrocarbon resources and their energy use for transportation and stationary fuels as well as their use as chemical feedstocks. It also helps to prepare students for the challenges, opportunities, and changes in the world of energy and resource-related enterprises. The primary emphasis is on petroleum, natural gas, coal, and liquid transportation fuels. This is a required course for the Energy Engineering Major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 210;EGEE 302 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 432 (CH E 432) Petroleum Processing (3) A study of physical and chemical processes to convert crude oil into desired products with an outlook from present to future.

Petroleum Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 435 (CH E 435) Industrial Organic Chemistry (3) Chemistry and processes for producing organic chemicals and materials in existing and emerging new manufacturing sectors of organic chemical industry.

Industrial Organic Chemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Fuel Science (F SC)

F SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 402 Introduction to Particle Systems (1) Characteristics of particulate systems; particle modification processes; transport and flow in powders, dispersions and suspensions.

Introduction to Particle Systems (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 250 orMATH 251, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 404W Surface and Interfacial Phenomena in Geo-Environmental Systems (3) Principles underlying surface and interfacial phenomena with application to mineral processing and geo-environmental systems.

GEOEE 404W Surface and Interfacial Phenomena in Geo-Environmental Systems (3)

This course provides an opportunity for a student majoring in Environmental Systems Engineering to integrate and understand the topic of surface phenomena and separations for treatment and remediation of geo-environmental systems. It includes the fundamentals of surface and interfacial phenomena with applications towards separations in environmental systems engineering. The course includes 2 lectures and a 2-hour laboratory per week, to supplement the lecture topics with hands-on experience. One design experiment and six laboratory exercises are included to simulate several types of problems that an engineer might encounter in the field. In the design experiment, students are to develop an experiment or a set of experiments to solve a contemporary environmental remediation problem. To complete this task students develop a plan identifying the techniques used in the remediation scheme. Geo-environmental systems are inherently complex involving disperse particles and multi-phases. The topics to be covered include: disperse particle systems and separations, surface tension and capillarity, three-phase equilibrium, multiphase systems and wetting phenomena, adsorption at liquid-gas, solid-gas, and solid-liquid interfaces, surface charge and electric double layer, electrokinetics and applications of interfacial phenomena to enhance separations. Examples of solid-liquid separations include filtration; coagulation, thickening and sedimentation; removal of dissolved impurities by precipitation and reverse osmosis; purification of gases and liquids by adsorption; separation of solid particles based on differences in their surface properties.

A combination of lectures and laboratory experiences is used to provide students with the basic concepts of surface phenomena and their application to phase separations. The students learn to apply these principles to solve problems related to processing, treatment and separations in environmental systems engineering. The students will use a combination of predefined laboratory exercises to gain hands-on experience of different types of separations. In addition, they will design and conduct experiments to solve a given problem in environmental pollution control or remediation of contaminated water or soil. Some examples include: treatment of acidic mine waters or electroplating wastewater. Other examples may include soil contaminated with heavy metals and organics.

Students will work in teams of two to three students to conduct experiments, collect, analyze and interpret data, and communicate results effectively. They will communicate the results in the form of individual written technical reports resulting from the laboratory exercises and the design experiment.

The evaluation in the course is based on mid-term examinations and quality of the technical reports based on laboratory exercises. The criteria for evaluation of writing will include the ability to direct the material to professionals in the field and to present an explanation of the data interpretation based on sound scientific reasoning (that is, application of principles and subject matter learned in the course). The written reports will include proper citation and integration of relevant published material, accurate presentation of acquired data in tabular or graphical form, and attention to grammar, syntax, and spelling.

The grade distribution will be as follows:
1. Laboratory reports: 35%
2. Mid-term examination 1: 20%
3. Mid-term examination 2: 20%
4. Homework assignments: 15%
5. Attendance: 10%

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: or concurrent:EME 301 orMATSE 401;GEOEE 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 406 Sampling and Monitoring of the Geo-Environment (3) Issues of sampling, analysis, monitoring and control techniques for effective environmental management in the extractive industries.

Sampling and Monitoring of the Geo-Environment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MN PR 301, MNG 401, P N G 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 408 Contaminant Hydrology (3) Groundwater flow and transport; agents of contamination; aquifer characterization and remediation; case studies.

GEOEE 408 **GEOEE 408 Contaminant Hydrology (3)**

This is an introductory course on contaminant hydrology for students who have taken an introductory course in groundwater hydrology (GEOSC 452 or equivalent). The course introduces concepts of flow and transport of immiscible fluids, LNAPLs and DNAPLS, in saturated and unsaturated porous and fractured media. Concepts include multiphase transport, dissolution, volatilization and transport in aqueous and gas phases, aquifer characterization and remediation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: GEOSC 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 412 Geo-Environmental Engineering Laboratory (1) A laboratory study of the principles involved in the characterization and remediation of process wastes. Those students who are scheduled for MN PR 413 may not take this course.

Geo-Environmental Engineering Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: or concurrent:MN PR 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 427 Pollution Control in the Process Industries (3) Development of multimedia pollution control strategies for the mineral, metallurgical processing, and fossil fuel industries.

GEOEE 427 **GEOEE 427 Pollution Control in the Process Industries (3)**

GEOEE 427 is designed to meet the needs of process-oriented engineers who are involved in environmental pollution and control. The course is required of all GEOEE students, who must score at least a C grade to graduate. Students are introduced to total quality management and its effective application in the solution of engineering problems. In environmental pollution control, techno-economic and sociopolitical exigencies are prevalent. Consequently, students are introduced to environmental and engineering ethics, which play important roles in formulation of solution strategies for environmental pollution problems. The course serves as a good foundation for the GEOEE process design course (MIN E 497A/GEOEE 480).

Student evaluation is by homework assignments and in-class tests. Some of the homework assignments require the students to work in a team environment to complete a mini-design project. The homework assignments account for 20-30% of the scores in the class, with open-book tests accounting for the remaining score. At the completion of each module, an in-class test is given. Owing to the importance attached to ethical issues and process engineering aspects of the course, students take two tests at the completion of Module 1. In general students complete a total of six tests and are allowed to drop one low score with each test carrying the same weight.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: or concurrent:CHEM 112, MATH 250 orMATH 251, MN PR 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 480 GeoEnvironmental Engineering Process Design (3) An integrated problem-based learning experience that utilizes fundamental concepts covered in the curriculum to design a geo-environmental system.

GEOEE 480 **GEOEE 480 Geo-Environmental Engineering Process Design (3)**

The major objective of this course is for students to learn the fundamental principles involved in the integration of knowledge and experiences gained in the major to design a remediation process or system. The course is an integrated problem-based learning experience in which students working in a team setting utilize fundamental concepts covered in the curriculum (e.g., mathematical, management, physical, atmospheric, geological and engineering sciences) to design an environmental remediation system or subsystem. Students are required to integrate different unit operations in a synergistic fashion to accomplish the project objectives. The design project entails development of tasks and timelines for their execution, sizing of process equipment and treatment of cost estimation. Students registered in the course are required to complete a design project in one of the following areas: air pollution control, surface or ground-water remediation and soil washing. Specific topics covered in the course include:
1. Introduction to total quality management principles (TQM), teamwork and application in process design.
2. Development of concept and road maps. Integration of unit operations covered in prior coursework to synthesize a remediation process to accomplish set objectives.The use of by-product recovery strategies, waste minimization, redesign of offending streams, etc., in process design, with examples.
3. Economic evaluation and process optimization (capital, operating and construction cost estimation, energy requirement, net present value of the investment, etc.).
4. Development of process flow diagrams, material balances, etc.
5. Design or sizing and integration of the different unit operations.
6. Final report preparation and presentation at the board of directors meeting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: GEOEE 427 minimum of seventh-semester standing in Environmental Systems Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 494 Senior Thesis (1-6) Independent research and/or design projects under the supervision of the interdisciplinary Environmental Systems Engineering program.

GEOEE 494 **GEOEE 494 Seniro Thesis (1-6)**

The objective of the course is to enable students to carry out an in-depth study of some aspect of geo-environmental engineering through original research, process analysis, design projects, etc. Topics covered vary and are selected by the student in consultation with an individual member of the faculty. Students normally register for at least one credit in each of two consecutive semesters. In the first semester, students are required to select a topic, carry out relevant background and literature review, and establish roadmap and methodologies. In the second semester, the thesis work is completed. Students are required to make oral presentations of their findings to faculty and peers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: seventh-semester standing in Environmental Systems Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geo-Environmental Engineering (GEOEE)

GEOEE 494H Senior Thesis (1-6) Independent research and/or design projects under the supervision of the interdisciplinary Environmental Systems Engineering program.

Senior Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: seventh-semester standing in Environmental Systems Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 010 (GN) Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.

GEOG 010

GEOG 010 Introduction to Physical Geography (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to Physical Geography systematically examines the spatial patterns and interrelationships among physical elements at the earth's surface. Particular emphasis is given to developing an integrative view of how atmospheric, hydrologic, geomorphic, and biotic processes control the patterns of climate, water, landforms, soils, and biota across a local-to-global continuum. Those physical elements that influence and/or are influenced by people are the primary focus of study.

Physical geography does not simply discuss the atmosphere, hydrosphere, lithosphere, and biosphere in isolation; instead, it concentrates on understanding the *integration* of these realms of the natural world. For example, the study of weathering processes demonstrates how the physical and chemical breakdown of Earth's surface material depends on the interaction of air, water, and biota with rock.

The focus of physical geography is unlike the component disciplines from which it draws. On the one, hand, meteorology focuses on the atmosphere above our heads. Hydrology focuses on water in isolation from people. Geology and soil science focus on the Earth beneath our feet. Biology and ecology focus on the plants, animals, and ecosystems in isolation from people. One the other hand, physical geography concentrates on the surface of the Earth where the atmosphere, hydrosphere, lithosphere, and biosphere intersect. *Introduction to Physical Geography* is concerned with the human habitat-the life layer in which humans interact with their natural world.

Like all geography, five recurring themes permeate *Introduction to Physical Geography*: location, place, regions, movement, and human-environment relationships. Physical geographers not only are interested in where natural phenomena are located on Earth's surface, but also they want to know the answers to such questions as:

1. What is special about the physical processes that take place in a location?
2. How does the physical geography of a place relate to other places in the region?
3. How does energy and mass flow into and out of a region?
4. How do biophysical processes change as we move up and down spatial scales?
5. How do people influence natural processes? How do these processes influence people?

Other disciplines typically do not cover these spatial and nature-society themes systematically.

Physical geographers have developed and adopted many tools to address these themes. Maps are obvious choices, but geographers also use a wide array of photographic and imaging technologies to study the distribution of Earth processes and the processes themselves. They use geographic information systems and computer models to manipulate, display, and analyze spatial data.*Introduction to Physical Geography* acquaints students with many of these tools.

When the above points are taken together, physical geography emerges as a unique field of science. *Introduction to Physical Geography* provides a learning experience that students can get in no other discipline-one that takes an integrated view that makes the nature environment relevant.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 010H (GN) Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.

Physical Geography: An Introduction (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 010S (GN) Physical Geography: An Introduction (3) Survey and synthesis of processes creating geographical patterns of natural resources, with application of basic environmental processes in resource management.

Physical Geography: An Introduction (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 020 (GS;US;IL) Human Geography: An Introduction (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.

GEOG 020

GEOG 020 Human Geography: An Introduction (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to Human Geography introduces students to the breadth of contemporary human geography. It explores both the range of topics that geographers study, and some of the concepts and methods they use to study them. Major topics include the spatial organization of human activities; ways in which social processes and structures can be understood through a geographic lens; and geographic perspectives on human-environment interactions. These general topics are explored largely through close examinations of case studies. Any student interested in how the world functions economically, politically, socially and culturally as it enters the new millennium should enroll in Introduction to Human Geography. For this reason, this course satisfies the General Education and the Intercultural course components of the Penn State student curriculum. Students' final grades are based on attendance, participation, four exams, and their contribution to a group research project.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 020U (GS;US;IL) Human Geography: An Introduction (3) Spatial perspective on human societies in a modernizing world; regional examples; use of space and environmental resources; elements of geographic planning.

Human Geography: An Introduction (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 030 (GS) Geographic Perspectives on Sustainability and Human-Environment Systems (3) Introduction to theory, methods, history and contemporary issues in global and regional relationships between human activity and the physical environment.

GEOG 030

GEOG 030 Geographic Perspectives on Sustainability and Human-Environment Systems (3) (GS)

(BA) This course meets the Bachelor of Arts degree requirements.

One of the major themes in the discipline of geography is the study of the relationships between humans and the natural environment. GEOG 030 introduces students to the ways in which people have viewed and used the natural environment in different times and places and to the theories and methods that geographers have used to study human-environment relations. The course begins with an overview of theories and tools used to understand and predict the impact of humans on the environment and vice versa. The course then explores the co-evolution of the biosphere and humanity, first tracing the history of the biosphere before humans and then examining the increasing influence of humans on the biosphere through hunting and agriculture. Next, an environmental history of the United States begins with the initial European contact with the indigenous people and native fauna and flora, then considers important environmental movements, and culminates in the modern environmentalist movement. A small set of contemporary American natural resource management issues, including common property resources and water supply and quality, illustrates place-based conflicts among competing social goals and preferences. The driving forces of pollution, including air and water pollution, are examined along with potential solutions. Finally, a triumvirate of global environmental change problems-feeding a global population, tropical deforestation, global warming-introduce notions of sustainable development. The course will provide students with the opportunity to read and learn about the ways in which humans think about, use, and are affected by the natural environment. It will provide them with skills for analyzing and evaluating the ways in which humans have transformed the environment in different parts of the world and will integrate knowledge from the natural and social sciences. One goal of the course will be to help students make informed decisions about the ways in which humanity relates to the natural environment, and to increase their sensitivity to the global and international context of human interactions with nature. Lectures will be supported with reading from a basic text such as G. T. Miller's *Living in the Environment* and by projects and discussions around course themes within a discussion format. A recitation section is crucial because it allows students to explore controversial issues such as biotechnology, valuing nature, and global warming, and to develop critical positions on such issues. Those issues are presented in a reading of books like T. Goldfarg's *Taking Sides: Clashing Views on Controversial Environmental Issues*.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 040 (GS;IL) World Regional Geography (3) Introduction to the world as an interdependent community built from unique and independent regions and nations.

GEOG 040

GEOG 040 World Regional Geography (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

World Regional Geography examines a world which is undergoing political, economic and social transformations at many different spatial scales. Utilizing geographic concepts including scale, place, region, and location, this course examines international linkages, such as global capital, which help forge a world community.

However, the course also examines local situations which contradict our understanding of a global community, such as ethnonationalism, the increasing spread of AIDS in the developing world and the rise of Islam. The course examines a variety of "voices" struggling to be heard in the world: those embracing the global economy and an international culture and those rejecting a homogenizing global capital and culture because they see their resources being exploited by global capital. An examination of global capital at the regional and local level reveals the consequences for places that do not have access to this type of global resource. Concepts such as North and South, developed and developing, globalizing capital and homogenizing world culture, take on new meaning, when they are explored at a regional level.

As part of this examination, the course explores how we in the "West" have influenced particular places, regions and realms around the world through the processes of colonialism and post-colonialism and how these processes have produced a post-colonial world where individual geographic identities are in an important sense globally constructed. Lastly, this course explores how we in the "West" have thought about other places, regions and realms and how this way of thinking has contributed to the way that we think about ourselves.

Any student interested in how the world functions economically, politically, socially and culturally as it enters the new millenium should enroll in World Regional Geography. For this reason, this course satisfies the General Education and the Intercultural course components of the Penn State student curriculum. Students' final grades will be based on attendance, participation, two exams, virtual module projects and a series of short essays.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 110 (GN) Climates of the World (3) Introduction to climatology, including principal processes of the global climatic system and their variation over space and time.

GEOG 110

GEOG 110 Climates of the World (3:3:0)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Climates of the World examines the spatial patterns and physical processes associated with climate and its interannual variations and longer-term changes. Particular emphasis is placed on the integrative role of the different Climate System components (atmosphere, biosphere, hydrosphere, lithosphere, cryosphere), and on the increasing impact of human activities- both inadvertent and intentional- on climate from local through regional to possibly global scales.

Climatology involves more than an understanding of basic principles of meteorology, although these are important. Similarly, climatology is more than the separate study of the other Climate System components represented in, for example, oceanography, glaciology, hydrology, and ecology. It is, instead, a fully integrative discipline that is focused on the climate at and very close to the Earth's surface. Students are introduced to the importance of *energy* and *mass flows* among the different Climate System components, the physical and chemical *feedback*s involved in climate stability, the relationships between *spatial and temporal scales* in climate, and the physical processes associated with interannual *climate variations*. The last includes concepts such as *cloud-radiative forcing, sea-air and ice-air interactions* (e.g., in El Nio Southern Oscillation and other *teleconnections*), and the South Asian Monsoon as an example of a dynamical climate phenomenon affecting millions of people.

Like all geography, five recurring themes permeate *Climates of the World*: location, place, regions, movement, and human-environment relationships. Climatologists not only are interested in where different climates are located on Earth's surface, but also they want to know the answers to such questions as:

What is special about the physical climate processes that take place in a location?
How do the climate processes of a place relate to those of other places in the region?
How does energy and mass flow into and out of a region?
How do biophysical processes change as we move up and down spatial scales?
How do people influence climate processes? How do these processes influence people?

Other disciplines typically do not cover these spatial and nature-society themes systematically.

Climatologists have developed and adopted many tools to address these themes. Maps are obvious choices, but geographers also use a wide array of photographic and imaging technologies to study the distribution and changes in climate-forcing factors, such as land use/land cover, clouds and cloud systems, outgoing longwave radiation, and sea surface temperatures. They use geographic information systems and computer-based methods to manipulate, display, and analyze spatial data.*Climates of the World* acquaints students with many of these tools.

When the above points are taken together, climatology emerges as a field of science best suited to study by geographers. *C Climates of the World* provides a learning experience that students can get in no other discipline--one that takes an integrated view that makes the "mystery" of climate and what makes it vary and change spatially and temporally, much more understandable.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 111 (GN) Biogeography and Global Ecology (3) Distribution of plants and animals on global, regional, and local scales; their causes and significance.

GEOG 111

GEOG 111 Biogeography and Global Ecology (3)
(GN)

Biogeography and Global Ecology is the science that seeks to identify and understand the past and present spatial distributions of plants, animals, and biodiversity on earth. Particular emphasis is given to developing an integrative framework to explaining how physical and biotic processes have and will continue to contribute to geographic variation in life on earth. The influence of people, and future climates, as agents of change are an important focus of study.

For the uninitiated, biogeography and global ecology may appear to be an amalgamation of topics taken from geology, biology, climatology, oceanography, and other bio-physical sciences. Biogeography and Global Ecology certainly covers parts of these topical areas, but biogeography as a science is unique.

Biogeography and Global Ecology does not simply discuss environmental and biological processes or factors that control species distribution and abundance patterns. The field, instead, concentrates on integrating theory and data from evolution, ecology, population biology, and the Earth sciences to explain geographic patterns in species and species assemblages. As such, it is a branch of both geography and biology. Drawing sharp boundaries between biogeography and other disciplines is counter productive because biogeography has its own theoretical and empi4rical approaches that readily incorporate conceptual and factual advances in allied sciences.

As in all geography, five recurrent themes are reflected in the content of biogeography: and global ecology place, region, scale, movement, and human-environment relationships. Biogeographers are not only interested in where species are, but also they want to know the answer to such questions as:
- What role does geographic variation in climate, topography, and interactions with other organisms including people play in limiting a species distribution?
- How have historical events such as continental drift, and ice ages shaped a species distribution?
- Why are plants and animals in isolated places such as Madagascar so distinctive?
- Why are there so many more species in the tropics than at temperate or arctic latitudes?
- How has fragmentation of regions and landscapes by human activity affected species diversity?
- How will the distribution and abundance of key species change under an altered climate?

Biogeography and global ecology is a unique and synthetic field of science. This course provides a unique learning experience that students can get in no other discipline-one that takes an integrated view and makes the natural environment relevant.

General Education: GN
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 115 (GN) Landforms of the World (3) Distribution of the world's landform features and mineral resources; their characteristics, causes, and significance. Practicum includes correlated field trips and laboratory studies.

GEOG 115

GEOG 115 Landforms of the World (3:3:0)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The subject of Geography 115 GN is landforms, the shape of the earth's surface. Throughout the course, three questions are asked.

The first question is descriptive: what is the surface of the earth like? What is it made of? What does it look like? And where do certain kinds of landforms occur geographically? The answers to these questions are complicated, but not as complicated as one might think. In fact, certain types of landforms tend to occur again and again, and they are found in predictable places. Mountains, for example, are not just high places, but their arrangement and internal geography are interesting and surprisingly orderly. By the same token, plains are not just dull flat places on the earth's surface. They vary greatly, and those variations are extremely interesting.

The second question deals with origins. It is the basic question which all sciences ask: Why?
Why are the landforms of the earth shaped the way they are? Why are they made of certain kinds of rock materials? Why do they differ from place to place? In short, we want to know how landforms are made, and the forces that made them. Again, the answers to these questions are less complicated than one might guess, because certain causes tend to repeat themselves, and when they do, similar landforms result.

The third question deals with the effects of landforms in human terms. How have people adapted themselves to various kinds of landforms? How have landforms helped or hindered people in their daily lives, both now and in the past? The answers, of course, are not surprising: landforms make a huge difference in the way we live. And the answers are especially interesting when we look at them in some detail, with examples from all parts of the world.

Thus, Geography 115 GN is designed to examine:
- Geomorphic processes at work,
- The effect of these processes as they work on certain geologic structures,
- How the combinations produce certain kinds of landforms, again and again,
- How human beings have been affected by these elementary facts-of-life, with examples from all over the world, but especially the United States, and adjacent parts of Canada.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 120 (GS;US;IL) Urban Geography: A Global Perspective (3) Introduction to the geography of the world's cities and urban system.

GEOG 120

GEOG 120 Urban Geography: A Global Perspective (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines urban settlements and analyzes the processes of urbanization from a global perspective. The goal is to provide students with basic information, concepts and analytical tools to understand contemporary processes of urbanization and urban change. Urban places are of fundamental importance: for the distribution of population; for the organization of economic production, distribution and exchange; in the structuring of social reproduction and cultural life; and in the allocation and exercise of power. Geography provides a particularly useful perspective on and insight into the urban condition, helping to understand the internal structure of urban areas and the complex inter-relations between cities around the globe. An over-riding theme in the course is examining the relationship between global and local factors in these processes. Critical areas of inquiry include the economy of cities, politics, social interaction, urban social movements, land-use, and urban structure. A significant portion of the course focuses on urbanization in the Third World.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 122 (GH;US) The American Scene (3) Historical perspectives on the social and cultural forces associated with the production of distinctive American landscapes.

GEOG 122

GEOG 122 The American Scene (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

The American Scene offers a broad introduction to the historical geography of the United States through analysis of distinctive elements of regional landscapes. Archival evidence and contemporary photography are utilized to assist in an understanding of "landscape," "place" and "region", each important frames for geographical inquiry. For some students, GEOG 102 is one of a suite of 100-level courses that are part of the Major in Geography. For a second set of students, it is one of several recommended courses for particular programs, such as Landscape Architecture, Secondary Education or Elementary Education. And for yet other students across 48 different majors that typically take the course, it offers a humanistic perspective on the world around them, a perspective rich with empirical evidence of the transformation of the United States from a wilderness first occupied by Indians, then colonists from specific European realms, some supported by indentured or enslaved labor, as well as later immigrants that pursue agricultural and industrial economies in an array of rural and urban settlement systems. No matter what the rationale for taking the course, at the conclusion of GEOG 102 The American Scene, students should have a deeper understanding of some of the issues involved in the analysis of place at a variety of spatial scales, and a better sense of the historical layering in the landscapes that they encounter each day and on their travels. The course is organized regionally and temporally to follow the evolving historical geography of the area today known as the United States. Case studies are drawn from a dozen regions, each emphasizing a different historical moment in the transformation of landscape since the end of the last Ice Age. Some examples draw on material at the scale of a single house or farm and others at the level of a multi-state industrial corporation such as US Steel in the early twentieth century. Although the course shares with other courses in human geography an intellectual concern for spatial organization of human activities, the ways in which social processes and structures can be understood through a geographic lens, and geographic perspectives on human-environment interactions" (GEOG 020 course description), this course, along with GEOG 040, World Regions, stresses the regional settings of such organization, processes and interactions. Any student interested in how the distinctive landscapes of the United States evolved to this point should enroll in The American Scene. It draws on scholarship in historical and cultural geography, as well as architectural history and art history. Students' final grades are based on attendance, participation, four tests, a final exam, and a walking-tour landscape analysis assignment. Currently offered once a year in the Fall semester.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 123U (GS;IL) Geography of Developing World (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.

Geography of Developing World (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 123 (GS;IL) Geography of Developing World (3) Patterns of poverty in poor countries; conventional and non-conventional explanations; focus on solutions; case studies of specific regions.

Geography of Developing World (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 124 (GS;IL) Elements of Cultural Geography (3) Locational analysis of changes in non-Western cultures. Problems of plural societies, economic development, population growth, and settlement.

GEOG 124

GEOG 124 The Elements of Cultural Geography (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Elements of Cultural Geography focuses on the interaction between people and environment at a global scale and in a representative range of regions. It begins with a long-term, global perspective on changes in people and environment, particularly as they relate to changes in population and technology. It then examines the interaction between people and environment in the Amazon, the Basin of Mexico, Southern California, and the Great Plains. While taking such a case-study approach in the second part of the course, it relates changes in those places back to the long-term, global model and to other regions thus exploring how global interconnections have changed over time and the implications of those changes for the present and the future.
This course is not required for majors, has no prerequisites, and is not a prerequisite for any other course. It provides a foundation for understanding human-environment interactions at a global scale, including the regional interactions involved, and thus provides a context for more focused regional courses in the upper-division curriculum.
This course consists of approximately thirty meetings plus a final exam. The thirty meetings include twenty-four lectures, four videos, and two midterms. The exams combine multiple choice, matching, true/false, fill in the blank, and short written answers.
Enrollment averages 185. There are no lab oratory or discussion sections.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 126 (GS;US;IL) Economic Geography (3) The location of economic activity at both macro- and micro-regional levels on the earth's surface.

GEOG 126

GEOG 126 Economic Geography (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course consists of lectures, in class discussions, films, student presentations and exams. It is designed as an introductory course on economic geography and serves as background for any course on international economics, economic development, and international business management, international political economy. It will provide a balanced view of contemporary globalization processes across the world through a geographical lens, focusing on a wide range of topics including the history of globalization, spatial structures of firms and business, international trade, and state interventions based on detailed case studies. Students complete two research projects, one oral presentation, play two simulations, and complete two examinations. Students read materials written by the professor, find in national newspapers, and retrieve from the library and off the World Wide Web.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 130 (GS) Environment, Power, and Justice (3) This course explores contemporary themes in human-environment relations through the lens of political ecology.

GEOG 130 Environment, Power, and Justice (3)
(GS)

Relationships between human societies and their physical environments are a defining concern of geography. This course will give students an in-depth knowledge of contemporary human-environment studies in geography through an introduction to the field of political ecology. Political ecology is an interdisciplinary approach that combines environmental justice, cultural ecology, and other related approaches in order to undertake an integrated, holistic assessment of the relationships between social and ecological change, with a particular focus on issues of power and justice in the areas of environmental change and management. In particular, it analyzes the relationships between social and ecological marginalization and change; the social issues surrounding conservation of protected natural areas and species; the underlying causes of environmental conflicts; issues of justice and distribution as they relate to the production and consumption of environmental goods and services; and the role of environmental considerations in the formation of individual and group identities, including environmental social movements.

Students in this course will gain familiarity with a wide range of theories and methods in central to contemporary human-environment geography, and increase their knowledge of the world in general, and of environmental policy challenges in particular, by learning how those theories and methods have been put to use in the analysis of case studies from many different countries and continents. Students will be evaluated based on the understanding of the course material they display in a midterm and final examination, and on their contribution towards a group research project.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 128 (GS;IL) Geography of International Affairs (3) Contemporary international affairs in their geographical setting; geographic elements in the development of national power, political groupings, and international disputes.

GEOG 128

GEOG 128 Geography of International Affairs (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography of International Affairs uses the organizing principle of geographic scale to examine the spatial patterns of and interrelationships among political processes and institutions. Particular emphasis is givent to developing an integrative view of how global, national, local and individual scale processes interact to produce patterns of peace and conflict. The course analyzes how the actions of individuals, states and other political actors are influenced by their dynamic geographical contexts.

The political geography approach does not simply discuss the war, peace, nationalism, terrorism, and religious organizations in isolation; instead, it concentrates on understanding the *integration* of these processes, and how their integration mediates political decisions and outcomes. For example, the study of terrorism demonstrates how the decision to commit terrorism is made in a multi-scalar context of competing states and/or nation-state building. In addition, the spaces of terrorist networks are contrasted with spaces of nation-states to show the geographical complexities involved in effective counter-terrorism.

The focus of political geography is unlike the disciplines of political science, international affairs and sociology from which it draws. On the one hand, political science focuses on the processes within separate nation-states. International affairs focuses on the interaction between nation-states, seen as unified actors. Sociology focuses on social organizations and institutions, but usually within the confines of a particular nation-state. One the other hand, political geography concentrates on the interaction of domestic politics, international relations, and trans-national social interactions. Seeing each is mutually constitutive of the other. *Geography of International Affairs* is concerned with the geopolitical context, broadly defined - the manner in which spaces and places are combinations of the political and the social, the domestic and the international, the global and the local - and how it partially determines the form and outcomes of politics.

Like all geography, five recurring themes permeate *Geography of International Affairs*: space, place, scale, context, and human-territorial relationships. Political geographers not only are interested in where political phenomena are located on Earth's surface, but also they want to know the answers to such questions as:
What is special about the political processes that occur in a particular place?
How does the political geography of a place relate to other places in the world?
How do spaces of power, such as states, operate?
How do political processes change and interact as we move ip and down spatial scales?
How and why do people use territory in political conflicts, such as ethno-nationalist or religious wars and disputes?

Other disciplines typically do not cover these spatial and human-territorial themes systematically.

As part of the broader discipline, political geographers have developed and adopted many tools to address these themes. Maps are obvious choices, but geographers also use a wide array of statistical and qualitative techniques to study the distribution of political processes and the processes themselves. They use geographic information systems and computer models to manipulate, display, and analyze spatial data.*Geography of International Affairs* acquaints students with many of these tools.

When the above points are taken together, political geography emerges as a unique field of social science. *Geography of International Affairs* provides a learning experience that students can get in no other discipline - one that takes an integrated view that makes contemporary international affairs relevant and understandable.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 160 (GS) Mapping Our Changing World (3) Fundamental concepts of GIS, cartography, remote sensing, and GPS in the context of environmental and social problems.

GEOG 160

GEOG 160 Mapping Our Changing World (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Mapping involves producing and using geographic data. Geographic data specify the locations and characteristics of people, the objects people create, and the various phenomena of the natural environment with which people interact. Geographic data are produced by several methods, including land surveying, aerial photography and photogrammetry, satellite remote sensing and positioning systems, and social surveys such as those conducted by the U.S. Census Bureau. Geographic information systems (GIS) and related technologies are used to turn data into maps, tables, and other kinds of information people need to make informed decisions. In a rapidly changing world, detailed, up-to-date geographic data are indispensable for governance, for commerce, and for research intended to improve our understanding of social and environmental systems. GEOG 160 helps students begin to develop the knowledge, skills, and dispositions that constitute geographic information literacy - the ability to "recognize when information is needed and ... to locate, evaluate, and use effectively the needed information" (ALA 1989). Geographic information science (GIScience) is a research enterprise concerned with the design, development, and use of geographic information technologies to help institutions and individuals not only respond to, but ideally to predict, environmental and social change. GEOG 160 is an introduction to GIScience that provides students with the technical and contextual knowledge they need to become knowledgeable consumers of geographic data and information produced by government agencies, industry, and popular media. The course is intended to be of value not only to future specialists in the geographic information enterprise, but also to every student who is concerned with social and environmental research and policy-making. The course consists of two 50-minute weekly meetings of the entire class (typically 120-160 students per semester at University Park) and one 50-minute weekly meeting of laboratory sections composed of not more than 24 students each. Meetings of the entire class include instructor presentations, discussions, and hands-on activities. Laboratory sessions include workshops in which student leadership teams (under the supervision of graduate teaching assistants and undergraduate teaching interns) guide peers through the mastery of skills and concepts targeted in six project assignments. Most project assignments culminate in reports that students "publish" in personalized e-portfolios. Like other information technologies, GIS is evolving rapidly. People who work with GIS understand that learning is a way of life, not just a prelude to a career. With this in mind, GEOG 160 aims not only to help students learn about geography and GIS, but also to develop the disposition to become effective lifelong learners. The course text is a six-module online course called "Understanding Geographic Data" that was authored by the lead faculty member, and is published on the Virtual Campus of the world's leading GIS software vendor, ESRI Inc. (http://campus.esri.com). The course consists of text, graphics, animations and interactive models, "site visits" to relevant Web-based mapping services and organizations, and automated self-tests. The author has waived royalties so that Penn State students can access the text free of charge.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 161 Applied Geographic Information Systems (1) An introduction to GIS (Geographic Information Systems) with emphasis on applications and analysis.

GEOG 161

GEOG 161 Applied Geographic Information Systems (1)

GEOG 161 is a one-credit two-hour laboratory course to be taken concurrently with GEOG 160, Mapping Our Changing World. GEOG 160 and GEOG 161 will be offered concurrently as a required course pair for the proposed Environmental Studies Option within the B.S. Science major (SCNBD) at Behrend College. The courses can also be choices in the "Supporting Courses and Related Areas" list for the B.S. Science major's General, General Pre-certification, and Earth & Space Science Pre-certification options. The purpose of the course is to familiarize students with GIS and provide them with the ability to use GIS software commonly used by industry, academia, and government agencies. GEOG 161 will provide students with training and experience in computer-based practical applications of concepts and theory learned in GEOG 160. They will analyze and solve "real-world" problems using hands-on, problem-solving, and inquiry-based approaches to learning. Students will work individually and in small teams in a GIS software-equipped computer laboratory. Students will be evaluated based on the quality of laboratory reports/assignments and on a larger research project with a presentation conducted during the final five weeks of the semester. GEOG161 will be offered at least once per year. Enrollment is expected to be 8-20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: or concurrentGEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 293H Honors Experiences in International Service Learning (1-3) Classroom instruction with supervised student activity on an honors international community service project.

GEOG 293H

GEOG 293H Honors Experiences in International Service Learning (1-3)

GEOG 293H provides students with activities that integrate academic study with community service in an international context. The aim of service learning is to enrich traditional classroom-based education by getting students into a community, thereby engendering civic responsibility and simultaneously strengthening communities. GEOG 293H has five objectives: (1) to develop understanding of a set of issues in community development; (2) to learn and apply skills associated with those issues; (3) to develop and apply communication skills by speaking, writing, and/or desktop publishing; (4) to gain international experience at the community level; and (5) to reflect on personal and career interests in international development, science, the environment, public policy, or related areas. Thus, students will read, write, and talk about a set of issues of importance to a foreign community and engage in a project in that community.

The specific service-learning projects will change each semester, although some projects will be ongoing and offered multiple times. Students can take GEOG 293H in ore than one semester, to a maximum of four offerings.

Depending on the topic of the international service-learning project, GEOG 293H can complement courses in most colleges and their majors. The course is available to all Geography majors as elective credits; it is also available to all Geography Minors for credit toward the minor.

Students will be evaluated on three of the five course objectives: (1) understanding of the issues, (2) learning and application of skills, and (3) application of communication skills. Although exact procedures for determining grades will vary with instructor and service-learning project, the basis for grades will include a combination of written work, oral presentations, in-class participation, and outside-class participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: sophomore standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 301 Thinking Geographically (3) Learning to think geographically.

GEOG 3

GEOG 301 Thinking Geographically (3)

The course explores the process of thinking geographically. As a discipline that draws on elements of four intellectual traditions - the physical sciences, the social sciences, the information sciences, and the humanities - geography offers an extensive palette of approaches to the study of the interactions among people, places, and environments. In addition to those traditions, geography also draws on key themes: setting events and activities into multiple spatial and temporal contexts; setting events and activities into multiple spatial scales from the local to the global; seeing complex, multi-way interactions between human and physical systems; recognizing the interconnectedness between places. In terms of methods, the fundamental building block is the idea of geospatial location and the associated spatially- or geo-referenced data. Data, both quantitative and qualitative in character, is increasingly available in terms of amounts and quality. Students must come to appreciate and be able to use this powerful way of thinking about the world. GEOG 301 assumes a beginning understanding of geography, in terms of basic content knowledge, and builds an understanding of how to think geographically, how to ask geographic questions, how to find geographic answers, how to assess the quality of those answers, and how to present and communicate those answers convincingly and compelling in multiple formats. Students will learn how to think geographically and to appreciate the power, applicability, and limitations of the geographic approach. Each year the course is organized around a significant contemporary problem as a commonly shared case study. Students will work in small groups to analyze the case study, presenting their own portfolio of work for 60% of the course grade and collaborating with group colleagues for a collective presentation for 40% of the grade. Work will be submitted in stages through ANGEL. GEOG 301 is required of all geography majors and will be offered Fall and Spring of each academic year with an annual enrollment of approximately 120 students. Preference will be given first to declared Geography majors, then to Geography minors, before places are offered to students from other programs. Geography 301 is a bridge between the knowledge that comes from the broad-based introductory geography courses and the detailed understanding that comes from the focused, advanced-level geography courses. It enables students to learn about and to practice geographical thinking in real-world contexts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: GEOG 010, GEOG 020, GEOG 030 Prerequisite or concurrent:GEOG 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 310W Introduction to Global Climatic Systems (3) Introduction to global atmospheric circulation, including tropical, midlatitude and polar subsystems; ocean, land, cryospheric and urban climatic systems and interactions.

GEOG 310W

GEOG 310W Introduction to Global Climatic Systems (3)

Geography 310W is an advanced undergraduate course in Climatology that emphasizes study of the patterns of interannual climate variability (*climate fluctuations*) and the physical processes responsible for those variations (*climate dynamics*). Interannual climate variations include regional- to large-scale anomalies of temperature, precipitation, cloud cover, etc., that become manifest as drought, floods, heat and cold waves, etc. The physical processes associated with climate fluctuations include the following: interactions among the climate-system components (atmosphere, biosphere, cryosphere, hydrosphere); external forcing (e.g., solar variations, volcanic activity); and long-distance interactions involving the coupled atmospheric-ocean circulations, or *teleconnections* (El Nio Southern Oscillation (ENSO), the North Atlantic Oscillation (NAO), the Arctic Oscillation (AO), and the Pacific-North America (PNA) pattern). Climatic teleconnections manifest shifts in the atmospheric pressure “centers of action”, storm tracks, jet stream positions, etc. In addition to the study of these climate patterns and processes, the course examines the role of human activities in climate, particularly “global warming”, desertification, deforestation and afforestation, urbanization, irrigation for agriculture, and aviation impacts. In this regard, a key issue that is addressed is the potential role of human activities on the frequency and intensity of teleconnections, such as ENSO, and of severe storms (thunderstorms, tornadoes) and hurricanes; possibly the result of modifications to the oceanic Thermo-Haline Circulation. Students write a term paper, as well as critiques of a number of published articles relating to the above topics in climate dynamics. There is a mid-term (essay) exam but no final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: GEOG 010 orMETEO 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 311 Landscape Ecology (3) This course examines the ways in which spatial patterns and spatial processes operate in an ecological context.

GEOG 311

GEOG 311 Landscape Ecology (3)

Landscape ecology is an interdisciplinary field that incorporates the tools and theoretical frameworks of geography, ecology and earth sciences. The focus of landscape ecology is on the controls, interactions and outcomes of spatial patterns and spatial processes on ecological dynamics at large spatial scales. Ecological systems are patterned in space by a wide range of interacting physical, biological and human processes. Spatial arrangement and spatial dynamics influence a broad array of ecological processes, such as the flows of energy and nutrients, dispersal and persistence of aquatic and terrestrial organisms, and the spread and impact of natural disturbances. In this course, students will explore the methods, theories, approaches and practical applications of landscape ecology as a framework for understanding landscape dynamics and interactions and how to apply this information for landscape management. Particular emphasis is placed on how humans have modified landscapes and how species, ecological communities, and ecosystems have responded to these changes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: GEOG 111, BIOL 110, FOR 308 orW F S 209 or by permission

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 313 Introduction to Field Geography (3) Introduction to the methods and techniques for collecting spatial and environmental data for physical geography and ecological studies.

GEOG 313

GEOG 313 Introduction to Field Geography (3)

This course explores a variety of methods used to acquire primary data from field locations. Aspects of physical, chemical, biological, and cultural factors are examined. Fieldwork is often an important component of research and it involves collecting and analyzing data, handling logistical concerns, developing sampling strategies and techniques, and addressing quality assurance and archiving issues. The course objectives are: to explore methods used to collect, analyze, and interpret field data; to expose students to techniques for sampling physical (geomorphologic, topographic, hydrologic), chemical (water and soil), and biological (flora and fauna) factors; and to explore ways to use field data to interpret geographical and ecological questions and hypotheses. Evaluation involves preparation of written laboratory reports, assignments, and tests. The course is offered every Fall semester with enrollment limited to the number of students supported in a laboratory section.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 323 GIS and Social Theory (3) Critical understanding of how to use GIS and tools of regional analysis in the context of postmodern social theory.

GEOG 323

GEOG 323 GIS and Social Theory (3)

GIS and Social Theory is an introductory-level, laboratory-intensive undergraduate course designed primarily for geography majors to provide a critical understanding of how to use GIS and other tools of regional analysis in the context of postmodern social theory. Fundamentals of GIS are taught alongside social theory to make students aware of both the value and pitfalls of using GIS tools.

GIS and computer mapping are examined through three perspectives: Cartesian spatial analysis, relational analysis, and postmodern discourse theory. Cartesian spatial analysis is explained by using conventional tools of GIS such as map overlay and buffering, focusing on geographic locations of objects, that is, on "where" things are. Relational analysis looks at connections among variables and considers "how" geographical objects are connected regardless of "where" they may be located. The focus here is on choice of variables that are included in the attributes tables of GIS. Postmodern discourse theory argues that categories such as race, class, ethnicity, poverty, community, and neighborhoods are not objectively given entities that are simply mappable, but that they are discursively constructed. We explore the implications of that argument to the mapping exercises in GIS.

Since social categories are "constructed" by discourses about them, discourse is a vital part of what GIS produces through its mapping exercises. Discourse theory also argues that social problems arise in a complex nexus of relations that do not show obvious "root causes" that are easily isolated. In fact social problems are constituted from things that take place simultaneously at a large number of sites diffused throughout the larger society. To address social problems using discourse theory we require methodologies that can simultaneously analyze large quantities of data. So GIS is an ideal tool for looking at social problems using discourse theory. Thus GIS and discourse theory provide useful complements to each other in the analysis of social problems. These arguments are developed at length, by example, through a series of lab and homework exercises. Evaluations and grades are based on exercises, exams, and a final project.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 333 Human Dimensions of Natural Hazards (3) An introduction to social science principles and methodologies to address critical questions relating to managing the risks of natural hazards.

GEOG 333

GEOG 333 Human Dimensions of Natural Hazards (3)

Natural hazards are not simply a force of nature. Their impacts depend on the vulnerability of people, communities, and the economy. Social science also plays an important role in evaluating alternative mitigation and adaptation strategies. In some cases, this means lessening the physical stimulus through such measures as flood control projects, while in others it means guarding life and property through self-protection or insurance. Natural hazards raise important issues for individuals, private businesses, public utilities, government agencies, NGOs, and communities.

This course will provide students with an introduction to social science principles and methodologies to address critical questions relating to managing the risks of natural hazards. Although the focus will be on economics and geography, this is a multidisciplinary topic, and so readings and lectures will also incorporate some critical aspects of natural and other social sciences.

Many poignant concerns have been brought out by recent catastrophes such as Hurricane Katrina. A major option of the course will be devoted to analyzing the catastrophic character of recent events and how they differed from ordinary hazards. Attention will be devoted to the many causes of each event, how it could have been prevented, its many impacts, and the individual and government response.

The course sessions will consist of lectures by the instructor and presentations by guest speakers from related fields such as geoscience, meteorology, and engineering. Lab sessions focusing on hazard impact software will also be offered.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006
Prerequisite: junior or senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 361 Cartography--Maps and Map Construction (3) The art and science of creating small-scale maps as a medium for communication and research.

GEOG 361

GEOG 361 Cartography - Maps and Map Construction (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Mapping is crucial to exploring and understanding distributions of geographic phenomena. It is also an important phase of many database-intensive analyses because a map is often the best way to visualize results and show them to others. Emphases in this course will be on designing and producing both thematic and reference maps that use symbols and visual hierarchies which allow the content of the maps to be readily understood. In addition to principles of graphic design, students learn about map projections, generalization, and data classification, with the objective of becoming proficient mapmakers. Hands-on computer work for lab sections will involve working with varied digital data sources using GIS software. Maps are often built from existing data created by government mapping agencies, stored as geographic information systems (GIS) databases, and based on remotely-sensing imagery. The prerequisite for GEOG 361 is the 100-level mapping course covering basic principles of these technologies and data sources. The course is typically offered once a year. Evaluation is based on written exams and mapping projects that students produce to map location information and represent social and environmental data.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 363 Geographic Information Systems (3) Principles and use of geographic information; emphasis is on data acquisition and techniques for computer-aided analysis.

GEOG 363

GEOG 363 Geographic Information Systems (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course describes and explains the principles of Geographic Information Science. Given an overall introduction in Geography 160 about the special characteristics of spatial data and how our earth is measured and mapped, Geography 363 focuses upon how to input data and how to develop solutions to geographic analysis and modeling tasks using GIS (Geographic Information Systems).

The purpose of this course is to familiarize the student with how GIS can be used as a methodology for geographic data handling and analysis, and to provide a firm basis for further work in Geographic Information Science in practical application or in follow-on courses. A key component of this is to be able to easily adapt to changes in technology and software environments given an understanding of the concepts involved.

When finished with this course, the student should:
- have a broad-based understanding of the principles of Geographic Information Science
- have an understanding of how GIS can be used as a methodology for geographic data handling and analysis for a variety of applications
- have an understanding of the overall capabilities, as well as the limitations of current GIS software packages
- be able to use the more important and frequently used capabilities of some widely-used software package
- be able to design and carry out spatial analyses using GIS
- be able to work in a team environment to solve complex spatial problems
- be able to communicate the results of geographic analyses to others, both in oral and in written from.

This course has a laboratory as well as a lecture component. The purpose of the laboratory component is to elaborate upon the concepts covered during the lecture times, and to provide practical, hands-on experience to reinforce those concepts using a commercial GIS used in many government and industry contexts.

The last several weeks of lab is devoted to a final project. In the final project, the student selects and designs as well as performs a complete GIS analysis and presents the results in lab at the end of the semester. The purpose is in part to demonstrate how well the student has integrated the concepts and software skills acquired through the semester, and in part to let the student 'do their own thing' in an application area of interest.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 362 Image Analysis (3) Introduction to the basic principles of remote sensing, and the analysis of aerial and satellite data.

GEOG 362

GEOG 362 Image Analysis (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 362 is a course designed to introduce students to the field of remote sensing. Modern remote sensing is a multi-disciplinary and many-faceted subject encompassing knowledge from a broad array of areas. Remote sensing has steadily grown in importance since the early 1970s and continues to expand as sensing technology improves, as imagery becomes cheaper, as coverage becomes more widespread and as good software for processing the data become readily available. This course is not meant to be an exhaustive treatment of remote sensing. Rather, it is designed to provide an overview of the field.

The field of remote sensing is vast and includes several inter-related themes. Remote Sensing as a science primarily involves the extraction of information contained within energy. The engineering component of remote sensing involves the design and construction of instruments and systems capable of capturing and recording energy from a target. Remote Sensing as a vital tool is expressed in myriad applications, from land cover change analysis to weather forecasting.

This course will be administered in two parts;

- The first seven weeks of the semester will focus on three broad topics (Fundamental Principals of Radiative Transfer and Energy-Matter, Remote Sensing Systems, and Applications). This part of the course will expect student to grasp the major laws describing the energy-matter interactions. Recitations will be devoted to reviewing homework problems designed to solidify understanding of radiation concepts central to the construction of remote sensing imagery.

- The remainder of the semester will be devoted to image analysis with an emphasis on digital remote sensing, i.e. analyzing data in digital form using computer software. This aspect of the course will have a practical focus on using imagery to analyze land cover and to construct land cover maps, with the expectation that students will be able to become proficient in the handling and processing of remote sensing imagery. Consequently, laboratory work will play a major role in this component of the course.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 364 Spatial Analysis (3) Geographic measurement, scaling, and classification; analysis of spatial pattern and structure; geographic covariation and autocorrelation.

GEOG 364

GEOG 364 Spatial Analysis I (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 364 is an introduction to spatial analysis that focuses on statistical methods for geographers. You will have an opportunity in this course to:

- learn how to *use* statistics in your own work
- learn how to *consume* statistics in everyday life

The statistical methods you will learn to use are simple descriptive statistics that we use to summarize complex data, as well as the associated charts, diagrams and maps. From there, we will move on to look at chance and probability theory, and simple inferential statistics.

Throughout the course, we will be concerned with “everyday statistics”, primarily as it relates to geography. Contemporary media are saturated with statistics, from reports of climatic change, through latest presidential election polls, to batting averages and yards-gained statistics in sports. A lot of the presentation of these statistics is lazy or inaccurate, and often misleading (whether, deliberately or not), and a major theme of this course will be to look at the issues involved.

During most lectures we will spend some time working with sample problems, and to discuss practical applications. These activities are meant to build a deeper understanding of the subject matter but it also relies heavily on your active participation. You will often have work to prepare before lectures or other types of lecture homework. Labs will give you experience with statistics functions in Excel before moving onto SPSS as well as other statistical software, and also with mapping statistical data using GIS software.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2008
Prerequisite: STAT 200 and 6 credits in social science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 407 (HIST 453) American Environmental History (3) The history of the ways Americans have used and thought about the environment since 1500.

American Environmental History (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 1998
Prerequisite: GEOG 030, LARCH 003 ; andHIST 020 orHIST 021 ; or 6 credits in the humanities or social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 411 Forest Geography (3) This course studies processes that control spatial and temporal change in forests.

Forest Geography (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: GEOG 010, GEOG 111 ; orBIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 411W Forest Geography (3) This course studies processes that control spatial and temporal change in forests.

Forest Geography (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: GEOG 010, GEOG 111 ; orBIOL 220W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 417 Satellite Climatology (3) A discussion of the application of satellite data to current and planned large-scale climate experiments.

GEOG 417

GEOG 417 Satellite Climatology (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 417 presents the *theory* and *practice* of satellite remote sensing as applied to the study of climate. Remote sensing refers to the acquisition of information about a target or phenomenon from a distance; climate is the low-frequency signal of weather that involves interactions among Earth's environmental systems (atmosphere, biosphere, cryosphere, hydrosphere). Combining these two disciplines into Satellite Climatology is logical because the fundamental basis of both remote sensing and climate is radiation transfer through Earth's atmosphere. The course emphasizes understanding the different techniques used to determine, from space-borne platforms, the atmospheric, oceanic and land surface conditions important to climate and its variations, and the interpretation of these remotely sensed data in the context of "climate dynamics" and "synoptic climatology." Specific topics include the following: *Satellite systems (platforms, sensors, orbits, data processing); Remote sensing clouds and cloud systems, Retrieval of atmospheric temperature, moisture, and precipitation, the Earth-atmosphere radiation and energy budgets, and Land-surface conditions and their modification by humans* . In addition, examples of the different satellite-based climatologies, and their advantages and limitations with respect to conventional observations ("ground truth"), are presented.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 362

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 412W Climatic Change and Variability (3) Theories and observations of past, present, and future climatic change and variability; introduction to techniques used in climatic change research.

GEOG 412W

GEOG 412W Climatic Change and Variability (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 412W introduces students to the physical dimensions of climate change and variation. Climate change topics include radiative forcing, greenhouse gases, scenarios, equilibrium models, and time-dependent models. Important Climate variation topics are teleconnections and the El Nino-Southern Oscillation phenomenon. Geography 412W would appeal to students with interests in Earth and atmospheric sciences, as well as environmental protection.

As a writing-intensive course, Geography 412W aims to help students improve their ability to communicate scientific information. The course devotes considerable class time to the mechanics of reading, writing, speaking, and especially report production. Students not only write, but also learn to edit and critique writing.

Because most professional research on climate change and variation involves collaborative science teams, Geography 412W focus on collaboration and participation. Students form teams, conduct research, and compile formal collaborative reports on climate change and variation. Students document their individual contributions by producing portfolios.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 110 orMETEO 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 420Y (US;IL) Metropolitan Analysis (3) Theory and practice of regional and metropolitan analysis.

GEOG 420Y

GEOG 420Y Metropolitan Analysis (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines metropolitan development in an international and comparative perspective, focusing on the relationships between economic restructuring and patterns of urban inequality. Cities are fundamentally shaped by inequality and conflict, as different social groups mobilize political and economic resources in an effort to improve their socio-economic circumstances. Rapid globalization and the rise of an information economy, however, are resulting in rapidly changing patterns of employment, economic opportunity and political power in metropolitan regions. Understanding these changes, how they differ in different places, and how they are affecting patterns of inequality and economic opportunity, is both critical for understanding patterns of urbanization, and essential for promoting more equitable, livable, and sustainable cities. This course explores these issues in an international, comparative and applied policy perspective, through detailed comparison of the industrial history and contemporary socio-economic dynamics of different cities around the world. Through this process, the course aims to help us understand the ways that race and class are socially constructed, and that seemingly universal processes of globalization and economic restructuring are fundamentally shaped by local political dynamics. The course is a writing intensive course.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 120, GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 423Y (US) Historical Geography of North America (3) Exploration, settlement, and changing patterns of human occupance from the seventeenth century to the 1930's.

GEOG 423Y

GEOG 423Y Historical Geography of North America (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an upper-division, writing-intensive course that presents an overview of current scholarship on the evolving historical geography of the continent. It does this through a set of lectures given by the instructor, through directed readings that will be the basis of class discussion, and centrally through research essays that offer students the opportunity to research, write and argue historical geographies. Research in historical geography is a process of engagement with partial evidence and with secondary material to open windows on aspects of past lives, past economies, and past places.

Since an introductory level overview of the historical geographies of the continent is presented in GEOG 102, The American Scene, this class does not offer a comprehensive survey of regions and periods. Rather, it focuses on three themes—colonization, industrialization, and the packaging of memory—as a way to expose students to primary evidence and current debates:

1. In the case of colonization, we focus on the Blathwayt Atlas of 1683, compiled for the use of Lords of Trade and Plantations in London, as a cartographic introduction to a broader literature on colonial experience.
2. For the unit on industrialization, we examine the iron community of Brady's Bend, Pennsylvania in workshops that illustrates how to tease out information from the manuscript census, county atlases and corporate histories; you will then pursue similar material for a locale of your own choice.
3. And for the closing unit, on the packaging of memory, we critically examine the way that historic sites are presented, and how interpretations have changed in response to shifting academic and popular concerns.

Lectures will be interspersed with discussions of readings, workshop demonstrations, and by student presentations. There will be eleven distinct writing exercises that are used as the basis of allocating the overall grade.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 122 3 additional credits in geography or 6 credits

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 425 Geography of Race, Class, and Poverty in America (3) This class will study the geography of race, class, and poverty in America today.

GEOG 425

GEOG 425 Geography of Race, Class, and Poverty in America

The terms Race, Class, and Poverty are often discussed in the same breadth in academic scholarship. Research by a range of scholars including William Julius Wilson, Derrick Bell, Chuck Collins, Felice Yeskel, and others portrays the interwoven relationships between economic status, economic security, and ethnic heritage. Despite this powerful and abundant literature, few scholars examine the spatial interactions between Race, Class, and Poverty. The class will introduce students to a range of literatures on the meaning of Race, Class, and Poverty in America today. We will situate these terms in their local spatial context and investigate how location influences perceptions of the meaning of Race, Class, and Poverty. We will blend historical, contemporary, theoretical and empirical scholarship as we investigate the meaning, understanding and manifestation of Race, Class and Poverty in the US. Beginning with history, we will move through the 20th century examining how economic and political cycles have influenced social understanding of these terms. There will be a particular focus on deconstructing the measurement and meaning of the terms and their use in public policy discussions based on perceptual understandings of the terms Race, Class, and Poverty. Films will be an integral part of the class. We will watch classic, historical and contemporary films on the meaning and experience of Race, Class, and Poverty in the US. We will move from the Great Depression through the Dustbowl and on the Civil Rights Movement, the War on Poverty, and the backlash years of the 1980s. We also will examine powerful contemporary media images of Race, Class, and Poverty as seen through the lens of place and identity.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 126 andECON 002 andECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 424 (US;IL) Geography of the Global Economy (3) Focus on industrial location theory, factors in industrial location, studies of selected industries and problems of industrial development.

GEOG 424

GEOG 424 Geography of the Global Economy (3)

This class will conduct *research on firms and industries engaged in the global* economy. Students learn to conduct industry and firms analyses in the context of international regulation. Students learn about the competitive conditions, governmental context, and technological challenges facing selected industries.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: ECON 002, ECON 004, GEOG 126

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 426Y (US;IL) (WMNST 426Y) Gender and Geography (3) Description and explanation of the links between gender relations and spatial structures.

GEOG 426Y

GEOG (WMNST) 426Y Gender and Geography (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Until the 1970's women remained invisible in the analyses of social space: human geography was indeed just that (hu)man. Recently, feminist geography began to challenge the implicit masculinity of the subject of geography; this course will examine the evolution of the feminist challenge. The course addresses four major topics -- Gendering Space; Gendering Work; Gender, Place and Nationalism; and Gender and the Body. Students explore each of these through case studies and group projects, and will produce a series of essays throughout the semester. As a point of entry to discussion of place, space and gender, this course will explore the diverse ways in which feminists have seen space as central both to masculine power and to feminist resistance. In particular we will explore arguments from feminists of color and from poststructuralists which have influenced current discussion about maps and power in historical and contemporary contexts.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: GEOG 020, GEOG 126, GEOG 120, WMNST 001 orWMNST 187

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 428 (US) Political Geography (3) Geographical foundations of political phemomena; significant geographic factors in growth and development of states, boundary problems, population distribution, colonies, and internal and international regional problems.

Political Geography (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: 6 credits in history or 6 credits in political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 427 (US;IL) Urban Historical Geography (3) Study of the development and transformation of the historical urban built environment.

GEOG 427

GEOG 427 Urban Historical Geography (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Close up, cities can be seen as sets of buildings - some that are lived in, some that are places of work, and others that are places of cultural celebration - and the streetscapes created by these sets of buildings can be decoded as a palimpsest of the past. Likewise, the streets, lanes and alleys between buildings provide a morphological database that help in the analysis of the historical transformations. Seen at a more distant scale, cities are also nodes - centers for surrounding regional trading systems, and partners in national and global trading systems - that have evolved over a set of decades or even centuries.

This course offers a window on such multiple frames on the urban past. We will explore a sample of cities; some European, others African and Asian, as well as from the Americas. Imperialism and its associated colonial mercantile practices meant that variants of European urbanism were mapped on to other parts of the world where they often create hybrid forms of cities over time. In the industrial era, new relations between cities and the countryside emerged, as new forms of production developed and as resources were harnessed from a more global hinterland; radically different types of cities emerged in the past two centuries.

The assessment devices in this class consist of several short exercises, some data driven and others related to summaries of readings, and two research exercises on an aspect of a city or cities of your choice, for which you will be develop three drafts.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: 6 credits in geography humanities or social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 429 (US) Global Urbanization (3) This course reflects critically on a number of issues related to global urbanization, including the culture and political economy of urban space.

GEOG 429

GEOG 429 Global Urbanization (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

A variety of perspectives has shaped our conceptions of cities and experiences of urbanity, and, as the above citations illustrate, these different perspectives are not always consistent with each other. Not only do our experiences of cities change depending upon geographic and historical contexts, but so do our analytical frameworks for explaining them. This course reflects critically on these different perspectives through an examination of some of the central questions and problems that have figured in the comparative study of global urbanization. Issues to be discussed include: theories of urbanism and the city; the political economy of urban space; the cultural meanings of urban space; the intersection of gender, race and class in the construction of urban space and experience.

The course is organized around a mixed seminar-lecture format. Students should complete all readings on the day they are scheduled and be prepared to participate in class discussion and group project assignments. Each student is required to prepare two questions from the assigned readings everyday. At the beginning of each session, several students will present their questions to the class, and the class will discuss the questions and related issues. There will be three in-class examinations, consisting of essay and short answer questions.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 020, GEOG 126 orGEOG 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 431 Geography of Water Resources (3) Perspectives on water as a resource and hazard for human society; water resource issues in environmental and regional planning.

GEOG 431

GEOG 431 Geography of Water Resources (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 431 is designed to help geographers, earth scientists, planners, other environmental professionals and non-science majors to develop an awareness and appreciation of the multiple perspectives that can be brought to studies of water as a resource and hazard, and of the ways in which resource-management decisions made in human society are strongly related to the availability, quantity, and quality of water. The course traces the hydrologic cycle as a cascading system, addressing factors contributing to flow of water through the system, models of each process, and how processes affect (and are affected by) other land use change and related resource decisions.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: 6 credits in geography or natural sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 430 Human Use of Environment (3) The human use of resources and ecosystems and social causes and consequences of environmental degradation in different parts of the world; development of environmental policy and management strategies.

GEOG 430

GEOG 430 Human Use of Environment (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 430 examines the human use of resources and ecosystems, the multiple causes and consequences of environmental degradation, and adaptive institutional and policy arrangements as prerequisites for resilient and sustainable management and development in different parts of the world. The major objective of this course is to help geographers, earth scientists, and other professionals to develop an awareness and appreciation of the multiple perspectives that can be brought to studies of human use of the environment and of the ways in which resource-management decisions are made in human society. This is a capstone course that encourages students to place their individual major and technical skills within the context of multiple approaches to environmental decision making and management in complex and dynamic social-ecological systems. GEOG 430 is designed as a collective/social learning experience. This implies that the professor and students share responsibility for the learning process and take advantage of collective skills, insights, experiences, and efforts of each other. As in system dynamics, this requires both commitment and flexibility and the willingness to explore foreign territory. As part of this philosophy, learning consists not only of information flow from professor to student, but also from student to student and student to professor. The course follows a case study approach to explore real life lessons of adaptive management around the globe. To make this process work, attendance and active participation are imperative. The course is run more like a seminar than a lecture course and integrates lectures, in-class discussions, presentations, and interactive activities. Student performance is evaluated based on active participation in all of the above, individual short assignments, group projects, in-class quizzes and exams, and one major writing assignment, varying by faculty teaching. This course is offered every semester.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2008
Prerequisite: GEOG 010 orGEOG 020 orGEOG 030 orGEOG 040 orGEOG 130 or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 432 (EME 432) Energy Policy (3) Analysis, formulation, implementation, and impacts of energy-related policies, regulations, and initiatives.

GEOG (EME) 432 Energy Policy (3)

As concerns for a secure, stable, and clean energy future grow, so does the need for individuals who can develop, assess, and implement effective energy policies and practices. GEOG 437 / EME 437 provides students with an in-depth exploration of energy policy development, implementation, and assessment at multiple governmental and corporate scales. The course utilizes contemporary real-world problems and actions to provide students context for the drivers, frameworks, and assumptions of energy policy.

The course is structured to provide students with the expertise necessary to identify energy policy needs, craft policy alternatives, and evaluate energy policy. Emphasis on tailoring energy policy to meet not just economic goals but also environmental and social goals creates a global perspective from which students learn to approach energy policy challenges. Students will undertake a course-long project in which they must research and write an energy policy at a scale and on a topic of their choosing. They will utilize activities from each lesson in the course to refine their topic, research policy options, and develop an energy policy. Because the demand for highly analytical individuals is so great among energy professionals, students will also anonymously critique another student’s policy. This Capstone Project of the course will hone the analytical and communication skills necessary to complete this degree program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: E B F 200, EGEE 120, PL SC 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 434 Politics of the Environment (3) This course explores politics related to the use, transformation, valuation, and representation of the environment.

GEOG 434

GEOG 434 Politics of the Environment (3)

Scholarship in geography and related disciplines has demonstrated that nature in general and specific environments in particular are unavoidably political. Environmental management can thus never be a purely scientific or technological challenge; it requires critical analysis of cultural, political, and economic contexts, factors, and effects. For instance, effective environmental management requires consideration of how culture shapes how we perceive and value our environments, who wins and who loses in any particular approach to environmental management, and what the relative advantages and disadvantages of competing institutional approaches to environmental management are.

This course examines the development of environmental governance, with a primary focus on the United States. It explores both how various groups within society conceive of and value the environment, and multiple approaches to environmental governance and protection. It reviews the history of environmental movements and regulation, and contemporary issues and debates in environmental governance, with particular attention to the effects of institutional forms and social movements. In particular, it examines competing arguments for and against governance approaches centered on state action, market mechanisms, and prominent roles for NGOs and social movements.

Students will be evaluated based on: 1) their participation in class discussions, based on critical engagement with material from course readings and lectures; 2) their performance on a midterm and a final examination; 3) an individual research project on a topic relevant to the course, to be designed and carried out under the supervision of the course instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: 6 credits in social sciences or humanities

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 436 Ecology, Economy, and Society (3) Analyses of major themes in ecology and economic development, poverty-alleviation, and sustainability.

GEOG 436

GEOG 436 Ecology, Economy, and Society (3)

For many years, it was believed that there was a direct tradeoff between economic growth and a clean environment. Sustainable development has been proposed as an framework within which these two objectives can be pursued in harmony and actually can reinforce one another. This course focuses on sustainability issues at the broader (macroeconomic) level, as opposed to the operation of individual businesses (microeconomic, or industrial ecology) level.

The course will have two main emphases: 1) to evaluate the major conceptual ideas surrounding natural resource management and sustainable development, including equity, poverty, fairness, power, knowledge, and community empowerment; 2) to use empirical case studies to examine the practical, material and policy relevance of these concepts. The first part of the semester will be used to untangle and clarify the ideological and theoretical bases (biases) of broad human-environment discourses as they pertain to community empowerment and resource development. The final part of the semester will be used to analyze case studies in order to assess the relevance of existing theoretical framework for resource empowerment and community development in industrialized countries and the Third World, especially Africa.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: upper-division standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 435H (IL) Global Change and Sustainability - Bulgaria (3) Sustainability in the context of climate change, global socioeconomic change and regional transformation in Bulgaria; embedded foreign fieldwork (honors).

GEOG 435H Global Change and Sustainability - Bulgaria (3) (IL)

This course focuses on sustainable development and global change - vital issues for humanity - with specific attention to the challenges in Bulgaria of the transition from a centrally planed state to an open market economy with an emerging civil society. It is highly integrative in themes and case studies, including seminar work on-campus and field work in Bulgaria. Acquiring knowledge, understanding foreign environment, and developing new values embracing sustainable development are ultimate objectives of the course. Topics include rethinking established ways of production and consumption; policy and decision making affecting sustainability; finding new ways of greening economics, social accounting and planning; constraining consumerism; sustainable transportation, energy, engineering, architecture and construction; agriculture, forestry and water resources in a changing global climate; and the role of media, communication and NGOs. The course focuses on Bulgaria with the multiple challenges of the transition, globalization, global climate change, and important local land use and energy changes, including a critical assessment of sustainable aspects of former socialist states (e.g. compact cities, public transportation) in contrast to contemporary trajectories (e.g. urban sprawl, private automobile use). Within the general student-involved-learning framework of the course, students develop individual or team foci based on their academic major and personal interests, developing a proposal for in-country activity and post-field-session synthesis of a sustainability issue and the Bulgarian case. Special attention is given to meeting the goals of Schreyer Honors College: to demonstrate academic excellence with integrity, students will be held to a high standard of scholarly curiosity and performance, including developing skills and attitudes necessary for responsible and ethical interaction with local officials, scholars and host families. For building a global perspective, students will be challenged with seeing global and regional change from a non-North-Atlantic perspective reflecting the wider post-socialist world. For creating opportunities for leadership and civic engagement, students will be expected to show in their individual proposals and final projects aspects of their own learning and intellectual curiosity that will be shared with the people who assist them in Bulgaria. The course has honors expectations in the level of participation and collaborative learning, the formal project proposal, field work activities for achieving the proposal goals, and in the final symposium presentation and paper. The course contributes to a new generation capable of making vital decisions for a sustainable future in the face of climate change as well as social and economic transitions.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: sophomore standing or above; departmental permission required

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 438W Human Dimensions of Global Warming (3) Human dimensions of global environmental change: human causes; human adaptations; and policy implications of global warming.

GEOG 438W Human Dimensions of Global Warming (3)

Geography 438W, the Human Dimensions of Global Warming, covers both the human causes and consequences of what many people view as the most significant problem facing society. Humans cause climate change primarily by emitting heat-trapping greenhouse gases through everyday activities associated with industrialized society (e.g., energy production and consumption, transportation, and manufacturing) and land transformation (e.g., agriculture and deforestation). People experience the consequences of climate change directly through reduced resources (such as food, fiber, forests, and fisheries) or increased natural hazards (such as droughts, floods, and intense storms), or indirectly through such mechanisms as higher prices for foodstuffs or larger insurance premiums. GEOG 438W does not address the physical science of climate change; instead, it concentrates on social science issues surrounding this topic.

GEOG 438W has two goals: (1) to develop understanding of a set of issues related to the human dimensions of climate change; (2) to develop and apply communication skills by discussing and writing about the topic. The specific content of the course will change with the instructor (currently, three faculty members teach the course), but the focus on the human causes and consequences of climate change and on skill-development in writing will be constant.

GEOG 438W can complement courses in most colleges and their majors. The course is available to all Geography majors as elective credits; it is also available to all Geography Minors for credit toward the minor. It counts for credit as an Advanced Physical/Environmental Geography course in the Physical/Environmental Geography Option, and counts for credit as an Advanced Geography course in the General Geography and Human Geography Options.

Students will be evaluated on both of the course goals: (1) understanding of the human dimensions of climate change, (2) application of communication skills. Although exact procedures for determining grades will vary with the instructor, the basis for grades always will include a combination of written exams based on lectures and readings, regular written assignments with instructor feedback, and in-class discussion and participation.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2008
Prerequisite: EARTH 002, GEOG 010 orMETEO 003;GEOG 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 439 Property and the Global Environment (3) This course reviews theoretical and empirical relationships between multiple legal, economic, and cultural approaches to property, and environmental quality and conflicts.

GEOG 439

GEOG 439 Property and the Global Environment (3)

Property relations are among the most powerful and pervasive institutions in human societies. Fundamental rules governing and legitimating who can do what, and where, they shape and reveal interactions between human societies and physical environments, a concern at the heart of geography. Our own property relations are often all but invisible to us precisely because they are so deeply woven into our perceptions, consciousness, social structures, and everyday experiences of the world. It is thus easy to overlook the fact that we live within highly specific and contingent property arrangements and that changing circumstances are prompting important changes in contemporary property relations.

This course explores these issues with a particular focus on their implications for environmental politics and regulation. We will address questions such as: Is the privatization and commodification of nature a recipe for ecological disaster, or the most effective means of preservation? Can we own the weather? What were the historical-geographical circumstances surrounding the development of major modern property forms, and are those forms adequate to the environmental problems we now confront? Are there property relationships outside of the law? How do property relations and conflicts change in response to changing human control over nature, and how can different kinds of property arrangements lead to, or help to solve, environmental and social problems? Readings will review debates over common property; the benefits and dangers of privatization of environmental goods; distinctions between formal and informal property rights; the development of zoning and other regulation of private property; and contemporary debates over intellectual property rights in nature, and relationships among trade, property rights, and environmental quality.

The course will be of interest to students interested in environmental policy, land use planning and management, law, the areas of nature-society relations and historical geography, and environmental history. Students will gain a sophisticated understanding of the central underpinnings of much property and environmental regulation, and familiarity with many cutting-edge debates in these domains, both domestically and internationally. Evaluation methods will include examinations and an independent research paper and presentation by each student. The course will be offered every other year, with enrollment capped at 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: 6 credits in geography humanities or social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 440 Topics in Regional Geography (3) Analysis of historical, contemporary and future environmental and societal issues in a specified world region from a geographical perspective.

GEOG 440

GEOG 440 Topics in Regional Geography (3)

Geographers bring a uniquely holistic perspective to the study of places. This course provides an opportunity for geography faculty with regional expertise to share with students a learning experience that addresses major issues and challenges in a world region. Although the course will vary from instructor to instructor and offering to offering, the courses have common elements that help students to analyze and understand regions as academic constructs, as geopolitical reality, and places in which people interact with others and the environment to sustain livelihoods. The basic objectives underlying all offerings of this course are to learn how to accumulate and assess regional, geographic information and to synthesize such information in a coherent and meaningful understanding of the region in an holistic and comprehensive manner. Regional geography can be key for students in area studies programs, in international business, in regionally oriented environmental and social sciences, in the humanities, in international law and international affairs. Although each instructor will use her or his own course design and evaluation methods, common to all offerings will be activities that develop and assess student abilities to undertake regional analysis. For example, one instructor may require students to prepare briefing notes on a regional issue as might be given to an international agency; another may use the mechanism of a semester-end symposium with powerpoint presentations of student's investigations. Students should contact the faculty member offering a GEOG 440 in a specific instance for details about the course foci, activities and evaluation methods. It is anticipated GEOG 440 will be offered annually with varying regions covered from year to year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: 3 credits in physical geography 3 credits in human geography

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 444 African Resources and Development (3) Ecological and cultural factors in the geography of Africa; natural resources and development.

African Resources and Development (3)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2001
Prerequisite: GEOG 010, GEOG 020, GEOG 030 orGEOG 124

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 459 Digital Terrain Models (3) Techniques for digital investigation of geomorphic landforms, including input and reformatting of source data.

Digital Terrain Models (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 463

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 461W Dynamic Cartographic Representation (3) Theory and practice of mapping and geo-representation in a hypermedia context. Applications in science, policy, travel, and education.

GEOG 461W

GEOG 461W Dynamic Cartographic Representation (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Most maps produced today are electronic, dynamic, and often ephemeral -- with millions of maps generated on the web each day. At the same time, computer graphics technologies developed to enable scientific visualization generally, are being adapted and extended for applications with geographic information. The goal of this course is to provide students with both the conceptual understanding and practical experience needed to design effective dynamic representations and assess their effectiveness.

During the term we will explore the potential and implications of recent advances in cartography, exploratory data analysis, and information visualization as they relate to the theory and practice of geographic visualization (geovisualization). A key focus of the course is on "dynamic" representations of geographically referenced information. Dynamic representations are those that change as a result of user actions or data updates. Topics include: animated and interactive maps, exploratory multivariate spatial data analysis, geovisualization to support knowledge construction, interactive web maps, navigation aids for real and virtual worlds, map-enabled decision-support, collaborative geovisualization, dynamic maps to enable learning, semiotic principles for design of dynamic maps and related geovisualization tools, and perceptual/cognitive issues in dynamic geo-representation (including methods for studying the success of visual displays and interaction devices).

As a writing intensive course, particular attention will be given to writing for geographic information science (GIScience). This writing will include laboratory project reports, reviews of published literature, and a term project.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: GEOG 361, GEOG 330, GEOG 362, GEOG 363

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 463 Geospatial Information Management (3) This course examines geospatial data representations and algorithmic techniques that apply to spatially-organized data in digital form.

Geospatial Information Management (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: any earth science computer application course; familiarization with databases and information systems

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 464 Analysis and GIS (3) Normative and probabilistic models of spatial behavior; adaptive systems in geographic space; interaction and system stability.

GEOG 464

GEOG 464 Analysis and GIS (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Geography 464 is a course in methods for analyzing spatial data--methods that can and should be used when the geographic arrangement of a set of measured observations is thought to be of significance in explaining the values of those measurements. The methods of spatial analysis looked at in this course can be distinguished from conventional statistical analysis techniques, and also from many of the analysis functions programmed into many GIS packages. In fact several spatial analysis methods considered in this course the result of attempts to alter and extend conventional statistical techniques to take account of locational similarity and distance measurements (which is why Geography 364 or an equivalent primer in introductory statistical methods is a prerequisite). This means that the techniques that will be introduced in the course are often quite complex mathematically or statistically. Having said this, the overall goal of the course is to provide sufficient conceptual understanding and practical experience so that students become competent in selecting and applying methods appropriate to a variety of frequently-encountered analytical situations.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 364

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 467 Applied Cartographic Design (3) Applied computer-assisted map production methods with emphasis on geographic information design and color use for multiple presentation media.

GEOG 467

GEOG 467 Applied Cartographic Design (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The course objective is to immerse the student in applied problems of map production and geographic representation. Topics include advanced software methods for labeling and data editing; advanced symbolization and production of extended map series; conversion between software environments; and representation in multiple media. The challenge of working with clients for mapping are often included in the semester capstone projects. Evaluation is based primarily on map project quality and written reports on project decisions. The 300-level cartography course is a prerequisite for GEOG 467, and an introductory GIS course also provides useful background skills, though it is not a prerequisite. The course is usually offered once a year but may be offered alternating years.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 468 Geographic Information Systems Design and Evaluation (3) Design and evaluation of Geographic Information Systems and other forms of integrated spatial data systems.

GEOG 468

GEOG 468 Geographic Information Systems Design and Evaluation (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course teaches GIS design, project management and communication skills and an appreciation of the ethical, legal and social issues surrounding maps, GIS and geographical data. It also introduces some of the newer information-technology aspects of handling geographic information, such as location-based services and sensor webs, that affect how GIS data are accessed and used. The bulk of practical component of the course is taken up with a large group project (four to six persons per group). The project gives students the opportunity to engage in an exercise that spans the entire range of GIS design and implementation: from problem inception to solution testing.

Outcomes revolve around the experienced gained by conducting a GIS project from inception to solution, including specification, design, implementation and evaluation, and specifically:
1. Practical experience with technical writing relating to GIS systems lifecycle, including interviewing, fact finding, description of the contents of the various project deliverables and their importance.
2 An appreciation of legal and ethical issues surrounding GIS, maps and geographic including copyright, responsibility and liability and computing law.
3. An understanding of newer technological innovations that will impact the access and use of geographic information, including: data sharing (interoperability), digital libraries and information portals, web services and grid computing.
4. A portfolio of practical systems development work, that documents all stages in the lifecycle of a GIS project.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 363

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 469 Energy Industry Applications of GIS (3) Roles of geographic information systems in energy siting decisions focusing on electric energy transmission networks.

GEOG 469 Energy Industry Applications of GIS (3)

Over 2 million miles of oil and gas pipeline and nearly 200,000 miles of electric transmission grid currently traverse the U.S. Geographic information systems (GIS) are used to help maintain these far-flung and extremely expensive energy infrastructures. GIS is also used to help determine optimal routes for pipelines and transmission lines as energy demand and production increase, and as the grid is extended to connect to new energy sources and consumers. GEOG 469 provides students with an in-depth exploration of the complexities of siting decisions. The course introduces a variety of siting challenges that confront the energy industry and its customers and neighbors, but focuses on the siting of electrical transmission lines. The course also provides hands-on experience with a common decision support technology, and considers how the technology may be used to facilitate public participation in siting decisions.

Students will undertake a term-length project in which they must propose, research, develop and implement a siting recommendation for an electrical transmission line. They will utilize activities from each lesson to develop primary and alternative routes. Using GIS, students will develop overlays, weights and rankings to determine the most suitable location for a proposed transmission line. Students’ final product will be maps showing proposed routes based on the siting criteria and rankings developed to minimize the impacts associated with the various siting criteria used. To help students develop the critical thinking skills needed in the energy industry, students will learn to critique their peers’ analyses systematically from the perspective of local stakeholders who are most affected by siting decisions.

GEOG 469 is designed to help students achieve two of the programmatic educational objectives established for the Energy and Sustainability Policy degree. It fosters energy industry knowledge by illuminating the difficulties intrinsic to facilities siting decisions. And it nurtures analytical skills by familiarizing students with GIS methodology, and by teaching them how to critique GIS analyses systematically.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: GEOG 030, EGEE 102, EME 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 475H (LER 475H) Labor in the Global Economy: U.S. and South African Perspectives (3) This course focuses on how the nature of work is changing in the global economy, and the implications for economic opportunity and inequality in both.

GEOG 475H

GEOG (LER) 475H Labor in the Global Economy: U.S. and South African Perspectives (3)

This seminar focuses on how the nature of work is changing in the "new economy", and the implications for economic opportunity and inequality in both the United States and South Africa. Sections of the course examine: theoretical approaches to understanding contemporary process of labor restructuring, including globalization, rise of an information economy, and growth in service sector employment; case studies of restructuring processes in different industrial sectors in both the U.S. and South Africa; and innovative labor organizing initiatives at a local, regional and global scale. This course aims to develop a framework for understanding the nature of contemporary processes of economic restructuring and its impact on the world of work. Drawing on research in both a South African and U.S. context, key case studies in the changing nature of work will be examined. This will provide a deeper understanding of how broad macro-level changes in the nature of contemporary capitalism are mediated by a variety of technological, political, and socio-economic factors in particular industries and geographic contexts. Finally, an in-depth look at workers' responses to these changes at different scales (local, regional, global) will help deepen our understanding of the contested nature of workplace restructuring while exploring promising strategies for improving working conditions. This is a reading-intensive course dealing with the theoretical literature on rapid economic restructuring and how this is shaping work and employment. It is run in collaboration with the Sociology of Work Program at the University of Witwatersrand in Johannesburg, South Africa, with video-conference discussions linking the two courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: a minimum of 12 GEOG or LER credits before taking the course (or permission of the program).

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 482 The Nature of Geographic Information (2) Orientation to the properties of geographic data and the practice of distance learning.

GEOG 482

GEOG 482 The Nature of Geographic Information (2)

(BA) This course meets the Bachelor of Arts degree requirements.

This course serves as an orientation to the study of geographic information systems in the Master of Geographic Information Systems degree program. It is also the first in a series of four courses that leads to Penn State's Certificate of Achievement in Geographic Information Systems. The course consists of readings, quizzes, projects, and discussions about fundamental properties of geographic data, how such data are produced, and how they are used. The course provides a comprehensive overview of geographic information technologies, including the global positioning system, land surveys, aerial surveys and photogrammetry, topographic mapping, social surveys such as the U.S. Census, and satellite remote sensing. It also ensures that helps students develop the skills required to become successful online learners. The course culminates in a final project in which students independently research, critically evaluate and report on the characteristics and availability of a particular data product, service, or mapping technology. The course is ten weeks in length and requires a minimum of 8-12 hours of student activity each week. It is offered quarterly (starting in January, April, July, and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004
Prerequisite: admission to the Master of GIS program or Certificate Program in GIS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 483 Problem-Solving with GIS (3) How geographic information systems facilitate data analysis and communication to address common geographic problems.

GEOG 483

GEOG 483 Problem-Solving with GIS (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 483 is a required course in the Master of Geographic Information Systems degree program. It is also the second in a series of four courses that leads to Penn State's Certificate of Achievement in Geographic Information Systems. The course consists of projects, associated readings, quizzes, and discussions about concepts, operations and tools in geographic information systems. Students confront realistic problem scenarios including such operations as geoprocessing, attribute and spatial joins, map projections, address geocoding and buffering. Students who successfully complete the course are able to access, display, manipulate, edit, and analyze geographic data. They are able to perform common GIS tasks using industry-standard tools and operations. The course is ten weeks in length and requires a minimum of 8-12 hours of student activity each week. It is offered quarterly (starting in January, April, July and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004
Prerequisite: GEOG 482

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 484 GIS Database Development (3) Database design, creation, maintenance, and data integration using desktop GIS software.

GEOG 484

GEOG 484 GIS Database Development (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 484 is a required course in the Master of Geographic Information Systems degree program. It is also the second in a series of four courses that leads to Penn State's Certificate of Achievement in Geographic Information Systems. The course consists of projects, associated readings, quizzes, and discussions about designing, constructing, and maintaining GIS databases. Students who successfully complete the course are able to specify and perform the tasks involved in creating a digital geographic database, including geo-registering scanned base maps, digitizing vector features, entering attribute data, and compiling metadata. The course is ten weeks in length and requires a minimum of 8-12 hours of student activity each week. It is offered quarterly (starting in January, April, July, and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004
Prerequisite: GEOG 483

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 486 Cartography and Visualization (3) Theory and practice of cartographic design emphasizing effective visual thinking and visual communication with geographic information systems.

GEOG 486

GEOG 486 Cartography and Visualization (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 486 is an elective course in the Master of Geographic Information Systems degree program. It is also one of the optional capstone courses that lead to Penn State's Certificate of Achievement in Geographic Information Systems. The course consists of five projects and a capstone assignment. Each project includes readings, quizzes, and discussions about concepts and tools in cartography and visualization. Throughout the course, students complete "mile marker" assignments that are designed to help them progress toward the capstone assignment. Through the course projects, students confront realistic problem scenarios that incorporate such skills and concepts as creating symbolization schemes, coordinate systems and map projections, creating isoline and other terrain representations, interpolation, classification schemes, multivariate representation and representation of data uncertainty. Those who successfully complete the course are able to design and produce effective reference and thematic maps using GIS software, can create and analyze workflows, and can interpret and critique maps and related information graphics verbally. The course is ten weeks in length and requires a minimum of 8-12 hours of student activity each week. It is offered quarterly (starting in January, April, July, and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004
Prerequisite: GEOG 484

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 485 GIS Programming and Customization (3) Customizing GIS software to extend its built-in functionality and to automate repetitive tasks.

GEOG 485

GEOG 485 GIS Programming and Customization (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 485 is an elective course in the Master of Geographic Information Systems degree program. It is also one of the optional capstone courses that lead to Penn State's Certificate of Achievement in Geographic Information Systems. The course consists of readings, quizzes, projects, and discussions about constructing tools that solve geographic problems not easily solved using out-of-the-box GIS software. Students learn to use the Visual Basic for Applications (VBA) programming environment to add functionality to *ArcGIS 8.x*. No previous programming experience is assumed. The course covers programming basics like object-orientation, COM, object model diagrams, loops, if-then constructs, and modular code design, as well as GIS-focused topics such as working with maps, layers, tables, and performing queries. Students who successfully complete the course are able to automate repetitive tasks, customize the *ArcGIS* interface, and share their customizations with others. The course is ten weeks in length and requires a minimum of 8-12 hours of student activity each week. It is offered quarterly (starting in January, April, July, and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: GEOG 357 orGEOG 484;CMPSC 101 or equivalent computer

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 487 Environmental Applications of GIS (3) Real-world applications of GIS and spatial analysis to investigate a variety of current environmental issues.

GEOG 487 Environmental Applications of GIS (3)

GEOG 487 is an elective course in the Post baccalaureate Certificate Program in GIS and the Master of Geographic Information Systems (MGIS) degree program, both of which are offered exclusively through Penn State's World Campus. GEOG 487 consists of projects, associated readings, quizzes, and discussions related to environmental applications of GIS. Students are exposed to a variety of concepts, tools, data sources and formats, and environmental issues they are likely to encounter in a career involving GIS and environmental management. Like other courses in the GIS Certificate and MGIS programs GEOG 487 is offered in compressed 10-week terms that require a minimum of 8-12 hours of student activity each week. It is offered quarterly (starting in January, April, July, and October). GEOG 487 does not count toward the requirements of the resident B.A., B.S., M.S. or Ph.D. degrees in Geography, except by explicit permission of the student's graduate advisor and the Department of Geography's graduate officer.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2010
Prerequisite: GEOG 484

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 489 GIS Application Development (3) Advanced topics in GIS customization, including the Systems Development Life Cycle, packaging and deployment, and consuming Web services.

GEOG 489

GEOG 489 GIS Application Development (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 489 is an elective course in the Master of Geographic Information Systems degree program. The course consists of readings, quizzes, projects, and discussions about advanced GIS programming concepts and techniques. It builds on the material covered in GEOG 485: GIS Programming and Customization. Students will work with ESRI's ArcObjects component library to customize ArcGIS software products using Visual Studio.NET as their development platform.

Students who successfully complete the course are able to use the Systems Development Life Cycle methodology to build custom GIS solutions. They are able to package and deploy their customizations through dynamic link libraries (DLLs) and register them with ArcGIS, a more robust deployment solution than those covered in GEOG 485. Students are also able to explain the fundamental differences between COM and .NET software development. Lastly, they are able to consume web services and integrate them into custom Web applications. The course is ten weeks in length and requires approximately 100 hours of student activity. It is offered quarterly (starting in January, April, July, and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004
Prerequisite: GEOG 485

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 488 Acquiring and Integrating Geospatial Data (3) Advanced technical, legal, ethical and institutaional problems related to data acquisition for geospatial information systems.

GEOG 488

GEOG 488 Acquiring and Integrating Geospatial Data (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 488 is an elective in the Master of Geographic Information Systems degree program. The course is organized around six projects and a final project that spans three weeks. Each project includes associated readings, quizzes, and discussions about acquiring and integrating GIS data. The course adopts a developmental learning approach that prepares students to successfully complete projects given progressively less detailed and more realistic project guidelines. Students confront realistic problem scenarios that incorporate such skills and concepts as definition of data needs, metadata content standards, legal and ethical issues related to data use, data formats and types, interoperability, field collection methods and contributing data for public use. Those who successfully complete the course are able to spec out a GIS project, identify appropriate and cost-effective data sources, create data dictionaries, assess and ensure data quality, determine appropriate data formats given an intended data use, transform data from one format to another and understand GIS software functionality related to data conversion. The course is ten weeks in length and requires a minimum of 8/12 hours of student activity each week. It is offered quarterly (starting in January, April, July, and October).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004
Prerequisite: GEOG 484

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 493 Service Learning (3-12) Classroom instruction with supervised student activity on a group community service project.

GEOG 493

GEOG 493 Service Learning (3-12)

GEOG 493, Service Learning, provides students with activities that integrate community service with academic study. The aim of service learning is to enrich traditional classroom-based education by getting students into a community, thereby engendering civic responsibility and simultaneously strengthening communities. GEOG 493 has five objectives: (1) to develop understanding of a set of issues; (2) to learn and apply skills associated with those issues; (3) to learn to interpret science issues for dissemination to the public; (4) to develop and apply communication skills by speaking, writing, and/or desktop publishing; and (5) to reflect on personal and career interests in science, the environment, public policy, or related areas. Thus, students will read, write, and talk about a set of issues of importance to a community and engage in a project in that community.

The specific service-learning projects will change each semester, although some projects will be ongoing. In addition, more than one GEOG 493 project will be available to students in most semesters and will have alphabetical designations (e.g., 493A or 493B). Students can take GEOG in more than one semester, to a maximum of 12 credits.

Depending on the topic of the service-learning project, GEOG 493 can complement courses in most colleges and their majors. The course is available to all Geography majors as elective credits; it is also available to all Geography Minors for credit toward the minor. It counts for credit as an Advanced Physical/Environmental Geography course in the Physical/Environmental Geography Option, and counts for credit as an Advanced Geography course in the General Geography Option.

Students will be evaluated on four of the five course objectives: (1) understanding of the issues, (2) learning and application of skills, (3) interpretation of issues for public dissemination, and (4) application of communication skills. Although exact procedures for determining grades will vary with the instructor and service-learning project, the basis for grades will include a combination of written work, oral presentations, in-class participation, and outside-class participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: sophomore standing; 6 credits of social or environmental science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 494 Research Project in Geography (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project in Geography (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 494H Research Project in Geography (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project in Geography (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 495 Internship (1-13) Supervised off-campus, non-group instruction including individual field experience, practicums, or internships. Written and oral critique of activity required.

Internship (1-13)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1981
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 495B Geography Teaching Internship (1-10) Supervised undergraduate teaching experience in which students serve as peer tutors, laboratory assistants, or course material developers.

GEOG 495b

GEOG 495B Geography Teaching Internship (1-10)

(BA) This course meets the Bachelor of Arts degree requirements.

The Teaching Internship provides undergraduate students with formal, supervised teaching experience. Instructors recruit students who excel in a particular course to serve as teaching interns (TIs) in subsequent offerings of the same course. TIs may assist their peers as tutors or as laboratory assistants. They may be assigned to assist faculty members by developing and evaluating new course activities and materials. Although TIs may not evaluate their peers' class work, they can play important roles in the formative course assessment by providing feedback in regular meetings with instructors. In the process of developing the knowledge, skills and dispositions needed to be effective in helping fellow students learn, TIs gain experience that prepares them for leadership roles in their professional careers. TIs also gain respect for the effort and imagination involved in designing and conducting college classes.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 495C Internship Supervision and Mentoring (1) Candidates for the Master of GIS degree sponsor a GIS-related internship for students in Penn State's resident undergraduate program.

GEOG 495c

GEOG 495C Internship Supervision and Mentoring (1)

(BA) This course meets the Bachelor of Arts degree requirements.

GEOG 495C enables MGIS students who participate at a distance through the University's World Campus to earn credit through contributions to the Department's resident programs. Qualified MGIS students will be encouraged to earn one credit (up to a maximum of three) for every semester that they supervise a resident Penn State Geography student in GIS-related internship conducted in the MGIS student's place of work. Qualifications will be judged by MGIS students' academic advisors. Advisors will help MGIS students recruit qualified internship candidates. Advisors will also evaluate the quality of supervision on the basis of the documentation provided by both the MGIS student and the student intern he or she supervised. MGIS students unable to provide internships may still contribute by serving as mentors to students enrolled in the resident course EM SC 300: Professional e-Portfolio Development, through the University's LionLink program.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 495G Giscience Internship (1-10) Supervised research experience within the Department of Geography's GeoVISTA Center, Gould Center, or an appropriate external agency.

GEOG 495G

GEOG 495G Giscience Internship (1-10)

(BA) This course meets the Bachelor of Arts degree requirements.

Prospective interns apply directly to faculty members in charge of the Department of Geography's Geo VISTA Center or Gould Center for Geography Education and Outreach, or to persons in charge of appropriate public or private agency external to the University. Students accepted into the internship program are assigned to research or application projects that involve the development, evaluation and/or use of geographic information technologies under the supervision of an experienced faculty member or professional. Per Faculty Senate rules, interns are expected to devote 40 hours of effort for each credit earned.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497A Geography of the Cryosphere (3) A survey of the world's snow and ice, including sea ice, glaciers, permafrost, and seasonal snow cover.

Geography of the Cryosphere (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497B Geographies of Justice: Environment, Society and Development (3) This course will examine the origins of social and environmental justice in the United States and their application globally.

Geographies of Justice: Environment, Society and Development (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497C (IL) Biological Diversity in Agriculture and Global Change (3) Analysis of how biological diversity in agriculture is impacted by complex interactions with global land-use, climate, and social-environmental changes.

Biological Diversity in Agriculture and Global Change (3)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 5th-semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497D Lidar Technology and Applications (3) Understanding lidar systems' design, operation, data processing techniques, and product generation to address typical application scenarios faced by the geospatial professional.

Lidar Technology and Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497E Climate Change Adaptation and Resilience (3) This course explores adaptation and resilience under climate change with emphasis on directions of social change, system transormation, and sustainability.

Climate Change Adaptation and Resilience (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 497K Advanced Web Mapping (3) Cultivate a working knowledge of how geospatial professionals can develop web mapping applications that bring together data from multiple sources.

Advanced Web Mapping (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: GEOG 363

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geography (GEOG)

GEOG 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: prior approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 001 Physical Geology (3) Earth processes and their effects on the materials, structure, and morphology of the earth's crust. Practicum includes field work, study of rocks, minerals, dynamic models, and topographic maps. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Physical Geology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 002 (GN) Historical Geology (3) History of the earth and its life; fundamentals of evolution, correlation, and paleogeography; practicum includes field trips, study of geologic maps, geologic problems, and fossils, with emphasis on Appalachian geology. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Historical Geology (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 010 (GN) Geology of the National Parks (3) Introduction to geology, geological change, and environmental hazards, as seen in the National Parks.

GEOSC 010

GEOSC 010 Geology of the National Parks (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

"Geology of the National Parks" uses the unsurpassed features of national parks to address the key questions of geology and the environment. Each topic is introduced with a virtual field trip to a specially chosen national park (involving pictures of the park, a brief history, other highlights of the park, with supplemental materials and links provided on-line). Key questions about the park (Why has Death Valley been getting wider? Why is much of Mt. St. Helens spread across neighboring states?) then motivate discussion of the topic (here, the spreading or squeezing associated with drifting continents), with special attention to implications for humans (for example, predicting earthquakes and volcanic eruptions associated with these features). A suite of exercises provides the opportunity for analytical experience during walking field trips of local geology, quantitative analysis of geological data, written evaluation of library-based information on national parks, and collaborative on-line assessment of geological hazards. Readings are primarily drawn from an on-line text prepared especially for the course, with links to appropriate national-park sites, but readings also include additional technical literature. There are no prerequisites for the course. It is offered twice yearly at University Park, with enrollment fixed by available classroom space (recently, 300 in the spring and 400 in the fall). The goals of the course are to help students learn how certain common-sense ideas allow science to be such a successful human endeavor, that the Earth efficiently but slowly recycles almost everything, that the Earth's environment has been nearly balanced for very long times, that human-induced changes are among the fastest Earth has ever experienced, and that the National Parks are critical but challenged living laboratories, museums, and repositories of biodiversity. In doing so, the students will see the applications to real-world problems of related fields including physics, chemistry, biology, and mathematics, and will develop a greater appreciation of these other subjects. Students will be challenged to reason from data to generalizations, and from these generalizations back to cases, through in-class discussion, exercises (approximately 1/4 to 1/3 of the total grade), and examinations (primarily objective). Owing to the large enrollment, in-class time will be devoted to virtual field trips, discussion and lecture, but with much effort to encourage participation from the students. Activities out of class will focus on exercises and on the extensive web resources developed in collaboration with the e-Education Institute of the College of Earth and Mineral Sciences.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 004 Mineralogy (3) Structure, properties, and occurrence of silicate minerals; igneous, sedimentary, and metamorphic rocks in hand specimen; modern methods of mineral identification.

Mineralogy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110 orCHEM 106;GEOSC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 020 (GN) Planet Earth (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Planet Earth (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 020L (GN) Planet Earth (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Planet Earth (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 020P (GN) Planet Earth (3) Nontechnical presentation of earth processes, materials, and landscape. Practicum includes field trips, study of maps, rocks, and dynamic models, introduction to geologic experimentation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Planet Earth (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 021 (GN) Earth and Life: Origin and Evolution (3) Introduction to the origin and evolution of life on Earth from the perspective of geologic time and the fossil record.

GEOSC 021

GEOSC 021 Earth and Life: Origin and Evolution (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

When and how did the solar system form? When and how did life on Earth originate? How has Earth's environment changed over geologic time? What caused the extinction of the dinosaurs 65 million years ago? Does life occur elsewhere in the universe? These questions are the cornerstones for this course, which traces the history of interaction between Earth's environment and the evolution of the life over 4.5 billion years since the origin of the solar system. The fossil record serves as the primary source of data to study the evolution of life, especially dinosaurs and other extinct vertebrate groups. The causes and consequences of mass extinctions millions of years ago provide a context for understanding the modern biodiversity crisis. This course has four main objectives: (1) to provide a broad overview of chemical, biological, and geological processes responsible for the origin and evolution of the Earth and life; (2) to enable comprehension of geologic time and the history of Earth and life; (3) to understand the nature of evidence and hypothesis testing in an historical science; (4) to develop critical-thinking and expository writing skills. This course introduces and integrates basic knowledge in earth and life sciences. Material is presented in a way that emphasizes observation, synthesis of information, and hypothesis testing. This is a general education course in the natural sciences (GN) and is intended for non-science majors.

Students will be evaluated based on their performance on two midterm exams (50%), a final exam (25%), and homework assignments and quizzes (25%). We will offer the course every year in both the fall and spring semesters.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 040 (GN) The Sea Around Us (3) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.

GEOSC 040

GEOSC 040 The Sea Around Us (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The Sea Around Us introduces students to the basic workings of the ocean and is offered both Fall and Spring terms at the University Park campus. The course covers the origin of the ocean's rock-walled boundaries, the evolution of its coastlines, the motion of currents, waves and tides and their destructive power, the source and composition of seawater, and the role of the ocean in local and global climate. The majority of the Earth's surface is covered by water and thus it seems likely that the human race will become increasingly dependent on oceanic resources in the future. This course seeks to illuminate how the ocean will respond to increased anthropogenic pressure. Students are shown how such issues can be addressed through detailed understanding of the complex interplay between the physical, chemical and biological properties of the ocean. Lectures focus on fundamental principles of natural sciences as related to the ocean using extensive graphics, video clips and demonstrations. Students break up into small groups for a weekly laboratory practicum featuring team-based experiments, discussion, and simple problem sets aimed at solidifying key concepts and topics.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 040L (GN) The Sea Around Us (2) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.

GEOSC 040

GEOSC 040L The Sea Around Us (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The Sea Around Us introduces students to the basic workings of the ocean and is offered both Fall and Spring terms at the University Park campus. The course covers the origin of the ocean's rock-walled boundaries, the evolution of its coastlines, the motion of currents, waves and tides and their destructive power, the source and composition of seawater, and the role of the ocean in local and global climate. The majority of the Earth's surface is covered by water and thus it seems likely that the human race will become increasingly dependent on oceanic resources in the future. This course seeks to illuminate how the ocean will respond to increased anthropogenic pressure. Students are shown how such issues can be addressed through detailed understanding of the complex interplay between the physical, chemical and biological properties of the ocean. Lectures focus on fundamental principles of natural sciences as related to the ocean using extensive graphics, video clips and demonstrations. Students break up into small groups for a weekly laboratory practicum featuring team-based experiments, discussion, and simple problem sets aimed at solidifying key concepts and topics.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 040P (GN) The Sea Around Us (1) Introduction to marine sciences and the world ocean, including physical, chemical, biological, and geological aspects of oceanography.

GEOSC 040

GEOSC 040P The Sea Around Us (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The Sea Around Us introduces students to the basic workings of the ocean and is offered both Fall and Spring terms at the University Park campus. The course covers the origin of the ocean's rock-walled boundaries, the evolution of its coastlines, the motion of currents, waves and tides and their destructive power, the source and composition of seawater, and the role of the ocean in local and global climate. The majority of the Earth's surface is covered by water and thus it seems likely that the human race will become increasingly dependent on oceanic resources in the future. This course seeks to illuminate how the ocean will respond to increased anthropogenic pressure. Students are shown how such issues can be addressed through detailed understanding of the complex interplay between the physical, chemical and biological properties of the ocean. Lectures focus on fundamental principles of natural sciences as related to the ocean using extensive graphics, video clips and demonstrations. Students break up into small groups for a weekly laboratory practicum featuring team-based experiments, discussion, and simple problem sets aimed at solidifying key concepts and topics.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 071 Physical Geology for Engineers (3) Principles of physical geology, with emphasis on the engineering point of view; practicum includes field work, study of rocks, minerals, dynamic models, and topographic maps. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Physical Geology for Engineers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 109H (GN) Earthquakes and Society (3) Introduction to earthquakes and seismology, and their relationship to society, including monitoring for nuclear weapons and seismic hazards.

GEOSC 109H

GEOSC 109H Earthquakes, Nuclear Explosions, and Society (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is a general education science course that will provide students with an introduction to earthquakes and nuclear explosions and the science and policy issues linking them. Nuclear explosions, like earthquakes, are seismic events that generate elastic waves that propagate through the earth. As in the case of earthquakes, detection of seismic waves from a nuclear explosion provides the principal means of determining its size and location. In this course, students will learn about earthquakes and nuclear explosions, how these seismic events are monitored, and the role earthquake science (seismology) plays in international treaties designed to limit proliferation of nuclear weapons.

The format for this course will be problem-oriented, with students taking an active role in learning. Student groups will actively research web-based and standard resources to learn about the history of nuclear test ban treaties, the effects of nuclear weapons, earthquakes, basic concepts of seismic wave propagation, hands-on recording of seismic waves, earth structure, plate tectonics, and discriminating between nuclear explosions and earthquakes. Students will engage in activities that will require them to learn the material themselves and be able to teach what they have learned to others in the class through in-class presentations. Part of the course will involve the hands-on operation of a seismic observatory and collection of seismic data from earthquakes and local quarry blasts. Scenarios for evasive testing of nuclear explosions will be examined at the end of the course with emphasis on technical issues and international political ramifications. Students will obtain a background in the history of arms limitation treaties, basic physics, basic geosciences, and have experiences in seismic data collection.

The general format of the course is based on a weekly cycle of student groups performing discovery-based learning with two days of class discussion and/or activities based on that learning. Group investigations will involve cooperative organization and research by small (3-4 students) groups of the class. Specific guidelines and instructions will be given to each group in the form of lists of source materials, source material on the class Web site, links to information Web sites, and interactive Web forms for creating classroom and hard copy reports. Students will be required to engage in the full complement of activities described above. In addition, each student will be required to write a summary of each activity. A grade will be assigned for the group presentation and summaries, and the final course grade will be determined based on the average grade of the individual activities. This course will be offered once a year.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 110H (GN) The Science of Gemstones (3) An exploration of the geological uses of gems and of the physical and chemical properties underlying their brilliance and color.

GEOSC 110H

GEOSC 110H The Science of Gemstones (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

From Biblical times to the present, gems and precious metals have served as the standard by which empires have measured their worth. Through the ingenious marketing of an international cartel, diamonds have become identified with the oldest and most sacred of human contracts. To what can we attribute the unique allure of pretty minerals? Although we will consider the history and folklore associated with gemstones, this course will focus on the value of gems to scientists. We will see what crystals tell us about the chemical symmetries that govern the atomic architecture of matter, and we will explore the physical attributes that give rise to the brilliance, color, and durability of gems. Finally, we will learn how geologists have used gems to reveal the history and inner structure of the earth.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2002
Prerequisite: high school chemistry and trigonometry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 111 (GN) Forensic Geoscience (3) Covers fundamental geoscience concepts such as stratigraphy, mineral and soil identification, seismology, and geochemistry within the context of forensic investigation.

GEOSC 111 Forensic Geoscience (3) (GN)

In this course, we will look at the fundamental principles of geoscience and how they can be applied in the context of criminal or liability investigation. Students will learn how to use a stratigraphic column to determine a sequence of events, either in the geologic record or as physical evidence, for example the layers of mud on the bottom of a car suspected of involvement in criminal activity. We will discuss the many types of physical evidence, focusing in particular on those that involve earth materials (soils, sand, mineral dust) or that can be analyzed using techniques commonly applied to geologic problems (for example, analyzing shards of glass from a hit and run accident using a scanning electron microscope). Basic mineralogy, sedimentology, and petrology will be introduced in the context of trace evidence. Common techniques used by both geoscientists and crime scene investigators, including fluorescence, microscopy, ground-penetrating radar, magnetometry, and seismology will be covered, including hands-on demonstrations when possible. We will learn how isotope geochemistry is used to date natural materials, and how it can be used to determine the geographic origin of rocks, minerals, or sediments. Students will learn how and when it is possible to make a statistically meaningful comparison of naturally variable samples present only in trace amounts. The proper handling of earth materials as trace evidence will be explained. Students will be expected to use the knowledge they have acquired to come up with original solutions to both real and invented crime cases. Finally, students will use the material they have learned in class to write an original mystery story in which geological evidence plays a key role in solving a crime.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 200 Geology of Caves and Karst (3) Geology and hydrology of carbonate terrains; cave origin; sedimentation processes in caves; water supply and land use in karst areas. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Geology of Caves and Karst (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 201 Earth Materials (4) Elements of crystallography and crystal chemistry; origin, occurrence, and identification of sedimentary, igneous, and metamorphic rocks and their minerals. This course has one or more required field trips for which a fee is charged to the student.

Earth Materials (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110 third-semester standing. Prerequisite or concurrent:GEOSC 001 orGEOSC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 202 Chemical Processes in Geology (4) An in-depth examination of the application of chemical principles to geological processes.

Chemical Processes in Geology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: GEOSC 001, MATH 140 third-semester standing. Prerequisite or concurrent:CHEM 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 203 Physical Processes in Geology (4) An in-depth examination of various physical processes that operate within and at the surface of the earth.

GEOSC 203 Physical Processes in Geology (4)

Geoscience 203 applies basic principles from physics and mathematics to explore and understand the Earth and the processes that operate within the Earth and at the Earth's surface. The course includes the study of Earth's gravity and magnetic fields, focusing on how they reveal the internal structures and dynamics related to plate tectonics. The basic physics and mathematics of plate motions are also explored in some detail. We will also examine the elastic properties and behaviors of rocks, which form the basis for understanding seismic waves, rock fracture, and fault slip. The next major topic of the class is the flow of heat through the solid Earth system, involving the study of conduction, convection, and advection. The study of heat will provide the basis for understanding the application of simple differential equations with boundary conditions to geological processes; this will also introduce the mathematics of diffusion, which will permeate much of the course. This study of diffusion will enable us to move from steady state conditions to non-steady state conditions that typify most geological settings. We will examine the fluid dynamics relevant to the flow of the mantle and less viscous fluids at the surface such as lava flows and glaciers. The fluid dynamics will also lead us into an exploration of the basic physics of ocean circulation, stream flow, and erosion on land.

Throughout the course, students will learn how to use calculus and very simple computer programming in MATLAB to provide a quantitative framework for understanding the physical processes that shape the Earth. The class involves a weekly lab that involves several field trips to make measurements using a variety of geophysical instruments to solve problems related to gravity, stream flow, and heat flow. Other lab activities involve studies of rock friction and fracture, ocean currents, glacial flow, seismology, and plate motions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001 Ending: Fall 2010
Prerequisite: GEOSC 001 fifth-semester standing. Prerequisite or concurrent:PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 203 Physical Processes in Geology (4) An in-depth examination of various physical processes that operate within and at the surface of the earth.

GEOSC 203 Physical Processes in Geology (4)

Geoscience 203 applies basic principles from physics and mathematics to explore and understand the Earth and the processes that operate within the Earth and at the Earth’s surface. The course includes the study of Earth’s gravity and magnetic fields, focusing on how they reveal the internal structures and dynamics related to plate tectonics. The basic physics and mathematics of plate motions are also explored in some detail. We will also examine the elastic properties and behaviors of rocks, which form the basis for understanding seismic waves, rock fracture, and fault slip. The next major topic of the class is the flow of heat through the solid Earth system, involving the study of conduction, convection, and advection. The study of heat will provide the basis for understanding the application of simple differential equations with boundary conditions to geological processes; this will also introduce the mathematics of diffusion, which will permeate much of the course. This study of diffusion will enable us to move from steady state conditions to non-steady state conditions that typify most geological settings. We will examine the fluid dynamics relevant to the flow of the mantle and less viscous fluids at the surface such as lava flows and glaciers. The fluid dynamics will also lead us into an exploration of the basic physics of ocean circulation, stream flow, and erosion on land.

Throughout the course, students will learn how to use calculus and very simple computer programming in MATLAB to provide a quantitative framework for understanding the physical processes that shape the Earth. The class involves a weekly lab that involves several field trips to make measurements using a variety of geophysical instruments to solve problems related to gravity, stream flow, and heat flow. Other lab activities involve studies of rock friction and fracture, ocean currents, glacial flow, seismology, and plate motions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: GEOSC 001 or permission of program. Prerequisiste or concurrent:PHYS 211, MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 228 Dinosaurs (3) Dinosaurs and other large Mesozoic reptiles; their morphology, stratigraphic and paleoenvironmental distribution, preservation, collecting, classification, lifestyles, origins, evolution, and extinction.

Dinosaurs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 204 Geobiology (4) An introduction to how biological processes and materials are used to solve geological problems.

GEOSC 204 **GEOSC 204 Geobiology (4)**

What caused the mass extinction 250 million years ago that nearly eliminated life in the oceans? How is the fossil record used to understand geological and evolutionary processes? What role do microbes play in cycling chemical elements today and over geologic time? Can we predict the response of modern ecosystems to future climate change? These questions form the basis for this course in geobiology, which considers how biological processes and materials are used to solve geological problems. This course has four main objectives: (1) to provide a broad overview of the role biological processes and materials play in understanding earth today and in the geological past; (2) to learn about the fossil record and how to extract information from it; (3) to learn field and computational skills used by geobiologists; (4) to develop critical-thinking and expository writing skills. Students will be evaluated based on their performance on essay exams (60%), laboratory exercises (20%), writing assignments (10%), and group discussions (10%). This course is designed to complement GEOSC 202 Physical Processes and GEOSC 203 Chemical Processes. GEOSC 204 will become part of our core curriculum in geosciences. Students taking the B. A. degree in geosciences will be required to take one of the following three courses: GEOSC 202 Physical Processes, GEOSC 203 Chemical Processes, GEOSC 204 Geobiology. In the future, we may require this course as part of the core curriculum for the B. S. degree. We will offer the course every year in the spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 110;GEOSC 001 orGEOSC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 296 Independent Studies (1-18) Creative projcts, including research and design, which are suprvised on an individual basis and which fall ouside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 297A Teaching Intern (1-2) Teaching Intern.

Teaching Intern (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 297B Wilderness First Aid Course (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Wilderness First Aid Course (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 297D Introductory Field Geology in Italy (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introductory Field Geology in Italy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 310 Earth History (4) The principles of stratigraphy and paleontology and their use, in combination with plate tectonics, in reconstructing the earth's history. This course has one or more required field trips for which a fee is charged to the student.

Earth History (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: GEOSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 303 Introduction to Environmental Geology (3) Origin of earth and earth materials; natural resources, geologic barriers and hazards, and relationships to human use of the environment. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Introduction to Environmental Geology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 320 Geology of Climate Change (3) Geologic evidence for climate change and mechanisms of change, especially from the Ice Age through the near future.

GEOSC 320 **GEOSC 320 Geology of Climate Change (3)**

The appropriate human response to global climate change is among the hot-button issues of the modern world. Geologic records provide a critical perspective on climate change, with implications for our behavior. Ice cores, ocean sediments, tree rings, and others reveal that agriculture and industry have arisen during a few thousand years of anomalously stable climate. Natural changes half as large as the entire difference between ice-age and modern conditions have occurred repeatedly in mere years, affecting hemispheric or broader regions. Such climate jumps have been linked to changes in greenhouse gases, but not driven by them. The students in Geology of Climate Change will learn how records of recent climate changes are recovered, read, and dated, how the climate system works and has worked, and the causes of ice-age cycles and faster climate jumps. The students will demonstrate their mastery of this knowledge by assessing its implications for global warming and natural climate changes in the future. Geology of Climate Change will involve lecture/discussion, readings, and individual or small-group projects, with students graded on midterm and final exams, and presentations or papers. The course will serve as an upper-level elective for students in major and minor programs in Geosciences and Earth Science. Enrollment will be limited to 30, with one offering per year.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 340 Geomorphology (3) Physical and chemical processes operating at the earth's surface and their resulting landforms. This course has one or more required field trips for which a fee is charged to the student.

Geomorphology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: GEOSC 001 ; fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 397A Hydrogeophysics Field Experience (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Hydrogeophysics Field Experience (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 397D The Tectonic Evolution of Italy (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

The Tectonic Evolution of Italy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 397A The Hydrophysics Field Experience (3) They Hydrophysics Field Experience with Dr. Kamini Singha.

The Hydrophysics Field Experience (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 402Y (IL) Natural Disasters (3) Case studies of the causes and consequences of natural disasters; analysis of disaster impact in different economic, cultural, and social conditions.

GEOSC 402Y

GEOSC 402Y Natural Disasters (3)
(IL)

Is anywhere safe from natural disasters? Can we hide, or should we learn to live with the hazards around us? This course will explore the causes, effects, and societal response to disasters. By learning from previous disasters, we can develop strategies to avert the disasters or at a minimum mitigate their affects. We will look at a variety of natural hazards and related disasters including flooding, volcanoes, landslides, earthquakes, hurricanes, and tsunami. By the sue of case studies of recent occurences of natural disasters, we will determine how damaging disasters can be, and what we can do to minmimize their impact on society. This course will provide an in-depth, hands-on study of natural hazards, their geography, and their impact on societies worldwide. We will focus on both the physical processes (e.g. underlying geoglogy or geophysics) of selected natural hazards and the humn systems that have developed to minimize the impact of natural disasters.

The course will place emphasis on active learning exercises to investigate processes and responses to natural hazards. We will meet for two periods each week which will include both lecture and group research activities (approximately 30% of time is in lectures, 70% time is in group research activities). Grading will be based on reports for each topic, a disaster diary, and a term report. The term report is an independent project which focuses on a selected city facing significant natural hazards. Cities will be selected from both the developed and developing world to allow comparsions of the impacts of natural disasters under different socio-economic and cultural conditions.

The course is offered once each year with a target enrollment of 25-30 students.

Prerequisites for the course are at least 6 credits in science courses (inluding GN courses).

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 405 (SOILS 405) Hydropedology (3) Soil and water interactions across scales, integrated studies of landscape-soil-water relationships, fundamental processes of water flow and chemical transport.

GEOSC 405

GEOSC (SOILS) 405 Hydropedology (3)

Hydropedology is the study of the fluxes, storages, pathways, residence times, and spatio-temporal organization of water in the root and deep vadose zones, and their relations to climate, ecosystem, land use, and contaminant fate. The aim is to characterize integrated physical, chemical, and biological processes of soil-water interactions across scales (including chemicals and energy transported by water flow). This course embraces interdisciplinary and multiscale studies of interactive pedological and hydrological processes in the earth's surface and subsurface environments. The course will address the fundamental issues and practical applications of hydropedology (as a sister discipline of hydrogeology). This course emphasizes *in situ* soils that have distinct characteristics of pedogenic features, structures, layers, and soil-landscape relationships in the real world. Students will gain an in-depth understanding of soil and water interactions across scales from point observations to watershed phenomena, and will gain skills in predicting flow pathways and water fluxes in the landscape. This course promotes active learning, critical thinking, and hands-on skills. Course format will consist of two lectures and one laboratory/field exercise each week. The course will utilize a network of local watersheds with different land uses for demonstrations and class projects. Grading will be based on weekly lab/field exercise (20%), class research project (40%), homework (10%), one midterm exams (15%), and one final exam (15%). Since hydropedology is linked to a wide array of environmental, ecological, geological, agricultural, and natural resource issues of societal importance, SOILS (GEOSC) 405 will support interdisciplinary training of students in Soil Science as well as in other disciplines of the College of Agricultural Sciences, especially Agricultural and Biological Engineering, Agronomy, and Forest Resources. Students in the College of Earth and Mineral Sciences, College of Engineering, Eberly College of Science, and the Intercollege Graduate Degree Program in Ecology also will find this course useful when undertaking research on the vadose zone, the hydrologic cycle, and the earth system. The course will be offered every fall semester with an anticipated enrollment of 20 students per class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 410 Marine Biogeochemistry (3) Exploration of the ways in which life influences and is influenced by chemical, physical, and geological processes in the ocean.

GEOSC 410 **GEOSC 410 Marine Biogeochemistry (3)**

This course covers the basics of the chemistry of the ocean, its circulation, the types of organisms that live in the ocean, and the ways in which organisms influence and are influenced by their physicochemical environment. The format includes lectures, hands-on laboratory exercises, and a field trip to an aquatic environment during which students undertake group research projects. The course is offered in alternate years, in the spring. It satisfies one of the course requirements of the Marine Science minor for undergraduates, and the Data Gathering requirement of students in the Geosciences graduate program. Grades are based on class participation, midterm and final examinations, and an oral and/or written report of the research project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112;EARTH 002 orGEOSC 001, GEOSC 020, GEOSC 040 orMETEO 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 409W Geomicrobiology (3) Investigation of modern and ancient microbial interactions with soils, sediments, the atmosphere, minerals, rocks, nutrients, and pollutants.

Geomicrobiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: CHEM 112;GEOSC 001, GEOSC 020, GEOSC 040, EARTH 002, BIOL 110 orMICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 412 Water Resources Geochemistry (3) Aqueous geochemistry of silica, alumina, carbonate minerals, and selected metals; organic species in water; isotope geochemistry applied to water.

Water Resources Geochemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 413W Techniques in Environmental Geochemistry (3) This course teaches techniques needed for the collection, chemical analysis, and data analysis of environmental geochemical measurements. This course has one or more required field trips for which a fee is charged to the student.

Techniques in Environmental Geochemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: one of the following:C E 475, CHEM 402, GEOSC 202, GEOSC 412, SOILS 419

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 415 Geochemistry (3) Element abundance and genesis, application of chemical principles to earth materials, element fractionation in geologic processes.

Geochemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, GEOSC 004 orGEOSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 416 Stable and Radioactive Isotopes in Geosciences: Introduction (3) Discussions on theories for natural isotopic and element variations and their applications to the solution of geologic and cosmologic problems.

Stable and Radioactive Isotopes in Geosciences: Introduction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112, CHEM 111, CHEM 113;GEOSC 001 orGEOSC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 418 (SOILS 419) Soil Environmental Chemistry (3) Introduction to chemical constituents and processes occurring in soils. Topics include mineral weathering, soil solution chemistry and adsorption of solutes.

GEOSC 418

GEOSC 418 (SOILS 419) Soil Environmental Chemistry (3)

Upon completion of the course, the students will be able to identify the soil components and properties responsible for the chemical reactivity of soils and will know the fundamental chemical processes that occur in soils. The students will also be able to link theoretical concepts to real life environmental problems. The students will be evaluated on examinations, homework, and class participation. GEOSC 418 (SOILS 419) is offered every Spring semester. Class limit: 25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 419 The Organic Geochemistry of Natural Waters and Sediments (3) Composition, sources, and fates of particulate and dissolved organic matter in natural environments; biogeochemical processes; organic geochemistry of anthropogenic contaminants.

The Organic Geochemistry of Natural Waters and Sediments (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 420 (BIOL 420) Paleobotany (3) Classification, morphology, phylogeny, and stratigraphic occurrence of fossil plants; practicum includes field trips and study of paleobotanical techniques and specimens.

GEOSC 420

GEOSC (BIOL) 420 Paleobotany (3)

Land plants provide the oxygen, food, and forest structure that make our lives on land possible. They are sensitive indicators of global change in the past as well as today. This course will examine the history of green plants on the dynamic Earth from their beginnings in the Proterozoic oceans to today, with emphasis on central topics such as the colonization of land, the histories and relationships of major plant groups, the evolution of seeds and flowers, the evolution of plant-animal interactions, extinction and diversification, paleoclimates, and the origins of modern biomes such as rainforests and grasslands.

This course is strongly recommended to graduate students and advanced undergraduates with interests in paleobiology and/or plant biology. Specimen observation and field trips will be important course components. Exams, assignments, and class participation will be the primary bases of evaluation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: any 3-credit introductory course in historical geology or plant biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 422 Vertebrate Paleontology (3) Course covers scientific thinking and skills in scientific writing, the history of vertebrates, and modern evolutionary theory applied to vertebrates.

Vertebrate Paleontology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: GEOSC 001 andBIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 424 Paleontology and Fossils (3) Concepts and precedures using fossils to solve problems in systematics, evolution, biostratigraphy, correlation, sedimentation, paleoecology, and global change.

Paleontology and Fossils (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: GEOSC 001 orGEOSC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 428 Micropaleontology (4) Biology and ecology of microfaunas and microfloras (e.g., foraminifera, coccolithophores, radiolaria, diatoms, dinoflagellates) and applications in biostratigraphy and paleoenvironmental reconstruction.

GEOSC 428

GEOSC 428 Micropaleontology (4)

Micropaleontology is the study of the fossilized remains of microscopic plants and animals, most of which are single-celled and belong to the Protista. Although nearly invisible, the organisms at the base of the food chain make up most of the biomass in oceans and lakes. Only a few kinds of microplankton and microbenthos groups have shells that readily fossilize, but these can be so abundant that in places they form mountains of pure fossil remains. The abyssal floor of the ocean is made up of layers of microfossil-rich "ooze" that slowly accumulates from microscopic shells settling to the seafloor. Changes in the abundance and types of microfossils in these layers provide a detailed record of the geological past, in response to climate change and biological evolution. In addition, each time a new species of micro-organism evolves, it quickly spreads throughout the oceans, forming a worldwide time marker in the fossil record. Such marker horizons allow geological events in different parts of the world to be related in a global earth history.

The course has four main objectives: (1) to provide a broad overview of the biology and ecology of living microplankton and microbenthos with a focus on foraminifera and radiolaria (predatory, non-vegetative protists), coccolithophores and diatoms (vegetative, photosynthesizing protists), and dinoflagellates (both predatory and photosynthesizing); (2) to learn about the evolutionary record of these groups; (3) to understand their applications in biostratigraphy and paleoenvironmental reconstruction; and (4) identification of microfossil groups in the light microscope and scanning electron microscope. Group projects will be a key element of laboratory sessions. Assessment will be based on mid-term and final exams, a term paper, and a laboratory exercises.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: GEOSC 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 434 Volcanology (3) Phenomena and products of volcanic eruptions; physical characteristics of lava and pyroclastic material.

Volcanology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: GEOSC 004 orGEOSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 440 Marine Geology (3) Chemical and physical processes affecting the topography and sediments of the sea floor.

Marine Geology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 439 Principles of Stratigraphy (3) An introduction to the description and genesis of sedimentary rock bodies, the determination of their stratal geometries, and their correlation. (This course includes from one to several field trips for which an additional charge will be made to cover transportation.)

Principles of Stratigraphy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: GEOSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 444 Matlab Applications for Geoscience (2) An introduction to Matlab: m-file development, descriptive statistics, bootstrapping, Fourier transforms, regression, interpolation, least-squares, differentiation, integration, differential equations, signal analysis, graphics.

GEOSC 444 Matlab Application for Geoscience (2)

The goal of this class is that students become familiar with Matlab so that they can conduct scientific research without needing to manipulate spreadsheets or other non-mathematically based software. The course is geared towards, beginning graduate and advanced undergraduate students with little or no previous Matlab experience, and examples are focused on applications in the science and engineering with a focus on the geosciences, including problems from groundwater hydrology, tectonics, geochemistry, rock physics, and climate change. Some basic concepts about vectors and matrices will be helpful, but are not required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 445 Coastal Geology (4) A field course dealing with the processes operative in the environmental systems of a segment of the mid-Atlantic coast.

Coastal Geology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 450 Risk Analysis in the Earth Sciences (3) An introduction to concepts and methods of quantitative risk anlaysis with focus on water, climate, and energy related risks.

GEOSC 450 Risk Analysis in the Earth Sciences (3)

Geosc 450 is an introduction to concepts and methods of quantitative risk analysis in the Earth system. Key concepts include probability, impacts, risk, uncertainty, statistical estimation, and decision-making under uncertainty. Important methods to be covered are sensitivity studies, probabilistic prediction, and uncertainty analysis. Examples of risks to be analyzed include: drought, flooding, nuclear waste storage, and anthropogenic climate change. Students will also use simple risk analysis software (provided by the instructor and accessible without prior programming experience) to actively apply these concepts to example problems. The course is designed for advanced undergraduate students with a prior exposure to basic statistics and calculus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MATH 140 orMATH 110 Introductory Earth Science or Geoscience class Introductory Statistics class (e.g. STATS 200 or STATS 301 or ENNEC 473) or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 451 Natural Resources: Origins, Economics and Environmental Impact (3) Geologic, economic and environmental issues related to exploitation of non-renewable natural resources (metals, minerals, rocks, and fossil fuels).

GEOSC 451

GEOSC 451 Natural Resources: Origins, Economics and Environmental Impact (3)

All the materials needed for health and prosperity in our complex society come from the earth, such as water, iron and other metals to make steel, silica to make glass, limestone to make concrete, potash and phosphate to make fertilizers, and oil, natural gas, coal and uranium to generate heat and electricity. Most of these natural resources are non-renewable, and easily recoverable quantities are limited. The main purpose of this course is to increase understanding and appreciation of geological, economical and environmental aspects of exploitation of mineral and energy resources. Approximately two-thirds of the lectures/discussions will focus on geological, geochemical and biological processes that have governed the concentration and dispersion of economically important elements and natural materials on Earth, including water, heavy metals (aluminum, iron, copper, zinc, lead, etc.), precious metals (gold, silver, platinum, etc.), industrial minerals and rocks (clays, limestone, gypsum, salts, etc.), nuclear-energy sources (uranium and thorium) and fossil fuels (petroleum, natural gas and coal). The remaining one-third of the lectures/discussions will focus on: (i) exploration methods to discover new mineral (and fossil fuel) deposits; (ii) economic aspect of mineral commodities (usages, production statistics, economic of mining and concentration); and (iii) environmental issues related to mining, nuclear waste disposal, and constructions. There will be two half-day field trips to study the nature of sulfide mineralization and acid-water pollution.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: GEOSC 001 orGEOSC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 452 Hydrogeology (3) Hydrologic cycle: occurrence, movement, quality, and quantity of groundwater; solute transport; quantitative hydrogeologic methods; role of water in geologic processes. This course has one or more required field trips for which a fee may be charged to the student.

GEOSC 452

GEOSC 452 Hydrogeology (3)

GEOSC 452 is the study of the relation between geological and hydrological processes in the earth's surface and subsurface environments. The course will address the fundamental issues and practical applications of natural flow systems, emphasizing the occurrence, movement, quality, and quantity of groundwater and its relations to contaminate fate and transport. The primary objective is to provide students with the fundamental knowledge and tools that are necessary to understand the hydrologic cycle. Students will gain an in-depth understanding of fluid flow across scales from point observations to watershed phenomena, and will gain skills in using mathematics to describe water fluxes. The course format consists of two lectures each week, and includes two field trips. Grading is based on weekly homework assignments, exams, and participation on the field trips. Because hydrogeology is linked to a wide array of environmental, ecological, engineering, and natural resource issues of societal importance, GEOSC 452 will support interdisciplinary training of students in the natural sciences and engineering. Students will find this course useful when undertaking research about fluids in geologic processes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 112;GEOSC 001, GEOSC 020 orGEOSC 071;MATH 140 orMATH 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 454 Geology of Oil and Gas (3) Properties, origin, migration, and occurrence of oil and gas. This course has one or more required field trips for which a fee is charged to the student.

Geology of Oil and Gas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: GEOSC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 461 Geology of North America (3) Evolution of structural-stratigraphic framework of continent; interpretation of relevant data obtained from field, experimental, and geophysical observation.

Geology of North America (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: GEOSC 001, GEOSC 020 orGEOSC 071

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 465 Structural Geology (4) Effects and mechanics of deformation of the earth's crust; practicum includes field trips and studies of maps and structural problems. This course has one or more field trips for which a fee is charged to the student.

Structural Geology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: or concurrent:GEOSC 203, GEOSC 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 470W Introduction to Field Geology (3) Field interpretation of geologic features; principles and techniques of geologic mapping; interpretation of geologic maps and diagrams. This course has one or more required field trips for which a fee is charged to the student.

Introduction to Field Geology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: GEOSC 001 ; fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 466 Mechanics of Geological Materials (3) Stress and strain specification; fracture and flow in deformational environments; environmental rock deformation; anisotropy; shear and consolidation of particulate media.

Mechanics of Geological Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: GEOSC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 472A Field Geology I (Introduction to Field Methods (3) Introduction to geologic field methods and the 3-D characterization of earth structure and the reconstruction of geologic histories. This course includes travel outside the University for which an additional charge will be made to cover transportation, food, and lodging.

Field Geology I (Introduction to Field Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: GEOSC 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 474 (BIOL 474) Astrobiology (3) In depth treatment of principles/concepts of biochemical evolution, the origin/evolution of life; evaluation of distribution of life in the universe.

GEOSC 474 **GEOSC (BIOL) 474 Astrobiology (3)**

Astrobiology is the study of life in the universe. Astrobiology has become a major focus of scientific research in the United States and a topic often discussed in popular science literature. The recent interest in astrobiology has resulted in the formation of an Astrobiology Institute at Penn State University. This advanced undergraduate course in astrobiology will cover many topics in the field including, biochemical evolution, the origin and evolution of life on Earth, microbial diversity, protein evolution, and the distribution of life in the universe. This course is intended to provide students of the natural sciences with the opportunity to prepare for a research career in the rapidly expanding field of astrobiology. The course will also present astrobiology as a cross-disciplinary framework that ties together the diverse courses the students have already taken. The students will learn new concepts while having, to draw on their previous knowledge of chemistry, biology, and the geosciences. In summary, this course has the following objectives: (1) to develop the student's literacy in astrobiology so that they can critically evaluate claims that they encounter well after the course has ended; (2) to present a scientific question that requires the sum of the student's previous education to solve; (3) to provide a deep background to some of the astrobiological concepts that are often only briefly mentioned in other classes or in the media; (4) to develop research and communication skills required for a young scientist through a class term paper and short oral presentation; and (5) to prepare the students for graduate research in astrobiology by giving them a broad background of the field and by demonstrating many of the outstanding problems yet to be solved.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 110, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 472B Field Geology II (Advanced Field Methods) (3) Advanced application of geologic field methods to the 3-D characterization of earth structure and the reconstruction of geologic histories. This course includes travel outside the University for which an additional charge will be made to cover transportation, food, and lodging.

Field Geology II (Advanced Field Methods) (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: GEOSC 310, GEOSC 465 . Prerequisite or concurrent:GEOSC 472A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 475W (METEO 475W) Global Biogeochemical Cycles (3) The study of earth's major global biogeochemical cycles (carbon, oxygen, nitrogen, phosphorus, and sulfur) in the context of the climate system.

GEOSC 475W **GEOSC (METEO) 475W Global Biogeochemical Cycles (3)**

The main objective of this course is for students to develop intuitive and quantitative understanding of the global cycling of elements, particularly those important for climate and life through and between the atmosphere, the ocean, the lithosphere, and the biosphere. Students will achieve this objective largely through four small research projects in addition to one semester project, using lectures and readings as the conceptual groundwork. The small research projects will be assignments that require the use of a simple modeling tool such as STELLA. As such, a substantial portion of the course takes place in a computer laboratory. As a writing-intensive course, students will be evaluated largely on the scientific content and quality of writing in the small research projects and the semester project. The course is general and requires only one year of calculus and one semester of chemistry; the course should thus be of interest to a variety of science majors, though it is anticipated that the main clientele will be students whose undergraduate majors are Meteorology, Geosciences or Earth Sciences. The course is a requirement of the proposed Climatology option in the Meteorology major. The course will be offered every spring.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MATH 110 andMATH 111 orMATH 140 andMATH 141 andCHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 479 Advanced Stratigraphy (3) Modern topics of sequence stratigraphy are addressed, with a heavy emphasis on field and laboratory data analysis and interpretation.

Advanced Stratigraphy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: GEOSC 439

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 481 Solid Earth and Planetary Geophysics (3) Structure, composition, origin, and evolution of the Earth and Solar System.

GEOSC 481 **GEOSC 481 Solid Earth and Planetary Geophysics (3)**

Solid Earth and Planetary Geophysics has been developed to introduce advanced undergraduates and first-year graduate students in geosciences and planetary sciences to the fundamental concepts and data relevant to the interior structure, composition, and dynamics of the primary bodies in the Solar System. The first half of the course focuses on Earth, the planet for which the most information and most accurate models are available. The data sets, theoretical approaches, and modeling results derived for Earth are then used as a basis or guide for the systematic investigation of the other terrestrial planets, the Giant Planets, and the smaller, icy and rocky members of the Solar System. Data and information that has been acquired recently from ground-based sources, as well as lander, flyby and orbiter missions is incorporated into the discussion and state-of-the-art summary. The course serves as a foundation for students who wish to pursue higher-level studies in solid Earth and planetary science.

Geosciences 481 will be offered in the Spring Semester of each year. Evaluation of student performance will be based on multiple problem sets and a semester research or review project. The latter will be either an individual effort or team-based.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: PHYS 204 orPHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 483 Environmental Geophysics (3) This course presents the principles and applications of the variety of techniques geophysicists use to address environmental problems.

Environmental Geophysics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: PHYS 211, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 484 Geophysical Surveying (3) Principles and interpretation of seismic, gravity, magnetic, electric, and electromagnetic methods; applications to geologic, mining, petroleum, and engineering problems.

Geophysical Surveying (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 213 orPHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 487 Analysis of Time Series (4) Nonstatistical approach to data analysis; spectral and correlation analysis; filter theory; signal-to-noise improvement applied to seismic problems.

Analysis of Time Series (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 487 Analysis of Time Series (3) Nonstatistical approach to data analysis; spectral and correlation analysis; filter theory; signal-to-noise improvement applied to geoscience data.

Analysis of Time Series (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MATH 140 andMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 488 An Introduction to Seismology (4) An overview of the observations, methods, and frameworks used in seismogram analysis for earthquake and earth-structure investigations (includes laboratory).

GEOSC 488

GEOSC 488 An Introduction to Seismology (4)

This course is an overview of the observations, methods, and frameworks used in seismogram-based investigation of earthquake and earth-structure. The main goals of the course are to prepare students of seismology for further study of earthquakes and earth structure using seismograms; to provide an overview of earthquake seismology for nonseismologists, to introduce undergraduate geophysics students to quantitative geoscience. Topics covered include stress and strain, faulting and tectonics, seismic body and surface wave propagation including ray methods, dispersion, and attenuation. Students perform fundamental seismological analyses using a computer-based, experiential laboratory exercises exploring the signals contained in research-quality data from recent earthquakes recorded on the international global seismic network.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: MATH 140, MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 489 Dynamics of the Earth (4) Constitution and dynamics of the solid earth; mechanics and consequences of Plate Tectonic processes.

Dynamics of the Earth (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: GEOSC 203, GEOSC 310, PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 494M Senior Thesis (1-4) Supervised student activities on research projects identified on an individual or small group basis.

Senior Thesis (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 494W Senior Thesis (1-4) Supervised student activities on research projects identified on an individual or small group basis.

Senior Thesis (1-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 498A Hazardous Waster Operation (3) This 40 hour training course is required by the Occupational Safety and Health Administration for personnel.

Hazardous Waster Operation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 498A Hazardous Waster Operation (3) This 40 hour training course is required by the Occupational Safety and Health Administration for personnel.

Hazardous Waster Operation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Geosciences (GEOSC)

GEOSC 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 001 Elementary German I (4) Introduction to listening, speaking, reading, and writing with emphasis on the first two skills; cultural aspects through readings and videos.

Elementary German I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 001G Elementary German for Graduate Students (3) Designed for students preparing to satisfy language requirements for advanced degrees.

Elementary German for Graduate Students (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 002 Elementary German II (4) Continuation of GER 001; further introduction of basic structures, culture, and development of four basic skills stressing aural-oral aspects.

Elementary German II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1994
Prerequisite: GER 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 002G Elementary German for Graduate Students (3) Continuation of GER 001G, with opportunity for reading in special fields.

Elementary German for Graduate Students (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 003 Intermediate German (4) Continued four-skill development with increased emphasis on reading, writing, and grammatical accuracy; culturally-oriented reading selections and videos. Students may receive credit for only one of the following: GER 003 or GER 008.

Intermediate German (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Summer 1994
Prerequisite: GER 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 011 Intensive Basic German (6) Listening, speaking, reading, writing, basic structures and vocabulary of German. Taught on an accelerated basis. Students may receive credit for only one of the following: GER 001, 011, or 015.

Intensive Basic German (6)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 008 Business German (4) Introduction to Business German. Students may receive credit for only one of the following: GER 003 or GER 008.

GER 008 Business German (4)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course students will learn about German businesses and their culture. At the same time, students will continue to review and learn additional grammar points. They will have more writing experience by completing five different writing assignments. All four language skills (listening, speaking, reading and writing) will be further developed in this course.

Students will be evaluated according to class participation, successful completion of in-class presentation, internet exercises, homework assignments, essays, and examinations. This course complements other offerings for German in the business track. It completes the introduction level of German and prepares the student to go on to German 208W, German 308W, and German 408. This course also can be counted towards the BS in German.

This course will be offered once a year during the Fall Semester. In this type of intensive course, enrollment has to be limited to 23 students.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 2000
Prerequisite: GER 001, GER 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 012 Intensive Intermediate German (6) Continued skill development of structures and vocabulary; listening, speaking, reading, writing. Taught on an accelerated basis. Students may receive credit for only one of the following: GER 002, 003, 012, or 016.

Intensive Intermediate German (6)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1983
Prerequisite: GER 011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 016 Reading German II (3) Continuation of GER 015, with readings in the student's own field. Students may receive credit for only one of the following: GER 002, 012, or 016.

Reading German II (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1983
Prerequisite: GER 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 015 Reading German I (3) Survey of German grammar, with readings in technical prose for students whose programs permit only two semesters of foreign language. Students may receive credit for only one of the following: GER 001, 011, or 015.

Reading German I (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 051 Elementary Intensive German for Graduate Students I (3) Intensive introduction to German: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

GER 051 Elementary Intensive German for Graduate Students (3)

This is the first in a series of three courses designed to give students an intensive introduction to German. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the German vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 052 Elementary Intensive German for Graduate Students II (3) Intensive introduction to German: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

GER 052 Elementary Intensive German for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to German. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the German vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: GER 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 053 Intermediate Intensive German for Graduate Students (3) Continued intensive study of German at the intermediate level: reading, writing, speaking, listening, cultural contexts.

GER 053 Intermediate Intensive German for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of German. Continued intensive study of German at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: GER 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 083S (GH;US;IL) First-Year Seminar in German (3) Germany's cultural past and present.

GER 083S First-Year Seminar in German (3)
(GH;FYS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to give the student an introductory overview of certain important aspects of German culture and its development during the past 1500 years. The topics selected will give the student an introduction to major periods and representative thinkers that have helped shape the destiny of German-speaking countries and much of Europe as well. As Goethe noted, our views of the past are a mirror in which we dimly see our own reflection. Serious examination of the issues raised in this course also result in learning something about one's self and the world in which s/he live today.

This course can be used to fulfill the General Education or Bachelor of Arts Humanities requirement, the Intercultural/International Competence requirement, and the first-year seminar requirement. A series of short papers will enable students to develop the skills of information gathering and written expression. The course grade will be based on oral participation and on the grade for the papers, which will be evaluated both for content and writing. This course will help to prepare students for a variety of additional courses in the fields of literature and German-speaking area studies. In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests. The course will be offered once per year to an audience of 20 students.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 083T (GH;US;IL) First-Year Seminar in German (3) Germany's cultural past and present.

First-Year Seminar in German (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 099 (IL) Foreign Study--German (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--German (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 100 (GH;IL) German Culture and Civilization (3) Culture and civilization of the German people from the Germanic migrations to the Nazi period. Conducted in English.

GER 100 German Culture and Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In German 100, students examine the ethical basis for decision-making of representative thinkers and periods in German history. The course begins by looking at the warrior ethos that pervades early Germanic literature, proceeds to examine successive changes in ethics brought on by Christianization, the Reformation, and the Enlightenment. The course ends by looking at the ethics of power advocated by Nietzsche and the racialist ideology of Nazism. The course will also examine changes in aesthetic values, as represented by the art of Durer and the Expressionists, the literature of the Storm-and-Stress movement and Kafka, the music and theater of Wagnerian opera and the film of the Expressionists and Leni Riefenstahl. Finally, the nettlesome issue of German national identity will be addressed through the perspective of historical developments since the time of Charlemagne.

German l00 is linked closely to German 200. German 100 concentrates on German culture and civilization up to the Nazi period. German 200 concentrates on German culture and civilization since the Nazi period. German/Russian 143 addresses aspects of Nazism in greater depth than does German 100.

The course meets three times per week, including fifty-minute lectures on Monday and Friday and a discussion section on Wednesday. The total enrollment is limited to approximately 180 students and the discussion sections have no more than 27 students each. When taught in the summer, the total enrollment for the class is less than fifty. Assessment is based on three examinations with an essay component, one short paper, and participation in classroom discussions, and attendance.

German 100 may not be applied toward the requirements of a German major or a German minor. It may be used for the General Education humanities requirement, for the General Education Intercultural/International competence requirement, or for a B.A. humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 120 (GH;IL) The Faust Theme in Literature and in the Other Arts (3) Survey of the Faust theme in literature (Spiess, Marlowe, Goethe, Mann), book illustrations, music (Gounod), theater, film, and visual arts.

The Faust Theme in Literature and in the Other Arts (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 143U (GH;IL) (RUS 143U) The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.

The Culture of Stalinism and Nazism (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 143 (GH;IL) (RUS 143) The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.

GER (RUS) 143 The Culture of Stalinism and Nazism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The regimes of Stalin and Hitler have decisively shaped the 20th-century historical experience not only in Russia and Germany, but in much of Europe and the world at large. At the same time, there is no consensus about how to classify these systems, whether the term "totalitarian" is appropriate to describe them, and whether Stalinist Russia and Nazi Germany are essentially similar or essentially different historical phenomena.

Espousing a comparative perspective, this course will explore the culture produced by both Stalinist Russia and Nazi Germany. The main focus will be on works of literature, but it will also take into account the visual arts, architecture, music, film, and popular culture. The classics of Stalinist socialist realism and Nazi propaganda, such as Nikolai Ostrovskii's How the Steel Was Tempered or Leni Riefenstahl's Triumph of the Will will be analyzed both as political statements and works of art. The course will also include a reading of authors who attempted to create artistic representations of life in Stalinist and Nazist societies, such as Yevgeny Zamyatin, Alexander Solzhenitsyn, Bertolt Brecht, or George Orwell.

The course will be team-taught by faculty of the Department of Germanic and Slavic Languages and Literatures. Additional faculty from the Departments of Spanish and Italian and Comparative Literature (Japanese) may be invited to lecture about the totalitarian culture in their respective societies, and members from the Department of History may be invited to lecture about the historical context of Stalinisn and Nazism. A knowledge of Russian or German is not required, as class lectures and discussions, as well as all reading assignments, will be in English.

At the end of the course, students will have a summary knowledge of the cultural history of Stalinist Russia and Nazi Germany and of the aesthetic and philosophical issues raised by these cultures. Requirements for the course will include a research paper. The course grade will be based on the average score on the mid-term and final exam (using definitions and essay questions) and the grade for the paper, which will be evaluated both for content and style.

This course will fulfill the General Education and International/Intercultural requirements. It complements courses on the politics and history of totalitarian regimes offered by the departments of Political Science and History, and it will provide a background for students wishing to study Holocaust literature or Soviet Literature. The course will be taught every two years.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 150 (GH;IL) Masterpieces of German Literature in English Translation (3) Major works and prominent authors, E.G. Nieblungenlied, Tristan, Lessing, Goethe, Schiller, Heine, Hauptmann, Hesse, Mann, Kafka, Boll, Grass, Frisch.

Masterpieces of German Literature in English Translation (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 157 (GH;US) Pennsylvania Germans: The Culture of the Sectarians (3) Survey of the religious background, beliefs, social life, customs, education, and culture of the Pennsylvania German sectarians, especially the Amish. Conducted in English.

GER 157 Pennsylvania Germans: The Culture of the Sectarians (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

Through lectures, discussions, and films, students will be introduced to the culture, history, religion, language, education, occupations, folklore, music, and literature of the Pennsylvania Germans. Since 1683, people coming from the German-speaking territories of Central Europe settled Pennsylvania to a large degree. Many of these immigrants soon blended into American society but others who had been persecuted in Europe for their convictions and religious beliefs refused to be Americanized and retained their style of life in the New World. The best-known are the Amish who arrived in colonial times and still cling to their traditional language, beliefs and values, their economic basis, and even their clothing after living nearly three centuries in now industrialized America. They live in small, stable, and viable communities an austere life dictated by established beliefs and customs totally opposed to the American dream of progress and innovation, individual happiness and material success. By studying their history and culture and that of other groups, such as the Mennonites, Hutterites, and Moravians, students are offered a unique opportunity to learn more about other truly diverse cultures and are enabled to arrive at a better understanding of their own cultural concepts and values.

In this course, students may either make a 30-minute presentation or write a 10-page paper on a topic pertaining to the curriculum of the course. Given the number of students, only a small number (approximately six) will have the opportunity to make a presentation. Teaching assistants help grade the papers. In addition, students take two one-hour examinations and a final examination.

The course is related to GER 100 and GER 200 by examining the culture of German-speaking peoples. GER 157 differs from those courses, however, by focusing on a German-speaking minority culture found in Pennsylvania and elsewhere in North America.

German 157 may not be applied toward the requirements of a German major or a German minor. It may be used for the General Education humanities requirement, for the General Education Intercultural/International Competence requirement, or for a B.A. humanities requirement.

The course is offered approximately once a year with an enrollment of 150-180 students.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 175 (GH;IL) Germanic Heroic and Medieval Literature in English Translation (3) Germanic heroic and medieval courtly literature from 800 to 1350 focusing on the prevailing cultural, social, and legal conditions.

Germanic Heroic and Medieval Literature in English Translation (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 187 German Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

German Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 190 (GH;IL) Twentieth-Century German Literature in English Translation (3) Works of such writers as Boll, Brecht, Durrenmatt, Frisch, Grass, Hesse, Kafka, Mann, Rilke, Weiss, and Wolf.

Twentieth-Century German Literature in English Translation (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 195 (GH;IL) Modern German Drama and Theatre in English Translation (3) Plays and their stage realization by writers such as Brecht, Durrenmatt, Handke, Hauptmann, Kaiser, Schnitzler, Wedekind, and Weiss.

Modern German Drama and Theatre in English Translation (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 199 (IL) Foreign Study--German (3-6) Intermediate training in German language skills.

Foreign Study--German (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 2005
Prerequisite: GER 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 200 (GH;IL) Contemporary German Culture (3) Germany since WWI, its politics, economics, society, arts, and educational system in the international context; conducted in English.

Contemporary German Culture (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 201 (IL) Conversation and Composition (4) Continuation of GER 003; emphasis on reading, writing, and conversational skills; course utilizes short literary selections, a concise novel, videos.

GER 201 Conversation and Composition (4)
IL

Offered in the fall and spring semesters of each academic year, this fourth-semester German language course satisfies International Cultures (IL) requirement and is a required course for the German B.A. degree. For the German B.S. degree and the German minor, students must take either German 201 or German 208. German 201 is designed to help students further develop the four basic language skills (listening, speaking, reading and writing) they have attained in previous language courses with particular emphasis on the advancement of their speaking and writing proficiency in German. Through a task-based approach the course aims to assist students in learning to write and speak German with level-appropriate fluency and accuracy. This course will also provide students with ample opportunity to increase their reading command of German through an authentic literary work and short stories by prominent German-speaking authors. The course language is German and class sessions will consist of communicative activities and practices. The learning of the German language will occur through completion of tasks in which students use the level-specific grammatical structures in different formats and circumstances (e.g. writing and oral projects) while receiving little or no direct lecture on German grammar. The delivery and practice of factual information on grammatical structures are integral to the course and thus instructors will highlight them to the extent to help students achieve the course objectives. The class meets twice in a regular classroom and twice in a computer-lab throughout the semester where students will be exposed to computer-mediated language instruction and work on various computer-based projects. Film viewing and discussions will be incorporated into the course, as deemed necessary by the instructors. Attendance and preparation are mandatory and homework is assigned on a regular basis. The evaluation and grading of students' course performance is based on active class participation, successful completion of a rhetorical portfolio, an orally presented cultural project, four brief interviews, and a semester-end aural-oral test.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 2006
Prerequisite: GER 003 orGER 008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 208Y (IL) Business German (4) Intermediate Business German.

GER 208Y Business German (4)
(IL)

In this course students will learn more about German businesses and their culture. At the same time, students will continue to review and learn additional grammar points. They will have more writing experience by completing five different writing assignments. All four language skills (listening, speaking, reading and writing) will be further developed in this course.

Students will be evaluated according to class participation, successful completion of in-class presentation, Internet exercises, homework assignments, essays, and examinations. This course complements other offerings for German in the business track. It completes the intermediate level of German and prepares the student to go on to German 308W and German 408. This course also can be counted towards the BS in German.

This course will be offered once a year during the Spring Semester. In this type of intensive course, enrollment has to be limited to 22 students.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006
Prerequisite: GER 003 orGER 008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 245 (GH) The Vikings (3) Focus on the history of the Vikings from 800 to 1400 as conveyed to us in mythology, literature, and archaeology. Conducted in English.

The Vikings (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 215H Intensive Conversation and Composition (4) Intensive practice in spoken and written German through readings, discussions, and composition.

Intensive Conversation and Composition (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1995
Prerequisite: GER 003 orGER 012H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 297G Advanced German for Reading (3) Intensive reading and translation of advance German texts. Recommended only for graduate who have complete GER 052 in the Summer Intensive Program or who have at least eight credits of undergraduate German.

Advanced German for Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: GER 052

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 299 (IL) Foreign Study--German (3-6) Advanced training in German language skills.

Foreign Study--German (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 301 (IL) Intermediate Conversation and Composition (3) Intensive practice in spoken and written German through readings, discussions, video, and composition.

GER 301 Intermediate Conversation and Composition (3) (IL)

German 301 is a continuation of the composition and conversation emphases of both GER 201 and 208. Fundamental to the course is a thorough grammar review of both basic and advanced grammatical situations. Much of this review is done outside of class. In class, students devote their time primarily to oral work. GER 301 requires students to use German in various ways: group work, individual presentations, discussion of texts, structured partner drills, etc

Student evaluations are based on participation, homework, quizzes, a class room presentation, and essays.

GER 301 is required for all German majors and the German minor and will be offered every semester.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 2006
Prerequisite: GER 201 orGER 208

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 308Y (IL) German Business Communication (3) Development of German commerce and industry; extensive practice in the major forms of business communications such as business correspondence.

GER 308Y German Business Communication (3)
(IL)

This course provides an introduction to German business and economics. Students will read and respond to a variety of texts about German economic practices and the German business world, as well as texts that introduce and describe more general economic principles. Emphasis is also placed on expanding students' vocabulary and further developing their writing skills in German, especially with regards to economic and business terminology, and writing genres common in business contexts. As this is not intended to be a grammar review course, students are expected to have previously completed or be concurrently enrolled in GER 301 or its equivalent. This course complements other offerings in the German business track and prepares students for the final course in the Business German sequence. This course can also be counted towards either the German minor or the German major. It is offered once a year during the fall semester.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent:GER 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 302W Intermediate Conversation and Composition II (3) Continuation of oral and written practice in German with extensive work in composition.

Intermediate Conversation and Composition II (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1994
Prerequisite: GER 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 310 (IL) Introduction to the Study of German Literature (3) History, methods, and the terminology of literary interpretation and analysis in German.

Introduction to the Study of German Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 344 (IL) Intermediate German Culture (3) An overview of German culture from the Middle Ages to the present. Conducted in German.

GER 344 Intermediate German Culture (3) (IL)

This course will be a comprehensive overview of major events and figures in German history that have influenced the development of German culture. This will be a foundational course that will enable students to better situate advanced courses in German literature and culture in the broader context of a cultural tradition that stretches from the Germanic migrations to the present. The course will be taught in German at the intermediate level and will be required of all German majors and minors. It will be a prerequisite for culture courses taught in German at the 400-level. Students will be evaluated on the basis of written tests, an oral presentation and essay on a major cultural figure or event, homework, and class participation. The course will be offered every semester. The enrollment for each section will be capped at approximately 22.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2006
Prerequisite: Prerequisite or concurrent:GER 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 399 (IL) Foreign Study--German (3-12) Advanced studies in German language and/or literature.

Foreign Study--German (3-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: GER 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 401Y (IL) Advanced Composition (3) Intensive practice in writing different text types in German.

GER 401Y Advanced Composition (3) (IL)

GER 401Y is the writing across the curriculum component of the German language sequence. After thorough discussion of various text types, students will read and practice writing in different genres. GER 401Y concentrates on building other language skills as well. We will do so by reading and discussing short German texts from a variety of sources and watching film and television. In addition, we will review aspects of German grammar that present difficulties to many English speakers. Evaluation will be based on five writing assignments, a writing portfolio, quizzes, and class participation.

The course will be offered twice a year with an enrollment of up to twenty students.

GER 401Y is required for all German B.A. and B.S. major options as well as for the German minor.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: GER 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 411 The Teaching of German (3) Theory, methods, techniques, materials, bibliography; use of inter-active media; contributions of linguistics or psychology to language learning.

The Teaching of German (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: or concurrent:GER 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 408 (IL) Advanced German Business Communications (3) Study of German business organization, forms of business communications, business terminology; writing of reports and abstracts.

Advanced German Business Communications (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: GER 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 412 (IL) Contrastive Analysis of Modern German and English (3) Structural comparison of the German and English grammatical systems: morphology, syntax, phonology.

Contrastive Analysis of Modern German and English (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 430 (IL) History of the German Language (3) Development of German from its earliest stages, including historical and cultural aspects.

GER 430 History of the German Language (3)
(IL)

This course provides an overview of the history of the German language from its origins to the present. Historical changes and dialectal variation in phonology (sound system), morphology (word structure), syntax (sentence structure), lexicon (vocabulary), and semantics (word meaning) will be examined. Particular emphasis is placed on the impact of cultural and historical changes on the development of German, including its standardization. Students will be evaluated on the basis of homework, classroom participation, tests, and an in-class presentation with a written abstract. No prior knowledge of linguistics is required. The class is conducted in German.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: or concurrent:GER 401Y

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 420 (IL) Genre (3-9) Special studies in a particular literary genre in German literature, such as lyrical poetry, drama, or narrative prose.

Genre (3-9)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: GER 310, GER 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 431 (IL) History of German Literature and Culture I (3) Significant works of German literature before the mid-eighteenth century considered in their cultural context.

History of German Literature and Culture I (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: GER 310 . Prerequisite or concurrent:GER 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 432 (IL) History of German Literature and Culture II (3) Significant works of German literature from the mid-eighteenth century to the present considered in their cultural context.

History of German Literature and Culture II (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: GER 310 . Prerequisite or concurrent:GER 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 440 (IL) Seminar in German Culture (3-6) Seminar devoted to a special topic in the field of German culture and civilization.

Seminar in German Culture (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 452 (IL) Literature of the Renaissance (3) German literature of the late Middle Ages, Humanism and Reformation including such writers as Brant, Erasmus, Fischart, Luther, Sachs.

Literature of the Renaissance (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 460 (IL) Literature of the Baroque (3) The literature and literary movements of seventeenth-century Germany, including such writers as Opitz, Fleming, Gryphius, Hofmannswaldau, and Gunther.

Literature of the Baroque (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 462 (IL) Literature of the Late Eighteenth Century (3) Literature of the period of Empfindsamkeit and Sturm und Drang, including Rococo and Anacreontic tendencies.

Literature of the Late Eighteenth Century (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 461 (IL) Literature of the Enlightenment (3) Lessing and his contemporaries; new currents in German literature of the eighteenth century.

Literature of the Enlightenment (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 470 (IL) Goethe (3) A study of Goethe's life and works especially his lyric poetry, novels, and dramas.

Goethe (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 471 (IL) Schiller (3) Schiller's life, his classical poetry, aesthetic essays, and major dramas.

Schiller (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 472 (IL) Romanticism (3) A study of both early and late romanticism, including such writers as Novalis, the Schlegels, E.T.A. Hoffmann, and Heine.

Romanticism (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 480 (IL) Realism (3) Literature of the nineteenth century from Biedermeier through Jenges Deutschland to realism: Grillparzer, Morike, Buchner, Heine, Hebbel, Keller, Storm, Fontane.

Realism (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 481 (IL) Early Twentieth Century (3) Development of German literature from Naturalism through Jugendstil to Expressionism: George, Hauptmann, Hesse, Hofmannsthal, Holz, Kafka, Kaiser, Mann, Rilke, Toller.

Early Twentieth Century (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 489 Introduction to German Film History and Theory in Context (3) Introduces films in German since the 1960s and addresses issues relevant to German and European cultures and politics.

GER 489 Introduction to German Film History and Theory in Context (3)

This course focuses on German cinema's development since the 1960s. The course situates the "Young" and then "New German Cinema" within contemporaneous European and U.S. film cultures. Thus the course will address the difference between the European cinematic culture of "*auteurs*" versus the school of "genres" in the U.S.

The preceding traditions of Italian Neo-realism and of the French *nouvelle vague* are also engaged alongside a few Hungarian, Czech and/or Polish films. The students will have the opportunity to consider how these other national cinematic productions impacted the German filmmakers who were involved in the creation of a national German cinema that would critically engage Hollywood on the one hand, and distance itself from the Nazi past on the other.

The course will be structured around questions about the grounds for a national cinema and its cultural and critical relevance both at the time these films were produced and today. Yet, the national question will not be the only focus of this class, in the course of which students will be able to discuss the historical, political and ethical questions raised by the directors selected. In addition, students in this course will learn about the specificity of cinematic language and will be exposed to some film theory. In conclusion, the course provides upper level undergraduate students with a basic knowledge of the most important New German films, with a confrontation with issues specifically relevant to a study of German culture, and with some familiarity with film theory.

The evaluation methods for this course will be based on 1) participation [attendance; reports/worksheets, after each film and in class discussion]: 30%; 2) presentation 20%; 3) take-home mid term essay 20%; and 4) final paper 30%. The course is part of the German Program, in particular of the German Studies curriculum. It teaches students of German culture about German and European contemporary cinema, while situating the cinema within broader historical-political debates concerning Europe. It functions as an excellent complementary course to our GER LIT classes at the 400 level and offers an additional choice to pursue cultural studies to those who are more reticent about reading texts. Enrollment: 25. The course will be offered every other year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: GER 310 orCOMM 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 482 (IL) German Literature from 1933 to the Present (3) Literature from 1933 to the present including Exile and GDR literature.

German Literature from 1933 to the Present (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: or concurrent:GER 431 orGER 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 495 Internship (3-9) Supervised off-campus, non-group instruction including individual field experiences, practicums, or internships. Written and oral critique of activity required.

Internship (3-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1981
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 497A (J ST 497A) Yiddish Reading (3) This course is an introduction to the Yiddish language, focusing on grammar, vocabulary, and reading skills.

Yiddish Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 497B Contemporary German Cinema (1) Course will consits of viewing and discussing recent German films in the light of contemporary German culture.

Contemporary German Cinema (1)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

German (GER)

GER 499 (IL) Foreign Study--German (3-12) Advanced studies in German language, literature, and culture.

Foreign Study--German (3-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: any 300-level course in German

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 001S First-Year Seminar in Graphic Design (1) An orientation to the historical, social, and professional context of design and an exposure to a variety of ethical, philosophical, and topical ideas from the world of design.

First-Year Seminar in Graphic Design (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: admission to the AADES program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 100 (GA) Introduction to Graphic Design (3) A beginning level graphic design course. Instruction touches on the practice, theories, history and processes of the graphic design industry.

GD 100

GD 100 Introduction to Graphic Design (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

GD 100 (GA) INTRODUCTION TO GRAPHIC DESIGN (3) is a beginning level graphic design course. Instruction touches on the practice, history, theories, and analysis of the design industry. This course places emphasis on problem solving and observing design, while developing intuition and creativity. Projects focus on the process of defining the parameters of a design problem, observing examples within the design industry, and critically evaluating examples of effective and ineffective design.

The course will help students to:
1. Understand the graphic design industry and the responsibilities of the profession.
2. Develop an appreciation for the practice of design.
3. Begin to develop the ability to define and solve problems.
4. Increase their knowledge of the history of graphic design and typography.
5. Refine their conceptual skills.
6. Learn and understand the vernacular of the industry.

Students will be quizzed on terminology and important facts provided in the readings.

Grading:
1. Grades will be calculated by quizzes, which will be given throughout the semester. Quizzes will be based on topics and material provided online. 60% of the final course grade will be based on quizzes.
2. Participation in online discussion forums is required. Students will be expected to post comments and responses to an online forum. 20% of the final grade will be based on participation within these forums.
3. Students will be expected to research various examples of design in commercial and non-commercial applications, upload examples, comment on designs, and engage in discussions of effective and ineffective use. Emphasis will be placed on writing skills as part of the evaluation 20% of the final grade will be based on project assignments in design evaluation.

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 101 Thinking Creatively: Defining Problems, Solving Problems, and Generating Ideas in Graphic Design (2) An introduction to the theory and practice of defining problems, developing solutions, and generating ideas in design.

GD 101

GD 101 Thinking Creatively: Defining Problems, Solving Problems, and Generating Ideas (2)

This course is designed to help students learn to think creatively, define problems, and solve those problems by generating good ideas. The first part of the course, Learning to Think Creatively, will cover basic principles and concepts used in thinking creatively. In the second part of the course, Defining Problems, students will learn how to effectively define problems by establishing and refining goals and objectives based on research. The third part of the course, Solving Problems and Generating Ideas, will engage students in practical project-based learning by creating solutions to design problems through teamwork, brainstorming, and a design sequence that fosters new ideas and tests them through prototyping and analysis.

Students will learn to approach problems in design by developing skills in creative thinking, applying those skills in defining problems, and working in creative teams to solve problems through the generation of new ideas that can be practically applied.

Grading is based on participation (20%), bi-weekly journal reviews (20%), and final projects (60%).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Concurrent: GD 001S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 200 Graphic Design Studio I (3) A beginning graphic design studio course. Instruction focuses on the practical and analytical process of creating graphic designs and their critical evaluation.

GD 200

GD 200 Graphic Design Studio I (3)

This course is a beginning graphic design studio course. Instruction focuses on the practical and analytical process of creating graphic designs and their critical evaluation. Emphasis is on problem solving and technical training while, at the same time, nurturing intuition and creativity.

The course will help students to:
1. Develop skills and techniques applicable to graphic design.
2. Become familiar with appropriate computer hardware and software.
3. Develop the ability to define and solve problems.
4. Develop an understanding of graphic design as a profession.
5. Refine their conceptual skills.
6. Develop the work habits and attitudes of design professionals.

Grading:
1. Work will be evaluated on the relevance and originality of the design idea, the suitability of the design approach in serving the client's needs, the effectiveness of the design in reading its intended audience, and all pertinent functional parameters.
2. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
3. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
4. Neatness, craft and attention to detail will be considered in the final grade.
5. Visual, verbal and written communication skills will also be part of the evaluation.

GD 200 carries the prerequisite of GD 102.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: GD 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 102 Introductory Design Studio (3) A studio course in defining problems, solving problems, and generating ideas.

GD 102

GD 102 Introductory Design Studio (3)

This course is designed to build upon the experience of GD 101 Thinking Creatively: Defining Problems, Solving Problems, and Generating Ideas by engaging students in a studio environment where they must arrive at solutions to two design problems, each requiring approximately seven weeks work. Students will define problems and arrive at creative solutions to those problems by generating ideas based on an applied method involving teamwork, brainstorming, and a design sequence that fosters new ideas and tests them through phototyping and analysis.

This course is designed for students in the AADES pre-graphic design program, although it emphasizes concepts and methodologies applicable to all design fields. Students will learn to approach problems in design by developing skills in creative thinking, applying those skills in defining problems, and working in creative teams to solve problems through the generation of new ideas that can be practically applied.

Grading is based on participation (20%), studio project one (40%), and studio project two (40%).

GD 102 is only available to students enrolled in AADES or by permission of instructor and carries the prerequisite of GD 001S and GD 101.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: GD 001S andGD 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 201 Typography (3) A consideration of the word in relation to visual organization and its application to communication.

GD 201

GD 201 Typography (3)

GD 201 is intended to provide the students with practical, formal, and communicative typographic skills. Instruction focuses on the understanding the practical and analytical application of typography in graphic design and its critical evaluation. Emphasis is on developing strong typographic skills in students. Instruction focuses on problem solving and technical training while, at the same time, nurturing intuition and creativity.

The course will help students to:
1. Develop a well-rounded understanding of typography and its relationship to graphic design.
2. Develop skills and techniques applicable to typography.
3. Become familiar with appropriate hardware and software.
4. Continue to refine their conceptual skills.
5. Foster an appreciation of good typography.
6. Develop the work habits and attitudes of design professionals.

Grading:
1. Work will be evaluated on the relevance of the typography to the design idea, the suitability of the design approach and choice of typography, the effectiveness of the design, and all pertinent functional parameters.
2. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
3. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
4. Neatness, craft and attention to detail will be considered in the final grade.
5. Participation in critiques and quality of the presentation of critical evaluations will part of the evaluation.
6. Visual, verbal and written communication skills will be a part of the evaluation.

The prerequisite for GD 201 is GD 200.

GD 201 will be offered spring semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 296 Independent Study (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Study (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 300 Design Photography (4) An investigation of graphic photography processes and how print technology affects the final appearance of a photograph.

GD 300

GD 300 Design Photography (4)

GD 300 is an intermediate design and photography course that explores the visual and conceptual relationship between typography and photography as it relates to the communication of information. This course is designed to help students:
1. Use photographic images and typography as they relate to visual communication.
2. Become proficient in the organization and graphic interpretation of information.
3. Learn the role and responsibility of the designer as a communicator.
4. Explore the relationship between the subject matter, designer, client, and design audience.
5. Experiment in graphic design problem solving.
6. Develop the work habits and attitudes of professional designers.

Grading:
1. Work will be evaluated based on the relevance and originality of the idea and the appropriateness of the design approach to the idea, the intended audience, and all pertinent functional parameters.
2. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
3. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
4. Neatness, craft and attention to detail will be considered in the final grade
5. There will be a review at the end of the semester, which will include all work from the class. Each piece will be evaluated for quality and presentation.
6. Visual, verbal and written communication skills will be a part of the evaluation.

GD 201 and successful portfolio review are prerequisites to GD 300

GD 300 will be offered fall semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 201 and successful portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 301 Graphic Design Technology I (4) Theoretical and practical aspects of computer application to graphic design.

GD 301

GD 301 Graphic Design Technology I (4)

GD 301 is an advanced graphic design studio class that provides graphic design students with an in-depth study of the intricate relationship between the professional graphic designer and digital technology. Students will be introduced to complex software applications that will assist them throughout the design process. From research and ideation to the creation of comprehensive studies and final designs, students will be given the tools that are critical to the completion of a variety of graphic design projects. Instruction will be supported by lectures presenting the most current trends in digital design, assigned readings, and presentations by professionals in the design/printing fields.

The course will help students to:
1. Gain proficiency in appropriate hardware and software programs.
2. Become familiar with the digital prepress process.
3. Develop an understanding of the graphic designer as a digital communicator.
4. Refine their digital craft.
5. Develop the work habits and attitudes of professional designers.

Grading:
75% of the student's grade will be based on work assignments and 25% on quizzes about assigned readings. Criteria for grading include attendance, comprehension of information presented, quality of research for assignments, technical proficiency, and participation in discussions and critiques.

GD 201 and successful portfolio review are prerequisites to GD 301.

GD 301 will be offered fall semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 201 and successful portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 302 Applied Communication (4) Definition and concentrated involvement in problem/audience analysis, with emphasis on understanding symbol and image in evoking audience response.

GD 302

GD 302 Applied Communication (4)

GD 302 involves the definition and concentrated involvement in problem/audience analysis, with emphasis on understanding symbol and image in evoking audience response.

This course is intended to prepare students for professional expectations in the graphic design field. Both individual and group design projects will be assigned with clearly defined parameters and budgetary constraints. Design assignments will be more complex than in previous classes and students will be expected to work faster, handle more complicated information, work in teams, and take greater responsibility in decision-making and creative choices.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 300, GD 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 303 Graphic Design Technology II (4) Advanced application of digital technology as a medium of graphic design.

GD 303

GD 303 Graphic Design Technology II (4)

GD 303 explores digital technology as a medium for graphic design. Topics include design expressed over time -- both linear, as in motion graphics, and nonlinear, as in Web design. The objectives for this course are to give graphic design students experience in the complexities of digital visual communication and to provide students with the opportunity to work with software packages that facilitate digital communication. Students will receive instruction regarding the graphic designer's role in complex, collaborative digital communications.

The course will help students to:
1. Gain proficiency in using software programs such as Macromedia Flash and Dreamweaver, Apple iMovie and Final Cut Pro, and Adobe GoLive.
2. Gain proficiency with various hardware devices.
3. Familiarize themselves with advanced digital design processes.
4. Stay abreast of emerging technological applications in contemporary Graphic Design.
5. Develop an understanding of the graphic designer as a digital communicator.
6. Develop refined digital craft.
7. Develop the work habits and attitudes of professional designers.

Grading: 75% of the student's grade will be based on work assignments and 25% on quizzes based on assigned readings. Grading criteria include attendance, comprehension of information presented, quality of research for assignments, technical proficiency, and participation in discussions and critiques.

GD 300 and 301 are the prerequisites to GD 303

GD 303 will be offered spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: GD 300, GD 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 304 Practical Communications (3) Practical design experience for students through design/publicity problems from the University and community non-profit organizations.

GD 304

GD 304 Practical Communications (3)

GD 304 is an advanced course that is intended to offer practical design experiences to graphic design students through assignments for various University and not-for-profit community clients. The course explores the essential relationship of the verbal and visual aspects of design to the communication of a message to a specific audience. Each student will meet with clients to develop strategies and advance individual projects from initial client contact to finished work. Students will conduct research, present rough ideas to the client, prepare presentations, and carry the work to production resulting in a finished piece.

When necessary, members of the class will work with writers, photographers, and printers as they would in an actual professional setting.

The course is intended to:
1. Prepare the students for the real working environment they will confront in the professional arena after graduation. The course seeks to simulate as close as possible, the atmosphere of a professional design office.
2. Offer the university and community a source of affordable inventive solutions to their design, publicity, and advertising problems.
3. Thoroughly examine the design process and learn to define the problem clearly, and logically work toward an appropriate solution.
4. Help students to develop the work habits and attitudes of professional designers.
5. Practice and polish presentation and interview skills.
6. Practice positive behavior and conflict avoidance/resolution in the workplace.
7. Foster an appreciation for the appropriate integration of typography into design.
8. Develop the ability to work as a member of a team.
9. Gain a deeper understanding of graphic design aesthetically, critically, and technically.

Grading:
1. Work will be evaluated based on the relevance and originality of the idea and the appropriateness of the design approach to the idea, the intended audience, and all pertinent functional parameters.
2. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
3. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
4. Neatness, craft and attention to detail will be considered in the final grade.
5. There will be a review at the end of the semester, which will include all work from the class. Each piece will be evaluated for quality and presentation.
6. Visual, verbal and written communication skills will be a part of the evaluation.

GD 300 and 301 or concurrent with GD 300 and 301 are prerequisites to GD 304.

GD 304 will be offered fall and/or spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: Prerequisite or concurrentGD 300, GD 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 310 Studio Apprenticeship (3 per semester/maximum of 6) Direct involvement in the creative process of the artist-teacher in the studio environment.

GD 310

GD 310 Studio Apprenticeship (3 per semester/maximum of 6)

GD 310 is an advanced course that will offer pragmatic design experiences to graphic design students through direct involvement in the creative process of the designer-teacher in the studio environment.

The course is intended to:
1. Prepare the students for the real working environment they will confront in the professional arena after graduation. The course seeks to simulate as close as possible, the atmosphere of a professional design office.
2. Thoroughly examine the design process and learn to clearly define each problem, and logically work toward an appropriate solution.
3. Help students develop the work habits and attitudes of professional designers.
4. Practice positive behavior, and conflict avoidance/resolution in the workplace.
5. Develop the ability to work as a member of a team.
6. Gain a deeper understanding of graphic design aesthetically, critically, and technically.

Grading:
1. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
2. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
3. There will be a review at the end of the semester, which will include all work from the class.
4. Visual and verbal communication skills will be a part of the evaluation.

The prerequisite for GD 310 is junior or senior standing in Graphic Design and the prior approval of the proposed project by instructor.

GD 310 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: Junior or senior standing in Graphic Design. Prior approval of proposed assignment by instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 400 Time and Sequence (4) Development of visual sequence as replies to graphic design problems.

GD 400

GD 400 Time and Sequence (4)

GD 400 is an in-depth course that explores the essential relation of the verbal and visual elements of design to sequential media, including both traditional and digital media such as film, video, and Power Point. The intrinsic qualities of each medium will be investigated in relation to how each affects the communication of a message to a specific audience.

The course will help students to:
1. Develop an appreciation for time and sequence and how they relate to graphic design problems.
2. Foster an appreciation for the appropriate integration of typography into sequential design.
3. Develop the ability to work as a member of a team in solving sequential design problems.
4. Stay abreast of emerging technological applications in contemporary graphic design.
5. Gain a deeper understanding of time and sequence aesthetically, critically, and technically.
6. Explore the potential of expressing ideas in sequence with still images, film and video.
7. Experiment with new methods of image making that are unique to the technologies involved.
8. Gain practical experience that has direct professional application.
9. Develop the work habits and attitudes of professional designers.

Grading:
1. Work will be evaluated based on the relevance and originality of the idea and the appropriateness of the design approach to the idea, the intended audience, and all pertinent functional parameters.
2. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
3. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
4. Neatness, craft and attention to detail will be considered in the final grade.
5. There will be a review at the end of the semester, which will include all work from the class. Each piece will be evaluated for quality and presentation.
6. Visual, verbal and written communication skills will be a part of the evaluation

GD 400 will be offered fall semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 402 Senior Problems (4) Development of visual replies to graphic design problems.

GD 402

GD 402 Senior Problems (4)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an in-depth course that explores the essential relation of the verbal and visual elements of design to advanced graphic design problems. The class is divided into two parts: 1) Each student submits a written proposal for a hypothetical magazine. In the proposal he or she describes the publication's subject, content and editorial point-of-view, along with the intended audience, must be described in the proposal. Additionally, the functional parameters surrounding editorial design and a discussion of similar publications in the marketplace should be touched upon in the paper. The proposal drives the design of the publication. Each student is required to develop an appropriate title for their magazine, design a masthead, two covers, a table of contents, and a minimum of three articles. The minimum length for each article is two spreads (four pages). All sections of the magazine will be bound together with one of the covers for final presentation. Additionally, each student must apply his or her masthead design to letterhead, envelope and business card. 2) Each student prepares for graduation and the beginning of his or her career by putting together their final portfolios, resumes, letters and job search strategies.

The course will help students to:
1. Perform as editorial designers.
2. Prepare for the real working environment they will confront in the professional arena after graduation.
3. Thoroughly examine the design process and learn to clearly define the problem, in order to work logically towards an appropriate solution.
4. Develop the work habits and attitudes of professional designers.
5. Polish visual, verbal and written presentation skills.
6. Practice positive behavior, and conflict avoidance/resolution in the workplace.
7. Prepare designers for realistic working environment expectations.
8. Foster an appreciation of good typography.

Grading:
1. Work will be evaluated based on the relevance and originality of the idea and the appropriateness of the design approach to the idea, the intended audience, and all pertinent functional parameters.
2. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
3. Attendance is required. In the case of illness or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
4. Neatness, craft and attention to detail will be considered in the final grade.
5. There will be a review at the end of the semester, which will include all work from the class. Each piece will be evaluated for quality and presentation.
6. Visual, verbal and written communication skills will be a part of the evaluation.

GD 400 and 401 are prerequisites to GD 402.

GD 402 will be offered spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 400, GD 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 401 Package Design (3) Orientation to packaging designs as it relates to the consumer, client, and to societal and environmental concerns.

GD 401

GD 401 Package Design (3)

GD 401 Orientation to packaging design as it relates to the consumer, client, and to social and environmental concerns.

Objectives:
This course will explore the following: creative problem solving through package design, historical and contemporary solutions in package design; the role of the package designer in relation to the consumer, client, printer, photographer, and environment; conceptualization and problem solving techniques. It is designed to encourage student responsibility and professionalism.

Class Format:
Classes will consist of the following: the assignment and discussion of projects, individual and group conferences; classroom critiques of work in progress /completed projects, computer lab work sessions, and professional photography studio sessions.

GD 302 is the prerequisite for GD 401.

GD 401 (3) will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 403W Graphic Design Seminar (3) A seminar on subjects which relate to the field of graphic design.

GD 403W

GD 403W Graphic Design Seminar (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an advanced course covering the history and contemporary theory and criticism of graphic design. Topics include: the invention of writing and alphabets, medieval manuscripts books, the origin of printing and typography, Renaissance graphic design, the Arts and Crafts movement, Victorian and Art Nouveau graphics, modernist influences on graphic design, visual identity and conceptual images, postmodern design, the computer graphics revolution, new media design, ethics and professional practice, and contemporary issues relating to design theory and criticism.

The course is intended to:
1. Provide a firm understanding of the history of graphic design.
2. Develop the capacity to discuss the articulate current issues in graphic design.
3. Promote writing and speaking abilities through class assignments.
4. Help students to develop the work habits and attitudes of professional designers.

Grading:
1. Class projects as well as class participation will be evaluated.
2. Written assignments, including short synopses of readings and additional essays, and the quality of writing will be a part of the grade evaluation.
3. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
4. Attendance is required. In the case of illnesses or an emergency, students are required to contact the professor just as they would contact an employer. Three unexcused absences will result in the final semester grade being lowered one full letter grade.
5. Visual and verbal as well as written communication skills will be a part of the evaluation.

GD 320 is the prerequisite to GD 403W.

GD 403W will be offered spring semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007
Prerequisite: GD 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 404 Book Design (3) Writing, designing, illustrating and production (printing) of a book.

GD 404

GD 404 Book Design (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an advanced course that explores the relationship of the written and visual elements in the design of a book. Each student (or student team) will select a topic, create the text and give visual form to an original book, which will have a minimum length of 16 pages. The intrinsic qualities of the book medium such as typography, sequence, imagery, paper, dye-cuts, fold-outs, pop-ups, and binding will be investigated in relation to how each affects the overall communication of the book's meaning to a specific audience.

The course is intended to:
1. Foster an appreciation for good typography.
2. Allow students to investigate the sequential relationships between the visual and verbal aspects of a book and their synergistic interaction in the communication of the books meaning to a particular audience.
3. Introduce the appropriate use of illustrations in book design.
4. Help students develop the work habits and attitudes of professional designers.
5. Help students to examine the design process to learn to define the problem and work logically towards an appropriate solution.
6. Develop the ability to work as a member of a team.
7. Gain a deeper understanding of graphic design aesthetically, critically, and technically.

Grading:
1. Each of the two copies of the book that are submitted at the end of the semester should be identical, with flawless execution and craft.
2. The book will be evaluated on the originality of the idea and the appropriateness of the design approach to the idea, the intended audience and all pertinent functional parameters.
3. Professional attitude and the development of professional work habits will be evaluated. Students are expected to think for themselves, budget their time, meet deadlines, and adhere to production schedules.
4. Visual, verbal and written communication skills will be evaluated.

GD 404 will be offered fall or spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: GD 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 496 Independent Study (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Study (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Graphic Design (GD)

GD 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 002 Elementary Classical and New Testament Greek (4) Further instruction in syntax and sentence structure.

Elementary Classical and New Testament Greek (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1983
Prerequisite: GREEK 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 001 Elementary Classical and New Testament Greek (4) Pronunciation, forms, syntax, and translation.

Elementary Classical and New Testament Greek (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 003 Intermediate Classical and New Testament Greek (4) Selections from representative authors.

Intermediate Classical and New Testament Greek (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1983
Prerequisite: GREEK 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 051 Elementary Intensive Greek for Graduate Students I (3) Intensive introduction to Classical and New Testament Greek: first half of graduate intensive sequence, elementary reading, writing, speaking, listening, culture.

GREEK 051 Elementary Intensive Greek for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Greek. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Greek vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 052 Elementary Intensive Greek for Graduate Students II (3) Intensive introduction to Classical and New Testament Greek: second half of graduate intensive sequence, elementary reading, writing, speaking, listening, culture.

GREEK 052 Elementary Intensive Greek for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Greek. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Greek vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: GREEK 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 053 Intermediate Intensive Greek for Graduate Students (3) Continued intensive study of Classical and New Testament Greek at the intermediate level: reading, writing, speaking, listening, culture.

GREEK 053 Intermediate Intensive Greek for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Greek. Continued intensive study of Greek at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: GREEK 052 or equivalent and graduate standing.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 099 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 102 Intermediate Ancient Greek (4) Intermediate study of classical Greek grammar, syntax, and vocabulary.

GREEK 102 Intermediate Ancient Greek (4)

(BA) This course meets the Bachelor of Arts degree requirements.

GREEK 102 continues from GREEK 101, which is prerequisite for enrollment. After a brief review of key grammar and morphology from the first semester, the course will complete the process of providing students with a sufficient grasp of Greek vocabulary, morphology and syntax to enable them to read unadapted passages from ancient Greek authors (with the aid of a lexicon) by the end of the course. Class sessions will focus on grammar drills, sentences, and similar exercises as homework to supplement class work. As the semester progresses, students will read more and more from Greek authors themselves rather than either Greek composed by the textbook authors or adapted ancient Greek passages, so that when students enter more advanced classes, they will find the transition to reading Greek as smooth as possible.

In tandem with the increasing emphasis on Greek written by ancient Greeks, the course will continue to focus on the cultural milieu of ancient Athens in particular as a background for the texts that the students read. Basics of Greek history, archaeology, and philosophy will be introduced as relevant to the texts that the students read. Students will be evaluated on a combination of written work, including frequent tests and quizzes; homework completion; and course attendance and participation. GREEK 102 will prepare students to continue with courses in Greek at the 400-level. Students may select to use GREEK 102 to fulfill either a 3-credit requirement for a course in Greek or Roman language, literature, civilization, or archaeology or the requirements for 9 credits in courses related to Classics and Ancient Mediterranean Studies within the Common Requirements for the Major. Students desiring to fulfill the B.A. requirements for 12th-credit level foreign language in Greek may do so by successfully completing a 400-level course in Greek. This course will be offered once a year with 24 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2001
Prerequisite: GREEK 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 101 Introductory Ancient Greek (4) Fundamentals of classical Greek grammar, syntax, and vocabulary.

GREEK 101 Introductory Ancient Greek (4)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of GREEK 101 is to introduce students to the fundamentals of ancient Greek as quickly and thoroughly as possible. The Attic dialect is the basis of Classical Greek grammar, because this is the language of the tragedies of Aeschylus, Sophocles, and Euripides; the comedies of Aristophanes; the histories of Thucydides and Xenophon; the orations of Demosthenes; and the works of Plato. This course focuses primarily on the morphology and syntax of ancient Greek. Drills on each grammar presentation, as well as translation of sentences both from English to Greek and from Greek to English, and of brief passages from ancient authors are the basis of the student's homework throughout the semester. By the end of the semester, students will be prepared to read short passages of Greek authors. The course will focus on reading and writing rather than speaking, although students will be expected to read Greek aloud regularly in order to master correct pronunciation. GREEK 101 will prepare students to continue with GREEK 102 and then 400-level Greek courses.

The course goals, in addition to providing students with a firm grounding in Greek grammar and morphology, include giving students an improved understanding of English grammar and of English vocabulary and word origins. Moreover, while the primary focus will be on mastering forms and syntax, students will also be introduced to the basic aspects of classical Greek culture so that they are able to place the selections they read within a wider cultural context. Students may select to use GREEK 101 to fulfill either a 3-credit requirement for a course in Greek or Roman language, literature, and civilization, or archaeology or the requirement for 9 credits in courses related to Classics and Ancient Mediterranean Studies within the Common Requirements for the Major. Students desiring to fulfill the B.A. requirement for 12th-credit level foreign language in Greek may do so by successfully completing a 400-level course in Greek. Students' work in the course will be evaluated on a combination of written work, including frequent tests and quizzes; homework completion; and course attendance and participation. GREEK 101 will be offered once per year with 24 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 197 Special Topics (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 400 Greek Syntax and Stylistics (3) Classical Greek syntax and stylistics as examined and appreciated through standard exercises in composition and parallel selected prose readings.

GREEK 400 Greek Syntax and Stylistics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Greek 400 will assist and enable Classical and Ancient Mediterranean Studies language majors and other interested students in acquiring the skills necessary to analyze, compose, and thus appreciate the varying characteristics of ancient Greek prose style. In-depth reading of Greek prose authors will be coupled with regular exercises in Greek prose composition and analysis of syntactical and stylistic features of representative passages. The course begins with grammar review, directed reading, and prose composition exercises of sentence-length passages. By the middle of the term, students will read and compare passages from Greek authors of different periods and styles and compose passages in imitation of these styles, with the goal of a heightened appreciation of the varying styles of Greek prose and the appropriateness of these styles to varying rhetorical purposes. Selected prose authors will be read, including but not limited to Lysias, Demosthenes, Isocrates, Herodotus, Thucydides, Xenophon, Plato, and Aristotle. By the end of the term, students will be able to comprehend, assess, and compose connected passages of Greek prose with increased ease and acumen. Evaluation methods include daily graded homework assignments consisting of composition exercises; evaluation of in-class participation in reading and analysis of prose passages; midterm examination; final examination. The course may be taken by students who have completed at least one year of college-level Greek (Greek 102 or 003 at Penn State or the equivalent), but is ideally suited for students who have taken at least one 400-level Greek course. It functions (along with Latin 400) as one of two "capstone" courses for the Classics and Ancient Mediterranean Studies Option Major, the Classical Languages Option Major, or the Greek Minor. Class size: maximum of 20.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: GREEK 102, GREEK 003 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 401 Introductory Reading in Greek Literature (3-6) Analysis of selected passages of ancient Greek literature; attention will be paid to grammatical as well as literary details.

GREEK 401 Introductory Reading in Greek Literature (3)

(BA) This course meets the Bachelor of Arts degree requirements.

GREEK 401 is an ancient Greek literature course in which students will read selections from various genres. Students also will read in English additional selections of the authors they are studying. The overall goal of the course is to increase the ease and fluency of advanced-level students with ancient Greek. Although students will be expected to enter the class with a comfortable level of reading skill as acquired in GREEK 003 or 102 or their equivalent, the course will include grammar and building vocabulary. By the end of the course, it is expected that students will be able to read Greek fluently, and be able to analyze grammatical structures.

Students' work in the course will be evaluated based on class participation, several in-class quizzes and tests, and a final examination. GREEK 401 is one of a series of advanced Greek poetry and prose courses that allow students to gain skill and knowledge about a range of ancient Greek literature. GREEK 401 may be used to fulfill several requirements for the CAMS major including the requirement of courses in Greek or Roman language, literature, or archaeology and a 400-level course in a related area. The course is particularly designed for students who select the Language Option of the major, which requires four courses at the 400-level in Greek or Latin. The course will be offered every other year with 20 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2002
Prerequisite: GREEK 003 orGREEK 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 425 Greek Historians (3-6) Translation and study of one or more of the ancient Greek historians.

GREEK 425 Greek Historians (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

GREEK 425 is a reading course in ancient Greek focusing on one or more of the major ancient Greek historians (usually Herodotus, Thucydides, or Xenophon, or Polybius). The course is designed to advance the student's fluency in reading Greek prose, while at the same time enriching their understanding of Greek civilization and history by a thematic choice of historical readings. The course may concentrate on one author or may address a thematic issue with readings from a variety of Greek historians. For example, readings may be selected from Herodotus' accounts of ancient Egypt. Or readings may focus on a comparative study of Thucydides' and Polybius' reasons for writing history. The major portion of class time will be devoted to translating prepared passages. These passages will also be the basis for discussing grammatical forms, as well as stylistic issues in prose writing. The class will also include discussions of historical themes relevant to the readings. Students' work in the course will be evaluated based on class participation, three in-class tests, a final examination, and a term research paper or oral presentation.

GREEK 425 is one of a series of advanced Greek poetry and prose courses that allows students to gain skill and knowledge about a range of ancient Greek literature. This course requires a mastery of basic Greek grammar and vocabulary acquired in GREEK 003, 102, or their equivalent. GREEK 425 may be used to fulfill several requirements for the CAMS major including the requirement of courses in Greek and Roman language, literature, and archaeology, and a 400-level course in a related area. The course is particularly designed for students who select the Language Option of the major, which requires four courses at the 400-level in Greek or Latin.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2001
Prerequisite: GREEK 003 orGREEK 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 420 Greek Prose Authors (3-6) Readings in representative authors.

Greek Prose Authors (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 1983
Prerequisite: GREEK 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 430 Greek Poetry (3-6) Translation and analysis of selected readings in Greek poetry.

GREEK 430 Greek Poetry (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

GREEK 430 is an advanced Greek literature course in which students will read 1200-1500 verses of a non-dramatic genre of ancient Greek poetry (in different years the course is offered, this might be epic, lyric, bucolic, or didactic poetry). Students also will read in English the entire output of the author they are studying. The overall goals of the course are as follows: (1) to increase the ease and fluency of advanced-level students with ancient Greek in general and poetic idiom in particular; and (2) to expose students to a limited amount of scholarly literature and give practice in understanding and evaluating a scholarly argument in relation to a primary text with which they are familiar. Students will be expected to enter the class with a comfortable level of reading skill (as acquired in GREEK 003, 102 or their equivalent); the course will not cover grammar, nor will all the assigned readings in Greek be translated in class. Emphasis is on reading a generous amount of poetry in the original Greek and on literary interpretation.

The approach in the classroom will change as the term progresses. Initially, classes will be more lecture-driven in order to explain the background and characteristics of the poetry being read. Translation assignments early in the semester will be relatively short (30-50 verses per class). As students gain in ease and familiarity with the Greek they are reading, assignments will become longer (with a goal of approximately 100 verses per class by the end of the term) and students will assume an increasing proportion of the responsibility for conducting individual class sessions, culminating in student presentations at the end of the semester. GREEK 430 is one of a series of advanced Greek poetry and prose courses that allows students to gain skill and knowledge about a range of ancient Greek literature. GREEK 430 may be used to fulfill several requirements for the Classics and Ancient Mediterranean Studies major including the requirement of courses in Greek or Roman language, literature, or archaeology and a 400-level course in a related area. The course is particularly designed for students who select the Language Option of the major, which requires four courses at the 400-level in Greek or Latin. Students will be evaluated through class participation, quizzes, tests, an oral presentation, and a final exam. The course will be offered once every other year and will offer 20 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2001
Prerequisite: GREEK 003 orGREEK 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 440 Greek Drama (3-6) Translation and study of a selected play.

GREEK 440 Greek Drama (3-6)

(BA) This course meets the Bachelor of Arts degree requirements.

GREEK 440 is an advanced Greek drama course in which students will read 1200-1500 verses of an ancient Greek drama. Students also will read in English additional plays by the author they are studying. The overall goals of the course are as follows: (1) to increase the ease and fluency of advanced-level students with ancient Greek in general and dramatic idiom in particular; and (2) to expose students to a limited amount of scholarly literature and give practice in understanding and evaluating a scholarly argument in relation to a primary text with which they are familiar. Students will be expected to enter the class with a comfortable level of reading skill. The course will not cover grammar, nor will all the assigned readings in Greek be translated in class. Emphasis is on reading an entire play in the original Greek and on literary interpretation.

The approach in the classroom will change as the term progresses. Initially, classes will be more lecture-driven in order to explain the background and characteristics of the poetry being read. Translation assignments early in the semester will be relatively short (30-50 verses per class). As students gain in ease and familiarity with the Greek they are reading, assignments will become longer (with a goal of approximately 75-80 verses per class by the end of the term) and students will assume an increasing proportion of the responsibility for conducting individual class sessions. Students will be evaluated through class participation, quizzes, tests, and a final examination.

GREEK 440 is one of a series of advanced Greek poetry and prose courses that allow students to gain skill and knowledge about a range of ancient Greek literature. This course requires a mastery of basic Greek grammar and vocabulary acquired in GREEK 003, 102, or their equivalent. GREEK 440 may be used to fulfill several requirements for the Classics and Ancient Mediterranean Studies major including the requirement of courses in Greek or Roman language, literature, or archaeology and a 400-level course in a related area. The course is particularly designed for students who select the Language Option of the major, which requires four courses at the 400-level in Greek or Latin. GREEK 440 will be offered once every other year with 20 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002
Prerequisite: GREEK 003 orGREEK 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 497 Special Topics (1-9) Formal courses given infrequently to exlore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Greek (GREEK)

GREEK 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health (HLTH)

HLTH 306 Physical Education, Health, and Safety in Elementary Schools (2) A study of appropriate activities for elementary-age children. Student participation in physical activities is required.

HLTH 306 Physical Education, Health and Safety in the Elementary Schools (3)

This course is designed to prepare elementary classroom teachers to provide age appropriate instruction related to issues of health and safety encountered in the school, home, and community. Understanding and demonstrating a knowledge of foundations, lesson planning, instructional strategies, and assessment is a key component of the program. In addition, the pre-service teachers are prepared to organize and implement physical education activities that may be carried out in the classroom, playground and/or appropriate indoor facilities. The physical education aspects of the program are generally provided as ancillary activities to the program provided under the guidance and direction of a certified Health and Physical Education instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: eighth-semester standing in Elementary Education Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 462 Health Care Administration (3) Organizational perspectives, managerial techniques and political aspects of health care planning, administration and control.

Health Care Administration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985
Prerequisite: H C M 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 361 Health Care Systems (3) An analysis of health care-related occupations, use of health services and health care system. Discussion of alternatives to present system.

Health Care Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 463 Legal Aspects of Health Care (3) An examination of legal rights and liabilities of patients, professionals, and health care institutions. Emphasis is given to medical malpractice.

Legal Aspects of Health Care (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 464 Health Care Finance and Economics (3) Integration of financial and economic aspects of health care systems, including financing, mechanisms, economic theory, and regulatory constraints.

Health Care Finance and Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: FIN 301 6 credits economics (micro and macro)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 467 Methods of Health Care Planning and Evaluation (3) Health care planning, epidemiological concepts, forecasting procedures, and methods of health care evaluation.

Methods of Health Care Planning and Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988
Prerequisite: 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 465 Health Care Insurance (3) A study of insurance as it relates to health care from the public and private sector viewpoints.

Health Care Insurance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Care Management (H C M)

H C M 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HL ED)

HL ED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HL ED)

HL ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HL ED)

HL ED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 415 Planning and Developing Health Education Programs (3) Premises and strategies for planning, implementing, and evaluating wellness programs in corporate, hospital, and community agency settings.

Planning and Developing Health Education Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 420 Development of Stress Management Programs for Health Education (3) Planning, development, and implementing strategies for stress management programs for health education professionals in school, community, and corporate settings.

Development of Stress Management Programs for Health Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 421 Integrating Health Education into the School Program K-12 (3) Premises and strategies for integrating basic health education concepts into the school program K-12.

Integrating Health Education into the School Program K-12 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 443 Alcohol and Drug Education (3) Principles of integration and coordination of alcohol and drug education programs for health education and other social service professions.

Alcohol and Drug Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 450 Worksite Health Promotion (3) Rationale and strategies for planning, implementing, and evaluating employee health promotion in programs in public and private worksite settings.

Worksite Health Promotion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Education (HLHED)

HLHED 456 Advanced Techniques in School and Community Health Education (3) Public health, mental health, nutrition, dental school health, physical education, accident prevention, health teaching; projects, consultation, visitation, discussions, and resources.

Advanced Techniques in School and Community Health Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1997
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 057 (GHA) Consumer Choices in Health Care (3) Introduction to consumers' role in health-care decisions, including health benefits, physician and hospital choice, and end-of-life choices.

H P A 057 Consumer Choices in Health Care (3)
(GHA)

H P A 057 is designed to provide students with an understanding of the consumer's role in health care decisions. The growth in health care information resources, the expansion of for-profit medical care, the consumer revolution, and increasing cost pressure mean consumers must be aware of the critical issues involved in health care decisions. Consumer knowledge and decision-making affect the cost and quality of health care received. The main goal of this course is to educate students to become knowledgeable health care consumers. H P A 057 (GHA) can be used as a General Education course for all Penn State students. It focuses on all 4 aspects of General Education in Health and Physical Activity and several of the overall General Education criteria. It helps students learn how to gather information about health and health care and synthesize and analyze that information to make good choices that will enable them to achieve and maintain good health, including making healthful lifestyle choices. H P A 057 emphasizes that students must develop consumer skills, attitudes, and habits that will enable them to make the choices expected of consumers in today's health care system. Active learning is a critical component of H P A 057, as students must actively gather information and use it to make decisions. H P A 057 also addresses the issue of intercultural competence, by addressing different cultural views of health and information on how culture influences interactions between patients and others in health care settings. It requires students to write and speak about the choices they make through assignments that demonstrate their understanding of the information resources and the reasoning underlying their choices. Finally, several in-class and out-of-class assignments employ collaborative learning and teamwork as students gather and synthesize information. Students in Health Policy Administration may use H P A 057 for a supporting course in their major. It is also a required course in the Minor in Health Policy and Administration. H P A 057 does require a technology classroom to enable demonstration of consumer health information on the web and students will need some independent laboratory access to complete assignments. H P A 057 will be offered 2-3 times per year at University Park and on several other Penn State campuses with an expected enrollment of 50-200 students per semester.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 101 Introduction to Health Services Organization (3) Examination of the social, political, historic, and scientific factors in the development and organization of health services.

Introduction to Health Services Organization (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 301 Health Services Policy Issues (3) Analysis of major issues in health services delivery in hospitals, medical practice, public health, mental health, and health professional education.

Health Services Policy Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: H P A 101, PL SC 001, ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 301W Health Services Policy Issues (3) Analysis of major issues in health services delivery in hospitals, medical practice, public health, mental health, and health professional education.

H P A 301W Health Services Policy Issues (3)

H P A 301W is a survey course of health services policy issues that emphasizes the skills needed to analyze and communicate knowledge about health services policy. The chief goals of the course are to broaden student understanding of selected current policy issues in health care, to deepen student knowledge of the development of health policy issues, and to develop student skills in the areas of information literacy, communication, and teamwork. Students are evaluated on the basis of an individual policy issue brief, a team policy issue brief, and quizzes.

The course content includes an overview of the key areas in health policy issues: how and why issues emerge; how to trace the historical development of a policy issue; how to analyze the behavior of stakeholders like hospitals, physicians, nurses, insurers, health maintenance organizations, employers, consumers, and others; how to monitor a health policy issue's development. These areas are explored in two ways--by class discussions of current issues in health policy and by writing assignments that focus on writing policy issue briefs. Several modules on information literacy, communication, and teamwork skills that are critical for work in health policy are integrated with the writing assignments.

H P A 301W is a required course in the Health Policy Administration major and serves as one of the Writing Across the Curriculum courses Health Policy Administration students can take. It is also an optional course for the Minor in Health Policy and Administration. H P A 101, PL SC 001, and ECON 002 are prerequisites for H P A 301W, providing foundation knowledge in health care and social sciences. In addition, all H P A 400-level courses with a health policy focus require H P A 301 or H P A 301W as a prerequisite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: ECON 002, H P A 101, PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 310 Health Care and Medical Needs (3) Health care from an individual, family, and community standpoint illustrated with specific diseases and health problems.

Health Care and Medical Needs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: BB H 101, BI SC 004 orBIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 332 Health Systems Management (3) Introduction to and analysis of managerial roles and practices in health service organizations.

Health Systems Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1987
Prerequisite: H P A 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 390W Professional Development in Health Policy and Administration (3) Development of personal understanding and professional skills to prepare students for future employment or study in health policy and administration.

H P A 390W Professional Development in Health Policy and Administration (3)

The objectives of H P A 390W are to help students understand themselves and the opportunities available in the health care field and professional skills in preparation for their required internship and future profession. In H P A 390W students learn to assess their talents and abilities and how those talents can be best applied in one of the many career settings in health care. They research different types of organizations and opportunities in the health care field. They learn the basic professional skills that are required in the health care world. Students are evaluated on the basis of a personal self-study exercise, completion of a required planning form, several professional development writing exercises, and a team project on a health care organization.

Health Policy Administration students take H P A 390W after the have completed the initial overview of the health care system in H P A 101 and while they are taking their core courses in the major, H P A 301, H P A 310, and H P A 332. The course is a prerequisite for H P A 395, the student's professional internship, providing the professional development background that students need to have a high-quality internship experience that furthers their education. H P A 390W is a writing intensive version of a required course in the curriculum. No students from other departments may take the course without H P A permission.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: H P A 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 390 Professional Development in Health Policy and Administration (3) Development of personal understanding and professional skills to prepare students for future employment or study in health policy and administration.

H P A 390 Professional Development in Health Policy and Adiminstration (3)

The objectives of H P A 390 are to help students understand themselves and the opportunities available in the health care field and professional skills in preparation for their required internship and future profession. In H P A 390 students learn to assess their talents and abilities and how those talents can be best applied in one of the many career settings in health care. They research different types of organizations and opportunities in the health care field. They learn the basic professional skills that are required in the health care world. Students are evaluated on the basis of a personal self-study exercise, completion of a required planning for several professional development exercises, and a team project on a health care organization.

Health Policy Administration students take H P A 390 after they have completed the initial overview of the health care system in H P A 101 and while they are taking their core courses in the major, H P A 301, H P A 310, and H P A 332. The course is a prerequisite for H P A 395, the student's professional internship, providing the professional development background that students need to have a high-quality internship experience that furthers their education. H P A 390 is a required course in the curriculum. No students from other departments may take the course without H P A permission.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: H P A 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 395 Field Experience in Health Policy and Administration (1-13) Professional field experience providing opportunities to apply skills and knowledge in health care setting.

Field Experience in Health Policy and Administration (1-13)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: H P A 301W, H P A 310, H P A 332, H P A 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 401 (IL) Comparative Health Systems (3) Comparative analysis of health services in selected developed and developing countries.

Comparative Health Systems (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: H P A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 396 Professional Transition to Careers in Health Policy and Administration (1) Professional skills development preparing students for their first work experience in Health Policy and Administration.

Professional Transition to Careers in Health Policy and Administration (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: H P A 395

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 410 Principles of Public Health Administration (3) The rationale for, and the patterns of, public health service at all levels of government in the United States.

Principles of Public Health Administration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: H P A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 420 Principles of Managed Care (3) Survey of managed health care, including history, typology, current issues, management challenges, and impacts on patients, providers, and special populations.

Principles of Managed Care (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: H P A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 433 Administration of Hospital and Health Service Systems (3) Analysis of administrative structures and interorganizational arrangements among hospitals and other health care organizations.

Administration of Hospital and Health Service Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: H P A 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 431 Health Planning Methods (3) Introduction to methods used in planning for health, services, facilities, and manpower.

Health Planning Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: H P A 301;STAT 200 orSTAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 440 (US;IL) (BB H 440) Principles of Epidemiology (3) Theory of epidemiology and significant case studies. Potential application to health care.

H P A (BB H) 440 Principles of Epidemiology (3)
(US;IL)

This course is designed to provide students with a basic understanding of the principles of Epidemiology and to familiarize students with the methods and applications of epidemiology to understanding the bases for heterogeneity of disease and health among populations.

The goals of the course are: 1) recognize and use basic principles, concepts, terminology, and techniques in Epidemiology as applied to the study of infectious disease, chronic diseases, and other health-related problems; 2) examine and understand measures of risk and burden of illness on populations defined in terms of age, race, gender, class, time, and other relevant socio-cultural and demographic factors; 3) be able to interpret and critique epidemiological research reports on the identification of risk factors and casual factors for diseases in populations; 4) assess the health status and burden of diseases and health problems of populations at multiple levels of analysis for the purpose of planning health promotion activities and health care services; 5) have a basic understanding of the epidemiology tools for disease screening and other methods for primary and secondary prevention of disease and health problems; 6) examine the validity and applicability of various health interventions used to improve health status and the barriers for successful interventions; and 7) have a basic understanding of the epidemiology of the major causes of morbidity and mortality in the U.S. and for other selected regions and nations of the world.

This is a required course in the Biobehavioral Health major and an elective course in the Health Policy and Administration major. The course is also appropriate for students intending to advance to post-baccalaureate graduate and professional programs in medicine, public health, health policy and planning, and other health-related careers.

Students will be evaluated based on their performance on a combination of written assignments, a term paper or project, and exams.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BB H 101 orBIOL 110 orH P A 310;STAT 200 orSTAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 445 (ECON 445) Health Economics (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.

Health Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1994
Prerequisite: ECON 302, ECON 315 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 442 Long-Term Care Management (3) Management and policy issues for institutional, community, and home settings for chronic care services.

Long-Term Care Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: H P A 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 445W (ECON 445W) Health Economics (3) Economic analysis of U.S. health care system; planning, organization, and financing; current public policy issues and alternatives.

H P A (ECON) 445W Health Economics (3)

The healthcare sector comprises a set of markets that differ in some significant ways from the textbook model. In the US, this sector performs well in some respects and questionably in others. Notably, there has been sustained improvement over time in life expectancy and other indicators of the effectiveness of health care for most people, but the resources devoted to producing this improvement have been growing considerable faster than GDP. The goal of this course is to examine several broad questions raised by these facts.

The course begins with an overview of evidence on wealth, health expenditure, and life expectancy across countries, and then examines increasing life expectancy and medical expenditures in the US and their causes. Issues in measuring the value of medical expenditures are addressed, and an overview of the industrial organization of health care is provided. A major component of the course covers the economics of health insurance, and the course also examines medical R&D and the pharmaceutical industry as well as issues in the financing of medical care for the elderly.

The course seeks to introduce students to the economic analysis of health care. It is in the area of applied microeconomics, and deals with issues relating to labor markets and public finance, in particular. This writing-intensive course will be one of several 400-level W seminars that the Economics Department is seeking to establish, with the broad objective of exposing our advanced undergraduate students to economic analysis in a seminar setting requiring significant writing by the students.

The course counts toward the major and the minor in economics, as a 400-level course, In addition, it also counts toward a "module" (area of concentration) in human resource and public economics.

Student performance in the course will be evaluated based on three papers. The course will be offered once each year, with an enrollment of 25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ECON 302, ECON 315 orECON 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 450 Healthcare Policies and Politics (3) Survey of health care's political contexts: formulation, implementation, and modification stages of policy process; politics of private interests (associations) at national and state levels.

Healthcare Policies and Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: H P A 101, H P A 301, PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 447 Financing Health Care (3) Analysis of financial flows, third party payment programs, and reimbursement practices in the health services sector.

Financing Health Care (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: FIN 100 orINS 301;H P A 301 orH P A 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 455 Strategic Planning and Marketing for Health Services (3) Introduction to principles and methods of strategic planning and marketing.

Strategic Planning and Marketing for Health Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: H P A 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 457 Consumer Health Education (3) Orientation of school and community health education opportunities to the consumer task of selecting health products and services.

Consumer Health Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: 9 credits of health science and/or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 460 Human Resource Management in Health Care Organizations (3) Foundations of human resource management applied to health care organizations, including hospitals, long-term care facilities, and community health organizations.

Human Resource Management in Health Care Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: H P A 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 470 Health Care Information Management (3) This course introduces information systems terminology, data structures, software applications, and their management functions in health services organizations.

H P A 470 Health Care Information Management (3)

This course introduces the student to information systems terminology, structures, specific applications, and their relationships to management functions in health services organizations. Health providers and health systems are continuing to make multi-million dollar investments in information systems in order to meet new market and regulatory requirements. All health services managers will play a role in the analysis, design, acquisition, installation, operation and ultimate success of information systems necessary to meet organizational goals and objectives. This course exposes students to the IS/IT applications used to support management functions. Further, applications and management issues unique to industry segments (e.g., long-term care, home care, hospital administration, physician practice management) will also be explored.

The goal of the course is to ensure that students are schooled in the terminology, conceptual models, applications and opportunities and limitations of information systems in health services to the point that they can ask appropriate questions, recognize and state significant issues, and participate in the discussion and analysis of information systems development and application.

The course is one of several elective courses in the Health Policy Administration major that students can complete and is also a required part of the Information Sciences and Technology/Health Policy Administration Minor providing students with an understanding of the basic structures of information systems in health administration; the relationship of these systems to managerial functions such as communications, coordination, control strategic and process planning and decision making, and the important policy and ethical issues associated with privacy, confidentiality, and security in information systems. Since the course represents the capstone of the Information Sciences and Technology/Health Policy Administration minor, it is important for students to have the pre-requisites for the course (H P A 332, IST 210, and IST 220), including an understanding of major issues in the health care system, health care management and information systems.

Student's attainment of educational objectives will be assessed through a variety of evaluation methods. Understanding and appropriate application of terminology, management issues, and ethical/privacy concerns will be assessed through examination. Concept integration will be assessed through case-study analysis and project papers. Data presentation and training communication issues will be assessed through individual application projects and presentations.

A technology classroom with access to the World Wide Web and Penn State servers is required for effective instruction. We will use these facilities to demonstrate software applications, provide technical support for guestspeaker presentations, and facilitate student presentations. The course will be offered once per academic year with an expected enrollment of 20-40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: H P A 332, IST 210, IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 494H Senior Honors Thesis (1-6) Independent study related to student's interests directed by a faculty supervisor and culminating in the production of a thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: approval of honors thesis advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 497A Current Issues in Health Care Quality (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Current Issues in Health Care Quality (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 497B Physician Practice Management (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Physician Practice Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 497A HealthCare Leadership I (3) Identified as one of the core competencies needed to improve the U.S. health care system and one of the challenges to solving the problems of cost, quality and access. This course provides an opportunity to students to learn about the challenges of leadership in health care. Through experience, reflective reading and writing, and discussion, students will explore their own leadership capabilities.

HealthCare Leadership I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 497C Introduction to Health Insurance (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introduction to Health Insurance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health Policy and Administration (H P A)

H P A 497D Making the Difference: Raising Awareness of Careers in Health Care (3) This course is designed for HPA students to assist other students interested in a career in health care. Central to this course is a major hands-on learning project that will enable students to explore career paths in the health care sector. After a systematic study of subjecft material for various occupations in the health care sector, the students will identify various health career paths and how each contributes to high quality patient care. While an important aspect of this class is the creation of student awareness, students will have the opportunity to raise the general public awareness of the range of health care careers contributing to client care by creating a public service video. A component of this course will take place off-campus.

Making the Difference: Raising Awareness of Careers in Health Care (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 297S HHDEV First Year Seminar (2) First-year seminar.

HHDEV First Year Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 497A Women's Leadership Initiative (2) Women's Leadership Initiative.

Women's Leadership Initiative (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 497H Special Topics--Honors (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics--Honors (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Health and Human Development (H&HD)

H&HD 499H (IL) Foreign Studies-Honors (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies-Honors (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 001 Basic Modern Hebrew I (4) An introduction to modern Hebrew in its written and spoken forms; oral and aural work stressed.

Basic Modern Hebrew I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 002 Basic Modern Hebrew II (4) Continued study of grammar; emphasis on improving oral-aural facility, with increased attention to reading and writing.

Basic Modern Hebrew II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1990
Prerequisite: HEBR 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 010 (GH;IL) (J ST 010) Jewish Civilization (3) Life of the Jewish people from Biblical times, emphasizing cultural, religious, and institutional developments.

HEBR (J ST) 010 Jewish Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jewish tradition goes back thousands of years, and Jews have resided in many different lands. They have become an integral part of many different cultures, yet have often retained (or been forced to retain) a certain degree of separateness or difference. In this course we will trace continuity and change in Jewish traditions from ancient to modern times, and across different regions. Taking into account inter-cultural contact and historical events -- ranging in place from the Middle East to Muslim Spain to Asia, Africa, Europe, and the Americas, and in time from the ancient world to the medieval era, the Holocaust, and contemporary Israel and the U.S. -- we will explore developments in Jewish history, literature, and culture. The course considers topics such as the attitudes other groups have had toward Jews (and vice-versa), the question of whether Jewish identity is a race, a religion, or an ethnicity, the dilemmas Jews face today, and the ways that Jews in many diverse settings have balanced change and continuity. We will explore the factors that shape Jewish experience in different times and places, the diversities within and among Jewish lifestyles, and the ways in which events and interactions with other peoples have influenced the development of Jewish civilization. Finally, we will consider the dilemmas Jews face today in terms of the preservation of their identity and traditions. The course includes class discussion. Students are evaluated on the basis of essay exams, essay assignments, quizzes, in-class discussion and commentaries, group projects, journals, a final comprehensive exam/essay, web-based activities, and on-line discussion. such means as quizzes, essay examinations, and group projects.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 003 Intermediate Modern Hebrew (4) Grammar, reading, composition, and oral and aural exercises.

Intermediate Modern Hebrew (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Summer 1977
Prerequisite: HEBR 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 051 Elementary Intensive Hebrew for Graduate Students I (3) Intensive introduction to Biblical or Modern Hebrew: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, culture.

HEBR 051 Elementary Intensive Hebrew for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Hebrew. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Hebrew vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 052 Elementary Intensive Hebrew for Graduate Students II (3) Intensive introduction to Biblical or Modern Hebrew: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, culture.

HEBR 052 Elementary Intensive Hebrew for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Hebrew. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Hebrew vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: HEBR 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 053 Intermediate Intensive Hebrew for Graduate Students (3) Continued intensive study of Biblical or Modern Hebrew at the intermediate level: reading, writing, speaking, listening, cultural contexts.

HEBR 053 Intermediate Intensive Hebrew for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Hebrew. Continued intensive study of Hebrew at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: HEBR 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 097 Special Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 110 Conversation, Reading, and Composition (3) Oral and written expression; aspects of Israeli culture and civilization.

Conversation, Reading, and Composition (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1990
Prerequisite: HEBR 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 111 The Development of Hebrew Language and Literature (3) Chronological overview of Hebrew language and literature; characteristics of the language in the Biblical, Mishnaic, Medieval, Modern eras; representative readings.

The Development of Hebrew Language and Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1990
Prerequisite: HEBR 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 151 (CAMS 151, J ST 151) Introductory Biblical Hebrew (3) Fundamentals of Biblical Hebrew grammar, syntax, and vocabulary.

HEBR (CAMS/J ST) 151 Introductory Biblical Hebrew (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of CAMS/J ST/HEBR 151 is to introduce students to the fundamentals of Biblical Hebrew as quickly and thoroughly as possible. Biblical Hebrew is the language in which the Old Testament was written, between the period of approximately 1200-200 B.C.E. This focuses primarily on the morphology and syntax of Biblical Hebrew. Drills on each point of grammar, as well as translation of sentences from Hebrew to English and English to Hebrew, and brief passages taken from the Bible are the basis of the student's homework throughout the semester. By the end of the semester, the students will be prepared to read short, unmodified passages of the Bible. The course will focus primarily on reading and writing, though students will read aloud in class regularly in order to ensure correct pronunciation and understanding. CAMS/J ST/HEBR 151 will prepare students to continue with CAMS/J ST/HEBR 152 and then 400-level courses.

The course goals, in addition to providing the students with a firm grounding in Hebrew grammar and vocabulary, include giving the students a basic understanding of the history of the Biblical text. The primary focus will be on mastering paradigms and syntax, but the students will also be introduced to the Biblical texts themselves, which together from such an important piece of literature.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 152 (CAMS 152, J ST 152) Intermediate Biblical Hebrew (3) Intermediate study of Biblical Hebrew grammar, syntax, and vocabulary.

HEBR (CAMS/J ST) 152 Intermediate Biblical Hebrew (3)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS/J ST/HEBR 152 continues from CAMS/J ST/HEBR 151, which is a prerequisite for enrollment. After a brief review of key grammar and morphology from the first semester, the course will complete the process of providing students with a sufficient grasp of Hebrew vocabulary, morphology, and syntax to enable them to read unadapted passages from Biblical Hebrew texts (with the aid of a lexicon) by the end of the course. Class sessions will focus on grammar drills, sentences, and similar exercises as homework to supplement class work. As the semester progresses, students will read more and more from actual Hebrew texts, rather than composed sentences by the textbook author, so that when the students enter more advanced classes, they will find the transition to reading Hebrew as smooth as possible.

In tandem with the increasing emphasis on Hebrew written by ancient Hebrews, the course will continue to focus on the linguistic and cultural background for the texts that the students read. Students will be evaluated on a combination of written work, including frequent quizzes, tests, homework completion, and course attendance and participation. CAMS/J ST/HEBR 152 will prepare students to continue with courses at the 400-level.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: HEBR 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 187 Hebrew Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Hebrew Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 197 Special Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 199 (IL) Foreign Study--Basic Hebrew (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Basic Hebrew (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 297 Special Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 397 Special Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 399 (IL) Foreign Study--Intermediate Hebrew (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Intermediate Hebrew (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 401 Advanced Hebrew--Conversation Emphasis (3 per semester, maximum of 6) Development of oral proficiency through discussions focusing on issues in contemporary Jewish culture.

Advanced Hebrew--Conversation Emphasis (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1990
Prerequisite: HEBR 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 451 Advanced Biblical Hebrew (3) Translation and analysis of selected readings in Biblical Hebrew texts; attention will be paid to grammatical as well as literary details.

HEBR 451 Advanced Biblical Hebrew (3)

HEBR 451 is a Biblical Hebrew literature course in which students will read selections of various genres and dates from different sections of the Hebrew Bible. The overall goal of this course is to increase the ease and fluency of advanced-level students with Biblical Hebrew. Although students will be expected to enter the class with a comfortable level of reading skill as acquired in HEBR 152 or its equivalent, the course will include grammar and building vocabulary. By the end of the course, it is expected that the students will be able to read a Biblical Hebrew text comfortable and be able to analyze grammatical structures. Students' work in the course will be evaluated on class participation (20%), several in class quizzes (20%), and a mid-term (30%) and final exam (30%). HEBR 451 is part of a series of advanced Hebrew classes that will allow students to gain skill and knowledge about a range of Biblical Hebrew texts. HEBR 451 may be used to fulfill a requirement for the Hebrew minor, as well as for the CAMS major language requirement. The course will be offered every other year, with 20 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HEBR 152 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 402 Advanced Hebrew--Reading Emphasis (3 per semester, maximum of 6) Readings in representative works of traditional and modern literature; practice in composition; study of aspects of Jewish culture.

Advanced Hebrew--Reading Emphasis (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1990
Prerequisite: HEBR 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 452 Readings in Biblical Hebrew (3) Translation and analysis of selected readings in Biblical Hebrew texts; attention will be paid to grammatical as well as literary details.

HEBR 452 Readings in Biblical Hebrew (3)

HEBR 452 is a Biblical Hebrew literature course which students will read selections of various genres and dates from different sections of the Hebrew Bible. The overall goal of this course is to increase the ease and fluency of with which advanced students are able to read all types of Biblical texts. Although students will be expected to enter the class with a comfortable level of reading skill as acquired in HEBR 451 or its equivalent, the course will continue to emphasize grammar and building vocabulary. By the end of the course, it is expected that the students will be able to read any Biblical Hebrew text comfortably and be able to analyze grammatical structures. Students' work in the course will be evaluated on class participation (20%), short in class quizzes (20%), and a mid-term (30%) and final exam (30%). HEBR 452 is part of a series of advanced Hebrew classes that will allow students to gain skill and knowledge about a range of Biblical Hebrew texts. HEBR 451 may be used to fulfill a requirement for the Hebrew minor, as well as for the CAMS major language requirement. The course will be offered every other year, with 20 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HEBR 451 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 496 Independent Studies (1-18) Creative projects including research and design which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1982

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interent.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hebrew (HEBR)

HEBR 499 (IL) Foreign Study--Advanced Hebrew (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Advanced Hebrew (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Higher Education (HI ED)

HI ED 101 PSU Students and Their University (3) An opportunity for undergraduates to investigate, in small informal groups, governance, curricula, and student life at Penn State and elsewhere.

PSU Students and Their University (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Higher Education (HI ED)

HI ED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Higher Education (HI ED)

HI ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hindi (HINDI)

HINDI 001 Level One Hindi A (4) This is an introductory course in Hindi that presents the Devanagari script, elementary grammar and sentence structure.

Level One Hindi A (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hindi (HINDI)

HINDI 002 Level One Hindi B (4) This intermediate level course seeks to impart functional literacy in oral and written expression in Hindi to students.

Level One Hindi B (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language
Effective: Summer 2010
Prerequisite: HINDI 001 or equivalent competency

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hindi (HINDI)

HINDI 003 Level Two Hindi A (4) This is an intermediate level course in Hindi that seeks to improve student's skills in oral and written expression.

Level Two Hindi A (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language
Effective: Summer 2010
Prerequisite: HINDI 002 or equivalent competency

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 001 (GH;IL) The Western Heritage I (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.

The Western Heritage I (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 001T (GH;IL) The Western Heritage I (3) A survey of the Western heritage from the ancient Mediterranean world to the dawn of modern Europe.

The Western Heritage I (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 002S (GH;IL) The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.

HIST 002S The Western Heritage II (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 002 is an introduction to the history of Europe from the reformation to the present. The course focuses on four broad shifts in European history: the emergence of the powerful states of the ancient regime from the century of religious violence following the reformations; the critique of and attack on major assumptions of ancient regimes before, during, and after the French revolution; the social and economic transformation of Europe in the eighteenth and nineteenth centuries; and the formation of mass societies during the nineteenth and twentieth centuries. Although individual versions of the course may vary in emphasis, these changes are recognized as vital to Europe's significance in the modern world. A major teaching goal of the course is the use of historical evidence, in the form of documents, to build interpretations of the past. A book of documents and an additional course packet supply this evidence and serve as the focus of the weekly discussion classes. There are weekly reading quizzes to ensure preparation and to provide questions for the start of discussion. A textbook and lectures supply the overviews and broad themes of the course. The course requirements typically consist of exams, quizzes, and class attendance. (Note that these are the typical, general requirements. Individual instructors may make adjustments that will maintain the intellectual integrity and pedagogic intent of the course.) The course is a basic introduction to modern European history. It is therefore, related to all upper division courses on this subject. It also introduces students to basic cultural and social movements essential to courses in art history and music and to courses in the social sciences. History002 is required for history majors and for others fulfills a humanities requirement in the university's general education/bachelor of arts requirements. HIST 002 is offered twice a year with 50 to 250 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 002 (GH;IL) The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.

HIST 002 The Western Heritage II (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 002 is an introduction to the history of Europe from the reformation to the present. The course focuses on four broad shifts in European history: the emergence of the powerful states of the ancient regime from the century of religious violence following the reformations; the critique of and attack on major assumptions of ancient regimes before, during, and after the French revolution; the social and economic transformation of Europe in the eighteenth and nineteenth centuries; and the formation of mass societies during the nineteenth and twentieth centuries. Although individual versions of the course may vary in emphasis, these changes are recognized as vital to Europe's significance in the modern world. A major teaching goal of the course is the use of historical evidence, in the form of documents, to build interpretations of the past. A book of documents and an additional course packet supply this evidence and serve as the focus of the weekly discussion classes. There are weekly reading quizzes to ensure preparation and to provide questions for the start of discussion. A textbook and lectures supply the overviews and broad themes of the course. The course requirements typically consist of exams, quizzes, and class attendance. (Note that these are the typical, general requirements. Individual instructors may make adjustments that will maintain the intellectual integrity and pedagogic intent of the course.) The course is a basic introduction to modern European history. It is therefore, related to all upper division courses on this subject. It also introduces students to basic cultural and social movements essential to courses in art history and music and to courses in the social sciences. History002 is required for history majors and for others fulfills a humanities requirement in the university's general education/bachelor of arts requirements. HIST 002 is offered twice a year with 50 to 250 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 002U (GH;IL) The Western Heritage II (3) A survey of the Western heritage from the dawn of modern Europe in the seventeenth century to the present.

The Western Heritage II (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 003H (GH) The American Nation: Historical Perspectives (3) American history from discovery to the present, focusing on both racial, ethnic, and religious differences and shared traditions and ideals.

The American Nation: Historical Perspectives (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 003 (GH) The American Nation: Historical Perspectives (3) American history from discovery to the present, focusing on both racial, ethnic, and religious differences and shared traditions and ideals.

The American Nation: Historical Perspectives (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 005 (GH;IL) (CAMS 005) Ancient Mediterranean Civilizations (3) Survey of the history and cultures of anicent Mediterranean civilizations in Mesopotamia, Egypt, Syro-Levant, Anatolia, Greece, and Rome.

HIST (CAMS) 005 Ancient Mediterranean Civilizations (3) (GH;IL)

This course provides an introduction to the history and cultural traditions of the ancient civilizations of the Mediterranean. From the origins of cities and the invention of writing, it surveys the intellectual, artistic, and political traditions that laid the foundations for the later civilizations of Europe and western Asia. Students will acquire a basic historical framework for the ancient Mediterranean from the third millennium BCE through the end of antiquity in the first millennium CE. Within this framework cross-cultural relationships of time and ideas will be established among religious texts, epic literatures, and political and legal traditions. In the part of the world where the division between Asia and the East and Europe and the West was born, the course will examine the development of regional and ethnic identities along with the historical development of concepts of the universal nature of humanity. This course is designed to serve as the foundation course for all majors in the department of Classics and Ancient Mediterranean Studies (CAMS).

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 010 (GH;IL) World History I (3) Human origins; early civilizations; major political and intellectual developments on all continents; cultural interrelationships to 1500.

HIST 010 Non-Western Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 010 is an introductory survey of ancient history from the emergence of Homo Sapiens to the onset of European exploration (approximately 1500), examining the evolution of the world's various peoples and cultures. The course will focus on the historical processes that led to human diversity, as expressed in varying patterns and systems of government, economics, arts, ideas, belief systems, and social organizations. The course will also treat the growth of agriculture and pastoral nomadism and explore global interactions and linkages, engendered by human migrations, the spread of commerce and disease, wars, and conquests up to 1500. Although the mode of delivery may vary, depending on the semester or session in which a specific section of the course is offered, its campus location, and the instructor's major research specialization, the course will be taught thematically and conceptually. It will include individuals who have played a significant role in influencing the beliefs and institutions of a particular culture, or humanity in general, such as Moses, Confucius, Gautama (the Buddha), Plato, Alexander, Jesus, Muhammad, St. Francis of Assisi, al-Ghazali, Murasaki Shikubu, and Moctezuma. Students will learn about the interrelationships between dominant and nondominant cultures, such as the concepts of Roman imperialism, the tributary relationship between China and its neighbors, the Islamic concept of conquering lands without forcing conversion, the effects of the Mongol conquests, and the beginnings of Portuguese exploration and colonization. The course will make students more aware of the cultural achievements of the ancient Egyptians, Hebrews, Greeks, Romans, Persians, Indians, Chinese, Arabs, Turks, Mayans, and Japanese. Discussion sections (for high-enrollment classes) and essay examinations will promote student facility in written and oral self-expression, analysis, synthesis, comparison and contrast, and cultural empathy. History 010 instructors will, at their discretion, provide opportunities for gathering information from libraries, computerized indexes, and websites. Students will come to understand themselves and their own culture, as well as the background to many other societies and cultures in today's world, through intellectual confrontation with the peoples and cultures of antiquity. Instructors will address issues related to civility, the individual's role within the larger community, and academic honesty.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 012 (GH;US) History of Pennsylvania (3) Chronological and topical survey, emphasizing immigration of diverse ethnic groups and religious, political, economic, and social developments, including industrialization and urbanization.

History of Pennsylvania (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 011 (GH;IL) World History II (3) Social, economic, and political evolution of societies and cultures from 1500 to the present.

HIST 011 World History II (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 011 is an introductory survey of modern history from approximately 1500 to the present, viewing the world and its various peoples and cultures as a whole. This course will focus on the historical processes that have led to modernization, such as exploration, contacts among peoples and cultures, voluntary and forced migrations, the growth of technology and science, industrialization, urbanization, and other trends that have shaped the world since 1500. It will help students to develop facility in speaking and writing about continuity, change, causation, similarities and differences among cultures, universal and particular values, and conceptualization of modernity, through weekly discussion sections, essay examinations, short writing assignments, and selected readings. Its content is intrinsically international and intercultural, addressing overarching themes of ethnicity, race, religion, gender, and especially global perspectives. Approximately one-half of its content

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 020 (GH;US) American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.

HIST 020 American Civilization to 1877 (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

HIST 020 is designed to introduce students to the main events and themes of American history before 1877. This course is not intended to simply acquaint the student with facts, but to teach them how to analyze those facts so that they can understand why historical events in America unfolded as they did. A larger goal of the course is to teach them how to think "historically" and to perceive the relevance of the past to the present. It is impossible to understand either yourself or your society if you cannot identify the role, which your individual and collective past plays in the construction of your actions and thoughts today. The course provides the student with a basic background in American History prior to 1877. HIST 021 chronologically follows this course by providing the student with a background in American History from 1877 to the present. HIST 020 is a prerequisite for upper-division courses in American History, and is a required course for the History major. The course grade will be determined by an in-class midterm exam, an in-class final exam (each containing essay and short-answer sections), a five-page paper based on the analysis of a primary source, and participation in discussion sections. This course will be offered twice per year with 150 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 020Y (GH;US) American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.

American Civilization to 1877 (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 020U (GH;US) American Civilization to 1877 (3) An historical survey of the American experience from its colonial beginnings through the Civil War and Reconstruction.

American Civilization to 1877 (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 021 (GH;US) American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.

HIST 021 American Civilization Since 1877 (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

History 021 is designed as the second half of a two-term survey of American history, covering the period from 1877 to the present. (History 20 covers the period from 1607 to 1877.) The course uses a lecture format; larger versions have weekly discussion sections as well, led by graduate assistants. In terms of historical knowledge, History 021 seeks to introduce students to salient events, developments, and themes of American history since 1877. Chief among the topics covered are Reconstruction, Westward expansion and the decline of the Native American, the industrial revolution, urbanization, immigration, Gilded Age culture and politics, the labor movement, the New South, Populism, imperialism, Progressivism, segregation and African-American response, the women's movement, World War I, politics and culture in the 'Twenties, the Great Depression and New Deal, World War II, post-war prosperity, the Cold War, the Civil Rights movement, the Vietnam War, the disillusionment of the 'Seventies', the Reagan revolution, and America in the post-Cold War era. The social and ideological diversity of the American experience is a prominent theme of History 021. A survey textbook selected by the instructor is used, in conjunction with lectures, to provide a comprehensive overview. The textbook is supplemented by a blend of specialized historical works and primary readings. Students are evaluated on the basis of their performance on papers, exams, quizzes, and class participation and attendance. While History 021 instructors vary in the content and mix of work they assign (and the relative weight they give papers, exams, quizzes, and participation in the course grade), all versions share certain underlying objectives: to expose students to essential events and trends in American history; to develop their capacity to identify and analyze key themes and issues from the past; to give them some experience in the critical assessment of primary sources; and, to sharpen their skills in marshaling data and concepts from readings and lectures, and discussing them cogently both in section meetings and in writing. Increasingly, instructors are integrating multi-media components into their lectures. History 21 is the second half of a two-course survey of American history. History 020 is the first half; the year 1877 marks the dividing point between these two courses. Like History 020, History 021 provides a foundation (and is in fact a prerequisite) for many of the more advanced courses in American history. History 021 is a requirement for the major. Non-majors may use this course to satisfy a general education humanities selection. This course is offered three times a year with 140 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 021Y (GH;US) American Civilization Since 1877 (3) An historical survey of the American experience from the emergence of urban-industrial society in the late nineteenth century to the present.

American Civilization Since 1877 (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 083S (GH) First-Year Seminar in History (3) Critical approaches to the dimensions and directions in History.

HIST 083S First-Year Seminar in History (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

Through readings, discussions, lectures, and research projects, students are expected to master the subject material of the course as well as to acquire basic skills useful to the study of the liberal arts. Students will learn to read books and original documents, discuss them, formulate effective arguments, and write essays and papers. Historical analysis of this type will provide students with techniques for appreciating and judging arguments and presentations in many fields of learning, from scholarly to popular. The topics chosen for these seminars will acquaint students with major figures and developments in important historical areas. By reading and understanding historical documents, students will learn to consider the cultural assumptions of different groups and societies and to appreciate their own values and assumptions by contrast with these. Although the course will focus on a specific topic, the instructor will help the student to see the wider implications of the issues and controversies discussed. Whenever possible, the international and intercultural aspects of the topic will be considered. The course will challenge students to express themselves and to gather information through discussion and writing of papers. It will always challenge students to think about social behavior, the nature of the community, and the value of scholarly endeavor as these relate to the particular topic of the seminar. The course fulfills the first-year seminar requirement as well as one of the humanities requirements in general education or a Bachelor of Arts humanities requirement. The course will be offered twice a year in sections of 20 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 084S (GS) First-Year Seminar in History (3) Critical approaches to the dimensions and directions in History.

HIST 084S First Year Seminar in History (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Through readings, discussions, lectures, and research projects, students are expected to master the subject material of the course as well as to acquire basic skills useful to the study of the liberal arts. Students will learn to read books and original documents, discuss them, formulate effective arguments, and write essays and papers. Historical analysis of this type will provide students with techniques for appreciating and judging arguments and theories in many fields of learning, from scholarly to popular. The topics chosen for these seminars will acquaint students with major figures, schools of thought, and developments in important historical areas. By reading and understanding historical documents and theories of social, cultural, and political organization, students will learn their own values and assumptions by contrast with these. Although the course will focus on a specific topic, the instructor will help the students to see the wider implications of the issues and controversies discussed. Whenever possible, the international and intercultural aspects of the topic will be considered. The course will challenge students to think about social behavior, the nature of community, and the value of scholarly endeavor as these relate to the particular topic of the seminar. Students will be evaluated on essay examinations, written essays and papers, classroom discussion, and oral presentations. The course fulfills the first-year requirement as well as one of the social/behavioral science requirements in general education or a bachelor of arts social/behavioral sciences requirement. The course will be offered twice a year in sections of 20 students.

General Education: GS
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 100 (GH;IL) (CAMS 100) Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.

HIST (CAMS) 100 Ancient Greece (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course presents a survey of ancient Greek history and culture beginning with the Bronze Age palace-states of Crete and Mycenae, examines the emergence of Greek city-states, notably Athens and Sparta, traces their transformation through conflicts among themselves and with the Persian empire, and describes their eventual eclipse by the kingdom of Macedon. Since this course treats the beginnings of historical writing among the Greeks, students learn to evaluate diverse historical texts and their relationship to legend, myth, and poetry. The nature of historical thought itself is emphasized throughout the course. Also emphasized is the debate between the egalitarian justice of democracy, the sober wisdom of oligarchy, and the overwhelming power of monarchy, as experienced by the Greeks down to the end of the fourth century B.C.E. Evaluation methods include: evaluation by four short objective quizzes, by four short (1-2 page) thematic essays, by participation in four scheduled discussion sections, and by mid-term and final examinations consisting of short answer identifications and an essay, or students may write a term paper in lieu of the final examination. The course will be offered once a year with an enrollment of 90.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 101 (GH;IL) (CAMS 101) The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.

HIST (CAMS) 101 The Roman Republic and Empire (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course fulfills 3 credits of the General Education-Humanities (GH) requirement and is an introduction to the ancient Roman empire: how that empire came into being, how it evolved, how it came to govern much of the Mediterranean and European world, and how that empire declined. Particular stress is placed, through readings and discussion, on the sources of our knowledge of the past and on the social and legal structures employed by a past society to govern an ethically- and religiously-diverse population. This course complements other courses on the ancient Mediterranean world (such as HIST/CAMS 100) and is a prerequisite to more advanced (400-level) courses in ancient Mediterranean history. An example of evaluation includes: three brief quizzes, a take-home mid-term permitting library and Internet use, and a final examination; all examinations require student synthesis and expression of what has been learned through written essays of varying length. Emphases in the course are on student engagement through class discussion of the topics presented in the texts and lectures. This course is offered once a year with 60 seats per offering for HIST and 30 seats per offering for CAMS and requires no special background save for an interest in the topic.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 100S (GH;IL) Ancient Greece (3) Greek world from the earliest Aegean cultures to the death of Alexander the Great and the beginnings of Hellenistic civilization.

HIST 100S Ancient Greece (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course presents a survey of ancient Greek history and culture beginning with the Bronze Age palace-states of Crete and Mycenae, examines the emergence of Greek city-states, notably Athens and Sparta, traces their transformation through conflicts among themselves and with the Persian empire, and describes their eventual eclipse by the kingdom of Macedon. Since this course treats the beginnings of historical writing among the Greeks, students learn to evaluate diverse historical texts and their relationship to legend, myth, and poetry. The nature of historical thought itself is emphasized throughout the course. Also emphasized is the debate between the egalitarian justice of democracy, the sober wisdom of oligarchy, and the overwhelming power of monarchy, as experienced by the Greeks down to the end of the fourth century B.C.E. Evaluation methods include: evaluation by four short objective quizzes, by four short (1-2 page) thematic essays, by participation in four scheduled discussion sections, and by mid-term and final examinations consisting of short answer identifications and an essay, or students may write a term paper in lieu of the final examination. The course will be offered once a year with an enrollment of 90.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 101S (GH;IL) The Roman Republic and Empire (3) History of the Roman Republic and Empire from the origins of Rome to the disintegration of the Empire.

HIST 101S The Roman Republic and Empire (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course fulfills 3 credits of the General Education-Humanities (GH) requirement and is an introduction to the ancient Roman empire: how that empire came into being, how it evolved, how it came to govern much of the Mediterranean and European world, and how that empire declined. Particular stress is placed, through readings and discussion, on the sources of our knowledge of the past and on the social and legal structures employed by a past society to govern an ethically- and religiously-diverse population. This course complements other courses on the ancient Mediterranean world (such as HIST/CAMS 100) and is a prerequisite to more advanced (400-level) courses in ancient Mediterranean history. An example of evaluation includes: three brief quizzes, a take-home mid-term permitting library and Internet use, and a final examination; all examinations require student synthesis and expression of what has been learned through written essays of varying length. Emphases in the course are on student engagement through class discussion of the topics presented in the texts and lectures. This course is offered once a year with 60 seats per offering for HIST and 30 seats per offering for CAMS and requires no special background save for an interest in the topic.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 103 (GH;IL) The History of Madness, Mental Illness, and Psychiatry (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.

HIST 103 The History of Madness, Mental Illness, and Psychiatry (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will be an introduction to the modern history of "madness" in the Western world. In particular, we will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness; the changing experiences of those afflicted; the development of those professions designed to look after those deemed mad, insane, and mentally ill; and the social and cultural assumptions behind treatments, policies, and public opinions. Our sources will include clinical case studies, memoirs of those living with mental illness, histories of psychiatric practice, and films. An example of the evaluation methods would be 3-4 written, in class exams, a 10-12 page research paper on a subject of choice, and class participation. The chief objectives of the course will be to confront head-on some of our most persistent assumptions about mental health and those with mental illnesses, evaluate how mental illness was understood and treated over the centuries, and become acquainted with the ways in which human biology, culture, society, and politics have reciprocally shaped one another in history.

The course can be effectively linked to several courses offered within the Department of History, including HIST 122 and 123 (History of Science I and II) and HIST 422 (European Thought Since 1870). In addition, it will fulfill requirements for both history majors and minors. The substance of the course emphasizes competence in the interpretive and critical understanding of the values, ideas, and experiences associated with mental disability over history and across cultures also means that it meets requirements for both General Education in the Humanities as well as Intercultural/International Competence. It is hoped that students across the human, social, and natural sciences will enroll in the course.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 102 (GH;IL) (CAMS 102, J ST 102, RL ST 102) Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.

HIST (CAMS/J ST/RL ST) 102 Canaan and Israel in Antiquity (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

From the domestication of animals and the dawn of agriculture to the development and socialization of monotheism, the world of the first civilizations led to that of the Bible and ancient Israel. This course, involving a critical view of Biblical texts in light of other anicent sources, archaeology and historical methods, explains the nature and the evolution of society, religion and thought in the Biblical era. Learn how civilization arose, and how the state appropriated religion and applied it for its purposes. How the science of administration developed and deployed ideological tools to further its own ideas of the West developed. This course is deeply subversive, particularly of religious and academic shibboleths. The only authority in this class is that of the most persuasive reader, and doctrines, whether religious or political, will have to be checked at the door.

An example of evaluation may be: weekly participation in discussion; mid-term and final essay examinations involving a critical evaluation of ancient text's claims in combination with archaeological evidence; a research essay, where the class or section size is lower than 30; an ability to read critically, bringing different classes of evidence to bear on issues arising from the texts, and construct coherent and compelling arguments to a particular thesis. The course provides a Near Eastern counterpart to HIST 100, 402 and a Near Eastern aspect to the Jewish Studies major. It complements RL ST 110, by offering historical exploration of the culture under study in that course. Related courses include ANTH 012, HEBR, 010, ENGL 104, RL ST 004, and RL ST 111. The course helps round out the majors in History and Jewish Studies, particularly in ancient history. It also extends the program in Religious Studies (history of religions), and it contributes to the ancient stream of the prospective program in Jewish Studies and History. The class will be offered once every other year with an enrollment limit of 15-20.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 103U (GH;IL) The History of Madness, Mental Illness, and Psychiatry (3) This course will examine the ideas that have shaped European and American perceptions of madness, insanity, and mental illness.

The History of Madness, Mental Illness, and Psychiatry (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 104 (GH) (CAMS 104) Ancient Egypt (3) The history and archaeology of ancient Egypt from the dawn of history to the Greco-Roman period.

Ancient Egypt (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 106 Quantitative Historical Research Techniques (3) Introduction to statistical methods and computer techniques in historical research.

Quantitative Historical Research Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 101, STAT 200 3 credits in history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 105 (GH;IL) The Byzantine Empire (3) Development of Byzantine civilization from the decline of the Roman Empire to the fall of Constantinople.

The Byzantine Empire (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 107 (GH;IL) (MEDVL 107) Medieval Europe (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.

HIST (MEDVL) 107 Medieval Europe (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

HIST/MEDVL 107 is an introductory course on the history of Europe from the late classical period to the beginning of the sixteenth century. There are three main areas of concentration in this course. First, the development of political, judicial and diplomatic institutions, from the collapse of central Roman authority through the rise of local chiefdoms to the centralized kingdom as ancestor of the modern state. The second theme is the role of Christianity in all its forms--orthodox, heretical, and popular--and its contribution to a distinctly medieval society. The third main theme is the development of society following changes in economic activity, cultural interest and the extended family.

Several forms of learning are used in this course. A textbook gives the student a broad overview of the period and gives a chronological structure to the material. This material provides a background to the instructor's lectures, which not only give factual information, but integrate the various trends, individuals and events. The assigned readings illustrate specific events or individuals; the discussion groups allow the student to explore these texts in a collaborative environment with the instructor and their fellow students. The research paper gives the student the opportunity to investigate a specific topic of interest, while training them in scholarly writing and analysis. Finally, the tests, all essay questions, let students demonstrate their comprehension of the material through problem solving.

The essay exams and discussion groups allow the student actively to address specific problems from the material; the research paper enables the student to gather information from traditional (library archives) and non-traditional (electronic) sources, then to present a conclusion in a comprehensive and coherent argument;

The class discussion promotes collaborate and cooperative learning, as the students expand on, and/or argue against, positions taken on the material by their instructor and fellow students. Internationalism and interculturalism is the essence of this course. The research paper, essays and discussion allow for scholarly development through the investigation of communities in an important era of history.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 108 (GH;IL) The Crusades: Holy War in the Middle Ages (3) The social and political history of medieval religious warfare in Europe and in the Middle East.

HIST 108 The Crusades: Holy War in the Middle East (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 108 is an introductory survey of the so-called holy wars of the High Middle Ages. These wars were fought in theatres from the Baltic to the eastern shores of the Mediterranean, from the Hispanic peninsula to southern France. While the primary emphasis will be given to the expeditions to the Holy Land, two other crusading movements will be studied: the crusades in the Baltic, led by the Teutonic Knights, and the crusades in southern France, against the heretics known as the Albigensians. These conflicts cannot be studied in isolation, and a major topic is the response of Islamic society and non-conformists elements within medieval Europe. How the various elements in the crusading period co-existed, changed or disappeared provides still more material for the student to contemplate.

Students will be evaluated on three essay examinations, regularly scheduled discussions of the assigned readings, the instructor's assessment of the student's ability to read critically, write clearly and knowledgeably, and class participation. History 108 is part of a series of introductory courses to medieval history. It will be accepted but not required for the History Major and Minor. It will be offered once each year with 90 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 110 (GH;IL) Nature and History (3) A broad introduction to the history of human relationships with nature throughout the world.

HIST 110 Nature and History (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The human relationship with the natural environment-the world of plants, animals, and microbes, of air, water, and land-is an important historical subject. History 110 provides a broad, thematic description and analysis of major global trends and shifts, with an emphasis on contemporary issues and problem solving. The most important goal of the course is to provide students with the historical context necessary to construct a thoughtful appreciation of the environmental dilemmas of our time.

History 110 encourages students to break down the barriers that often divide the humanities and the sciences. This course utilizes environmental science to demonstrate and explain specific human tendencies. Finally, this course-as is any in world history-is structured to at least diminish students' American-centered view of both the past and environmental concerns. Particularly in relation to contemporary environmental issues, we hope History 110 will make clear that many environmental problems are local in neither their construction nor impact.

Ecology has contributed a great deal to historical understanding in terms of specific examples or case studies; however, it has also begun to reconstruct the overall structure of the history that we teach. History 110 seeks to exploit this new paradigm by following a topical organization that is structured around human modes of interaction with the environment. In Unit 1 the course borrows its structure from geography and the natural sciences. Students will be able to consider a wide range of human activity as well as to better comprehend similarities in ideas, ethics and concepts from around the world and throughout history. In Unit 2 the course steps out of chronological limitations to embrace two topics that span human history. By studying such topics, of course, students may see change over time contextualized by a shared concern or resource. Unit 3 is designed to reinforce the global nature of the course and the concerns that we study within it. We will highlight interdependence by including issues that link students' local environment with distant others.

The lectures and discussions will focus on several critical points, including: How has the non-human world shaped the course of human history? What were the environmental impacts of historic changes in the ways humans produced and consumed resources? What ideas shaped the ways different groups of people defined and used specific resources? What role have science and technology played in changing popular attitudes about the human place in the world?

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 113 (IL) Baseball in Comparative History (3) Comparative survey of baseball history from its beginnings to the present.

HIST 113 Baseball in Comparative History (3) (IL)

This course, which fulfills the International Cultures (IL) requirement, provides an introduction to comparative social history. It uses the broad cultural and geographic diffusion of baseball over time to examine the diverse and changing social, economic, and political meanings of this activity in different cultural settings, emphasizing the ways in which a common activity may acquire unique meanings in different cultures. Although North America, Cuba, and Japan demand attention as the most striking examples of baseball's pervasive impact, the course will consider baseball as a global phenomenon, exploring the minimal impact or failure of baseball promotions in many European and African societies, for example. As an introduction, the course will confine itself to English language texts, but it will use a wide range of primary sources, including newspapers and journals, memoirs, correspondence, promotional materials, and photographs to introduce students to basic concepts of historical method and problems of evidence. Students will be encouraged to consider baseball's impact in particular historical contexts as a cultural process, from the manner of its introduction through its adoption to the emergence of distinctive proprietary, even nationalist attitudes and styles of play. Among the many topics required of a survey, the course will return periodically to the question of American influence and US imperial aspirations. But the evidence of baseball games in other countries as sites of resistance or hostility to US power and as expressions of a potent nationalist politics raises questions about baseball's value for many conventional historical models of “empire” as a form of political or economic subordination. Students' assignments will require a combination of reading, writing, and research skills, and the course will introduce through lecture and discussion the variety of materials available at Penn State for the study of this subject.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 116 (GS;US;IL) (WMNST 116) Family and Sex Roles in Modern History (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.

Family and Sex Roles in Modern History (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 115 (GH;US) (J ST 115, RL ST 115) American Jewish History and Culture (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.

HIST (J ST/RL ST) 115 American Jewish History and Culture (3)
(GH;US)

Throughout American history, Jewish presence on American soil has compelled Americans to re-think the meaning of religious and ethnic diversity. As one of the earliest non-Christian immigrant populations, American Jews struggled to explain how they could nonetheless fit into American cultural, political and social life. At the same time, many Jews have been concerned with their own survival as a distinctive group, unwilling to cede those practices, behaviors or traits that designate them as a people apart from other Americans. This course is about how these two seemingly contradictory goals—to integrate into America and to remain distinctive from other Americans—shaped the history and experience of Jews in the United States and influenced the way Americans think about diversity and pluralism.

The student of American-Jewish history must be attuned to the multiple ways that Jewishness has been defined: as a race, a religion, a nationality, and an ethnicity. In this course, far from choosing just one of these designations, we will explore Jewish life from many different angles. Topics to be considered include religious reform, immigrant experience, political activism, popular culture, and struggles over community authority. Readings focus on a number of primary texts, including memoirs, novels, films and philosophical essays. Secondary books and articles will also help deepen students' understanding of trends in American-Jewish history and awaken them to diverse interpretations of history. Students will be encouraged to engage actively and critically with the texts by writing short reading responses, longer essays, and participating in classroom discussion and presentations, all of which will serve as the basis for their evaluation.

This course complements offerings in Religious Studies, Jewish Studies and History. It provides a foundation for an already existing upper-level seminar in American Judaism (listed in Jewish Studies and Religious Studies). In addition, the course strengthens the History department's offerings in American history, serving as a basis for students interested in immigration, ethnicity and religious history. Students who are interested in modern Jewish history will also find this course a worthwhile addition to their program of study, since, unlike other courses, it deals primarily with the story of Jewish life in the United States.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 117 (GH;US;IL) (WMNST 117) Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.

HIST (WMNST) 117 Women in Modern History (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History/Women's Studies 117 is an introductory survey of women in the United States and possibly elsewhere, from the seventeenth to the late twentieth century. The course examines women's history from several different perspectives. First, it introduces students to the methods, sources, and questions of the past thirty years of women's history-writing, and asks students how studying women transforms our understanding of history more generally. Second, it offers a survey of the narrative of modern women's history, stressing women's interactions with the larger processes of economic and political change, their relationship to changing ideologies of gender and feminism, and their complex identities not only as women but as members of a particular race, class, ethnic, and religious group. Throughout, students will ask when gender, and when some other aspect of women's lives and identities, is most salient in identifying the restrictions and opportunities they faced. Third, students will assume the perspective of historians themselves, as they examine primary sources and attempt to make analytic and historical judgments about what they say and why they matter to the larger narrative. Through significant essay-writing assignments, students will develop analytical and writing skills in learning to think historically about women. Questions about race, class, ethnicity, and sexual orientation, as well as gender, are intrinsic to this course. Students will be evaluated based on their class participation, papers, and final exam. This course is cross-listed in History and Women's Studies and fulfills requirements for both programs' majors and minors. History/Women's Studies 117 will be accepted, but not required, for the History Major, the Women's Studies Major, and the Women's Studies Minor. This course will be offered once a year with up to 70 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 117M (GH;US;IL) (WMNST 117M) Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.

Women in Modern History (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 117U (GH;US;IL) Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society; cross-cultural comparisons.

Women in Modern History (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 118 (US;IL) (J ST 118) Modern Jewish History: 1492 to Present (3) Jewish social and political history from 1492 to the present.

Modern Jewish History: 1492 to Present (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 119 (GH;IL) Gender and History (3) Survey of the development of gender roles in Western societies from the prehistoric era to the early modern period.

Gender and History (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities and Social and Behavioral Sciences
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 120 (GS;IL) Europe Since 1848 (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.

Europe Since 1848 (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 120U (GS;IL) Europe Since 1848 (3) Political, social, and ideological developments; origin and impact of two World Wars; totalitarianism and democracy; changing role in the world.

Europe Since 1848 (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 121 (GH;IL) (J ST 121) History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.

HIST (J ST) 121 History of the Holocaust 1933-1945 (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course will analyze the Holocaust using historical, literary, and philosophical approaches. Various species of evidence will be used and evaluated, including film and literary materials. Emphasis will be placed on discussion, student research projects, problems of ethnicity, race and religion in analyzing the origins of a persecuting mentality and the scapegoating and brutalization of victims, primarily Jews, but also including Gypsies and other groups. The Holocaust is also discussed in the context of global genocidal phenomena. The peculiar structures and dynamics of Jewish ethnic life in Eastern Europe are also treated prominently. Comparative analysis of the relationships between dominant and non-dominant cultures is a major concern of the course. An example of evaluation may include requiring students to complete one major paper on a specific theme covered in the course with a draft of four pages due at the end of six weeks. Students will be required to complete one major paper on a specific theme covered in the course. The course will contribute both to studies in 20th century European and German history, as well as to Jewish Studies. It will form a prominent feature linked to Modern Jewish History HIST/J ST 118 and the History of Anti-Semitism (HIST 302W). The course may be used to count for 3 credits toward the 18 credits required for the History minor and 22 credits required for the Jewish Studies minor. The course will be offered once per year with an enrollment of 20 for HIST and 20 for J ST.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 121U (GH;IL) History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.

History of the Holocaust 1933-1945 (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 122 (GH) (S T S 122) History of Science I (3) A history of science and culture from Stonehenge to the scientific revolution.

HIST (S T S) 122 History of Science I (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to explore the earliest developments in science, beginning with the prehistoric roots of technology and theories of human origins, followed by an engagement with the achievements of the Mayans, Aztecs, and native North Americans. We then turn to science and technology in the ancient Greek and Egyptian worlds, followed by an analysis of early Chinese and East Indian science, medieval science in Europe, selected African sciences, and the rise of modern science in Scientific Revolution and beyond. The point of the course is to show that science is a world tradition with an ancient history, and that many social, political, cultural, and economic forces can push or pull this peculiar form of knowing in one direction rather than another. There are other history of science courses offered at Penn State, but none treats the history of science in general in relation to its social context and influences. Other history of science courses are more thematic than survey courses. HIST/S T S 123, "History of Science II," treats science from the scientific revolution to the present. Students may take either course alone or out of sequence; the first will not be a prerequisite for the second. The expectation is that students will combine knowledge acquired in this course with knowledge from their required general education courses in science to develop a broader understanding of history and science. HIST/S T S 122 may be used to fulfill a requirement for the History major and the History minor and it is an essential part of the recently proposed science and technology history theme within the Science Technology & Society minor. Nonmajors may use it to fulfill a general education humanities requirement. This course will be offered once a year with 65 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 123 (GH) (S T S 123) History of Science II (3) A history of science and culture from the scientific revolution to the present.

HIST (S T S) 123 History of Science II (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to explore the earliest developments in science, beginning with the prehistoric roots of technology and theories of human origins, followed by an engagement with the achievements of the Mayans, Aztecs, and native North Americans. We then turn to science and technology in the ancient Greek Egyptian worlds, followed by an analysis of early Chinese and East Indian science, medieval science in Europe, selected African sciences, and the rise of modern science in the Scientific Revolution and beyond. The point of the course is to show that science is a world tradition with an ancient history, and that many social, political, cultural, and economic forces can push or pull this peculiar form of knowing in one direction rather than another. There are other history of science courses offered at Penn State, but none treats the history of science in general in relation to its social context and influences. Other history of science courses are more thematic than survey courses (e.g., "History of Mathematics" and History of Gender in Science, and Archaeostronomy). HIST 122, "History of Science I," treats science from Stonehenge to the scientific revolution. Students may take either course alone or out of sequence; the first will not be a prerequisite for the second. The expectation is that students will combine knowledge acquired in this course with knowledge from their required general education courses in science to develop a broader understanding of history and science. HIST/S T S 123 may be used to fulfill a requirement for the History major and the History minor and it is an essential part of the recently proposed science and technology history theme within the Science Technology and Society minor. Students will learn historical techniques for the objective evaluation of readings and the formulation of clear and valid responses. Students' grades will be formed from a combination of a midterm and a final. Students are also required to do a paper for the class, the topic being subject to the approval of the instructor. This course will be offered once a year with 65 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 124 (GH;US;IL) (S T S 124) History of Western Medicine (3) This course explores the history of health, illness, and medicine in western society.

HIST (S T S) 124 History of Western Medicine (3)
(GH;US;IL)

Relying on both primary and secondary sources, the course examines developments in medical thinking and practice, the changing status of medical practitioners, and the experience of patients in order to understand the links between medicine and its social, cultural, intellectual, and political contexts.

This course will also augment offerings in bioethics and medical humanities by providing the historical context of ethical issues and social policies concerning medicine. It will be attractive to students pursuing a health professional career and will provide a historical context to the issues raised in courses such as HD FS 301 "Values and Ethics in Health and Human Development Professions, " BIOL 461 "Contemporary Issues in Science and Medicine," PHIL/S T S 432 "Medical and Health Care Ethics," and ANTH 470H "Our Place in Nature." The course will be one of the Humanities Electives for the Bioethics/Medical Humanities Minor as well as the proposed Disability Studies minor.

Within the Department of History, the course is part of the undergraduate offerings in the history of science and , thus, is directly linked to HIST/S T S 122, HIST/S T S 123, and HIST 103. The course would also support the Science, Technology, and Society Program's undergraduate minor, augmenting courses in science and health and medicine, such as S T S 101, S T S 105, S T S 200, and S T S 432.

General Education: GH
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 130 (GH;US) Introduction to the Civil War Era, 1848 through 1877 (3) Survey of causes and consequences of American Civil War, end of Mexican War in 1848 through end of Reconstruction, 1877.

HIST 130 Introduction to the Civil War Era, 1848 through 1877 (3)
(GH; US)

BA - This course meets the Bachelor of Arts degree requirements.

HIST 130 is a general survey of the American Civil War Era that satisfies the Gen Ed GH requirement. Course content features the cause of the war, the conflict itself, and the consequences for the meaning of freedom in the United States. Chronologically, the course spans from 1848 through 1877, or from the Mexican War through Reconstruction. Students will become familiar with American slavery; northern and southern social, cultural, political, and economic composition; the military progress of the war; problems on the home front; the struggle for emancipation; and the creation of a new nation based on free labor. Lectures are supplemented with discussion days in which students react to readings. Grading stresses the use of analytical and writing skills, as well as the ability to think historically and analyze documents critically.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 127 (US) (LTNST 127) Introduction to U.S. Latina/o History (3) This course introduces students to the history of U.S. Latina/os, including Puerto Ricans, Dominicans, Chicanos, Cubans, and Central Americans.

HIST (LTNST) 127 Introduction to U.S. Latina/o History (3) (US)

This course introduces students to the history of U.S. Latina/os, drawing on the multiple experiences of Puerto Ricans, Dominicans, Chicanos/Mexicanos, Cubans, and Central Americans. Course content features the divergent development of U.S. Latina/o cultural and political identities rooted in the Caribbean, Mexico, Central American, and the United States. Students will understand the formation of racial and class hierarchies within U.S. Latina/o communities; the processes of (international) migration; gendered hierarchies and responses to sexism; and the complexities of U.S. Latina/o identity. Lectures are supplemented with discussion days in which students respond to readings under the guidance of a graduate teaching assistant. Grading stresses proficiency in analytical, historical writing.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 134 (GH;IL) Introduction to the British Isles, 1400-1800 (3) Survey of the history and cultures of the British Isles from 1400 to 1800.

HIST 134 Introduction to the British Isles, 1400-1800 (3)
(GH;IL)

This history course, which fulfills the Humanities requirement in General Education (GH) or the International Cultures (IL) requirement, provides an introduction to the history of the British Isles from the fifteenth to the early nineteenth centuries, focusing on the diversity of English, Welsh, Scots, and Irish cultures and customs, their influence on early forms of nationalism in the British Isles, and their importance in the formation of the modern British nation-state. Using a wide range of primary sources, including the work of prominent British writers, the course introduces basic concepts of historical method, while exploring the process whereby an English empire came to govern these four major “peoples” of the British Isles. Students will be encouraged to consider the dynamism of this process, involving complex interrelationships rather than the simple supremacy of one ethnic group over another. The relationships between English and Scots protestants, the importance of translating the Book of Common Prayer from English to Welsh, the influence of Irish-born families of English descent on the governance of early modern Ireland, were all key elements in the emergence of an empire under the authority of an English dynastic state whose practical control over the territories it claimed to govern often remained quite limited.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 142 (GS;IL) History of Communism (3) Marxism; Leninism and evolution of the Soviet Union; formation and development of the Communist bloc; impact of Chinese Communism.

HIST 142 History of Communism (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Communism is one of the most powerful ideologies to have ascended in the modern period of history. Fashioned from Marxist philosophy, communism was embraced in the twentieth century to over one billion people from the former USSR, to China, to South Asia, to Africa, to Latin America, and by some here in the U.S. Unquestionably, the institutionalization of communist regimes has left an indelible mark on world history. This course will explore the writings of Marx and his advocates, notably Engels and Lenin, and strive to understand why the first communist regime emerged in the unlikeliest of places: Russia. Using the Soviet Union as a case study, we will examine how Marxist principles were either applied or transformed in the construction of the first communist society. By examining the history of the Soviet Union, including its spectacular and rapid demise, we will come to a greater understanding of communist principles and of the dynamics of capitalism as well. As a counter-example, we will also focus on the Chinese experience of Communism and contrast the divergent paths to reform that have been implemented there. The goal of the class is twofold: to become familiar with the principles of communism by examining their application primarily in the USSR, Eastern Europe and China, and to come to a greater understanding of the dynamics of a capitalist system. The course grade will be determined by the student's performance on in-class essay exams, a research paper, the comprehensive final exam (essays and short answer), participation in class discussions, and regular attendance. This course serves as a prerequisite to History 430 and History of the Soviet Union, and provides valuable background for such related courses as PL SC 413 and 452 and RUS 100. HIST 142 satisfies three credits of any history for History majors. It is also a prerequisite for several upper level history courses dealing with twentieth century Eastern European or Eurasian history. For all other students, this course fulfills a Social and Behavioral requirement in general education. HIST 142 will be offered once each year with 75 seats per offering.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 141 (GH;IL) Medieval and Modern Russia (3) Introductory survey, including political, social, economic, and cultural development of Kievan, Muscovite, and Imperial Russia.

Medieval and Modern Russia (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 143 (GH;IL) History of Fascism and Nazism (3) The study of right-wing totalitarianism in the twentieth century, with special emphasis on Fascist Italy and Nazi Germany.

HIST 143 History of Fascism and Nazism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 143 is an introductory survey of fascism and Nazism. The course concerns itself with understanding the social context of fascism, its governing assumptions, ideals, and values, how it worked in practice, and its consequences and historical implications. The course centers on the analysis of secondary and primary sources, and textual, video, and audio materials are all used. Lectures tie the various materials together, while weekly discussion sessions provide an opportunity for students to engage the materials directly. Students are evaluated on the basis of exams (which include an essay component), papers, and class attendance and participation. The course contributes not only to the study of the history of authoritarianism, antisemitism, and the history of the holocaust, but also contemporary and modern European history and, of course, German, Italian, and Spanish history. History 143 will be accepted, but not required, for the History Major as well as the History Minor. It may function as a service course for the Departments of Political Science and Sociology. It is recommended that it also serve as a general education course in the Humanities. This course is offered once a year with enrollment of up to 150 per offering with small discussion sections once a week.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 144 (GH;US;IL) The World at War: 1939-1945 (3) In-depth study of the origins and conduct of World War II. Political and economic aspects as well as military.

HIST 144 The World At War: 1939-1945 (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course offers a wide-ranging description and analysis of the second world war, combining military history with political, social and cultural approaches. One major goal is to describe how large-scale war serves as a revolutionary social and cultural force in its own right, massively accelerating social change. In the case of the second world war, the course will describe how the conflict did much to create what we think of as the modern world, not only in political terms (the roots of the cold war, the collapse of European imperialism) but also in radically changing attitudes towards such basic matters as gender relations and generational conflict. Also viral were the new scientific advances of the war years, in nuclear energy, radar, aviation, and perhaps most critical of all, the computer. Particularly important to the educational justification for the course is the stress on the construction of historical memory, a theme with implications far beyond the specific instance of World War II. The course will assess and challenge many of the myths surrounding the war, and to show how subsequent accounts of the conflict were shaped by political and cultural needs. For example, the course will stress the critical importance of the Eastern Front throughout the phenomenon understated in the West because of the patriotic Anglo-American emphasis on D-Day. It will also explore the "Resistance Myth", and suggest the moral compromises necessary to survive in occupied societies of Europe and Asia. Throughout, the course will stress the impacts of war on the home front and civilian society. The course will be offered once every two years, with fifty seats on each occasion. Typically, students will be evaluated on essay exams, written book reviews, and research papers, and are expected to participate fully in class discussions of assigned readings. History 144 is an important complement to several existing courses within the History department, including 120, Europe Since 1848; 121, The History of the Holocaust; 142, History of Communism; 143, Fascism and Nazism; and 160, American Naval History. It also provides an excellent foundation for 400-level courses including 420, Recent European History; 447, Recent American History, and 454, American Military History 144 satisfies general credit requirements for the history major or minor. Majors and non-majors would both be able to use the course to satisfy their general education humanities selection.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 151 (GS;US) (S T S 151) Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.

Technology and Society in American History (3)

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 150 (US) Colonial Pennsylvania (3) Development of the colony of Pennsylvania through the war for American independence, covering immigration, economics, politics, religion, and society.

Colonial Pennsylvania (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 151S (GS;US) (S T S 151S) Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.

Technology and Society in American History (3)

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 152 (GH;US;IL) African American History (3) African roots; colonial and revolutionary experiences; slavery and abolitionism; civil war and reconstruction; accommodation and protest; the new militancy.

HIST 152 African American History (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History 152 introduces students to African American history -a segment of American history still excluded from many traditional American history texts except for an occasional appendix reference. The course begins with the African origins of Black Americans and concludes with an overview of the last half of the twentieth century. Lecture, readings and film explore individual achievements, the black community, efforts in self and group expression, and economic issues. Methods of evaluation in this knowledge based may include examinations, quizzes, research paper, classroom participation and short in class essays, either individually or in peer groups. History 152 satisfies three credits for History majors and General Education. For all other students this course fulfills a Humanities and GI requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 153 (GH;US) The Indian in North America (3) A survey of the American Indian from prehistory to the present.

The Indian in North America (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 153Y (GH;US) The Indian in North America (3) A survey of the American Indian from prehistory to the present.

The Indian in North America (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 155 (GH;US) American Business History (3) Major developments in the history of business and industry from the colonial period to the present.

HIST 155 American Business History (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

History 155 surveys the development of business and industry within the United States, from the colonial period to the present. It treats the conduct of business as an integral element of American society and culture. Topics to be discussed will include the colonial commitment to commerce and early debates over what kind of commercialism the new national government should encourage; the effects of new technologies like the cotton gin, canals, and railroads in the 1800s and electrical products, cars, and computers in the 1900s; the emergence of modern large-scale industrial production and changes it brought about in business management, in society, and in politics; the changing fortunes and corporate citizenship; changing ideas about what kind of relationships should exist among governments, citizens, and businesses; the importance of world events for American businesses; and the emergence and importance of mass-market consumer products since the First World War.

Materials we will use to cover this comparatively complex set of interrelationships will include textbook, supplementary studies of individuals or particular businesses, and current media coverage of the business world. The course is fast-paced and relies on students self-discipline and analytical skills. Student performance will be evaluated on two essay exams, a class presentation, group discussions, and in-class quizzes, and evaluation will be based on the instructors assessment of the students performance in reading and writing critically and knowledgeably on particular subjects, marshaling evidence in support of coherent arguments, and participating in class discussions and presentations.

History 155 may complement, but does not compete with, courses offered by other departments or programs. It will be useful for students intending to major in business programs, in Labor and Industrial Relations, and/or to participate in the business world, by deepening their historical knowledge of that world, and will complement the Business/Liberal Arts minor. It will complement History 020 and 021 as well as more advance courses in American history. History 155 will be accepted, but is not required, for the history major and minor. It may be used to fulfill either General Education or Bachelor of Arts requirements in the Humanities for those not majoring in History. HIST 155 will be offered once a year with 45 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 154 (GH;US) History of Welfare and Poverty in the United States (3) History of care of the impoverished (emphasis on gender, race, nationality, age of poor, and welfare givers), 18th century to present.

History of Welfare and Poverty in the United States (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 156 (US) History of the American Worker (3) A study of the American worker from the preindustrial era to the present.

History of the American Worker (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 158 (US;IL) History of American Immigration (3) The waves of migration to America and an analysis of the resulting minority groups, their reception, assimilation, and persisting identity.

History of American Immigration (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 160 (US) American Naval History (3) Introduction to the role of the United States Navy in the defense, diplomacy, commerce, and scientific development of the nation.

American Naval History (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 161 (US) The Battle of Gettysburg in American Historical Memory (3) Examines factors shaping understanding of the Civil War's decisive battle and its meanings as a national symbol.

The Battle of Gettysburg in American Historical Memory (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 165 (IL) (ARAB 165, RL ST 165) Introduction to Islamic Civilization (3) Islamic history, culture, and religious life c.600-1500 C.E.

Introduction to Islamic Civilization (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 172U (IL) Survey of Japanese Civilization (3) Survey of social, institutional, cultural, and religious developments from ancient times to the present.

Survey of Japanese Civilization (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 172 (IL) Survey of Japanese Civilization (3) Survey of social, institutional, cultural, and religious developments from ancient times to the present.

HIST 172 Survey of Japanese Civilization (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is a survey of Japanese history. Because it is impossible to study all aspects of Japanese history in 15 weeks, the course, while broad, will not be comprehensive. Approximately 50% of the course will be devoted to pre-modern Japan and Buddhism, 25% to early modern Japan, and 25% to modern Japan. The modern segment of the course will focus on the late 19th and early 20th centuries and on the difficult concept of nations and national identity. We will examine the creation of Japan as a nation from the perspective of a series of topics, all of which are linked by the theme of "making Japanese." (The meaning of this theme should become apparent to you as you work through the second half of the course, though it may not make sense at the beginning.) The course assumes no prior background in Japanese or East Asian history. It is aimed at students who have grown up in the United States, but it can be useful and interesting for students of all backgrounds. Although there are no formal prerequisites for the course, true college-level skills in reading, writing, computer literacy, and thinking are assumed of all students. Success in the course also requires a discipline for work and reasonably effective study habits. The course is fast paced and students should expect to spend 1-2 hours of quality study outside of class for each class hour. It is particularly important to begin preparing the essay well in advance, ideally starting the first week of the course. There are three factors that tend to make History 172 more demanding than other introductory courses in history. First, the names of Japanese people, places, and things are, of course, in Japanese. This fact puts an added burden on the memories of the majority of students, since most will be unfamiliar with Japanese. Remembering the key names, therefore, will require additional effort. Second, many aspects of Japanese culture and political organization will be largely or entirely unfamiliar to most students from the United States (and elsewhere), and will therefore require more effort to comprehend. This second factor, i.e., the "foreignness," may also make the course more interesting for some students. Third is a high expectation of mastery. In other words, to do well in this course, you will need to understand its key points and concepts thoroughly. It is not possible to succeed simply by memorizing a list of items and spitting them back on exams. Students will be evaluated on three essay exams, participation in class discussions of assigned readings, and a major book review paper. History 172 is an excellent foundation for History 480 (Medieval Japan) or History 481 (Modern Japan), and is one of the courses that satisfy the prerequisite requirements for 480 and 481. It is also an excellent foundation for the further study of East Asia or for students interested in comparative history. In addition to satisfying GI requirements, History 172 satisfies general credit requirements for the history major and minor, including the "non-western" component of the major. The course also may be used to fulfill requirements for the East Asian Studies major, the Asian Area Studies minor, and the major and minor in Japanese. This course will be offered once a year with 50 seats per offering.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 173 (GH;IL) Vietnam in War and Peace (3) Rise of nationalism and communism; origins of conflict; United States involvement; impact on postwar regional and international politics; contemporary Vietnam.

HIST 173 Vietnam in War and Peace (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The small Southeast Asian nation of Vietnam remained an obscure and exotic land, relatively unknown to the rest of the world until the mid-twentieth century when it became the scene of a military and political struggle with important global implications. History 173 examines two interrelated topics: 1) the long history and unique culture of Vietnam and its peoples, extending from prehistory to the present; and 2) Vietnam's constant struggle over several millennia-to secure its independence in the face of continual military, political, social, and economic pressure from outsiders, especially the Chinese, the French, and the Americans. The course includes special focus on the physical geography of Vietnam; the anthropological origins of its people; the evolution of its unique culture, folklore, and legends; its long-term struggle against Chinese military and cultural aggression; its role as a colony in the French global empire; the rise of nationalism and communism in Vietnam; the origins of global conflict in Vietnam in the post-World War II and Cold War world; the conduct of military, political, diplomatic, and economic affairs of France, the United States, North and South Vietnam, and other nations during the wars of 1945-1975; the response of civilian populations and governments to that military conflict; and post- 1 975 Vietnam. Evaluation methods include map-based examinations to familiarize students with the geography of the region and to underscore how geography and history intersect. Examinations include both essay and objective questions that require students to integrate information from lecture and from readings drawn from both primary and secondary sources that examine Vietnam's struggles from different viewpoints. Also required is a research/writing project that explores some specific dimension of the American or Vietnamese homefront experience during 1965-1973, the peak years of the U.S. military effort. This course deepens knowledge about Asian cultures introduced in History 010 and 011 (World History). It supports both the interdisciplinary East Asian studies major and Asian Area Studies minor. This course is accepted for the Military Studies minor. History 173 satisfies both General Education and Bachelor of Arts degree requirements for Humanities.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 174 (GH;IL) The History of Traditional East Asia (3) Comparative cultural, institutional, and social history of traditional China and Japan to their contact with the industrialized West.

The History of Traditional East Asia (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 175 (GH;IL) The History of Modern East Asia (3) Comparative survey of the internal developments and external relations of China and Japan since their contact with the industrialized West.

The History of Modern East Asia (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 176 (GH;IL) Survey of Indian History (3) Survey of cultural, institutional, and political history from ancient times to the present.

HIST 176 Survey of Indian History (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course surveys the history and civilization of India or South Asia from the earliest times to the modern period. The goal of the course is to enable students to form a comprehensive conception of the various facets of Indian or, South Asian civilization in a historical context. This course is an excellent foundation for the history of modern India and also complements a variety of existing courses on the history of the non-western world. In addition to satisfying the GI requirement, HIST 175 satisfies the general credit requirements for the history major or minor, including the "non-western" component of the major. Non-majors may use this course to satisfy a general education humanities selection. Typically, students will be evaluated on in-class quizzes, written exams, participation in class discussions of assigned readings and critical reviews of books. This course is offered once every year and has an enrollment of 50 students.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 178 (GH;IL) Latin-American History to 1820 (3) Conquest of the New World, development of colonial institutions, impact on native cultures, and origins of independence movements.

HIST 178 Latin-American History to 1820 (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The "Colonial Latin America" class is a survey of three centuries, from the initial encounter on New World soil of Iberian, African, and native cultures and races, to the birth of independent culturally- and racially-mixed nations. Our emphasis is on the patterns of conquest and cultural encounter, the processes of colonial rule, the nature of interaction between social groups, and on the cultural impact of the colonial experience upon all colonial Latin America's peoples. We study the institutions, cultures, attitudes, and fortunes of Spaniards and Portuguese; African slaves and free blacks; Nahuas and Aztecs, Mayas, and Incas. We discover the roles played in colonial society by a wide variety of peoples, from an African slave on a Brazilian sugar plantation to a Spanish high society woman in Lima to the black and native workers in an Ecuadorian tannery to an Aztec nobleman in Mexico City. The people who lived in colonial Latin America are given a chance to speak for themselves as much as possible; most of the assigned books feature contemporary documents translated from Spanish, Portuguese, and various native languages. Students are evaluated on two sets of essay exams and write a paper, as well as participation in classroom discussion. History 178 is offered most years with 90 seats per offering and is a prequel (but not a prerequisite) to History 179, the "Modern Latin America" class often taught the semester following; both classes are required for the Latin American Studies major, as well as meeting various History major requirements.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 180 (GH;IL) (CAMS 180) Ancient Warfare (3) Historical survey of the evolution of warfare in the ancient Mediterranean region from prehistoric times to the Later Roman Empire.

HIST (CAMS) 180 Ancient Warfare (3)
(GH;IL)

Warfare has occupied a central place in the civilizations of the Mediterranean from the earliest times. The prehistoric origins of warfare is a hotly debated topic and constitutes the starting point for this course. Most scholars are agreed that military culture grew in step with sociopolitical development over the course of the third millennium BCE. In the following centuries, the Egyptians, and later the Assyrians and Persians, took great strides in developing sophisticated tactical systems, using infantry, chariotry, and cavalry. These matters occupy a little over the first third of the course. Across the Aegean Sea, Bronze Age (Mycenaean) Greece was ruled by elites occupying massively walled citadels, their leaders buried surrounded by their weapons. But how did these warriors fight? Do the epic poems of Homer memorialize Bronze Age combat? In the Archaic Period (700-500 BCE) infantry warfare in Greece was transformed by the appearance of the heavily-armored infantryman (the hoplite), deployed in a tight formation (the phalanx). The processes involved in the appearance of this kind of warfare, its nature, and its affects on Greek society and culture will be the focus of our attention for the second third of the course. On the periphery of the Mediterranean basin stood a variety of warrior cultures (the Scythians, Celts, or Germans). Numerous warrior-dominated polities vied with each other in Archaic Italy, but one of them, sitting on a ford on the river Tiber, ultimately rose to be the greatest military power produced by the ancient Mediterranean world – Rome. The Roman legions first won and then ensured the security of a Mediterranean-wide empire that stood for 700 years and evolved ultimately into world’s first standing army of professional volunteers. The Roman military system holds our attention for the final third of the course. The course defines “warfare” broadly to include both tactical and strategic, as well as cultural and ideological, matters. Even this canvas is too vast to be surveyed in all its richness, so the major themes explored are: (i) what is war, where does it come from, and how did it change as civilization spread?; (ii) in what ways did warfare develop in the periods under study, in terms of strategy, tactics, and weapons technology?; (iii) how do different warfare practices reflect essential facets of the various cultures under consideration?

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 179 (GH;IL) Latin-American History Since 1820 (3) Origin, political growth, international relations, and economic status of the Latin-American republics, with emphasis upon present-day conditions.

HIST 179 Latin-American History since 1820 (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on Latin America (with limited coverage of the Caribbean) from the early 1800' s through the present. For the colonial period (c.1500-c.1820), it is easy to see why Latin America has a "common history," as most of it was ruled by two quite similar countries, Spain and Portugal. But after the colonial system collapsed, giving rise to over a dozen independent countries by the 1830s, the issue becomes more complicated. What do these dependence upon markets in developed countries for their economic prosperity? How can we explain the continuing similarities between these countries, without losing sight of their diversity? The approach of this course is broadly chronological, but for each period we will focus on one or more countries that illustrate (however imperfectly) the trends of the period. The goal of the course is not to provide an encyclopedic knowledge of Latin America, but rather to provide a framework for understanding how current issues are rooted in past historical processes, and to offer a better sense of how key historical themes are "lived" by ordinary people in Latin American society. A related goal of the course is to acquaint students with the historiography of Latin American: the different approaches that historians have used to understand the region. Students will be evaluated on two sets of essay exams and a paper, as well as participating in classroom discussion. HIST 178 and 179 are both requirements for the Latin American Studies Major and Minor, as well as satisfying general credit requirements for the History Major.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 181 (GH;IL) Introduction to the Middle East (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.

HIST 181 Introduction to the Middle East (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course presents a survey of the history of the Middle East from the rise of Islam to the current day. The objectives are to help students develop the vocabulary and historical background to discuss and evaluate contemporary events and debates, stimulate interest in the varied historical experiences and diverse societies and cultures of the region, and provide a foundation for deeper investigation. Students may elect to take one or more of the 400-level sequence on Middle Eastern history, or other specialized courses, upon completion of the course. The first half of the course focuses on the foundations of Islamic government and civilization, the first Islamic empires, and the Ottoman empire. The second half of the course traces the modern history of the Middle East and examines how it has been profoundly shaped by European imperialism and American political, economic, and strategic interests. Students will be evaluated on regular quizzes and essay exams and participate in class discussions of assigned readings and current events. History 181 satisfies general credit requirements for the history major or minor, including the "non-western" component of the major. The course may also be used to fulfill requirements for the Middle East Studies minor. Non-majors may use this course to satisfy a general education humanities selection. HIST 181 will be offered once a year with 50-60 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 187 History Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

History Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 181U (GH;IL) Introduction to the Middle East (3) Origins of Islamic civilization; expansion of Islam; the Ottoman Empire; the Middle East since 1918.

Introduction to the Middle East (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 191 (GH;IL) (AAA S 191) Early African History (3) Explores important economic and cultural transformations in the making of early African empires from 1 MBC to 1750.

HIST (AAA S) 191 Early African History (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is an introduction to the history of Africa south of the Sahara from the origins of humankind to roughly 1750. Since it is not possible to undertake a systematic survey of the period -- the continent is too vast and our data too sparse -- we will focus on a number of common themes in the cultural and historical development of African societies. We will start with an introduction to African cultures and the problems in studying them, move on to examine the evidence for the early origins of humans on the African continent, the agricultural revolution, and ancient African kingdoms, empires and civilizations (including Egypt). We will then explore three interrelated themes in the history of Africa from the 16th-18th centuries: trade, state formation, and the spread of Islam. Finally, we will turn to an examination of the slave trade and its impact on Africa and the Americas. This is also a course in historical reconstruction and analysis. There are few documentary sources for this period and much of the data we have is fragmentary. The resulting history consists largely of long-term social changes rather than detailed narrative. We must thus learn to reconstruct history from what evidence is available, using general principles of African social, economic, and political organization that we will develop in class. Typically, students will be evaluated on the basis of a map quiz, short papers, exams that have both an identification and essay component, and participation in class discussions and debates. AAA S/HIST 191 provides an excellent foundation for both AAA S/HIST 192 (Modern African History) and History 479 (imperialism and Nationalism in Africa). In addition to satisfying the GI requirement, AAA S/HIST 192 satisfies general credit requirements for the history major or minor, including the "non-western" component of the major. Non-majors may use this course to satisfy a general education humanities selection. The course also may be used to fulfill requirements for the African and African-American Studies major and the African Studies minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 192 (GH;IL) (AAA S 192) Modern African History (3) Impact of the slave trade, expansion of Islam, colonial conquest, social and cultural transformations, resistance, nationalism, and independence.

HIST (AAA S) 192 Modern African History (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines the colonial period in Africa from roughly 1750 to the present. Given the vast geographical breadth of the African continent, its diverse peoples and cultures, and the divergent trajectories of colonial rule, this course cannot provide a comprehensive overview of the modern era in Africa. Rather, it considers some of the most significant transformations in modern African history, including the impact of the Atlantic slave trade and the transition to 'legitimate commerce'; the causes and consequences of European imperial conquest from the 1870's; the dynamics of the colonial encounter; the struggles of African peoples for independence in the 1950's and 1960's; and the enduring impact of the colonial experience on contemporary African social, political, and economic realities. The course is designed to familiarize students with the major events and chronology of modern sub-Saharan African history, and to provide an overview of the key themes and theoretical debates which animate contemporary African historiography. Emphasis throughout the course will be on the understanding and application of historical arguments and theories to available information. The course is intended to help students develop analytical skills vital to the discipline of history, which include the ability to collect and analyze evidence and to construct arguments in both oral and written presentations. To this end, students will have the opportunity to practice both identifying and building arguments by writing several focused short papers that deal with the material covered in a week of class lectures and readings. In these papers, as well as in the two essay exams, students will be asked to generate thesis-driven responses to particular historical problems encountered in the course material. The short papers are intended to promote active engagement with the course material and will be used as the basis for in-class discussions and debates. Typically, students are evaluated on a map quiz, several short papers, participating in class discussions of assigned readings, and exams which have both an identification and essay component. The course content of AAA S/HIST 192 is designed to chronologically follow that of AAA S/HIST 191 (Early African History), and provides an excellent foundation for History 479 (Imperialism and Nationalism in Africa), for which it is a prerequisite. In addition to satisfying the GI requirement, AAA S/HIST 192 satisfies general credit requirements for the history major or minor, including the "non-western" component of the major. Non-majors may use this course to satisfy a general education humanities selection. The course also may be used to fulfill requirements for the African and African-American Studies major and the African Studies minor. This course is offered once a year with 50 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 197A British History (3) British Isles and theiry peoples since the ancient period, emphasizing political, cultural, and intellectual developments and imperial rise and fall.

British History (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 197B (US) The FBI in the 20th Century & Beyond (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

The FBI in the 20th Century & Beyond (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 197C (US) The FBI in the 20th Century & Beyond (3) Survey of the FBI from 1908 covering political, social, cultural, minority, civil rights history, and every period of the century.

The FBI in the 20th Century & Beyond (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 200 (US) American Local History (3 per semester/maximum of 6) Topics in American local history relating local to national developments and studying the historical method by using primary source material.

American Local History (3 per semester/maximum of 6)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 210 (GH;US) (AAA S 210) Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (3) The course will explore the context and events that shaped African American life over the period 1896-1932.

HIST (RUS) 210 Between Accommodation and Alienation: African Americans in a Jim Crow Nation, 1896-1932 (GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for students wishing to develop an understanding of race in American society and politics over the course of the 20th century. It will focus in considerable detail upon the influence of the Plessy vs. Ferguson decision (1896) in the shaping of America over the four decades that followed. Of central concern is an exploration of the ways in which African Americans and their leaders responded to the institutionalization of segregation within American life, and the divergent strategies advocated for dealing with 'Jim Crow' as an impediment to the development of African Americans. The course will also explore the impact of the migration of African Americans out of the South into the cities of the North and the impact of that migration upon both the opportunities for African Americans and the American political system.

Students will be evaluated on the basis of a book review (4-5 pages), a short research paper (5-6 pages), a long research paper (10-12 pages), and their participation in class discussion. The written assignments are designed to improve student research and writing skills, and students are encouraged to be active participants in class discussion.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100 three credits of American history or permission of the instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 205 (GH;US) (J ST 205, RL ST 205) American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.

HIST (J ST/RL ST) 205 American Antisemitism (3)
(GH;US)

This course explores the phenomenon of antisemitism in American history from the time of Peter Stuyvesant to the present. The significance and role of American antisemitic movements and authors, as well as its role in American society and culture, are examined and compared to those in European history over the same periods. At the same time, the impact of antisemitism on the lives and mentalities of American Jews is discussed. The course focuses on readings taken from original sources and recent historical treatments. The readings include material on colonial texts, Grant's notorious Order, nativists and anti-immigration texts, Gilded Age antisemitism, the Immigration Acts of the 1920's, Henry Ford's antisemitic campaign, Southern antisemitism and the Leo Frank case, the quota system at American universities, employment discrimination, the "Gentlemen's Agreement" system, Black antisemitism, and the New Antisemitism.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 211 (GH;US;IL) (AAA S 211) The Emergence and Evolution of the Black Diaspora in the Atlantic World (3) The course will explore the history and role of African and African-descent people in Africa, the Americas, and Europe.

HIST (AAA S) 211 The Emergence and Evolution of the Black Diaspora in the Atlantic World (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the origins and evolution of communities of African-descent people whose lives have been influenced by the emergence of the Atlantic world since the sixteenth century. As a survey course the material will expose students to the ways in which Africans and their descendants contributed to the making of the Atlantic World and the economy that underpinned the Transatlantic production and trade networks that linked the "Old" and "New" Worlds. The course will provide history majors/minors an opportunity to explore the role of Africa and Africans in the development of the Atlantic economy which linked the Old and New Worlds since the 16th century. It will also expose them to international/transnational history which will allow them to consider history from a perspective that is broader than that of the "nation."

Evaluation will be based upon a book review (4-5 pages - 15% of the final grade); the mid-term (5-6 pages - 25% of the final grade); a research paper (10-12 pages - 40% of the final grade); and participation in class discussions (20% of the final grade).

The course will be of interest to students interested in American, Caribbean, Latin American, and European history. By focusing upon the Black experience in the Atlantic World, it will provide a perspective that transcends the national historiographies of the region. This course is designed to be a core course within the Undergraduate AAA S major, and it will be required for AAA S majors and minors in African Diaspora Studies. For majors/minors in history the course will allow them to consider history from a perspective that is broader than that of a nation. For non-majors and non-minors, it fulfills a General Education or Bachelor of Arts humanities requirement. The course will be offered once per year with 20 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 003 orHIST 020 orHIST 021 orHIST 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 230 (NUTR 230, S T S 230) American Food System: History, Technology, and Culture (3) A cultural analysis of the evolution of U.S. agricultural production and food consumption patterns, the food industry and food marketing.

American Food System: History, Technology, and Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 235 (US;IL) (J ST 235, RL ST 235) The Church and the Jews (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.

HIST 235 The Church and the Jews (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine a key aspect of western history - the complex relationship between the Western (Roman Catholic) Church and the Jews, from the first century to the present. We will analyze ideas and policies regarding Jews as expressed in different realms, from theology and canon law to church art and popular preaching. We will also examine how changing conditions led to striking changes in church attitudes and policy, and how church policy was often at odds with popular sentiments about Jews.

The course will be designed to enable students to grasp the fluidity of attitudes over time, and the interplay of economic, social, political, and theological factors; to grasp of essential elements of a key area of conflict in western culture; and to develop their skills in the close reading of primary texts.

Students will be evaluated on the basis of three quizzes and a final exam.

The course would offer a chance for students to develop perspectives previously gained in a number of courses, particularly HIST 001 and 002 (The Western Heritage), RL ST 001 (Introduction to World Religions), RL ST 101 (Comparative Religion), HIST 107 (Medieval Europe), HIST 407 (Early Medieval Society), and J ST 010 (Jewish Civilization). It would complement such courses as HIST 108 (The Crusades), HIST 408 (Church and State in the High Middle Ages), HIST 412 (Intellectual History of the Middle Ages), HIST 414 (Renaissance and Reformation), J ST 111 (Early Judaism), J ST 110 (Hebrew Bible), RL ST 120 (New Testament), and RL ST l24 (Early and Medieval Christianity).

The course will count for 3 credits toward a) the 22 credits required for the minor in Jewish Studies, b) the 33 credits required for the major in Jewish Studies, c) the 30 credits required for the major in Religious Studies, and d) the 36 credits required for the History major.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 240 (GH;US) (AAA S 240) Harlem: History, Culture, and Politics, 1890-Present (3) This course will explore the history of Harlem as a major Black urban community and a cultural center.

Harlem: History, Culture, and Politics, 1890-Present (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100 orHIST 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 250 (GH;IL) (AAA S 250) Introduction to the Modern Caribbean (3) A survey course which explores the historical evolution and emergence of the modern Caribbean.

HIST (AAA S) 250 Introduction to the Modern Caribbean (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the evolution of the Caribbean region from the eve of the arrival of Columbus to the 20th century. It will explore the emergence, migration, and evolution of Amerindian societies in the Caribbean islands prior to the arrival of Columbus. It will then explore the European-Amerindian interactions that lead to the disappearance of these indigenous peoples from the region and the consolidation of European colonial empires. The course will then explore the various forms of coercive labor systems that emerged in the region including indentureship, enslavement, transportation of European prisoners and other social outcasts, African slavery, and the establishment of the plantation system that defined the region until the 20th century using both free and unfree labor to maintain its dominance in these island societies until the late 20th century. The course will also cover the issue of slave resistance, the Haitian revolution, the formation of maroon communities, and the role of abolitionist politics as a factor in bringing an end to slavery. It will also look at the re-emergence of indentureship of Asians as a response to the crisis of labor and the growth of peasant agriculture in the 19th century Caribbean. The course will also explore the emergence of nationalist sentiment in the region, especially the way in which the decay of Spanish colonial authority and the rise of American imperial ambitions helped to set the stage for the nationalist awakening that defined the course of the 20th century in the region. This is the course that will complement and expand upon issues raised in AAA S/HIST 211 - The Emergence and Evolution of the Black Diaspora in the Atlantic World. It will also serve as an introduction to the 400-level course on the Caribbean in the 20th century that will be proposed simultaneously. The course will be required for students interested in pursuing the African Diaspora minor. It may be used to fulfill general education and diversity requirements. It can also be used as a course to meet non-Western history requirements in the History major. Evaluation will be based upon a book review, a mid-term, a research paper, and class discussion/participation.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 297A Public History (3) Theory, methods, practice, and politics of history for a public audience, including "doing" history in a community setting.

Public History (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 300A European Historiography (3) Readings, group discussions, and oral and written reports on great historians, philosophy of history, and conflicting interpretations in European history.

European Historiography (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: third-semester standing 6 credits in history with a grade of A or B an all-University average of B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 300B American Historiography (3) Readings, group discussions, and oral and written reports on great historians, philosophy of history, and conflicting interpretations in American history.

American Historiography (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: third-semester standing 6 credits in history with a grade of A or B an all-University average of B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 300C Independent Study (3) Readings and oral and written reports in areas to be arranged with the chairman of the Honors Committee.

Independent Study (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: HIST 300A orHIST 300B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 300D Honors Thesis (3) Research paper in an area arranged with the chairman of the Honors Committee.

Honors Thesis (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: HIST 300A, HIST 300B, HIST 300C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 300H Honors Course in History (3-12) No description available.

Honors Course in History (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 301W Scope and Methods of History (3) A course designed to introduce students to the analysis, methods, and practices of historical writing and research.

Scope and Methods of History (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 302W Undergraduate Seminar (3) Thematic or topical investigation; emphasis on historical criticism and analysis.

Undergraduate Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1995
Prerequisite: 6 credits in history at the 400 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 320 Contemporary World History and Issues (3) Aspects of global history in 20th and 21st centuries and study of selected trends and controversies.

Contemporary World History and Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 320W Contemporary World History and Issues (3) Aspects of global history in 20th and 21st centuries and study of selected trends and controversies.

Contemporary World History and Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 399 (IL) Foreign Study--History (1-12) Study in selected foreign countries of various periods and topics in history.

Foreign Study--History (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 400 Research in Ancient Sources (3) Guided research in the literature of ancient Mediterranean civilizations.

Research in Ancient Sources (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HIST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 401 (IL) (J ST 401) Ancient Technologies and Socio-cultural History in the Ancient Levant (3) Social and intellectual development in the Ancient Levant as they affected and were affected by technological development.

Ancient Technologies and Socio-cultural History in the Ancient Levant (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: RL ST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 402 (IL) The Rise of the Greek Polis (3) Development of the Greek city-state from Homeric times to the fifth century B.C.; special references to Athenian society.

The Rise of the Greek Polis (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 403 (IL) Alexander the Great and the Hellenistic World (3) The career of Alexander, his impact on his own time, and the Hellenistic legacy.

Alexander the Great and the Hellenistic World (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 405Y (IL) The Roman Empire (3) The political and social history of the Roman empire; economic institutions and religious groups which influenced Roman administration.

The Roman Empire (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001, HIST 101 or 3 credits in classical studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 404Y (IL) Rome and Hellenism (3) The impact of traditional Greek culture on ancient Italian society in the age (ca. 300-30 B.C.) of Roman imperial expansion.

Rome and Hellenism (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 100, HIST 101 orCAMS 033

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 406W Research in Medieval Sources (3) Guided research in the literature of medieval Europe.

Research in Medieval Sources (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HIST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 408 (IL) Church and State in the High Middle Ages (3) European political, institutional, and social history in light of church- state tensions from the Crusades to the Renaissance.

Church and State in the High Middle Ages (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 107

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 407 (IL) Early Medieval Society (3) Rise of European nations and evolution of their social and political institutions from the time of Constantine to the Crusades.

Early Medieval Society (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 107

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 409Y (IL) (J ST 409Y, RL ST 407Y) European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.

HIST (J ST) 409Y (RL ST 407Y) European Anti-Semitism from Antiquity to the Present (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course analyzes major episodes in the history of anti-Semitism and tries to clarify the motives and dynamics involved. It seeks to understand what these episodes have in common and what is unique in each case--is there a single universal, eternal antisemitism? Or are there rather "anti-Semitisms", each belonging to a unique historical context? Is there a single continuous line of development in anti-Semitism? What is the relationship of a particular anti-Semitism to the national culture in which it originates?

We will be reading the major original texts of anti-Semitism from Roman and ancient writers, through early Christian texts and medieval Christian Blood Libels against the Jews, documents of the Spanish expulsion, Lutheran tracts, Voltaire's essays, German philosophical texts from Kant to Marx, Wagner's racial essays, the Protocols of Zion, and documents of Nazi anti-Semitism by Hitler and Streicher.

The major part of the grade will depend on a short research paper which will be presented in various drafts, so that the final version represents the culmination of discussion and constructive criticism and advice. This course is a parallel course to J ST/HIST 416 (Zionist History) and J ST/HIST 118 (Modern Jewish History). This course will count toward the Religious Studies, Jewish Studies, and History majors and minors in the 400-level category.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 410 (US;IL) (J ST 410, RL ST 410) Jews in the Medieval World (3) Trends in medieval Jewish society under Islam and Western Christendom.

HIST 410 Jews in the Medieval World (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Jews lived in widely scattered communities under Christian and Islamic rule in the medieval period. This course will examine how Jews adapted the traditions they developed in Palestine and Babylonia in the early centuries C.E. to the new conditions they encountered in Europe and the Mediterranean region from the ninth to the fifteenth centuries. It will focus on the general problem of how traditional societies survive in rapidly changing circumstances, particularly when their members are a minority population. The course will aim at developing students' skills in comparative analysis as they compare the adaptive strategies of Jews in different cultural spheres (the Franco-German region versus Spain, for example). They will also be asked to compare the different polemical stances Jews adopted vis-a-vis Christianity, on the one hand, and Islam, on the other. They will be encouraged to understand the ways in which Jews internalized certain aspects of the majority culture and rejected others. It is hoped that they will come to see how deeply Jewish history was intertwined with medieval Christian and Islamic history, despite inter-religious hostilities and the frequent need for Jews to defend against majority aggression.

Students will be evaluated on the basis of two mid-term exams (the first after the survey of the Muslim world, the second after the examination of the Franco-German region) and a comprehensive final exam.

The course will be linked to most of the courses taught in the field of Jewish Studies, especially J ST 111 (Early Judaism), J ST 114 (Modern Judaism), and J ST 118 (Modem Jewish History from 1492). It will also be linked to offerings in Religious Studies: RL ST 001 (Introduction to World Religions), RL ST 101 (Comparative Religion), RL ST 107 (Introduction to Islam), RL ST 124 (Early and Medieval Christianity), and RL ST 165 (Introduction to Islamic Civilization). Further, it would complement HIST 001 and 002 (The Western Heritage), HIST 107 (Medieval Europe), HIST 108 (The Crusades), HIST 407 (Early Medieval Society), HIST 408 (Church and State in the High Middle Ages), HIST 412 (Intellectual History of the Middle Ages), and HIST 471W (Classical Islamic Civilization, 600-1258).

The course will count for 3 credits toward: a) the 22 credits required for the minor in Jewish Studies, b) the 33 credits required for the major in Jewish Studies, c) the 30 credits required for the major in Religious Studies, and d) the 36 credits required for the History major. It will be offered once a year with an enrollment of approximately 60 students.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 412 (IL) Intellectual History of the Middle Ages (3) Intensive study of selected topics, such as philosophy, mysticism, heresy, the church, literary and artistic expression, and science.

Intellectual History of the Middle Ages (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 107

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 411 (IL) (MEDVL 411) Medieval Britain (3) Political, cultural, and economic history of Britain from circa 400 to 1485 with an emphasis on the kingdom of England.

Medieval Britain (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 6 credits in European history or medieval studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 413 (IL) (MEDVL 413) Medieval Celtic Studies (3) Celtic civilization from antiquity to the end of the middle ages.

Medieval Celtic Studies (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in medieval studies or in language literature or European history of the medieval period

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 414 (IL) Renaissance and Reformation (3) The transformation of consciousness from medieval to modern times, with special emphasis on Renaissance Italy and Reformation Germany.

Renaissance and Reformation (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 415 (US;IL) (AAA S 415) Race, Gender, and Politics in the United States and South Africa (3) This thematic course will compare key issues, figures, and events in the historical development of the United States and South Africa.

Race, Gender, and Politics in the United States and South Africa (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100, AAA S 102, AAA S 110, AAA S 192 orHIST 152

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 416 (J ST 416) Zionist History 1890-1948 (3) History of Zionist thought and politics to the foundation of Esrael 1948.

Zionist History 1890-1948 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 418 (IL) The French Revolution and the Napoleonic Era (3) Development of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.

The French Revolution and the Napoleonic Era (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 417 (IL) The Age of Absolutism (3) Seventeenth- and eighteenth-century royal absolutism in France, Prussia, and Austria; concurrent economic, social, and scientific developments; the Enlightenment.

The Age of Absolutism (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 418W (IL) The French Revolution and the Napoleonic Era (3) Developments of revolutionary France and the First French Empire and their impact on Europe from 1789 to the Vienna settlement.

The French Revolution and the Napoleonic Era (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: HIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 419 (US;IL) (WMNST 419) The History of Feminist Thought (3) A critical analysis of European and United States feminist thought from the renaissance to the present.

The History of Feminist Thought (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001 orWMNST 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 420 (IL) Recent European History (3) Impact of two World Wars in twentieth century; social conflict and economic catastrophe; political radicalism; post-1945 recovery and cooperation.

Recent European History (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in European history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 420W (IL) Recent European History (3) Impact of two World Wars in twentieth century; social conflict and economic catastrophe; political radicalism; post-1945 recovery and cooperation.

Recent European History (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: 3 credits in European history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 421 (IL) (WMNST 421) The History of European Women (3) European women's lives from the Middle Ages to the present.

The History of European Women (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001 orWMNST 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 423 (IL) Economic History of Europe Since 1750 (3) Comparataive history of industrialization process; monetary financial systems; business cycles; public finance; welfare and warfare economics; planning; labor organization.

Economic History of Europe Since 1750 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in European history or economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 422 (IL) Modernity and Its Critics: European Thought Since 1870 (3) Perceptions and critiques of modernity as seen in works of European cultural criticism, social theory, philosophy, and literature.

Modernity and Its Critics: European Thought Since 1870 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 002, HIST 120 or 3 credits in modern literature or philosophy or political or social theory

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 424H (J ST 424H, RL ST 424H, PHIL 434H) Monotheism and the Birth of the West (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.

HIST (J ST/RL ST) 424H (PHIL 434H) Monotheism and the Birth of the West (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Learn about the formation of Western culture while learning to analyze the texts and other evidence about its formation from a critical rather than naive viewpoint. The idea of monotheism probably arose very early, and was even briefly implemented as a state cultic policy in Egypt in the 14th century BCE. Why then did it take another seven centuries to become widespread--appearing in ancient Judah, Babylon and Ionia almost simultaneously? To answer this question, the course focuses on several developments through the medium of primary texts and archaeology: the shift from a state hinterland based in extensive agriculture and household processing to one organized for intensive agriculture and industrial processing the rise of recognizably modern science; the promotion of individuation and an international elite culture in the context of Assyrian and Babylonian imperial ambitions; the development of the historical and archaeological arts in the context of archaizing in order to re-invent local traditions; and the socialization of monotheism and of democracy. Students will be evaluated on their discussion of the textual evidence as well as on reports in class and a final paper. This is the sole honors course treating the birth of the West. It expands on knowledge acquired in courses listed as prerequisites and in ANTH/CAMS 012; CAMS 044; ANTH/CAMS 133; CAMS/PHIL 200; HIST 100; HIST/J ST 102; and PHIL 200 and enriches the student experience in CAMS 400, CAMS 440, CAMS 480; HIST 402; J ST 411; PHIL 437; PHIL 453, and PHIL 461. This course counts toward the major in Jewish Studies, History, and Religious Studies and toward the minor in Jewish Studies and Religious Studies.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002
Prerequisite: CAMS 004, CAMS 110, CAMS 120 orHIST 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 425 (IL) Work and Leisure in Industrial Europe (3) Impact of industrialization on the workday and the changing role of leisure and family life, 1700-1960.

Work and Leisure in Industrial Europe (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 426 (US) (ADM J 426, J ST 426) Jewish/American Organized Crime in New York City (3) History of Jewish/American organized crime in New York City from 1890 through the Great Depression.

**HIST (ADM J/J ST) 426 Jewish/American Organized Crime in New York City (3)
(US)**

(BA) This course meets the Bachelor of Arts degree requirements.

This course will be dealing with the history of Jewish/American organized crime in New York City from 1890 through the Great Depression. As such it will also be dealing with the social, political, and economic history of New York. The course will cover the rise of Jewish/American racketeers within New York, their political and policing patrons, types of criminal enterprise including the formation of narcotics syndicates, their involvement in New York's burgeoning labor movement especially garment and trucking unions, the under explored roles of Jewish/American female organized criminals, the impact of Prohibition on New York's Jewish/American underworld, their overseas Jewish contacts in the Far East, particularly Shanghai who specialized in smuggling opium, heroin, and weapons.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 427 (IL) Germany Since 1860 (3) Bismarckian power-state; rise to economic dominance; welfare and warfare under Weimar republic and Hitler; post-1945 reconstruction and democracy.

Germany Since 1860 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in European history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 428 (IL) (S T S 428) The Darwinian Revolution (3) The origins and implications of evolutionary theory.

The Darwinian Revolution (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: an introductory science course and a history course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 429 Europe in the Age of Nationalism, 1789-1914 (3) Emphasizing the role of nationalism in European cultural, diplomatic and imperial developments; concurrent economic and social changes.

Europe in the Age of Nationalism, 1789-1914 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 430 (IL) Eastern Europe in Modern Times (3) Influence of geography, economic conditions, and nationalism upon the Eastern European and Balkan peoples; Pan-Slavism, conflicting interests of the great powers.

Eastern Europe in Modern Times (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 431 (US;IL) (AAA S 431) Black Liberation and American Foreign Policy (3) This course deals with American foreign policy and Black liberation in Africa since 1945.

HIST 431 Black Liberation and American Foreign Policy (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Black Liberation and American Foreign Policy in Africa since 1945 presents an interdisciplinary approach to the study of American foreign policy in Africa. Course readings will consist of both secondary and primary sources to explore the evolution of American policy toward the continent over the last half-century, and the meaning of the American engagement with Africa for American politics and society.

The course will also examine the reasons that Africa has served as a focus of concern among African Americans both prior to, and, over the period 1945 to the present. Of particular concern will be the ways in which American policy has reflected pressures from African Americans as a constituency in foreign policy.

The focus of the course will be student-centered written research and discussion. Students will be required to select topics from the course outline for presentation in class with the instructor serving as the moderator of discussion and guide to relevant research materials. Students will be encouraged to use both primary and secondary sources for their research. Students will be expected to prepare two individual written presentations which will serve as the basis for class discussion (30% of the grade), a book review (10% of the grade), and a research paper of 15 pages (40% of the grade) on a topic drawn from the areas identified in the course outline. The final 20% of the grade will be awarded for participation in class discussion.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: 3 credits in African history; 3 credits in African political science; or 3 credits in American political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 432 (IL) (AAA S 432) Between Nation and Empire: The Caribbean in the 20th Century (3) An exploration of the political evolution of the Caribbean Region over the course of the 20th Century.

HIST (AAA S) 432 Between Nation and Empire: The Caribbean in the 20th Century (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the political evolution of the Caribbean Region over the course of the 20th century. Its focus will be the ways in which imperial rule and the search for national identity have been the parameters that have shaped Caribbean political history over that period. Students will explore, in written assignments and class presentations, the ways in which the region which has historically been a theatre of confrontation among the major powers in the international system continued to serve that role over the course of the 20th century. The costs that have been borne by the people of the region from these conflicts have been enormous and crippling for several societies, especially Haiti, Cuba, Jamaica, and the Dominican Republic. Among those costs have also been the continued dependence of these societies upon human migration, limited economic strategies of transformation, increasing levels of poverty, and the emergence of a wide variety of political systems that reflect different historical experiences, demographic diversity, varying levels of political autonomy, and a remarkable level of cultural similarities. Evaluation will be based upon two class presentations; one research paper and class participation. The course will be required for students pursuing the African Diaspora minor and for those seeking to broaden their diversity requirements. It can be used to meet non-Western history requirements in the History major.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: HIST 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 433 (IL) Imperial Russia, 1700-1917 (3) Enlightened absolutism, mercantilism, westernization; economic progress, liberal reforms, and revolutionary movement; major intellectual and cultural trends; Russia as great power.

Imperial Russia, 1700-1917 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 434 (IL) History of the Soviet Union (3) Revolution; social, political, economic, and cultural continuity and change in the U.S.S.R. since 1917.

History of the Soviet Union (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 141 orHIST 142

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 436 (IL) Great Britain Under the Tudors and Stuarts, 1485-1688 (3) Religious, political, and constitutional developments in the British Isles.

Great Britain Under the Tudors and Stuarts, 1485-1688 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 435 Topics in European History (3 per semester/maximum of 9) Study of a particular period or country in European history, its significance and relation to other areas and the present. (May be repeated for credit.)

Topics in European History (3 per semester/maximum of 9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HIST 001 orHIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 437 (IL) Great Britain 1688-1867 (3) Social, economic, and political history of Great Britain from late Stuart times until the mid-Victorian era.

Great Britain 1688-1867 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 438 (IL) Great Britain 1867-Present (3) Social, economic, and political history of Great Britain from the mid- Victorian era to the present.

Great Britain 1867-Present (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 001 orHIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 441 (US) Revolutionary America, 1753-1783 (3) Forces in Great Britain and America causing withdrawal of thirteen colonies from the British Empire and the Revolutionary War.

Revolutionary America, 1753-1783 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 3 additional credits in history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 440 (US) Colonial America to 1753 (3) Background, establishment, and growth of the American colonies, including economic, political, social, religious, and intellectual developments.

Colonial America to 1753 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 3 additional credits in history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 442 (US) The Early American Republic, 1783-1850 (3) Confederation and Constitution; the Federalist and Jeffersonian periods; "the Era of Good Feelings"; "the Age of Jackson."

The Early American Republic, 1783-1850 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in American history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 444W (US) The United States in Civil War and Reconstruction--1850-1877 (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of reconstruction.

The United States in Civil War and Reconstruction--1850-1877 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: HIST 130 orHIST 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 444 (US) The United States in Civil War and Reconstruction--1850-1877 (3) Causes of the Civil War; conduct of the war, North and South; impact of the war; problems of Reconstruction.

The United States in Civil War and Reconstruction--1850-1877 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 130

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 445 (US) The Emergence of Modern America (3) Economic, social, political history of the United States, 1877-1919, emphasizing growth of industrialism and development as a modern nation.

The Emergence of Modern America (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 021 3 additional credits in history economics or political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 446 (US) America Between the Wars (3) The Roaring Twenties, the Great Crash, Depression, and New Deal; war debts, reparations, isolationism, and World War II.

America Between the Wars (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 448 (US) America in the 1960s (3) Social, political, and cultural themes in the United States in the 1960s.

America in the 1960s (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 447 (US) Recent American History (3) Contemporary economic, social, and political aspects of the United States and its role as a world power since 1945.

Recent American History (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 021 3 additional credits in history economics or political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 449 (US) Constitutional History of the United States to 1877 (3) Colonial background; framing and adoption of the constitution; development of the court under Marshall and Taney; sectionalism, Civil War, Reconstruction.

Constitutional History of the United States to 1877 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021 3 additional credits in history or political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 450 (US) Constitutional History of the United States Since 1877 (3) Constitutional developments from laissez-faire to the welfare state; imperialism, war, internationalism; the contemporary court, civil liberties, and civil rights.

Constitutional History of the United States Since 1877 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021 3 additional credits in history or political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 451 (US) The Consumer Revolution (3) The origins and impact of American consumer society since 1870.

HIST 451 The Consumer Revolution (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This lecture course shows how the United States became a nation of consumers from 1870 to the present. It is designed both for the business and communications student as well as the liberal arts major. The origins of department stores, name-brand goods, fast-food chains, modern advertising, and mass entertainment show us how American business and culture was transformed by the consumer revolution. We will explore how the automobile became the leading consumer good of the 20th century and analyze its impact on how Americans shopped. The rise of advertising and its linkage to home-based mass entertainment through the radio and TV will interest us. We will also consider how events like the Great Depression, World War II, the counter-cultural movement of the 1960s, the energy crisis of the 1970s, and the economic deregulation of the 1980s and 90s shaped consumer attitudes and advertising. " The Consumer Revolution" also briefly explains how American consumer culture has been globalized (with companies like Coca Cola, Disney, and Ford).

The course also explores how new consumer goods shaped the experience of childhood, youth, family and home life, and retirement. In particular, we will consider how youth-oriented goods in fashion, foods, and entertainment created a unique youth consumer culture. Also important are the intellectual debates about the meaning and value of consumer society: Is mass consumption the real meaning of American democracy or is it a perversion of it? Are consumer needs unlimited and where does the desire for goods come from? Because consumer society seemed to threaten so many traditional values, we will also analyze movements for restricting consumption. We will consider the origins and impact of Prohibition, dieting and health food crazes, and movements to restrict advertising and sale of goods like cigarettes.

In addition to lectures and visual presentations in class, students will read chapters from major studies of the above topics, some of which will be discussed in class. Grades will be based on performance in discussion and essay exams.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: three credits in history marketing or advertising

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 452 (US;IL) History of U.S. Foreign Relations (3) History of U.S. foreign relations since 1789; emphasis on twentieth century.

History of U.S. Foreign Relations (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 454 (US) American Military History (3) Development of U.S. military policy, 1776 to the present, emphasizing the conduct of our wars, interrelationship of civil and military authority.

American Military History (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 020 orHIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 453 (GEOG 407) American Environmental History (3) The history of the ways Americans have used and thought about the environment since 1500.

American Environmental History (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 1998
Prerequisite: GEOG 030, LARCH 003 ; andHIST 020, HIST 021 ; or 6 credits in the humanities or social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 456Y (US) The Social History of American Vernacular Building, 1607-1980 (3) Social, historical, and cultural context of American building including settlements, housing, workplaces, stores, recreational facilities; changes over time.

The Social History of American Vernacular Building, 1607-1980 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in American history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 457 (US;IL) (S T S 457, WMNST 457) The History of Women in Science (3) Critical analysis of the roles women, gender, and minorities have played in natural sciences.

The History of Women in Science (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001, WMNST 003 orWMNST 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 458Y (US) (LER 458Y) History of Work in America (3) A study of selected problems in the history of work in the United States, especially since 1877.

History of Work in America (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: HIST 021, HIST 156 orLER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 459Y (US) Social and Cultural History of the United States Since 1783 (3) Role of immigration, social reform movements, religion, education, science, literature, and the arts in American history.

Social and Cultural History of the United States Since 1783 (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 460 (US;IL) United States Foreign Intelligence (3) Aims, methods, and organization of U.S. foreign intelligence from the American Revolution to the Cold War and beyond.

United States Foreign Intelligence (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 462 (US;IL) The Twentieth Century City (3) Political, economic, social, and cultural transformations in American cities from 1880 to 2000.

The Twentieth Century City (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 461 (US;IL) The Emergence of the American City: 1100-1880 (3) The growth of American cities from their urban origins in Europe and the Native-American Southwest to 1880.

The Emergence of the American City: 1100-1880 (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 463 (US) American Thought to 1865 (3 Introduction to, scholarly commentary on, major documents of American Intellectual history, early colonial period to end of the Civil War.

HIST 463 American Thought to 1865 (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

To offer such a course without some treatment of race, class, and gender diversity would be undesirable indeed, irresponsible. The movements for the abolition of slavery, for women's rights, and for the rights of workers will receive prominent and necessary attention. The history department does not, however, seek to invade the territories of programs and/or departments that are primarily concerned with women and racial or ethnic minorities. This course will cover such material in ways specifically appropriate to the contacts with American-Indian, Asian-American, African-American and Spanish-speaking populations.

This course will focus on documents produced by men and women of various class and ethnic backgrounds who are assumed to have participated actively in the American intellectual tradition. Discussions of the ideas and publications of well-educated individuals will to some extent dominate the content of the proposed course. Thus, for obvious reasons, it must address the historical importance of documents such as Thomas Jefferson's Notes on the State of Virginia, and Harriet Beecher Stowe's Uncle Tom's Cabin. These documents are of unquestionable importance to American intellectual history, but due to constraints of time, it is not always possible to discuss their historical importance as cultural documents in the existing American history courses. A highly literate African-American essayist like Francis Ellen Watkins Harper is also an obvious candidate for inclusion in this course. A less educated person like Anna Murray Douglass, although she was an important and interesting figure, whose life and values merit serious reflection, could hardly have left behind a body of writings. Francis Harper, on the other hand, commented significantly on the ideological movements of her times. The course is admittedly biased in favor of highly literate historical figures, who interacted with the traditions of American thought and writing.

An example of evaluation methods would be: Students will be expected to write a mid-semester and a final examination, and to prepare a written paper outside of class. Graduate students will be expected to draft a potentially publishable article, which may be archival, historiographical, or interpretive.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: any American history course at the college freshman level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 464 (US) American Thought from 1865 (3) Introduction to, scholarly commentary on, major documents of American Intellectual history from end of the Civil War to the present.

HIST 464 American Thought from 1865
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

HIST 464 is intended to fill several needs. First, to introduce advanced undergraduates and beginning graduate students to documents of American thought of the sort collected by David A. Hollinger and Charles Capper in the American Intellectual Tradition (New York: Oxford University Press, 1989). Second, to offer a systematic survey of a standard area of American history that students might wish to approach as a coherent field. Third, to provide students with exposure to the bibliography and the historiography of American intellectual history as an established sub-field of American history. It is intended that either semester of the course may be elected independently of the other.

An example of evaluation methods would be: Students will be expected to write a mid-semester and a final examination, and to prepare a written paper outside of class. Graduate students will be expected to draft a potentially publishable article, which may be archival, historiographical, or interpretive.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: any American history course at the college freshman level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 465 (US) (AAA S 465) Civil Rights and American Politics 1933-1968 (3) The civil rights struggle and its impact upon American politics.

HIST 465 Civil rights and American Politics 1933-1968 (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

Students will be encouraged to explore the period over which the civil rights of African Americans and other Americans of color emerged as permanent features of American political and social life. They will be asked to think systematically about the, transformation of American society over the course of the 20th century from a society based upon the constitutional sanction 'white supremacy' and 'racial segregation' to one in which ethnic pluralism and equality of races have become the principles accorded increasing legitimacy in principle, if not in fact. They will also be encouraged to explore the process of political realignment within the major parties, the Democrats and Republicans, and the ways in which the politics of race have been instrumental in shifting the electoral strategies and ideological debates within and between the parties.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: AAA S 100, HIST 021, HIST 152, PL SC 001 orPL SC 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 466 (US;IL) (WMNST 466) Lesbian and Gay History (3) Critical exploration of the history of sexuality, focusing especially on the emergence of modern lesbian and gay identities.

HIST (WMNST) 466 Lesbian and Gay History (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the relationships in different cultures and historical periods between the dominant culture and homosexuals, whom the culture deemed, at different times, sinful, deviant, criminal or, more recently, a minority community. Students will confront the very nature of difference, and how it has been played out in European and American history. The course will challenge students to deal with how societies define difference itself; how they isolate or punish deviants; and how the creation of the "homosexual" helped establish not simply difference but "normalcy" in a highly sexualized modern culture. Finally, the course will explore notions of identity itself, focusing on the creation of a modern gay and lesbian identity and its impact on broader questions of gender, community, civil rights, and political discourse in the United States.

An example of evaluation methods would be: course presented in a seminar format with grades based on class participation, brief analytical papers, and a longer research or historiographic paper. This course will fulfill a requirement for 400-level courses in both History and Women's Studies majors.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: HIST 117, WMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 467 (US;IL) (LTNST 467) Latin America and the United States (3) Historical development of policies of the United States with regard to Latin- American affairs from colonial times to the present.

Latin America and the United States (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 468 (IL) Mexico and the Caribbean Nations in the Twentieth Century (3) Political, economic, and social development in Mexico and the Caribbean since 1900. Emphasis on Mexican, Guatemalan, and Cuban revolutions.

Mexico and the Caribbean Nations in the Twentieth Century (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 469 (CRIMJ 469) Drugs and Drug Policy in the United States (3) Examines the history and dimensions of drug use and analyzes the impact of drug policy.

HIST (CRIMJ) 469 Drugs and Drug Policy in the United States (3)

For nearly a century, the United States has been waging its version of a hundred years' war on drugs, spending billions of dollars and incarcerating thousands of offenders while failing to significantly reduce the use of illicit drugs. This course examines drug use in a historical context while addressing the changing nature and dimension of drug use, including the pharmacology of drugs, patterns of drug use, and sentencing policies. Because drug control is inextricably linked to social, political, and public policy, the course will provide the student with a foundation for critical thinking and rational decision making relative to the efficacy of the various drug control initiatives. Since drugs seemingly permeate every level of American society and directly or tangentially touch most Americans' lives, issues such as drug testing in the workplace, the use of drug courier profiles, legalized medical marijuana, and needle exchange programs are evaluated. Students will be expected to learn the pharmacology of various drugs, the history of drug use in the United States since the colonial era, the evolution of federal drug agencies, and acquire knowledge about contemporary drug issues. They also will be expected to develop and strengthen their critical thinking skills as they assess the consequences of implementing particular anti-drug policies and their impact on reducing the use of illicit drug use. An example of the evaluation methods would be: students will be evaluated on the basis of three exams and four "think pieces" (requiring students' critical responses to an assigned topic) scheduled throughout the semester. Class attendance also will influence the grade.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: CRIMJ 100 orHIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 470 Modern Bondage: Slavery in the Americas, 1492-1888 (3) The work, culture, ideology, and political economy of slavery in the Americas between 1500 and 1888.

Modern Bondage: Slavery in the Americas, 1492-1888 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2007
Prerequisite: HIST 011, HIST 020, HIST 152, HIST 178 orHIST 192

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 471Y (IL) (RL ST 471Y) Classical Islamic Civilization, 600-1258 (3) Pre-Islamic Arabia; Muhammad; Arab conquests; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.

Classical Islamic Civilization, 600-1258 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 472 (IL) The Ottoman Empire and Other Muslim States (3) Turkish and Mongol invasions; Mamluks; Ottoman expansion and institutions; Safavid Persia; disintegration and reform; emergence of modern Turkey and Iran.

The Ottoman Empire and Other Muslim States (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: HIST 181

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 473 (IL) The Contemporary Middle East (3) Political, economic, and social changes in Turkey, Iran, Israel, and the Arab countries in the twentieth century; Arab-Israeli conflict.

The Contemporary Middle East (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 475Y (IL) The Making and Emergence of Modern India (3) India's transition to social, economic, and political modernity through the experience of British colonial rule and the nationalist struggle.

The Making and Emergence of Modern India (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 010, HIST 011, HIST 172, HIST 175, HIST 176, HIST 181 orHIST 191

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 477 American Military History to 1900 (3) Development of United States military policy, 1776-1900, emphasizing conduct of wars, interrelationship of civil and military authority.

American Military History to 1900 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 478 American Military History Since 1900 (3) Development of United States military policy in the 20th and 21st centuries, emphasizing conduct of wars, interrelationship of civil and military authority.

American Military History Since 1900 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 479 (IL) History of Imperialism and Nationalism in Africa (3) Theories and types of imperialism; varied patterns of colonial administration; initial African responses; nationalism; decolonization and independence.

History of Imperialism and Nationalism in Africa (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: HIST 191

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 480 (IL) Medieval Japan (3) An overview of Japan between 1150-1550, a period of political decentralization, cultural efflorescence, and social change.

Medieval Japan (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 107, HIST 172, HIST 174 orHIST 407

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 481 (IL) Modern Japan Since 1800 (3) The transformation of Japan from a pre-modern, isolated, and agricultural nation into a highly industrialized world power.

Modern Japan Since 1800 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 172, HIST 174 orHIST 175

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 483 (IL) Chinese Society and Culture to 1800 (3) The social, political, and cultural issues and developments from ancient to the late-imperial times.

Chinese Society and Culture to 1800 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: HIST 174

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 485Y (IL) Nineteenth-Century China (3) Ch'ing society and institutions; "opening" to the west; imperialism; domestic upheaval and its effect upon Chinese society; reform movements.

Nineteenth-Century China (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: HIST 175 orHIST 300H (Honors in East Asian history)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 484Y (IL) History of Chinese Thought (3) A study of the dynamic historical development of Chinese thought with its diverse expressions from antiquity to the present.

History of Chinese Thought (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: HIST 174 orHIST 175

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 486 (IL) Twentieth-Century China (3) China from the Republican Revolution of 1911 to the present; nationalism, cultural change; development of communism.

Twentieth-Century China (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: HIST 175 orHIST 300H (Honors in East Asian History)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 487 American Diplomacy, 1776-1914 (3) Developments in the foreign policy of the United States from independence to the eve of World War I.

American Diplomacy, 1776-1914 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HIST 002 orHIST 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 488 American Diplomacy Since 1914 (3) Developments in the foreign policy of the United States since the eve of World War I.

American Diplomacy Since 1914 (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HIST 002 orHIST 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 490 (L ST 490) Archival Management (1-3) Introduction to the principles and procedures in the management of archives and historical manuscripts.

Archival Management (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 491 (IL) British Civil Wars and Revolutions, 1639-1651 (3) This is an advanced course on the history of the general crisis in the British Isles, from the outbreak of war between England and Scotland in 1639 to the securing of the Commonwealth regime following the desstruction of the last major royalist army in 1651.

HIST 491 British Civil Wars and Revolutions, 1639-1651 (3) (IL)

This course, which satisfies the International Cultures (IL) requirement, is an advanced course on social, political, and cultural aspects of the British civil wars and revolutions during the late 1630s and 1640s, including the transformation of regimes in England, Scotland, and Ireland. It will explore major developments in the history of political culture as well as the experience of civil war in the many different kinds of communities in Britain and Ireland. The course will focus on the English civil war as the decisive arena of conflict but will not neglect important developments in Scotland and Ireland, including the emergence of early national political forms among the Scots covenanters and the Irish confederates. Although traditional political and military approaches to the conflict are not ignored, the course explores in greater detail the many different forms of violence characteristic of these wars--including local feuds, iconoclasm, ethnic violence, and judicial murder--as evidence of efforts to restore or rebuild communities in the midst of general crisis. The course is open to students who have taken one of the following: History 2, History 134, or History 436.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: HIST 002, HIST 134 orHIST 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 493 Preceptorship in Teaching (3-6) Supervised experience in research of teaching under the guidance of an approved faclty member.

Preceptorship in Teaching (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1997
Prerequisite: 3 credits in course-work related to the teaching or research subject

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 492 (IL) Witchcraft in Early Modern Europe (3) Survey of the social, economic, political, and religious conditions of accusations and prosecutions of witchcraft in western Europe and north America, from 1500 to 1700.

HIST 492 Witchcraft in Early Modern Europe (3)
(IL)

This course, which satisfies the International Cultures (IL) requirement, is an advanced course in early modern European and, to a lesser extent, early American history, focusing on the problem of witchcraft and open to students who have taken the introduction to modern European history in History 2, Western Civilization from 1500. The course examines the evidence of beliefs and stereotypes, practical uses and remedies, accusations, and trials, as well as the diverse approaches historians and anthropologists have used to understand this evidence. Using a range of primary sources and secondary texts, the course explores the accusations, trials, and executions for this unique crime as expressions of the complex interrelationship between early modern neighborhoods and nascent political states. This wide range of evidence will make witchcraft into a prism, through which students will examine the processes of religious/theological, philosophical, political, and socioeconomic change in western Europe and north America during the sixteenth and seventeenth centuries. The course stresses the interrelationship of materials from history, religion, literature, and the social sciences, challenging students to assess this evidence, to define common themes, and to understand the importance of unique historical conditions.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: HIST 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: prior written approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497A The Spanish-Speaking Caribbean and Its Diaspora (3) This course will examine the nineteenth and twentieth century history of Cuba, Santo Domingo, and Puerto Rico, including the emigration and founding of Spanish-Caribbean diasporas in the United States.

The Spanish-Speaking Caribbean and Its Diaspora (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497B Ethnic Nationalism and Global Conflict (3) This course examines the rise of ethnic nationalism in the twentieth century and explores its wide-ranging consequences.

Ethnic Nationalism and Global Conflict (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497C Slavery in the Americas, 1492 - 1888 (3) This course examines the rise, expansion, and destruction of African slavery in the Americas.

Slavery in the Americas, 1492 - 1888 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497D The Arab World and the US: From Barbary Pirates to the Global War on Terror (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

The Arab World and the US: From Barbary Pirates to the Global War on Terror (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497E (C I 497E, A ED 497E) Consuming Child (3) Explores linkages between new ideas about childhood and commerical/media culture since the Enlightenment through sponsored guest presentations and readings.

Consuming Child (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497E Chinese Society and Culture to 1600 (3) Exploration of Chinese history to 1600, including early civilizations, bureaucratic empire, phiosophy and religion, society and economy, and foreign relations.

Chinese Society and Culture to 1600 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497F Global History of Medicine (3) A crosscultural and comparative perspective on how society and culture have shaped the experience of the body, health, illness, and cure throughout human history.

Global History of Medicine (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 497G US Relations with the Middle East (3) Seminar on history of American diplomatic, military, political, and economic relations with Middle Eastern countries from 1776 to the present.

US Relations with the Middle East (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 499 (IL) Foreign Study--History (1-6) Study in selected foreign countries of various periods and topics in history.

Foreign Study--History (1-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 499C (IL) (CAMS 499C, J ST 499C) Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.

Archaeological Field School (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 499D (IL) (CAMS 499D, J ST 499D, ANTH 499D) Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.

Conservation and Public Archaeology (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

History (HIST)

HIST 499E (IL) (RL ST 499E, CAMS 499E) Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.

Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: 3 credits in the appropriate introductory history course for the geographic location specified

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Homeland Security (HLS)

HLS 410 Public Health Preparedness for Disaster and Terrorist Emergencies I (3) Analyzes the history of terrorism and explores the preparation and response to specific terrorist threats, natural disasters, and conventional catastrophes.

HLS 410 Public Health Preparedness for Disaster and Terrorist Emergencies (3)

This course introduces students to the preparation and response to necessary to deal with specific terrorist threats, such as chemical, biological, and radiologic agents, as well as conventional civilian attacks. Students will analyze the history of terrorism from a public health perspective, and examine recent domestic and international terrorist incidents. The coordination and planning of specific natural disasters will also be explored. Students will have the opportunity to examine the consequences of conventional civilian disasters, including crisis management of conflict-related disasters and transportation and industrial related catastrophes. The current state and inherent challenges of drug, vaccine, and laboratory response to disasters will be reviewed. Students will also be introduced to models used to predict mass casualties.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Fall 2010
Prerequisite: Undergraduate StudentsBIOL 011 andBIOL 012 orCHEM 110 andCHEM 111 orMICRB 106 andMICRB 107 ; Graduate Students - Enrollment in the MHS program the Post- Baccalaureate Credit Certificate in Homeland Security or permission from the instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Homeland Security (HLS)

HLS 410 (PHP 410) Public Health Preparedness for Disaster and Terrorist Emergencies I (3) Analyzes the history of terrorism and explores the preparation and response to specific terrorist threats, natural disasters, and conventional catastrophes.

HLS 410 Public Health Preparedness for Disaster and Terrorist Emergencies (3)

This course introduces students to the preparation and response to necessary to deal with specific terrorist threats, such as chemical, biological, and radiologic agents, as well as conventional civilian attacks. Students will analyze the history of terrorism from a public health perspective, and examine recent domestic and international terrorist incidents. The coordination and planning of specific natural disasters will also be explored. Students will have the opportunity to examine the consequences of conventional civilian disasters, including crisis management of conflict-related disasters and transportation and industrial related catastrophes. The current state and inherent challenges of drug, vaccine, and laboratory response to disasters will be reviewed. Students will also be introduced to models used to predict mass casualties.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: Undergraduate StudentsBIOL 011 andBIOL 012 orCHEM 110 andCHEM 111 orMICRB 106 andMICRB 107 ; Graduate Students - Enrollment in the MHS program the Post- Baccalaureate Credit Certificate in Homeland Security or permission from the instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 201 Developing Critical Thinking for Leadership (1) Discussions on various topics using critical thinking skills to make informed leadership decisions.

HONOR 201 Developing Critical Thinking for Leadership (1)

In this course, first-year members of the Presidential Leadership Academy will learn about and develop critical thinking skills to enable them to evaluate and analyze complex problems leading to the ability to make decisions. Upon completion of this course students are expected to be able to identify, evaluate, and construct inductive and deductive arguments; recognize and assess arguments in various forums of reasoning; distinguish the functions of language and its capacity to express and influence meaning; assess the value and credibility of sources; and understand and evaluate the options, consequences, values, and risks in making decisions. The format will typically include some lecture but will be largely discussion based. The course includes a mandatory field trip to various destinations. The emphasis is upon class participation, preparation, and reflection. Students are required to maintain a journal and analyze issues using the critical thinking skills developed in the course. Grading is based on journals and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: member of the Presidential Leadership Academy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 301H The Role of Knowledge in Society (3) An interdisciplinary study of a topic utilizing contributions from science/ engineering, business, public policy, behavioral sciences/education, and the humanities.

HONOR 301H The Role of Knowledge in Society (3)

This course is designed as an honors interdisciplinary study course composed of topics utilizing contributions from science/engineering, business, public policy, behavioral sciences/education, and the humanities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996 Ending: Summer 2010
Prerequisite: admission to Penn State Harrisburg Honors Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 301H The Role of Knowledge in Society (3) Honors interdisciplinary study of topics utilizing contributions from science/ engineering, business, public policy, behavioral sciences/education, and the humanities.

HONOR 301H The Role of Knowledge in Society (3)

This course is designed as an honors interdisciplinary study course composed of topics utilizing contributions from science/engineering, business, public policy, behavioral sciences/education, and the humanities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 401H Honors Seminar (3-6 per semester/maximum of 6) In-depth honors-level exploration of a topic or theme that crosses disciplinary boundaries; may be repeated for credit.

HONOR 401H Honors Seminar (3 per semester/maximum of 6)

Students will accomplish in-depth honors-level exploration of a topic or theme at the 400-level that crosses disciplinary boundaries. This course may be repeated for credit.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 401H Honors Seminar (3) An in-depth exploration of a topic or theme that crosses disciplinary boundaries; may be repeated for credit.

HONOR 401H Honors Seminar (3 per semester/maximum of 6)

Students will accomplish in-depth honors-level exploration of a topic or theme at the 400-level that crosses disciplinary boundaries. This course may be repeated for credit.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996 Ending: Summer 2010
Prerequisite: admission to Penn State Harrisburg Honors Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 493H Honors Service Learning (1-3) A supervised experience of doing service for campus or community welfare and analyzing related issues.

HONOR 493H Honors Service Learning (1-3 per semester/maximum of 6)

Students will have a supervised honors experience doing service, service learning, and/or public scholarship dedicated to improving campus or community welfare and then analyzing the related issues through structured reflection.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997 Ending: Summer 2010
Prerequisite: enrollment in the Penn State Harrisburg Honors Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 493H Honors Service Learning (1-3) A supervised honors experience doing service for campus or community welfare and analyzing related issues.

HONOR 493H Honors Service Learning (1-3 per semester/maximum of 6)

Students will have a supervised honors experience doing service, service learning, and/or public scholarship dedicated to improving campus or community welfare and then analyzing the related issues through structured reflection.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 494M Interdisciplinary Writing and Thesis Formulation (2) Seminar to help students approach interdisciplinary analysis, writing as interpretive process, and how to formulate a thesis project and proposal.

HONOR 494M Interdisciplinary Writing and Thesis Formulation (2)

This course is a seminar to help students understand various approaches to interdisciplinary analysis. The course helps students learn about writing as an interpretive process. The course helps students with the formulation of their honors thesis projects and proposals.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999 Ending: Summer 2010
Prerequisite: enrollment in the Penn State Harrisburg Honors Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 494M Interdisciplinary Writing and Thesis Formulation (2) Seminar to help students with interdisciplinary analysis, writing, and formulation of honors projects and proposals.

HONOR 494M Interdisciplinary Writing and Thesis Formulation (2)

This course is a seminar to help students understand various approaches to interdisciplinary analysis. The course helps students learn about writing as an interpretive process. The course helps students with the formulation of their honors thesis projects and proposals.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: admission to an honors program belonging to the Penn State Honors Consortium

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 495H Research Studies (1) A capstone seminar for honors students working on honors theses and projects to work together and learn about their research interests.

HONOR 495H Research Studies (1)

A capstone seminar for honors students working on honors theses and projects. Students work together and learn about their research interests.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HONOR 301H and enrollment in an honors program belonging to the Penn State Honors Consortium

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 495H Research Studies (1) A capstone seminar for honors students working on honors theses and projects to work together and learn about their research interests.

HONOR 495H Research Studies (1)

A capstone seminar for honors students working on honors theses and projects. Students work together and learn about their research interests.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Summer 2010
Prerequisite: HONOR 301H enrollment in departmental or honor thesis study

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 496H Honors Thesis (3) An opportunity to pursue an interdisciplinary thesis or research project among schools or division through the Honors program.

HONOR 496H Honors Thesis (3)

Students will learn research, creative activities, and writing techniques necessary for the pursuit and completion of an interdisciplinary honors thesis or honors research project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996 Ending: Summer 2010
Prerequisite: HONOR 301H senior standing and permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Honors (HONOR)

HONOR 496H Honors Thesis (3) Research, creative activities, and writing necessary for pursuit and completion of an interdisciplinary honors thesis.

HONOR 496H Honors Thesis (3)

Students will learn research, creative activities, and writing techniques necessary for the pursuit and completion of an interdisciplinary honors thesis or honors research project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HONOR 301H senior standing and enrollment in an honors program belonging to the Penn State Honors Consortium

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 101 (GN) Horticultural Science (3) Introduction to horticulture with emphasis on plant domestication, morphology, classification, world food crops, commodities, gardens, propagation, and agrochemicals.

HORT 101 Horticultural Science (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The course content of Horticulture 101, as indicated in the complete course outline, deals with the fundamental concepts and specialty areas, which contribute not only to the science and technology involved in horticulture but also to the art. It provides an overview of the role of various specialties of the natural sciences (e.g. plant morphology, physiology, taxonomy, genetics and nutrition, pest management, management and production of crops, landscaping and technology) relevant to a range of plant uses from medicinals and food production to the aesthetic benefits derived from plants. The course begins with the origin and domestication of plants followed by: A. An Overview of horticulture which includes an explanation of the horticulture industry, how to achieve success in horticulture and the relationship between horticulture and the environment; B. Science in horticulture which includes the classification of plants, plant propagation, plant nutrition, environmental factors affecting plant growth and development, plant growth regulators, post harvest physiology and pest management; C. Management and production of horticultural crops which include nursery, floral, turfgrass, vegetable, fruit and nuts; D. Landscaping including designing landscapes, xeroscapes and sitescapes, establishing and maintaining landscapes; and E. Concluding with Technology in horticulture. The course content additionally includes major areas of knowledge based on the fundamentals, universal concepts and achievements in the cluster of scientific disciplines comprising horticulture and provides students with the opportunity to appreciate that the origins, domestication and production of cultivated plants are the essence of human existence.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 120 Computer Applications for Landscape Contracting (2) Emphasis is placed on the use of commercial software used for landscape planning and estimating. Limited to Landscape Contracting majors only.

Computer Applications for Landscape Contracting (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 131 Herbaceous Perennial and Annual Identification (3) Herbaceous and annual plant identification; landscape use of herbaceous perennials and greenhouse and garden annuals.

Herbaceous Perennial and Annual Identification (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 127, BIOL 110 orHORT 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 138 Ornamental Plant Materials (3) Identification and description under spring conditions; discussion of cultural and aesthetic aspects of shrubs of value in ornamental plantings.

Ornamental Plant Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 137 Ornamental Plant Materials (3) Identification and description under fall conditions; discussion of cultural and aesthetic aspects of trees of value in ornamental planting.

Ornamental Plant Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 150 (GN) Plants in the Human Context (3) An introduction to the many fascinating and vital relationships between plants and human society.

HORT 150 Plants and Human Context (3)
(GN)

The objective of this course is to expose students to the pervasiveness and essentiality of plants in the human experience. Major topics include 1) human civilization as influenced by plants, 2) a history of food from plants, 3) chemicals from plants, 4) non-food plant uses, 5) current issues in plant production, and 6) current botanical issues of global concern. Specific topics range from botanical pharmaceuticals to global warming/use of biofuels, and from culture-specific rotten foods to genetically-modified plants. Students will be exposed to many basic concepts of plant ecology, ecosystem science, emerging technologies, and the criteria used to evaluate sources of scientific information as a natural consequence of studying the range of topics included in the course. Students completing the course will therefore be in an excellent position to intelligently select from the many botanically- and ecologically-oriented majors, minors and options available to them at Penn State. The format of the course consists primarily of lecture/discussions, and includes one team assignment (making a poster) and three individual projects (one page arguments) in addition to a midterm and a final exam. Student evaluations are based on individual exam scores (50%) and on team (20%) and individual (30%) projects.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 201 Applied Arboriculture (2) Overview of methods used to diagnose problems and provide for the long term care of large trees.

HORT 201 Applied Arboriculture (2)

The objective of this course is to provide students with the opportunity to develop an appreciation of the skills required to properly care for large trees. The course provides information that is especially useful to those in the Landscape Management option of the Landscape Contracting major. The course will provide an overview of the methods used to diagnose problems and provide for the long term care of large trees. Areas of emphasis will include accessing the upper parts of large trees; safety when working in and around large trees; and the proper selection, use, and maintenance of the equipment used in the arboriculture profession. The course will be taught each Fall semester and will have an enrollment limit of 18. Students will be evaluated by quizzes, exams, and laboratory assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: Students must be physically capable of safely handling a running chainsaw and pulling their weight up a rope.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 220 CAD Applications in Landscape Contracting (3) Application of computer-aided design software including AutoCAD and LANDCADD to landscape contracting.

CAD Applications in Landscape Contracting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: HORT 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 202 Plant Propagation (3) Principles and practices of asexual and sexual plant propagation.

Plant Propagation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 027, BIOL 110 orHORT 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 232 Horticultural Systematics (3) Fundamentals of horticultural crop plant classification and systematics. Examples chosen from fruits and vegetables, exclusive of subtropical and tropical fruit.

Horticultural Systematics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 238 (TURF 238) Turf and Ornamental Weed Control (3) Students will be introduced to the development of integrated weed management strategies utilizing a variety of cultural and chemical methods.

Turf and Ornamental Weed Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 250 Landscape Contracting Design/Build Principles (3) Introduction to the processes and principles of residential landscape site development, from initial client contact to implementation.

Landscape Contracting Design/Build Principles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 269 Residential Landscape Planning (3) Principles and techniques in landscape design; preparation of plans of small properties.

Residential Landscape Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: Landscape Contracting majors in the Design/Build Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 315 Environmental Effects on Horticultural Crops (3) Horticultural plants respond to the environmental factors of light, temperature, water, and fertilizer both in controlled and field environments.

Environmental Effects on Horticultural Crops (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: HORT 101, HORT 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 301 (FOR 301) Principles of Arboriculture (3) Overview of the concepts and methods prescribed for the evaluation and care of large trees in urban settings.

HORT (FOR) 301 Principles of Arboriculture (3)

The objective of the course is to introduce students to the theories and practices related to the care of trees in developed areas. The course provides information that is especially useful to those in the Landscape Management option of the Landscape Contracting major, and the Urban Forestry option of the Forestry major. This course will provide an overview of the concepts and methods prescribed for the evaluation and care of large trees in urban settings. Emphasis will be placed on maintaining the long-term health of large trees. Major topic areas will include methods for characterization of tree health, diagnosing problems in trees, the influence of environmental factors on tree health, and the assessment of hazard trees. Proper pruning techniques and factors to consider when making decisions regarding long-term tree care in urban areas will be discussed. The course will be taught each spring semester. Students will be evaluated by quizzes, exams, and laboratory assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: BIOL 110 andSOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 352 Flower Arranging (2) Floral design beginning with elements and principles of design. Flower arranging techniques as well as different styles of flower arrangements.

Flower Arranging (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 368 Landscape Planting Design (4) Basic planting design employing the use of indigenous and ornamental plants as design elements in the man-made environment. Intended for Landscape Contracting majors only.

Landscape Planting Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 269

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 390 Junior Seminar (1) Current issues in horticulture and agriculture.

Junior Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: FIFTH-SEMESTER STANDING

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 402W Plant Nutrition (3) Mineral nutrition of higher plants, including nutrient acquisition, transport, metabolism, and practical implications.

HORT 402W Plant Nutrition (3)

The course considers the mineral nutrition of higher plants from physiological, ecological, and agricultural perspectives. The first part of the course considers factors influencing the acquisition of mineral nutrients and their transport in the plant, including nutrient mobility in the soil, root biology, rhizosphere interactions, membrane transport, xylem, and phloem transport. Root symbioses and metabolic assimilation of N and S will also be discussed. The second part of the course gives an overview of mineral metabolism. The final third of the course illustrates the practical dimensions of plant nutrition. The diagnosis of nutritional disorders, nutrition, and yield, foliar fertilization, genetic aspects of plant nutrition, and nutrient cycling will be covered by lecture and laboratory exercises. Laboratory exercises demonstrate lecture topics and permit a "hands-on" involvement with the subject. Emphasis is placed on concepts and integrating principles rather than memorization of technical details.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: HORT 315 orBIOL 441, SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 407 Plant Breeding (3) The scientific principles and techniques of utilizing genetic variability in improving the heredity of plants for specific purposes.

HORT 407 Plant Breeding (3)

Horticulture 407 is a 3-credit course that is taught every spring semester and is required of horticulture undergraduate students at Penn State. This course also attracts upper-division and graduate students from other departments such as Agronomy, Biology, Forest Resources, Plant Pathology, Biochemistry, and Molecular Biology. The objectives of the course are to 1) develop an understanding of the role of genetics in plant breeding, 2) elucidate the diversity of plant characteristics which are subject to improvement, 3) review conventional and contemporary techniques for the development of new cultivars, and 4) present the opportunity for the student to effectively communicate scientific information in writing and through speaking. Horticulture 407 emphasizes basic principles of plant genetics and breeding and the utilization of molecular biology techniques for crop improvement. It includes two-hours of lecture and a two-hour laboratory-discussion session each week. Major topics of discussion during lecture periods include plant reproduction, genetic variation in plants, review of mitosis and meiosis, Mendelian genetics, linkage, and recombination, qualitative and quantitative traits, population genetics, cytogenetics, theory of selection and response to selection, heritability, review of statistical tools useful in plant genetics and breeding, systems of pollination controls in plants including self-incompatibility and male sterility, breeding methods for self- and cross-fertilized plants, and application of modern technologies, including molecular markers, marker-assisted selection, and genetic transformation, to crop improvement. The laboratory sessions are designed to complement the lectures and provide opportunities for hands-on experience. For example, students practice staining and counting plant chromosomes on microscope slides, self- and cross-pollination of different plant species, linkage mapping and analysis of plants for Mendelian segregation, inoculating plants with fungal pathogens and observing and evaluating plants for disease development, extracting DNA from plant tissue and separating DNA segments on agarose medium using gel electrophoresis, and practicing computer programs for gene mapping and analysis of Quantitative Trait Loci (QTLs). Furthermore, students are mentored to prepare a term paper on a plant breeding/plant genetics subject and to orally present their findings to the class using visual aids.

Student evaluation is based on two mid-term exams (each 100 points), one comprehensive final exam (200 points), 10 weekly homework or laboratory reports (for a total of 100 points), and a term paper (50 points for writing and 50 points for presentation). For the presentation, each student is required to turn in a 3-5 page write-up about a topic of interest.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 408 Landscape Plant Establishment and Maintenance (4) The principles and practices involved in the establishment of plants in the landscape, and their subsequent maintenance.

Landscape Plant Establishment and Maintenance (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: HORT 137 orHORT 138;SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 409 Landscape Plant Establishment and Maintenance Laboratory (1) Students will actively participate in the practices involved in the establishment of plants in the landscape, and their subsequent maintenance.

Landscape Plant Establishment and Maintenance Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: HORT 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 410W Issues in Landscape Contracting (3) This will be a survey of business management, regulatory, and environmental issues facing the landscape contracting profession. Laboratory.

Issues in Landscape Contracting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: HORT 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 420 Plant Growth Regulators (3) Plant growth regulators, their chemical and physical properties; general principles, practices, and applications in regulating plant growth and development.

Plant Growth Regulators (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 110 orHORT 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 412W Post-Harvest Physiology (3) Harvesting, handling, storage, and transportation of horticultural crops; primary emphasis on physiological response to pre- and post-harvest environmental factors.

Post-Harvest Physiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: 6 credits in horticulture or other plant sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 430W Landscape Maintenance and Management (3) Principles and practices in the maintenance and management of landscaped areas.

Landscape Maintenance and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101;HORT 137 orHORT 138

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 431 Small Fruit Culture (3) Cultural requirements and production practices of the principal small fruit crops: strawberries, grapes, blueberries, brambles, and cranberries.

Small Fruit Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 432 Deciduous Tree Fruits (3) Science, art, and techniques of regulated cropping; orchard designs and management systems.

Deciduous Tree Fruits (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 433 Vegetable Crops (3) Cultural requirements of important vegetable crops in conjunction with physiological processes and problems related to commercial production.

Vegetable Crops (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 444 Advanced Plant Breeding (4) Exploration of the interrelationships of genetic, cytological, physiological, and environmental factors in plant improvement. An individual research project is required.

Advanced Plant Breeding (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: HORT 407

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 440W Plant Water Relations (3) Fundamentals of plant water relations including acquisition, transport, conservation, response to drought, measurement of water status, relationship to productivity, interaction with mineral nutrition, and use of equipment.

HORT 440W Plant Water Relations (3)

On a world-wide basis, the greatest limitation to plant productivity is insufficient water. This course covers the fundamentals of plant water relations and is relevant to the study of natural and cultivated plant species. It will help students to appreciate variation among plant species in their strategies relating to water acquisition, storage, and use. The relationships between water and several important plant functions including nutrient uptake, photosynthesis, growth, and reproduction are also covered. Most material is given in lecture format with handouts. Students are also required to read and critique primary literature in this field. Students are evaluated on their performance on seven short exams and three written critiques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: BIOL 441 orBIOL 446 or permission of department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 445 Plant Ecology (3) Advanced lectures on plant ecology which stress integration of physiological, population-level and community-level phenomena, and ecology in agriculture.

Plant Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999
Prerequisite: BIOL 220W, FOR 308 orHORT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 450 Greenhouse Management (3) Maintenance and manipulation of the greenhouse production systems including structures, covers, light, temperature, carbon dioxide, water, growing media, fertilizer and greenhouse cost accounting.

Greenhouse Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 453 Flower Crop Production and Management (3) Production of greenhouse flower and foliage plants; development of management skills for a greenhouse business.

Flower Crop Production and Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 101, HORT 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 455 Retail Horticulture Business Management (3) The nature, operation, and management of retail horticulture business, emphasizing retail greenhouses, nurseries, and flower shops.

Retail Horticulture Business Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 131, HORT 137 orHORT 138 ; 3 credits of marketing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 457 Interior Plantscaping (3) Foliage identification, environmental factors affecting plants, concepts of interior plant design, installation and maintenance.

HORT 457 Interior Plantscaping (3)

Overview of where foliage plants are native will be followed by a discussion of how each environmental factor will affect foliage plant growth as well as how some of the environmental factors can be managed. Those factors will include light, temperature, humidity, growing media, watering, and fertilization. In addition the students will learn to identify 100 plants that are commonly used in interiors. Design principles will be related to interior plants. The process of analyzing the site, creating an interior plant design, installing the plan and maintaining the finished design will be discussed. Then diagnosing plant problems and integrated pest management will be presented as aspects of plant maintenance. Business principles related to the interior plantscaping industry such as management, marketing and selling and personnel management will be discussed. Students will be evaluated based on exams, quizzes and projects. The course will be offered in alternate spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HORT 101;HORT 202 orHORT 250 orHORT 269

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 464 Landscape Construction I (4) Standards, processes, and computations for site grading, drainage, earthwork, vehicular circulation, parking; detailing, and finishing of landscape construction materials.

Landscape Construction I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 269

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 459 (BIOTC 459, BIOL 459) Plant Tissue Culture and Biotechnology (3) Principles and techniques for the in vitro culture, propagation, and genetic manipulations of plant cells.

Plant Tissue Culture and Biotechnology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: BIOL 230W ; orB M B 251, B M B 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 466 Landscape Construction II (5) Project scheduling methods, plant installation techniques, and field layout principles and practices. Implications of site preparation.

Landscape Construction II (5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988
Prerequisite: HORT 464

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 490 Senior Seminar (1) Exploration of the interrelationships of horticulture, science, and society; evaluation of attributes and abilities related to various career opportunities.

Senior Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: HORT 390 seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 468 Landscape Estimating and Bidding (2) Reading and interpreting contract drawings and specifications, quantity take- offs, cost estimating, and bid document preparation.

Landscape Estimating and Bidding (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HORT 409 orHORT 466

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 495 Internship (1-13) Supervised off campus experience in a public or commercial horticultural enterprise. Written and oral critique of activity required.

Internship (1-13)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: approval of proposed assignment required prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Horticulture (HORT)

HORT 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 201 Introduction to Management in the Hospitality Industry (3) Introduction to the hospitality industry and hospitality management.

HRIM 201 Introduction to Management in the Hospitality Industry(3)

The objectives of this course are to provide an introduction to the hospitality industry, to management practices within the industry, and to the hospitality major. Students have an opportunity to learn about the functions of management; the major components of the hospitality, travel, and tourism industries; trade associations and publications; growth areas and trends; and the need for creative leadership. Main topics typically include:

Functions of management and functional areas of business segments of the hospitality industry
International business as related to hospitality
Services business
The planning process and strategic planning
Organization design in hospitality
Directing and leading in hospitality
The control process in hospitality
Hospitality, travel, and tourism industries
Hotels and lodging
The restaurant business
Managed services
Leisure and recreation/other hospitality opportunities
Beverage management
Management ethics and social responsibility

This course is an introduction to the field and is required of all hospitality majors. It is a prerequisite for many courses in the major. Students are evaluated based on examinations and exercise and homework assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Concurrent: HRIM 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 202 Colloquium in Hospitality Management (1 per semester, maximum of 4) Major industry and professional speakers lecture on current issues followed by discussion with students and faculty.

HRIM 202 Colloquium in Hospitality Management (1 per semester/maximum of 4)

This course has two primary objectives. First, students have an opportunity to hear from industry leaders. Second, students can determine their career directions, learn about the requirements for success in the industry, and identify career opportunities. The topics for the course vary from semester to semester depending upon the distinguished speakers who are brought to address the class. However, a common theme is trends in the industry regarding hotels, restaurants, and institutional foodservice. Students also may learn about related career opportunities, such as careers with cruise lines, travel agencies, and the like. This course is required of all hospitality majors and is a prerequisite for other courses. The course is often taken in conjunction with the introductory hospitality management course. Students are evaluated based on attendance and a paper.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 204 Hotel and Restaurant Marketing and Merchandising (3) Merchandising and marketing as a system concerned with motivating consumers to purchase hospitality products and services. This course will not meet the prescribed requirements for the HRIM major in any option.

HRIM 204 Hotel and Restaurant Marketing and Merchandising (3)

Hospitality marketing and one of its major activities, merchandising, is concerned with motivating consumers to purchase industry products and services. The objective of this course is to introduce students to a systems approach to marketing management and its tools for marketing hospitality products and services. This course allows students the opportunity to identify societal trends that have shaped the current hospitality marketplace as well as identify demographic, psychographic, and environmental factors that affect customer needs. Merchandising strategies are discussed as appropriate. Main topics include:
Principles of marketing, marketing orientation, and ethics in the marketing process
Services marketing, product marketing, and hospitality marketing process
Customer wants and customer needs and stages of buying
Marketing research for hospitality services industry (situation analysis, market analysis, and feasibility analysis) primary and secondary market research
Market segmentation, trends that influence services and shape the market
Marketing mix, marketing strategy, product life cycles, and steps in a marketing plan
Product/service mix, product development process, vertical and horizontal integration and partnerships
Applying the marketing mix to people - empowering employees, customer mix, total quality management
Applying the marketing mix to packaging, programming placement and their roles in marketing hospitality services, developing a package, distribution mix in hospitality, nature of packaging and programming
Applying the marketing mix to promotion, advertising public relations, publicity, merchandising, personal selling and sales promotion, promotional mix, elements in the communication process
Planning advertising, sales promotion, merchandising
Planning, publicity and public relations, personal selling
Applying the marketing mix to pricing - setting price, demand

The content of this course is considered fundamental for anyone in hospitality management. This course, or a course similar to it in Marketing is required of all Hotel, Restaurant, and Institutional Management majors. Evaluation methods usually include examination, quizzes, and short writing assignments. Case simulations involving group assignments are also sometimes used. The course is usually offered on the Penn State World Campus on an open enrollment basis and at Penn State Berks on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 250 (D S M 250) Principles of Quantity Food Production (3) Principles and methods of quantity food production including preparation techniques, quality control and evaluation, and cost control.

HRIM (D S M) 250 Principles of Quantity Food Production (3)

This course provides an understanding of basic food preparation principles including physical and chemical properties of food, preparation methods and equipment use for managers in restaurant and non-commercial food service operations. Main topics include sensory evaluation, food service equipment, standardized recipes, *mise en place*, cooking methods for principal food groups, menu development, food presentation, convenience foods, seasonings and flavorings, baking principals and current topics related to special diets and new developments in the food supply. Students will develop an understanding of control measures to insure food quality, nutrient retention and achievement of budgetary goals. The objective of this course includes developing a framework for a student to apply organizational skills to the food production worksite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 228 Hospitality Food Safety (1) Application of HACCP, U.S. Food Code, biosecurity and other federal regulations to hospitality foodservice operations. Students attain certification in foodservice sanitation.

HRIM 228 Hospitality Food Safety (1)

This course will examine the science associated with preparing and serving food that is safe for consumption with regards to biological, chemical, and physical contamination. Emphasis is on federal regulations associated with HACCP, the U.S. Food Code, and other issues associated with safety of the food supply in the U.S. Case studies help students apply food safety principles to hospitality operations. Students will attain certification in foodservice sanitation by taking the examination administered by the National Restaurant Association. Frequent quizzes will help students prepare for this national exam. This course will be taught each semester and successful completion plus achieving the foodservice sanitation certification is required as a prerequisite for HRIM 330.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 260 Hospitality Supervision Seminar (3) Hospitality management topics are discussed with a major emphasis on operations management. This course will not meet the prescribed requirements for the HR&IM major in any option.

HRIM 260 Hospitality Supervision Seminar (3)

This course is an introduction to human resource management in the hospitality industry. The course examines the fundamentals of supervision that include planning, basic management functions, and customer relations and service. The overall course focus is on building relationships with diverse employees through communication, motivation, supervision and leadership. Additional topics covered include the human resource environment in hospitality operations, employee recruitment, selection, orientation, training, empowerment, performance appraisals and discipline, risk management, and labor organizations.

An introductory supervision course is vital to the success of a hospitality student. It is important to explore this topic in relation to the labor trends in the United States. It is equally important to examine the current demographic and socio-economic conditions that the student faces. Knowing how to access this information in the future will assist the student throughout his/her career.

Emphasis will be placed on the diversity of the student as well as his/her employees and colleagues. Social identity is addressed early in the course. Human relationships and interactions are included throughout the course, as supervisors interact with their employees, colleagues, upper management and customers on a daily basis. Values, traditions, beliefs, and customs shape every human being and students will learn how to be sensitive to those differences through the practical applications in each lesson.

HRIM 260 Hospitality Supervision Seminar (3) This course is an introduction to human resource management in the hospitality industry. The course examines the fundamentals of supervision that include planning, basic management functions, and customer relations and service. The overall course focus is on building relationships with diverse employees through communication, motivation, supervision and leadership. Additional topics covered include the human resource environment in hospitality operations, employee recruitment, selection, orientation, training, empowerment, performance appraisals and discipline, risk management, and labor organizations. An introductory supervision course is vital to the success of a hospitality student. It is important to explore this topic in relation to the labor trends in the United States. It is equally important to examine the current demographic and socio-economic conditions that the student faces. Knowing how to access this information in the future will assist the student throughout his/her career. Emphasis will be placed on the diversity of the student as well as his/her employees and colleagues. Social identity is addressed early in the course. Human relationships and interactions are included throughout the course, as supervisors interact with their employees, colleagues, upper management and customers on a daily basis. Values, traditions, beliefs, and customs shape every human being and students will learn how to be sensitive to those differences through the practical applications in each lesson.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 270 Hospitality Administration Seminar (4) Components of food service systems are identified and studied as separate problems and as a total system. This course will not meet the prescribed requirements for the HRIM major in any option.

HRIM 270 Hospitality Administration Seminar (4)

The organization of a restaurant facility, from concept to operation, allows a student the opportunity to apply all previously learned course material in the Hotel, Restaurant, and Institutional Management program. The focus of the course urges the student to apply the principles of marketing, menu planning, food cost control, human resource management, financial accounting, layout and design, and purchasing. This course is presented in a seminar format and includes a restaurant design project. Students who have completed this course gain the perspective of designing a restaurant; facility with customers' needs and owners' profits in mind. Main topics include:
Marketing plan, business plan
Financing, leasing
Leasing, tax matters
Menu writing
Menu analysis, function analysis
Kitchen design, layout design conventions
Recruiting and staffing, training, developing
Food purchasing
Bar and beverage purchasing
Beverage and alcohol service
Budgeting and controlling costs

The content of this course is considered fundamental for anyone in hospitality management and, therefore is required of all Hotel, Restaurant, and Institutional Management majors. Evaluation methods usually include examinations, quizzes, projects, and short writing assignments. The course is usually offered every spring semester with ten students at Penn State Berks and on an open enrollment basis on Penn State World Campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: HRIM 250, HRIM 260 ; orHRIM 250, MGMT 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 271 Introduction to Hospitality Technology (2) Introduction to hospitality technology including computer applications, software, and hospitality information systems and applications.

HRIM 271 Introduction to Hospitality Technology (2)

This is an introductory-level required course in the HRIM curriculum. It is designed to introduce students to the technology used in the hospitality industry and to the concepts of information technology. Course objectives are to demonstrate how managers use technology, and how managers can use information to improve their company's position. The course will initially introduce students to their role of being a manager of information technology. The next topic will be to discuss the basic information technology terminology and database management concepts. To introduce students to basic computing and information technology principles; spreadsheet, presentation software, and web page publishing software will be used. Students will complete exercises using each of the major Office packages. The major section of the course will focus on hospitality-specific systems, such as reservations, point of sale, recipe, menu management, sales and catering, back office accounting, maintenance management, and nutrient analysis. Students will gain experience by either using or viewing demonstrations of these software packages in order to identify the manager's responsibility for information obtained and to analyze the output from these systems. Students will learn how these systems are integrated and how this integration affects the efficiency and effectiveness of the management function. The monitoring and control of the hospitality facility operations relies on an effective property management system. Students will use examples or case studies to discuss the value of successful implementation of information technology. The last topic covered will be the security issues related to the operation of a hospitality information system. The course is taught as a combination of lectures and labs, and is taught in a technology classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: prerequisite or concurrentHRIM 201, CMPSC 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 295W Analysis of Field Experience I (3) Capstone class integrating content from throughout the previous curriculum, including directed written analysis of the 500-hour hospitality working experience.

HRIM 295W Analysis of Field Experience I (2)

This course is designed for current and future operators of lodging, commercial, and on-site (institutional) operations. It will provide the opportunity for students to apply their theoretical knowledge from previous course work in the major to the hospitality world-of-work. The various course modules will incorporate writing as a mode to allow students to further explore their understanding of hospitality organization, marketing analysis, human resource practice, food production analysis, physical plant considerations, lodging operations, career development, management practice, and financial statement analysis. Case studies and other applied activities through written interpretation will be used to illustrate human resource practices, career development as well as other topics. This course will provide students with opportunities to develop written skills necessary to communicate effectively as hospitality professionals.

The topics typically include:

- Organization of an hospitality environment
- Demographic trends vs. advertising applications
- Employment laws
- Employee coaching
- Food production planning for productivity and control
- Organization of a physical plant
- Operations and quality control in lodging
- Opportunities for continuing hospitality career development
- Strategic planning in the hospitality industry
- Reviews of financial statements

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: HRIM 201, HRIM 204, HRIM 250, HRIM 335 andHRIM 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 297A Basic Spanish for Hospitality Management (3) Introduction to Spanish language, grammar, vocabulary, and concepts specific to the hospitality industry. Emphasis on verbal communication.

Basic Spanish for Hospitality Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 304 Institutional Food Service Management (3) Institutional food service management systems in the hospitality field.

HRIM 304 Institutional Food Service Management (3)

Institutional and contract food service management is in the growth stage of the hospitality industry life cycle. The objective of this course is to provide an overview of the various segments of institutional food service, including health care, life care, education, business, transportation (i.e., airlines, cruise ships), correctional and recreational services. Main topics typically include:
Historical overview of institutional/non-commercial food service management
Exploring key markets where institutional food service management exists
Key systems used in the fundamental areas of quantity food production
Current and future trends effecting institutional food service management
Career opportunities in the institutional food service management sector
Managed services and multi-department management

This course is an elective in the Hotel, Restuarant, and Institutional Management program. Students must first complete the introductory hospitality management course. Evaluation methods usually include examinations, quizzes, projects and case studies. The course is offered on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 304 Institutional Food Service Management (3) Institutional food service management systems in the hospitality field.

HRIM 304 Institutional Food Service Management (3)

Institutional and contract food service management is in the growth stage of the hospitality industry life cycle. The objective of this course is to provide an overview of the various segments of institutional food service, including health care, life care, education, business, transportation (i.e., airlines, cruise ships), correctional and recreational services. Main topics typically include:
Historical overview of institutional/non-commercial food service management
Exploring key markets where institutional food service management exists
Key systems used in the fundamental areas of quantity food production
Current and future trends effecting institutional food service management
Career opportunities in the institutional food service management sector
Managed services and multi-department management

This course is an elective in the Hotel, Restuarant, and Institutional Management program. Students must first complete the introductory hospitality management course. Evaluation methods usually include examinations, quizzes, projects and case studies. The course is offered on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better required forHRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 305 Restaurant Management (3) Restaurant food service management systems in the hospitality field; analysis including cost control and quality control techniques.

HRIM 305 Restaurant Management (3)

Providing quality service and products and ultimately making a profit in a restaurant require the foodservice professional to control and analyze costs. The objective of this course is to provide an overview of the food, labor, budget, and finance information required in restaurant management. Main topics typically include:
Framework and function of control in foodservice operations
Steps and processes of using management information systems in controlling food cost and preparation of food
Forecasting and menu pricing techniques in controlling food cost in the preparation and service of food
Problems associated with labor costs and analyzing various techniques and tools used to control labor cost effectively through proper staffing and scheduling
Methods of controlling food and beverage cost through effective purchasing, receiving, storage, issuing, preparation, inventory, and portion control
Techniques of preparation and implementation of effective budgets as control tools
Ratio-analysis for analyzing cost in foodservice operations
Financial statements used to monitor the financial health of a foodservice operation
Capital budgeting and how it is used

This course is required in the Hotel, Restaurant, and Institutional Management program. The introductory course in Hotel, Restaurant, and Institutional Management must have been completed or must be taken concurrently. Evaluation methods usually include examinations, quizzes, reports, and case studies The course is offered every spring semester at Penn State Berks for ten students as well as several other students at Penn State Berks who elect to take the course. It is also offered on an open-enrolhnent basis on Penn State World Campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: or concurrent:HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 310 Hotel, Restaurant, and Institutional Purchasing and Cost Control (3) Purchasing and cost control principles for hotel, restaurant, and institutional operations.

HRIM 310 Hotel, Restaurant, and Institutional Purchasing and Cost Control (3)

The objective of this course is to provide a practical study of procurement as the basis for cost control and as essential support for all quality hospitality operations. Main topics typically include:
Principles and functions of purchasing, roles of the purchasing agent
Mechanics of purchasing, vendor selection, specification development, competitive bid development, freight agreements, purchase order
Application of principles and mechanics to food commodity procurement (meat Products, seafood, poultry, staples, perishables, produce, and non-food supplies.

This course is an elective in the Hotel, Restaurant, and Institutional Management program. Students must first complete several courses in Hotel, Restuarant, and Institutional Management (the introductory course, colloquium, financial accounting, and introductory hotel management) and a Nutrition course dealing with elementary foods. Evaluation methods usually include examinations and homework assignments. The course is offered during the spring semester and has a maximum enrollment of 100 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: NUTR 119 a grade of "C" or better required forHRIM 201, HRIM 335

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 310 Hotel, Restaurant, and Institutional Purchasing and Cost Control (3) Purchasing and cost control principles for hotel, restaurant, and institutional operations.

HRIM 310 Hotel, Restaurant, and Institutional Purchasing and Cost Control (3)

The objective of this course is to provide a practical study of procurement as the basis for cost control and as essential support for all quality hospitality operations. Main topics typically include:
Principles and functions of purchasing, roles of the purchasing agent
Mechanics of purchasing, vendor selection, specification development, competitive bid development, freight agreements, purchase order
Application of principles and mechanics to food commodity procurement (meat Products, seafood, poultry, staples, perishables, produce, and non-food supplies.

This course is an elective in the Hotel, Restaurant, and Institutional Management program. Students must first complete several courses in Hotel, Restuarant, and Institutional Management (the introductory course, colloquium, financial accounting, and introductory hotel management) and a Nutrition course dealing with elementary foods. Evaluation methods usually include examinations and homework assignments. The course is offered during the spring semester and has a maximum enrollment of 100 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 201, HRIM 202, HRIM 335, HRIM 380, NUTR 119

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 311 Wine Appreciation (2) A study of identification of varieties of wine, methods and techniques of viniculture, development of wine lists and wine marketing.

HRIM 311 Wine Appreciation (2)

The purpose of this course is to commence the learning process regarding the purpose of wine in the hospitality industry. Topics include the identification of red and white wine grape varieties, methods of viticulture (grape cultivation), techniques of viniculture (wine making), wine producing regions of the world, fortified and sparkling wines, development of wine lists, and wine marketing. Through sensory evaluations, students are exposed to the various varietal characteristics and components of wine, in order to become better service professionals in hospitality.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: Students must be 21 years of age or older to register for this course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 318 Club Management and Operations (2) Principles and practices of club organizations and management.

HRIM 318 Club Management and Operations (2)

This course focuses on the unique management skills that are necessary in the private club industry. A key objective is to demonstrate to students the concept of "exceptional service" that is demanded in this field. The course leads students on a tour of the responsibilities and operations of all departments that would be found in a city or country club. Main topics typically include:
The club management industry and career opportunities
Types of clubs that exist in the industry, including structure, organization, and philosophy
The various departments of a successful club including but not limited to: food and beverage, accounting and cost control, human resources, marketing and promotion, catering and banquets, golf operations, tennis operations, aquatics, and fitness facilities
Management skills required of a club manager: leadership, board relations, general management, service excellence, communications

The course is required in the Professional Golf Management option in the Recreation and Park Management program and is a professional elective for Hotel, Restaurant, and Institutional Management majors. Evaluation methods include examinations, short writing assignments, small group projects and participation. The course is usually offered in the fall semester to 200 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 315 Hospitality Services Management (3) Systems analysis, design, and application of service in hospitality management operations.

HRIM 315 Hospitality Services Management (3)

Service is the cornerstone of the hospitality industry. New managers need to know how to organize employees and resources that will meet the goals of effective organization and delivery of quality service. This course helps students understand management's role in developing and administering a service program. Main topics typically include:
History of service in general, American service
Management's role in service
Theories of motivation (Maslow, Mayo, McGregor, and Likert)
General Systems Theory Model
Contingency Theory
Laws affecting service
French, Russian, American, English, and Chinese service styles
Training food service front-line employees
Rules of etiquette for service of food and wine
Empowerment - managing guest complaints
Operational concerns in delivery of service
Service delivery methods

This course is an elective. Students must first complete the introductory course in Hotel, Restaurant, and Institutional Management or an introductory management course. Evaluation methods usually include examinations, case studies, interviews, self reflections, quizzes, and short writing assignments. This course is offered as an open-enrollment course on Penn State World Campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 201 or an introductory management course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 318 Club Management and Operations (2) Principles and practices of club organizations and management.

HRIM 318 Club Management and Operations (2)

This course focuses on the unique management skills that are necessary in the private club industry. A key objective is to demonstrate to students the concept of "exceptional service" that is demanded in this field. The course leads students on a tour of the responsibilities and operations of all departments that would be found in a city or country club. Main topics typically include:
The club management industry and career opportunities
Types of clubs that exist in the industry, including structure, organization, and philosophy
The various departments of a successful club including but not limited to: food and beverage, accounting and cost control, human resources, marketing and promotion, catering and banquets, golf operations, tennis operations, aquatics, and fitness facilities
Management skills required of a club manager: leadership, board relations, general management, service excellence, communications

The course is required in the Professional Golf Management option in the Recreation and Park Management program and is a professional elective for Hotel, Restaurant, and Institutional Management majors. Evaluation methods include examinations, short writing assignments, small group projects and participation. The course is usually offered in the fall semester to 200 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better required forHRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 319 Hospitality Facilities Management (3) Fundamental principles of facilities planning, facilities management, and maintenance for all segments of the hospitality industry.

HRIM 319 Hospitality Facilities Management (3)

This course has been designed to provide students with information related to hospitality facility design and maintenance. While managers may not have to fix equipment or install heaters, they should understand the complexity of these tasks and respect the position of the architect and hospitality engineer. Main topics typically include:
Principles of facility engineering and maintenance
Costs associated with the life cycle of a hospitality facility
Role of the manager in the planning and maintenance process
Function of the building in service and marketing
Impact of building design on guest service and operation
Evaluation of building and grounds for compliance with the Americans with Disabilities Act of 1990
Role of management in development, planning, and remodeling of food service operations
Flow of resources, as exhibited in blueprints

The course is a required course for all Hotel, Restaurant, and Institutional Management majors. Students must first complete the introductory hospitality course and the hospitality colloquium. Students are evaluated by examinations, written exercises, and a term project. The course is offered fall and spring semesters with an enrollment of about 100 students for each semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 319 Hospitality Facilities Management (3) Fundamental principles of facilities planning, facilities management, and maintenance for all segments of the hospitality industry.

HRIM 319 Hospitality Facilities Management (3)

This course has been designed to provide students with information related to hospitality facility design and maintenance. While managers may not have to fix equipment or install heaters, they should understand the complexity of these tasks and respect the position of the architect and hospitality engineer. Main topics typically include:
Principles of facility engineering and maintenance
Costs associated with the life cycle of a hospitality facility
Role of the manager in the planning and maintenance process
Function of the building in service and marketing
Impact of building design on guest service and operation
Evaluation of building and grounds for compliance with the Americans with Disabilities Act of 1990
Role of management in development, planning, and remodeling of food service operations
Flow of resources, as exhibited in blueprints

The course is a required course for all Hotel, Restaurant, and Institutional Management majors. Students must first complete the introductory hospitality course and the hospitality colloquium. Students are evaluated by examinations, written exercises, and a term project. The course is offered fall and spring semesters with an enrollment of about 100 students for each semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better required forHRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 329 Introduction to Food Production and Service (3) Principles of quality food production and service stressing the integration of sanitation, menu planning, cost control, and service.

HRIM 329 Introduction to Food Production and Service (2)

This course provides students with information on the basic principles of effective food production and service management. The primary focus is the integration of sanitation principles with menu planning, and development and maintenance of quality standards and cost control throughout the foodservice cycle. The course is required of HRIM majors, and is part of the foods sequence, providing knowledge prerequisite for HRIM 330 and HRIM 430 in which students prepare and serve food for the public. The change also allows the curriculum to meet and/or exceed the foodservice management and food safety competencies required for the ADA. The RD exam currently has 25% of its content associated with foodservice management principles. The National Restaurant Association's SERVSAFE certification exam is a partial requirement for the course. Students must complete this course and pass the SERVSAFE examination before proceeding to the food production classes.

Students are evaluated based on homework, examinations, and projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 330 Food Production and Service Management (2) Food service management laboratory stressing the integration of purchasing, menu planning, and costing in quantity production of quality food.

HRIM 330 Food Production and Service Management (2)

This course is designed as the application of foodservice production and service management stressing the integration of management modules with training in employee positions for the quantity production of quality food. The course draws from the students' theoretical background in accounting, management, nutrition, food production and sanitation, and thus integrates these areas into the daily operation of a campus foodservice facility as a living laboratory. Students, working as a management team, coordinate and manage all aspects of the food service laboratory. Students also experience a number of employee work positions in the laboratory. Main topics typically include:
Critical management decisions in a foodservice operation
Evaluation of manager and employee performance
Interpersonal and time management skills
Procedures to prevent sanitation and safety hazards in a foodservice operation
Food production, service, sanitation, and quality assurance techniques typical to foodservice operations
Technical responsibilities in the development, production and evaluation of a food service system including: sales, recipe production and service, cost control, purchasing, facilities management, personnel management, and financial management
Critical thinking and leadership
Interaction with guests and accurate evaluation of the guests' dining experience

This foodservice practicum is the second course in the foods sequence. Students take this course after the introductory course in food production and service and a Nutrition course in food preparation. Requirements include management reports, performance evaluations, and quizzes. Uniform and attendance policies also are an important component of course requirements. The course is a prerequisite for the advanced food production course. Students are evaluated based on training meals, employee laboratories, management laboratories, a final examination, and performance appraisals. This course is offered fall and spring semesters, with five sections per semester. Maximum enrollment is 100 students per semester. The course usually is offered in the summer as well.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 329;NUTR 119 orNUTR 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 335 Hospitality Financial Accounting (3) Basic accounting concepts and practices applicable to hospitality organizations.

HRIM 335 Hospitality Financial Accounting (3)

This course is designed to provide students with a basic knowledge of financial accounting principles and techniques. The course emphasizes what accounting information is, why it is important, and how it is used in the hospitality industry. The approach taken in this course is that accounting is the information system that measures business activities, processes that information into reports, and communicates the results to decision-makers. The students are exposed to all the important elements described above: the measurement system, processing of the information and the communication. However, the emphasis in this course is on the use of financial information from the user's perspective. Unless the user is aware of the process that generates the results of the accounting process, the user cannot make informed decisions. Therefore, the students first learn the structure of the double-entry system of accounting and then they learn how to use the information to make informed financial decisions. Main topics typically include:

Introduction to accounting principles, financial statements, the fundamental accounting equation, and accrual accounting
Transactions--journalizing, posting, general journal, general ledger, trial balance
Adjusting entries--deferrals, accruals, inventory adjustments, deprecation, adjusted trial balance
Completing the accounting cycle--closing entries, balance sheet, income statement, statement of owners equity, closing trial balance
Income statement
Balance sheet
Specialized journals, subsidiary ledgers
Cash
Receivables and payables
Inventory
Property--equipment, intangible assets, other assets
Payroll taxes

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken college algebra. HRIM 335 is a pre-requisite for Managerial Decision Making in the Hospitality Industry. Evaluation methods usually include examinations, quizzes, problem and paper assignments, and a semester project. The course is usually offered fall and spring semesters with enrollments of about 50 to 60 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required forMATH 021 . Prerequisite or concurrent:HRIM 201, HRIM 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 335 Hospitality Financial Accounting (3) Basic accounting concepts and practices applicable to hospitality organizations.

HRIM 335 Hospitality Financial Accounting (3)

This course is designed to provide students with a basic knowledge of financial accounting principles and techniques. The course emphasizes what accounting information is, why it is important, and how it is used in the hospitality industry. The approach taken in this course is that accounting is the information system that measures business activities, processes that information into reports, and communicates the results to decision-makers. The students are exposed to all the important elements described above: the measurement system, processing of the information and the communication. However, the emphasis in this course is on the use of financial information from the user's perspective. Unless the user is aware of the process that generates the results of the accounting process, the user cannot make informed decisions. Therefore, the students first learn the structure of the double-entry system of accounting and then they learn how to use the information to make informed financial decisions. Main topics typically include:
Introduction to accounting principles, financial statements, the fundamental accounting equation, and accrual accounting
Transactions--journalizing, posting, general journal, general ledger, trial balance
Adjusting entries--deferrals, accruals, inventory adjustments, deprecation, adjusted trial balance
Completing the accounting cycle--closing entries, balance sheet, income statement, statement of owners equity, closing trial balance
Income statement
Balance sheet
Specialized journals, subsidiary ledgers
Cash
Receivables and payables
Inventory
Property--equipment, intangible assets, other assets
Payroll taxes

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken college algebra. HRIM 335 is a pre-requisite for Managerial Decision Making in the Hospitality Industry. Evaluation methods usually include examinations, quizzes, problem and paper assignments, and a semester project. The course is usually offered fall and spring semesters with enrollments of about 50 to 60 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forMATH 021 . Prerequisite or concurrent:HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 336 Hospitality Managerial Accounting (3) Collection, processing, and interpretation of accounting data for managerial planning, control, and evaluation in hospitality organizations.

HRIM 336 Hospitality Managerial Accounting (3)

Managerial decision-making using accounting data is an integral part of the function of managers in the hospitality industry. The accounting function of the lodging business generates financial data, and managers need to be able to interpret the data, analyze it and make decisions based on their interpretation and analysis of the data. This course provides the student with the core knowledge needed to understand the kinds of data generated by the financial systems of hospitality operations, prepare budgets, perform variance analysis, and provide control over the financial aspects of the hospitality business. Main topics typically include:
Introduction to managerial decision-making in the hospitality industry
Cost behavior analysis in the hospitality industry
Cost, volume and profit analysis in the hospitality industry
Pricing decisions in the hospitality industry
Preparation of operational budgets in the hospitality industry
Calculation and interpretation of cost and revenue variances in the hospitality industry
Preparation of cash budgets and control over cash in hospitality operations
Preparation of the statement of cash flows in the hospitality industry
Preparation of proforrna financial statements in the hospitality industry

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken Financial Accounting in the Hospitality Industry. HRIM 336 is a pre-requisite to Financial Management in Hospitality Operations. Evaluation methods usually include examinations, quizzes, problem and paper assignments, and a semester project. The course is usually offered fall and spring semesters with enrollments of about 50 to 60 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: a grade of "C" or better required for:HRIM 335

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 336 Hospitality Managerial Accounting (3) Collection, processing, and interpretation of accounting data for managerial planning, control, and evaluation in hospitality organizations.

HRIM 336 Hospitality Managerial Accounting (3)

Managerial decision-making using accounting data is an integral part of the function of managers in the hospitality industry. The accounting function of the lodging business generates financial data, and managers need to be able to interpret the data, analyze it and make decisions based on their interpretation and analysis of the data. This course provides the student with the core knowledge needed to understand the kinds of data generated by the financial systems of hospitality operations, prepare budgets, perform variance analysis, and provide control over the financial aspects of the hospitality business. Main topics typically include:
Introduction to managerial decision-making in the hospitality industry
Cost behavior analysis in the hospitality industry
Cost, volume and profit analysis in the hospitality industry
Pricing decisions in the hospitality industry
Preparation of operational budgets in the hospitality industry
Calculation and interpretation of cost and revenue variances in the hospitality industry
Preparation of cash budgets and control over cash in hospitality operations
Preparation of the statement of cash flows in the hospitality industry
Preparation of proforrna financial statements in the hospitality industry

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken Financial Accounting in the Hospitality Industry. HRIM 336 is a pre-requisite to Financial Management in Hospitality Operations. Evaluation methods usually include examinations, quizzes, problem and paper assignments, and a semester project. The course is usually offered fall and spring semesters with enrollments of about 50 to 60 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better inHRIM 335 orACCT 211 and a grade of "C" or better inCMPSC 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 350 Hospitality Decision Making and Information Systems (3) Application of decision theory and models to solve qualitative and quantitative problems using Hospitality Information Systems and Computer Applications.

HRIM 350 Hospitality Decision Making and Information Systems (3)

The ability of hospitality managers to use good decision making processes for both everyday decisions (category I) and strategic decisions (category II) has been identified by industry leaders as a key success factor. The objective of this course is to offer the student an opportunity to learn the qualitative (sociological and psychological) factors affecting the decision process and how to apply management science models and computer-based information systems to the functional aspects of management in the hospitality industry. The course focuses on the application of modeling theory to planning and decision-making in the hospitality industry. Main topics typically include:

The decision making process Rational decision making
Values for decision making
Electic approaches to decision making
The psychology of decision making
The sociology of decision making
Strategic decision success
Quantitative analysis
Probability concepts and applications
Fundamentals of decision theory
Decision trees and utility theory
Forecasting - regression, analysis of variance, time series
Project Management, program evaluation and review technique, critical path method
Waiting lines and queuing theory

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken a course in the principles of programming with business applications course and a course in elementary statistics. This course is a pre-requisite to financial management and marketing courses in the curriculum. Evaluation methods usually include case study analysis, examinations, quizzes, and short writing assignments. Group assignments are often used in a problem-based learning environment. The course is usually offered fall and spring semesters with enrollments of about 80 to I 00 students divided into two sections.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forCMPSC 203, STAT 200 . Prerequisite or concurrent:HRIM 201, HRIM 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 337 Food, Beverage, and Labor Cost Control (3) Techniques for analyzing and controlling food, beverage, and labor costs in hospitality organizations.

HRIM 337 Food, Beverage, and Labor Cost Control (3)

This course is designed for current and future foodservice operators/managers who want to learn the financial side of managing a foodservice operation in order to be able to compete in a challenging and tight market. Hospitality managers must be able to recognize and react appropriately to pertinent financial information and trends and to control costs in today's competitive environment. Techniques for analyzing and controlling food, beverage, and labor costs in hospitality organizations are presented through a variety of case studies and applied activities. Main topics typically include:
Elements and analysis of labor costs
Productivity analysis and methods of increasing productivity
Food and beverage cost control procedures, including purchasing, receiving, storage and issuing controls, precosting and menu analysis
Analyzing basic financial reports and recognizing trends requiring action
Internal financial controls such as guest checks, cash registers, cash and automated systems
Using management information systems in cost control procedures

The course is required for students in the school foodservice emphasis of the dietetic food systems management associate degree (DSM) and is available as an elective for other students in the dietetics programs. Students must first complete a basic accounting course. Evaluation methods include quizzes, examinations, project and case study assignments. This course is offered through Penn State's World Campus on an open enrollment basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: ACCTG 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 355 Legal Aspects of the Hospitality Industry (3) Specialized applications of law to the hospitality industry.

Legal Aspects of the Hospitality Industry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: or concurrent:HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 365 (IL) Organizational Behavior in the Hospitality Industry (3) Study of individual satisfaction and performance in hospitality organizations. Topics include cultural diversity, motivation, communication, group behavior, and leadership.

HRIM 365 Organizational Behavior in the Hospitality Industry (3) (IL)

This course builds on the students' knowledge of the principles of management. The objective of this course is to acquaint students with organizational issues in the hospitality industry. Main topics typically include:
What constitutes an organization: its components and different ways of understanding organizations
What factors influence the behavior of individuals, teams, and groups within organizations
How the behavior of individuals, teams, and groups affects organizational effectiveness and performance
Making the connections between organizational behavior and hospitality organization effectiveness.

The content of this course is fundamental to understanding how people work in organizations and the use of teams and groups in organizational goal achievement. This is a required course for all Hotel, Restaurant, and Institutional Management majors and is a prerequisite for the course in hospitality hiuman resource management. Evaluation methods may include examinations, quizzes, short writing assignments, and case studies. The course is usually offered fall and spring semesters with enrollments of about 120 students.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: HRIM 201
Concurrent: HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 365 (IL) Organizational Behavior in the Hospitality Industry (3) Study of individual satisfaction and performance in hospitality organizations. Topics include cultural diversity, motivation, communication, group behavior, and leadership.

HRIM 365 Organizational Behavior in the Hospitality Industry (3) (IL)

This course builds on the students' knowledge of the principles of management. The objective of this course is to acquaint students with organizational issues in the hospitality industry. Main topics typically include:
What constitutes an organization: its components and different ways of understanding organizations
What factors influence the behavior of individuals, teams, and groups within organizations
How the behavior of individuals, teams, and groups affects organizational effectiveness and performance
Making the connections between organizational behavior and hospitality organization effectiveness.

The content of this course is fundamental to understanding how people work in organizations and the use of teams and groups in organizational goal achievement. This is a required course for all Hotel, Restaurant, and Institutional Management majors and is a prerequisite for the course in hospitality hiuman resource management. Evaluation methods may include examinations, quizzes, short writing assignments, and case studies. The course is usually offered fall and spring semesters with enrollments of about 120 students.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006 Ending: Summer 2010
Prerequisite: HRIM 201 orMGMT 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 380 Hotel Management (3) Introduction to rooms management including front office, housekeeping, security, and engineering. Emphasizes operations, coordination, and communication within and between departments.

HRIM 380 Hotel Management (3)

The purpose of this course is to continue the learning process regarding hotel management and operations that began in the introductory HR&IM course. The course focuses on the responsibilities of hotel department heads. Students develop decision-making skills that are applicable specifically to hotel operations, and generally to all hospitality industry operations. Main topics typically include:
fundamental lodging classifications, including location (e.g. city, resort, highway, airport, suburban), size, service, class, stars, and diamonds
recent trends in lodging supply segmentation, including all-suite, extended-stay, and time-share
major companies and brands in the hotel industry, and what organizations are involved in ownership, management, and/or franchising
The relationship between the hotel front office and other departments in the rooms division, including housekeeping, concierge, reservations, PBX/telecommunications, security/loss prevention, and night audit
the relationship between the hotel rooms division and other divisions, including sales & marketing, food & beverage (in a hotel environment), engineering, human resources, accounting, and convention/conference management/service
fundamental operating statistics related to hotels, including occupancy, ADR, and REVPAR
hotel night audits

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Evaluation methods usually include examinations, quizzes, and other assignments. The course is usually offered during both the fall and spring semesters with enrollments of about 100 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 385 Management Principles in Dietetic Services (3) Application and integration of management principles and leadership skills in dietetic services.

HRIM 385 Management Principles in Dietetic Services (3)

This course is designed to foster the integration of management principles in the profession of dietetics, Emphasis is placed on leadership development, decision making/problem solving, strategic planning, and marketing of dietetic services. Through case studies, the interrelationship of food and nutrition labor and equipment are demonstrated. Students develop a business plan for a food and nutrition services business venture, which will be presented at the end of the semester.

Main topics typically include:
Effective leadership in dietetics services.
Interpretation of financial data with emphasis on identifying and correcting problematic areas in food and nutrition services.
Types of budgets, including operating, capital, and flexible.
Negotiation techniques in different situations.
Strategic planning process, including vision and mission statement writing.
Principles and skills necessary in human resource management and their unique application in food and nutrition services.
Service marketing principles in a variety of food and nutrition settings.
Kitchen equipment layout and design and their relationship to efficient production and service in delivery of nutrition services.

This course is part of the required sequence of foodservice management courses applied nutrition science majors take in the hospitality discipline. Students must first take a food production course and a nutrition course on administration of nutrition services in a health care setting. This course provides management of dietetic services principles addressed in the national registration examination for dietitians.

Students are evaluated based on an examination, case study analyses, and development and presentation of a business plan.

T'his course would be offered initially once per year in the spring semester at the University Park campus. Estimated enrollment would be 40-50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HRIM 330, NUTR 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 386 Introduction to the Gaming and Casino Industry (3) Students will learn about those traits of the casino industry which distinguish it from other segments of the hospitality industry.

HRIM 386 Introduction to the Gaming and Casino Industry (3)

The objective of this course is to introduce the advanced standing student to the unique traits of the casino industry. The student will learn that Nevada demonstrated that the potential negative societal impact can be minimized through rigorous, state-sanctioned, state-regulated casino gaming. The review of all American jurisdictions and several international markets with an emphasis on Pennsylvania provides the student with an expanded perspective of career possibilities and the significant economic impact of legalized gaming. The student will learn from casino mathematics how a casino is assured a revenue stream through the house advantage and how game protection is essential to maintaining the house advantage and to the profitability of the operation. Unique marketing activities such as professional events, players' clubs, entertainment, and casino floor promotions are surveyed to demonstrate the market segments casinos attract and to explain the impact of marketing on the image of any particular casino. Technology's significant impact on customer service, cost reduction, and financial controls is discussed. A thorough examination of the social costs and the economic benefits of legalized casino gaming informs the student so that they can understand the public image of casino gaming in general.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: Prerequisite or concurrent:HRIM 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 387 Casino Controls (3) This course is an overview of controls used in casinos including an exploration of complimentary goods (comps) and services and credit.

HRIM 387 Casino Controls (3)

The objective of this course is to introduce the advanced standing student to the unique traits of the casino industry. The student will learn that Nevada demonstrated that the potential negative societal impact can be minimized through rigorous, state-sanctioned, state-regulated casino gaming. The review of all American jurisdictions and several international markets with an emphasis on Pennsylvania provides the student with an expanded perspective of career possibilities and the significant economic impact of legalized gaming. The student will learn from casino mathematics how a casino is assured a revenue stream through the house advantage and how game protection is essential to maintaining the house advantage and to the profitability of the operation. Unique marketing activities such as professional events, players' clubs, entertainment, and casino floor promotions are surveyed to demonstrate the market segments casinos attract and to explain the impact of marketing on the image of any particular casino. Technology's significant impact on customer service, cost reduction, and financial controls is discussed. A thorough examination of the social costs and the economic benefits of legalized casino gaming informs the student so that they can understand the public image of casino gaming in general.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: "C" or better inHRIM 201, HRIM 335 andHRIM 386
Concurrent: HRIM 388

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 388 Gaming Operations Management (3) Students will learn casino mathematics, game protection, floor layout methods, departmental organizational structure, and performance analysis.

HRIM 388 Gaming Operations Management (3)

The primary objective of this course is to introduce the advanced standing student to the management of various games and gaming devices used in a casino. The student learns the impact of the Americans with Disabilities Act on casino design, casino layout, and equipment design. Casino mathematics is explored in greater depth than in the Introduction to the Gaming and Casino Industry (HRIM386). The student is required to calculate odds and expected values in order to fully understand the role the house advantage plays in profitability and to recognize the significance of revenue controls. Each department in the gaming area is reviewed for organizational structure, job titles and descriptions, and performance analysis. The overlap with Casino Controls (HRIM387) is intentional so that the student realizes a major function of any supervisory or management position in the gaming area is control. The student learns and practices the rules of each major game in the casino by playing and dealing. The student must learn the different bets and their payoffs as well as the control techniques needed to prevent theft and cheating. Various methods used by players to manipulate the odds or payoffs are studied so that the student can recognize and prevent them. The performance of the gaming areas is critical to the profitability of a casino. Techniques for analyzing performance of the table games and slots are emphasized due to the relative importance of the revenue in these areas to overall revenues of the casino. In addition, the student must create a staffing chart for the table games department. Security and surveillance are studied in order for the student to discern the difference in roles these two departments play and to understand their importance to the control of revenue and expenses. The student must become familiar with the various pieces of equipment used in each gaming department. The impact of technology on equipment design, game protection, and surveillance activities is studied. The student is taught the selection criteria and maintenance requirements of technology components in order to understand the tradeoffs made when purchasing electronic gaming devices, surveillance cameras and systems, RFID systems, and other components affected by imminent technological advances.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: "C" or better inSTAT 200, HRIM 201 andHRIM 386
Concurrent: HRIM 387

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 395W Practicum Analysis (3) Written analysis comparing and contrasting conceptual issues in the hospitality industry.

Practicum Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 201 1000 hours of adviser-approved professional hospitality experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 397A Spanish for Hospitality II (3) Intermediate applications of the Spanish language, grammar, vocabulary, and concepts specific to the hospitality industry. Emphasis on verbal communication.

Spanish for Hospitality II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 397F Safety of Food and Beverage Service (1) Course focuses on food safety and responsible alcohol service.

Safety of Food and Beverage Service (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 397F Safety of Food and Beverage Service (1) Course focuses on food safety and responsible alcohol service.

Safety of Food and Beverage Service (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 411 Beverage Management and Wine Selection (3) Management issues in beverage service and products. Students taste wines, brews, and distilled spirits.

HRIM 411 Beverage Management and Wine Selection (3)

The objective of this course is to acquaint students in the successful management of all beverage products associated with the hospitality industry. Main topics typically include:

Production
Purchasing
Brand recognition
Marketing and promotion
Financial control
Responsible alcohol service

This course is an elective in the Hotel, Restaurant, and Institutional Management program. Students must be at least 21 years old. Evaluation methods typically include examinations, quizzes, short writing assignments, and research projects. This course is offered spring and fall semesters with enrollments of 40 to 60 students. Students in other majors are welcome after all Hotel, Restaurant, and Institutional Management majors have scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: students must be at least 21 years old

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 413 New Product Development for Commercial Foodservice (3) This course introduces students to a new product development process that requires coordination, communication, and integration throughout the organization.

HRIM 413 New Product Development for Commercial Foodservice (3)

New product development is a critical business design process that crosses multiple functional areas in a corporation. In today's globally competitive business environment, new product development is not a strategic option; it is a fundamental prerequisite for a company's survival, organizational renewal, and national economic prosperity. In addition, new product development is not the domain of any one function, but a multidisciplinary process that requires coordination, communication, and integration throughout the organization. This course will operationalize the management link by creating cross-disciplinary teams in which students will learn and apply the skills necessary to design and develop a new product prototype.

This course will present and utilize an integrated approach to new product design, development, and marketing. The course will provide a team experience of formulating, designing, and evaluating a new product concept. Students completing this course will have operational knowledge of and competence with a set of tools and methodologies for product design and development. Students will be able to coordinate multiple interdisciplinary tasks in order to achieve a common objective in an action-oriented business setting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: a grade of "C" or better forHRIM 329

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 412 Advanced Institutional Food Service Management (4) Advanced principles of food production management and service and their application in institutional food service settings.

HRIM 412 Advanced Institutional Food Service Management (4)

This course gives students an opportunity to gain experience in the wide range of skills and techniques that are normally associated with the duties of a manager in an institutional food service setting. The skills and techniques that are emphasized include duties involved in the planning, execution, and evaluation of special event dinners. Students are expected to develop a special event theme and then plan, produce and evaluate an authentic dining experience. A successful dining experience is contingent upon both guest satisfaction and the achievement of financial goals. Main topics typically include:

Menu planning strategies for diverse markets
Demonstration of technical responsibilities involved in the development, production and evaluation of a wide range of food service systems including: sales, menu planning, recipe development and evaluation, pricing, purchasing, facilities management, personnel management, and financial management
Operational needs and potential problems in a food and beverage facility during production and service
Presentation techniques for institutional service areas
Timely and effective managerial problem identification and decision-making abilities
Interpersonal and teamwork skills both within a management team and with classmates as employees
Interaction with guests and evaluation of guests' dining experiences

The course is an elective class in the Hotel, Restaurant, and Institutional Management major. Students must first complete the introductory food production course. Students are evaluated based on examinations, a term project, and laboratory reports. The course is offered on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 415 International Cuisine (3) Cooking and eating practices of cultures around the world, including historical, religious, cultural, geographic, and political influences on each cuisine.

HRIM 415 International Cuisine (3)

The objective of this course is to expose students to managerial and cultural issues of cuisine and how they influence the development of commercial food and beverage operations. The text and lectures lay the foundation for the understanding of culture and cuisine. Main topics typically include:
Understanding how cuisine has developed over time
Variety of foods grown in distant regions and dissemination as adventurers contacted (and often conquered) other people and learned of their cultures
Evolvement of trade that brought exotic foods from distant locales
Geography's role in defining the types of foods and quantities of crops that can be produced around the globe
Critical components of the major world cuisines

The course is an elective for Hotel, Restaurant, and Institutional Management students. Prior to taking this professional elective, students must complete the introductory course in food production and management. The course is normally taken in the students' senior year. Students are evaluated based on examinations. The course is offered on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 201, NUTR 100, NUTR 119

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 430 Advanced Food Production and Service Management (3) Simulation and application of technical, conceptual, interpersonal skills. Emphasis on group dynamics; improvement in managerial skills; management team functions.

HRIM 430 Advanced Food Production and Service Management (3)

This course is designed to give students an opportunity to gain experience in the wide range of skills and techniques that are normally associated with the duties of a hospitality manager. The skills and techniques that will be emphasized include, but are not limited to, duties involved in the planning, execution and evaluation of full-service, theme oriented ala carte dining. Students are expected to form a marketable theme and then develop, produce and evaluate an authentic dining experience. A successful dining experience is contingent upon both guest satisfaction and the achievement of financial goals. Main topics typically include:
Research, describe and produce an authentic restaurant environment from a selected theme
Demonstration of technical responsibilities involved in the development, production and evaluation of a wide range of food service systems including: sales, menu planning, recipe development and evaluation, pricing, purchasing, facilities management, personnel management and financial management
Operational needs and potential problems in a food and beverage operation during production and service
Timely and effective managerial problem identification and decision-making abilities
Interpersonal and teamwork skills both within a management team and with classmates as employees
Interaction with guests and evaluation of guests'dining experiences

The course is a capstone management class in the foods sequence and is required of all Hotel, Restaurant, and Institutional Management majors. Students must first complete the introductory food production course. Evaluation methods include a detailed business plan for a working restaurant created in a management team of approximately eight, quizzes, short written assignments, oral presentations. and subjective performance assessments as a manager and a line employee. The course is usually offered in fall and spring semester and summer session, with approximately 30 students in each section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 435 Financial Management in Hospitality Operations (3) Fiscal techniques in the development, management, and control of hospitality establishments.

HRIM 435 Financial Management in Hospitality Operations (3)

Financial management is an integral part of decision-making in the hospitality industry. The study of hospitality financial management helps to insure that hospitality decision-makers understand the principles of value creation and incorporate them into their decision-making. This course gives students the opportunity to gain knowledge of the fundamental concepts, tools, and applications that represent the core of financial management as applied to decision-making and value creation in the hospitality industry. Main topics typically include:

Introduction to financial decision-making in the hospitality industry
Agency theory and the decision-making process
Value creation and the goal of hospitality financial management
The functioning of financial markets that are relevant to hospitality firms
Principles and methods of value creation in the hospitality industry
Applications of financial statement analysis to hospitality finance
Principles and applications of risk analysis to the value creation process
Principles and applications of the time value of money to the value creation process
Capital expenditure analysis in the hospitality industry
Principles and applications of financing hospitality projects and firms
Other special topics relevant to current hospitality financial issues

The content of this course is considered fundamental for anyone in hospitality management and, therefore, is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken Financial Accounting in the Hospitality Industry, Managerial Accounting in the Hospitality Industry, and three credits of economics. Hospitality Decision-Making is also a pre-requisite for the course but may be taken concurrently. This course is a pre-requisite to Strategic Hospitality Management. Evaluation methods usually include examinations, quizzes, problem and paper assignments, and a semester project. The course is usually offered fall and spring semesters with enrollments of about 45 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forECON 002 orECON 014 andHRIM 336 . Prerequisite or concurrent:HRIM 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 436 Hospitality Operational Management (3) Tactical management processes of hospitality operations, with an emphasis on integrating concepts from previous courses into daily managerial systems.

HRIM 436 Hospitality Operational Management (3)

The complexity and uncertainty of the today's business environment makes management decision-making more challenging than ever. Managers' ability to identify and analyze relevant data so as to make sound business decisions has become critical to the success of business. This course introduces statistical and operations research methods appropriate for managers in the hospitality industry to use in making decisions. The primary goal of the class is to enhance students' operational analytical skills and problem solving abilities. Main topics typically include:
Demand and capacity management
Revenue management
Decision modeling
Process analysis and design
Interpretation of analytic results and communication of results to others

This course is an elective in the Hotel, Restaurant, and Institutional Management program. Students must first complete courses in Hotel, Restaurant, and Institutional Management decision making, financial management and marketing. Evaluation methods usually include weekly assignments, examinations, and a small project. The course runs as a combination of lectures and labs. It is taught in the technology classroom, 117 Mateer Bldg. (wireless computer laboratory). The course is usually offered once a year, either in the fall or spring semester with enrollments of 20 to 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 435, HRIM 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 437 Hospitality Project Evaluation and Funding (3) Current techniques for project evaluation in the hospitality industry; trends in hospitality project funding.

HRIM 437 Hospitality Project Evaluation and Funding (3)

This is an advanced course in the fmancial evaluation of hospitality projects and the decisions related to their subsequent financing. The selection of value creating projects is integral to the success of hospitality firms. In addition, project financing decisions can have significant impact on the full realization of a project's value creation potential. In order to provide the hospitality managers with state of the art project decision tools, this course examines the theory related to hospitality project selection and financing and applies it to current techniques in the hospitality industry. Main topics typically include:

Basic principles of hospitality project evaluation
Present project evaluation techniques in the commercial hospitality sector
Present project evaluation techniques in the non-commercial hospitality sector
The use of cap rates in hospitality lodging valuation
Issues related to incorporating risk assessment in hospitality project evaluation
Net present value, adjusted present value, and real options in hospitality project evaluation
Other advanced techniques in hospitality project evaluation
Basic issues and theory in hospitality project financing
Trends in commercial and non-commercial hospitality project financing
Potential interactions between hospitality project selection, project financing, and value creation
Other special topics relevant to current and future techniques in hospitality project evaluation and financing

This course is an elective course designed for students who desire to gain an in-depth knowledge of hospitality project selection and financing. The course is appropriate for students seeking to obtain the skills necessary for middle or upper management level positions in hospitality organizations. Prior to this course, students are required to have taken Financial Management in Hospitality Operations or its equivalent. Evaluation methods usually include problem assignments, quizzes, examinations, case analyses, and a project. The course is usually offered once a year with enrollments of about 30 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 435

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 438 Cases in Financial Analysis (3) Financial analysis and decision making is examined through a series of hospitality-oriented cases.

HRIM 438 Cases in Financial Analysis (3)

This is an advanced course in the application of hospitality financial analysis and decisionmaking techniques to real life hospitality operational situations. Decisions of managers in actual and hypothetical situations are critically examined from the perspective of appropriate financial and accounting theory using a case format approach. Discussions include the ramifications of real life complicating factors on theoretical outcomes. Main topics typically include:
An overview of the principles of financial analysis
Financial statement analysis: evaluation of performance from a historical, competitive, and industry perspective; effects of alternative accounting techniques
Alternate forms of operations and their financial and accounting implications: subsidiaries, joint ventures, partnerships, management agreements
Budgeting processes and procedures, including operational budgeting and the behavioral implications and procedures common in not-for-profit institutions
Cost allocation in hospitality organizations: techniques and financial implications
organization of the financial function: alternative designs
Special topics relevant to current trends in hospitality financial analysis

This course is an elective course designed for students who desire to gain an in-depth knowledge of current and future techniques and applications of hospitality financial analysis. The course is appropriate for students seeking to obtain the skills necessary for middle or upper management level positions in hospitality organizations. Prior to this course, students are required to have taken Financial Management in Hospitality Operations or its equivalent. Evaluation methods usually include case analyses, presentations, examinations, and quizzes. The course is usually offered once a year with enrollments of about 30 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 435

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 442 Hospitality Marketing (3) Marketing management in the hospitality industry, including analyzing the market through market research and developing a marketing plan.

HRIM 442 Hospitality Marketing (3)

Marketing in the hospitality industry is distinctly different than marketing in either the manufacturing or the service industries. The hospitality industry - hotels, restaurants, institutional food service, travel and tourism, is a hybrid that constitutes both products and services. The objective of the course is to give an overview of marketing as applied to the hospitality industry, including but not limited to: unique attributes of service marketing; consumer orientation; understanding consumers and consumer behavior; market segmentation principles; target marketing; product planning; promotion planning; market research; and competitor analysis. Main topics typically include:
The marketing enviroment
Social responsibility and ethics in marketing
Marketing research and information systems
Target markets: segmentation and evaluation
Consumer buying behavior and the purchase decision
Developing and managing products
Branding and packaging
Strategic planning
Integrating marketing communications
Advertising and public relations
Personal selling and sales promotion
Pricing concepts
Setting prices

This course is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken a principles of marketing course and the decision models in the hospitality industry course. This course is a pre-requisite to the strategic hospitality management course. Evaluation methods usually include case study analysis, marketing plan projects, strategic plan projects, examinations, quizzes, and short writing assignments. Group assignments are often used in a problem based learning environment. The course is usually offered fall and spring semesters with enrollments of about 80 to 100 students divided into two sections.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required forHRIM 350, MKTG 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 442 Hospitality Marketing (3) Marketing management in the hospitality industry, including analyzing the market through market research and developing a marketing plan.

HRIM 442 Hospitality Marketing (3)

Marketing in the hospitality industry is distinctly different than marketing in either the manufacturing or the service industries. The hospitality industry - hotels, restaurants, institutional food service, travel and tourism, is a hybrid that constitutes both products and services. The objective of the course is to give an overview of marketing as applied to the hospitality industry, including but not limited to: unique attributes of service marketing; consumer orientation; understanding consumers and consumer behavior; market segmentation principles; target marketing; product planning; promotion planning; market research; and competitor analysis. Main topics typically include:
The marketing enviroment
Social responsibility and ethics in marketing
Marketing research and information systems
Target markets: segmentation and evaluation
Consumer buying behavior and the purchase decision
Developing and managing products
Branding and packaging
Strategic planning
Integrating marketing communications
Advertising and public relations
Personal selling and sales promotion
Pricing concepts
Setting prices

This course is required of all Hotel, Restaurant, and Institutional Management majors. Prior to this course, students are required to have taken a principles of marketing course and the decision models in the hospitality industry course. This course is a pre-requisite to the strategic hospitality management course. Evaluation methods usually include case study analysis, marketing plan projects, strategic plan projects, examinations, quizzes, and short writing assignments. Group assignments are often used in a problem based learning environment. The course is usually offered fall and spring semesters with enrollments of about 80 to 100 students divided into two sections.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forHRIM 201, MKTG 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 443 Sales Planning and Advertising for Hospitality Operations (3) Elements of sales management, advertising, promotion, and public relations as applied to hospitality organizations.

HRIM 443 Sales Planning and Advertising for Hospitality (3)

The hospitality industry is entering an era in which operational and product parity between organizations and their properties is increasingly likely. This is so because of their shared access to technology, design and training devices. Consequently, it becomes evident that increases in sales will be reliant on the competitive advantages that professionals achieve in marketing strategies, sales management, and especially in marketing communications (MARCOM) tactics and execution. This course exposes students to a wide range of hospitality marketing communications issues. Students gather information from electronic media, trade and travel media, and consumer media. Students explore hospitality MARCOM issues through semester-long individual projects. Main topics typically include:
Marketing versus selling strategies
Industry trends that affect advertising and sales especially Internet activities
Types of advertising media
Print advertising principles
Broadcast advertising principles
Foundations of direct marketing
Elementals of public relations
Travel agency relations
Personal sales

This is an elective course. Students must first take the hospitality marketing course in Hotel, Restaurant, and Institutional Management. Student assessment is accomplished through quantitative objective testing and qualitative subjective exams and quizzes. A portion of the total term assessment is weighted by the student's performance in the individual project mentioned above. The course is usually offered spring semester with an enrollment of 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 442 or 3 credits in marketing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 443 Sales Planning and Advertising for Hospitality Operations (3) Elements of sales management, advertising, promotion, and public relations as applied to hospitality organizations.

HRIM 443 Sales Planning and Advertising for Hospitality (3)

The hospitality industry is entering an era in which operational and product parity between organizations and their properties is increasingly likely. This is so because of their shared access to technology, design and training devices. Consequently, it becomes evident that increases in sales will be reliant on the competitive advantages that professionals achieve in marketing strategies, sales management, and especially in marketing communications (MARCOM) tactics and execution. This course exposes students to a wide range of hospitality marketing communications issues. Students gather information from electronic media, trade and travel media, and consumer media. Students explore hospitality MARCOM issues through semester-long individual projects. Main topics typically include:
Marketing versus selling strategies
Industry trends that affect advertising and sales especially Internet activities
Types of advertising media
Print advertising principles
Broadcast advertising principles
Foundations of direct marketing
Elementals of public relations
Travel agency relations
Personal sales

This is an elective course. Students must first take the hospitality marketing course in Hotel, Restaurant, and Institutional Management. Student assessment is accomplished through quantitative objective testing and qualitative subjective exams and quizzes. A portion of the total term assessment is weighted by the student's performance in the individual project mentioned above. The course is usually offered spring semester with an enrollment of 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better forHRIM 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 444 Caribbean Hospitality/Tourism Development (3) Evaluation of sustainable hospitality/tourism.

HRIM 444 Caribbean Hospitality/Tourism Development (3)

The course objective is to train future managers in the tourism and hospitality industry how to cope with environmental issues and preservation of ecotourism environments. Ecotourism planning and management may well emerge in the Twenty-First Century as more important than either the communications revolution or biotechnology because of its potential usefulness in guaranteeing a livable environment. Main topics typically include:

General model for sustainable tourism development
Subcomponents of the model
New directions in the ecotourism industry
Social aspects of ecotourism
Economic aspects of ecotourism
Political aspects of ecotourism
Natural planning limitation
Protected ecotourism area planning principles and strategies
New approaches to community-based ecotourism management
Carrying capacity concepts
Non-government organizations role in ecotourism
Public sector/private sector relationships
Future challenges

This course is an elective in the hospitality program. The course meets on a limited basis throughout the semester and includes an eight-day field trip to Jamaica. Students design and conduct on-site surveys that measure tourists' perceptions and attitudes about the ecotourism industry, culture, environmental quality, and government/private sector cooperation. The trip also allows students to experience firsthand the cultural diversity of the Caribbean travel market. Students are evaluated based on homework assignments, participation in discussions with guest speakers, and personal interview procedures that students use to conduct their ecotourism survey, and analysis and interpretation of their survey results. The special facilities involved are those located in Jamaica. The course usually is offered spring semester, with an enrollment of about 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 455 Convention Management (3) Management principles of hotel convention sales and service.

HRIM 455 Convention Management (3)

This course addresses the increasingly important convention segment of the hospitality industry. The objective is for students to gain an understanding of the operations of a hotel convention services department, how group meetings are marketed and planned, how technology is used to serve the various processes of convention management, and how the convention services department relates to other departments in a hotel. Main topics typically include:
Overview and scope of the meetings market
Marketing and convention services staff
Marketing
The sales process
Negotiations and contracts
Planning the meeting
The service function
Exhibits and trade shows
Convention billing
Post-convention review and evaluation

The course is an elective in the Hotel, Restaurant, and Institutional Management program. Students must first complete the introductory courses in hotel operations and hospitality marketing. Students are evaluated based on examinations and projects. The course is offered on an as-needed basis, with enrollments of about 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 380, HRIM 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 466 (US) Human Resource Management in the Hospitality Industry (3) Recruitment, selection, training, performance appraisal, and compensation of hospitality human resources in today's culturally diverse work force.

HRIM 466 Human Resource Management in the Hospitality Industry (3) (US)

This course builds on students' knowledge of organizational behavior and management. The course discusses human resource (HR) issues in the hospitality industry. The course pays special attention to the changing nature of organizations, the challenges that human resource managers face as a result, and the consequences of HR managers' actions to the organization. Topics typically include:

Importance of human resources in the hospitality industry
Processes managers use in recruiting, selecting and training human resources in their organizations
Legal and social issues that impact human resource management in the hospitality industry
Roles and responsibilities of a hospitality industry human resources professional

The content of this course is fundamental to understanding how the human resource function operates in hospitality organizations. This is a required course for all Hotel, Restaurant, and Institutional Management majors. Students must first complete the course in hospitality organization behavior. Evaluation methods may include examinations, quizzes, short writing assignments, and case studies. The course is usually offered fall and spring semesters with enrollments of about 45 students.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007 Ending: Summer 2010
Prerequisite: A grade of "C" or better required forHRIM 365

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 456 Casino Operations Management (3) Historical and current perspective of the gaming industry. Management principles of casino operations, including coordination with traditional hospitality services.

HRIM 456 Casino Operations Management (3)

The primary objective of this course is to provide students with an understanding of how a casino hotel supports the gaming function of domestic and international casinos. A second objective is to provide the student with an opportunity to apply specific subject matter learned in other courses (management, marketing, accounting, human resource management) to business problems and issues in the casino industry. A third objective is to provide information about the gaining industry in general and specifically about career opportunities in the gaming and convention services industries. Main topics typically include:
Introduction to the casino industry-its size, structure, and historical origins
Management issues in a casino hotel as compared with other types of hotels
Roles of hotel managers and food and beverage managers at multiple levels in casino hotels
Model for analyzing casino hotel issues in a rapidly changing industry
Roles of government and regulatory agencies in protecting consumers, the public, communities, and competitors
Differences between social responsible and addictive gambling
Reliable sources of information about the gaming industry

This is an elective course usually taken after a student has completed several courses in the major. Students in other majors are welcome after all Hotel, Restaurant, and Institutional Management majors have scheduled. Student performance is evaluated through examinations and quizzes. This course is offered fall semester with enrollments of 30 to 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 466 (US) Human Resource Management in the Hospitality Industry (3) Recruitment, selection, training, performance appraisal, and compensation of hospitality human resources in today's culturally diverse work force.

HRIM 466 Human Resource Management in the Hospitality Industry (3)
(US)

This course builds on students' knowledge of organizational behavior and management. The course discusses human resource (HR) issues in the hospitality industry. The course pays special attention to the changing nature of organizations, the challenges that human resource managers face as a result, and the consequences of HR managers' actions to the organization. Topics typically include:
Importance of human resources in the hospitality industry
Processes managers use in recruiting, selecting and training human resources in their organizations
Legal and social issues that impact human resource management in the hospitality industry
Roles and responsibilities of a hospitality industry human resources professional

The content of this course is fundamental to understanding how the human resource function operates in hospitality organizations. This is a required course for all Hotel, Restaurant, and Institutional Management majors. Students must first complete the course in hospitality organization behavior. Evaluation methods may include examinations, quizzes, short writing assignments, and case studies. The course is usually offered fall and spring semesters with enrollments of about 45 students.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forHRIM 201, HRIM 365

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 467 Management of Hotel and Restaurant Employee Relations (3) Survey and analysis of managerial strategies for employee relations in hospitality operations.

HRIM 467 Management of Hotel and Restaurant Employee Relations (3)

The objective of this course is to provide students with an understanding of labor relations in the hospitality industry. Students need to know about labor laws as they affect the industry and specifically about collective bargaining. Primary emphasis is given to private-sector labor relations, but some consideration is given to the public sector. Main topics typically include:

Introduction to employee relations in hotels and restaurants
Economic influences on the hotel and restaurant labor market
Labor law as applied to the hospitality industry
Management strategies in collective bargaining
Administration of labor contracts
Management and supervisory strategies in labor disputes

The course is an elective in the hospitality program. Students must first complete the course in hospitality human resources. Students are evaluated based on examinations, a paper, and an in-class bargaining simulation. The course is offered on an as-needed basis, with enrollment of about 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004 Ending: Summer 2010
Prerequisite: HRIM 466

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 470 Hospitality Management Information Systems (3) Design, implementation, and analyses of information systems for strategic, tactical, and operational functions of hospitality management.

HRIM 470 Hospitality Management Information Systems (3)

The objectives of this course are to provide students with the opportunity to explore hospitality information systems within the industry, to demonstrate how managers are involved with information systems planning, design, analysis and project management; and to show how information systems can be used at all levels of hospitality management. Hospitality managers interested in information technology should comprehend how information technology supports strategic, tactical, and operations functions. The course is taught from the perspective of what managers need to know to interact with systems analysts and purveyors. Additionally, the course will address how managers can use information. Main topics typically include: Concepts of information systems
Applying information systems to hospitality - enterprise resource planning, customer relationship management
Managerial support systems - geographic information systems, executive information systems
Human element in information systems and business process re-engineering
Project management
Application of information systems to hospitality operations
Managing technology resources - data
Challenges of information system leadership - planning and ethics
Application development
Purchasing applications
Facilitating user computing

The course is a required course for all students in the Hotel, Restaurant, and Institutional Management /Information Sciences and Technology minor and is an elective for other Hotel, Restaurant, and Institutional Management majors. Students are evaluated by examinations, written exercises, and class participation. The course is offered fall semester with an enrollment of about 10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 467 Management of Hotel and Restaurant Employee Relations (3) Survey and analysis of managerial strategies for employee relations in hospitality operations.

HRIM 467 Management of Hotel and Restaurant Employee Relations (3)

The objective of this course is to provide students with an understanding of labor relations in the hospitality industry. Students need to know about labor laws as they affect the industry and specifically about collective bargaining. Primary emphasis is given to private-sector labor relations, but some consideration is given to the public sector. Main topics typically include:
Introduction to employee relations in hotels and restaurants
Economic influences on the hotel and restaurant labor market
Labor law as applied to the hospitality industry
Management strategies in collective bargaining
Administration of labor contracts
Management and supervisory strategies in labor disputes

The course is an elective in the hospitality program. Students must first complete the course in hospitality human resources. Students are evaluated based on examinations, a paper, and an in-class bargaining simulation. The course is offered on an as-needed basis, with enrollment of about 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better forHRIM 466

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 471 Evaluation of Hospitality Technology (3) This course provides students with an understanding of the variety of information technologies used in the hospitality industry.

HRIM 471 Evaluation of Hospitality Technology (3)

Newly emerging information technology and systems are changing the competitive landscape of the hospitality industry. In order for a hospitality firm to maintain a competitive position in its market, hospitality managers must understand how information technology (IT) and information systems (IS) affect their operations and their competitiveness in the market. The course is designed to familiarize students with the role of information systems as a support and enabling function of hospitality firms. Main topics typically include:

The concept of information systems
Components of hospitality information systems at the corporate and operational levels
Analysis and evaluation of hospitality information systems
Process of selecting information systems
Implementation and maintenance of information systems

This is an elective course for Hotel, Restaurant, and Institutional Management majors and a required course for students pursuing the Information Sciences and Technology minor. Students must first complete the HRIM courses in decision-making and information systems and in hospitality management information systems. Evaluation methods usually include examinations, case write-ups, and a semester project. The course is taught in a team technology classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 350, HRIM 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 482 Hospitality Real Estate (3) The course focuses on commercial real estate concepts related to the hospitality industry.

HRIM 482 Hospitality Real Estate (3)

The purpose of this course is to commence the learning process regarding strategic real estate management in the hospitality industry through a process of discovery. Topics include hospitality property development, ownership, asset management, market analysis, legal issues, financing, investment, and appraisal. The course is oriented towards the responsibilities of hospitality industry corporate staff, developers, and owners.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Summer 2010
Prerequisite: HRIM 336, HRIM 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 480 Advanced Hotel Management (3) Advanced hotel operations, internal control systems, and service philosophy. Integrates management, departmental operations, law, technology applications, marketing and managerial accounting.

HRIM 480 Advanced Hotel Management (3)

HRIM 480 is designed to provide students with an advanced knowledge of hotel operations. The course focuses on the responsibilities of executive committee members and the general manager of a hotel. As such, the topics are varied and include discussions of current events in the hotel industry. Students participate in a hotel management simulation exercise to help develop strategic decision-making skills. Main topics typically include:
Introduction to types of owners in a hotel transaction
Leading hotel companies and their brands
Management companies and franchise agreements
Technology's impact on the hotel business
Hotel operations in an international environment
Linkage between hotel operating decisions and the service quality experience
Management style and problem solving abilities in a team environment
General management perspective on how various operating aspects of a hotel are related to one another
Individual yield management components' affect on the yield management decision

The course is considered to be a senior-level course and is a required course for all Hotel, Restaurant, and Institutional Management majors. The introductory hotel management course and the hospitality managerial accounting course are prerequisites. The course also builds on knowledge gained in a variety of other hospitality and business courses such as marketing and organizational behavior. Students are evaluated by examinations, written summaries of assigned readings, periodic reports for a simulation exercise, peer evaluations, and simulation performance grades. The course is taught in the technology classroom, 117 Mateer Building (wireless computer laboratory). The course is offered fall and spring semesters with enrollments of about 40 students for each sections.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: A grade of "C" or better required forHRIM 336, HRIM 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 482 Hospitality Real Estate (3) The course focuses on commercial real estate concepts related to the hospitality industry.

HRIM 482 Hospitality Real Estate (3)

The purpose of this course is to commence the learning process regarding strategic real estate management in the hospitality industry through a process of discovery. Topics include hospitality property development, ownership, asset management, market analysis, legal issues, financing, investment, and appraisal. The course is oriented towards the responsibilities of hospitality industry corporate staff, developers, and owners.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: A grade of "C" or better required forHRIM 336, HRIM 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 487 Casino Operations and Societal Impact of Gaming (3) Students will learn the structure, culture, and ethical responsibility toward disordered gambling and other lifestyle issues of modern casinos.

HRIM 487 Casino Operations and Societal Impact on Gaming (3)

The primary objective of this course is to introduce the advanced standing student to the organization structure, the organizational culture, and the ethical responsibility toward disordered gambling and other lifestyle issues of modern casinos. The student will study leaders in the casino industry to gain insight into how they contributed to the growth of their companies and the industry as a whole. Emphasis will be placed on their approach to the ethical issues of their day. The modern day casino is complex and its organizational structure reflects that complexity. The student will study the different structures and reporting relationships of actual casinos to ascertain the factors that impact the level of effectiveness of different organizational charts. The job titles and descriptions of all departments will be examined. The job titles and descriptions of the gaming departments will be studied in greater depth than in Gaming Operations (HRIM388). The lifestyle of customers and employees alike will be examined particularly those issues that impact health and social services. Specific topics include disordered gambling and smoking. Disordered gambling will be studied in greater depth than in Introduction to Casino Management (HRIM386) and will be examined simultaneously with Casino Marketing (HRIM486). The human resources function will be scrutinized as a filtering process for selecting the right employees and for training and reinforcing the organization’s commitment to ethical and responsible behavior. The casino design project will take the student’s ability to design a slot floor layout, a table games floor layout, to create a list of hotel room amenities, to write a positioning statement for a range of restaurants in a hypothetical casino, to develop a list of multiple entertainment venues and so on to a higher level than previous coursework so that the final product demonstrates the student’s knowledge and expertise in casino management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: "C" or better inHRIM 387, HRIM 388 andHRIM 495
Concurrent: HRIM 486

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 486 Casino Marketing (3) Students will learn marketing techniques for casinos which take into account the external environment, individual consumer choices, and ethical considerations.

HRIM 486 Casino Marketing (3)

The primary objective of this course is to introduce the advanced standing student to the factors affecting the effective marketing of a modern casino. General marketing principles and concepts build the foundation for the study of marketing techniques unique to the casino industry. Consumer behavior and external environments create the context in which all marketing decisions and activities occur. Their study ensures the student has the basics to approach any marketing problem. Before the strategic use of marketing to build brand awareness and to ensure profitability is learned, the impact of social and ethical responsibility is studied including disordered gambling and smoking bans. The need to advertise and promote without exacerbating the incidence of disordered gambling is an increasingly necessary ability required of casinos today. A thorough knowledge of segmentation and positioning are required as well. Extra time is allotted to both social responsibility and segmentation/positioning. Strategic marketing entails identifying the components of a marketing plan, their purpose, and the method of execution. Various concepts such as profit-service chain and revenue management are covered to round out the student’s knowledge of marketing. The course spends time on promotions which are unique to the casino industry including, but not limited to professional boxing matches and other special events, slot and players’ clubs, special entertainment venues, on-floor promotions, and so on. The student learns the importance of location and transportation issues and how they impact the revenue and profitability of a casino. Meetings and conventions generate revenue during off-peak periods and are significant factors in the revenue stream of a casino. The student must demonstrate their mastery of the material by creating a strategic marketing plan for a hypothetical casino.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: "C" or better inMKTG 221, HRIM 387, HRIM 388 andHRIM 495
Concurrent: HRIM 487

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 489 Seminar in Institutional Food Service Management (3) Contemporary issues in institutional food service management.

HRIM 489 Seminar in Institutional Food Service Management (3)

The objectives of this course are to acquaint students with contemporary issues in institutional food service and to evaluate the impact of specific elements in the external and internal environments on institutional food service. Main topics typically include:
Current status of institutional food service
Branding
Production and distribution systems
Contract food service companies
Strategic analysis of specific segments of institutional food service, including school food service, college food service health care, life care, business and industry, recreational, and corrections

This course is an elective in the Hotel, Restaurant, and Institutional Management curriculum. Evaluation methods usually include examinations, class participation, and a term project. The course is offered on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 490W Strategic Hospitality Management (3) This capstone writing-intensive class integrates content from throughout the previous curriculum, focusing on strategic application to current industry issues.

Strategic Hospitality Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Summer 2010
Prerequisite: HRIM 365, HRIM 435, HRIM 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 490W Strategic Hospitality Management (3) This capstone writing-intensive class integrates content from throughout the previous curriculum, focusing on strategic application to current industry issues.

Strategic Hospitality Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: a grade of "C" or better forHRIM 365, HRIM 435, HRIM 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 491 Operational Analysis of Institutional Food Service (3) The development and application of quantitative and qualitative techniques for evaluation of institutional food service.

HRIM 491 Operational Analysis of Institutional Food Service (3)

The objectives of this course are to acquaint students with the variety of analytical techniques useful for evaluating the performance of an institutional food service and to outline strategies for analyzing performance problems in specific cases. This course allows the student to apply decision models to operational problems in institutional food service. Main topics typically include:
Characteristics of services
Forecasting demand for services
Aggregate planning
Scheduling capacity
Quality and productivity
Process control charts
Project management
Queuing

This course is an elective in the Hotel, Restaurant, and Institutional Management curriculum. Evaluation methods usually include examinations, case studies, and a term project. The course is offered on an as-needed basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: HRIM 330, HRIM 336, HRIM 337, HRIM 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 492 Advanced Professional Seminar in Hotel, Restaurant and Institutional Management (1) Course prepares senior HR&IM students to assume leadership positions in the hospitality industry (Focus on careers, leadership, ethics, lifelong learning).

HRIM 492 Advanced Professional Seminar in Hotel, Restaurant and Institutional Management (1)

The objective of this course is to help students begin their transition from being students to being hospitality managers. With most Hotel, Restaurant, and Institutional Management majors not having yet established careers and having spent most of their lives as students, they need to think systematically about how they will become full-time managers in hospitality. Main topics typically include:
Career planning and lifelong learning
Deciding on employers to pursue
The selection process-getting offers from employers
Evaluating and choosing between offers
Negotiating salary, location, benefits, relocation expenses
Personal budgeting and financial planning
Balancing work and personal life
Time and stress management
Networking and professional associations
Roles and responsibilities of alumni

This course is required of all hospitality majors. The course is taken after most hospitality courses have been completed and concurrent with other courses that are capstones within various tracks of courses, such as the foods-related courses. The course is usually taken in the final semester of study. As a prerequisite for the course, students must have completed 1,000 hours of work experience in the hospitality industry. Evaluation methods may include quizzes, writing assignments, and class participation. The course is usually offered fall and spring semesters, with enrollments dependent upon the size of the graduating class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: 1000 hours of work experience in the hotel restaurant and institutional management industry
Concurrent: HRIM 430 HRIM 466 HRIM 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495A Hotel Internships-PS Hospitality Services Internship (3) Students will participate in a supervised internship with Penn State Hospitality Services.

Hotel Internships-PS Hospitality Services Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495A Hotel Internship-PS Hospitality Services Internship (3) Students will participate in a supervised internship with Penn State Hospitality Services.

Hotel Internship-PS Hospitality Services Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495B Executive Internship-NLI (3) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Executive Internship-NLI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495B Executive Internship-NLI (3) Students will participate in a supervised internship with the Nittany Lion Inn.

Executive Internship-NLI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495D HRIM Teaching Assistant (1-6) Student performs as a teaching assistant for an HRIM course. Assists faculty member with class.

HRIM Teaching Assistant (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495D HRIM Teaching Assistant (1-6) Student performs as a teaching assistant for an HRIM course. Assists faculty member with class.

HRIM Teaching Assistant (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495D HRIM Teaching Assistant (1-6) Student performs as a teaching assistant for an HRIM course. Assists faculty member with class.

HRIM Teaching Assistant (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495E External/Off Campus Internship (1-6) Students will participate in a supervised internship with an approved site participant. Internships are typically one semester in length.

External/Off Campus Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495E External/Off Campus Internship (1-6) Students will participate in supervised internship with an approved site participant. Internships are typically one semester in length.

External/Off Campus Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495F Housing and Food Service Internship (3) Students will participate in a supervised internship with a facility within PSU Housing and Food Service.

Housing and Food Service Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495E External/Off Campus Internship (1-6) Students will participate in a supervised internship with an approved site participant. Internships are typically one semester in length.

External/Off Campus Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495F Housing & Food Service Internship (3) Students will participate in a supervised internship with a facility within PSU Housing & Food Service.

Housing & Food Service Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 495G Supervisory Internship (6) Students will participate in a supervised internship with an approved site location.

Supervisory Internship (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497A Meeting & Events I (3) Students will learn concepts and applications to Event & Meeting Planning.

Meeting & Events I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497C Revenue Management (3) Students will learn concepts and applications relating to revenue management within the Hospitality industry.

Revenue Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497B Special Topics in Hotel Management (3) Students, through research and on-line activities, will discuss special or current interest in the hotel industry.

Special Topics in Hotel Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497D Casino Marketing (3) Students will learn marketing techniques for casinos which take into account the external environment, individual consumer choices, and ethical considerations.

Casino Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497E Business Ethics and Corporate Social Responsibility (3) Examines the role of ethics and corporate social responsibility in hospitality including the concepts of management, sustainability, and leadership.

Business Ethics and Corporate Social Responsibility (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497D Managing Continuing Care Retirement Communities (3) Managing continuing care retirement communities.

Managing Continuing Care Retirement Communities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497F Entrepreneurship in the Hospitality Industry (3) This course will explore the characteristics of the successful entrepreneur and the process of starting a new business venture.

Entrepreneurship in the Hospitality Industry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497G French Cuisine/Culture (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

French Cuisine/Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497G Casino Operations and Societal Impact of Gaming (3) Students learn organization structure, organization culture, and ethical responsibility toward disordered gambling and other lifestyle issues of modern casinos.

Casino Operations and Societal Impact of Gaming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497H Contemporary Research Issues (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Contemporary Research Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497I Special Topics in Restaurant Management (3) Students learn about special or current issues in the restaurant and foodservice industry through library research, on-line activities, class presentations.

Special Topics in Restaurant Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 497K New Product Development (3) Students participate in the testing and development of new products from participating industry companies.

New Product Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 498D International Hospitality Management (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

International Hospitality Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 498G French Cuisine and Culture (3) Program will include intensive classes on language and culture, products, cuisine, wine, and also design and atmosphere.

French Cuisine and Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 498F International Restaurant and Food Service Management (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

International Restaurant and Food Service Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 498I International Hospitality Management (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

International Hospitality Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Hotel, Restaurant, and Institutional Management (HRIM)

HRIM 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 129 (GS) Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.

HD FS 129 Introduction to Human Development and Family Studies (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides a basic introduction to the concepts, theories, and research on human development as it occurs over the life span and in context. Students will be introduced to developmental tasks and challenges unique to each stage of human development from the womb through infancy, early and middle childhood, adolescence, emerging adulthood, middle age and old age. Beginning with the prenatal state and infancy, students will be introduced to the biological, emotional, cognitive, psychosocial, as well as the social, cultural and historical factors that influence growth and development across infancy, childhood, adolescence, adulthood, and advanced adulthood. Students will be introduced to basic concepts, theoretical orientations, and key empirical studies that inform human growth and development. Furthermore, attention is given to the central role of families and family life as a context for development. The formation of intimate relationships, marriage, marital processes, motherhood and fatherhood will be reviewed, as well as problems and challenges that families face such as financial stress, separation and divorce, abuse, and caregiving. Finally how families and family behavior are influenced by their communities, the larger culture, and other social and economic forces will be discussed. Students will be evaluated on the basis of tests, writing assignments, group projects, as well as participation in class discussions and occasional panels. This course will be offered five times a year at University Park, with enrollments in the 200-400 range during the semester and 20-30 in the summer sessions. Enrollments at other locations will vary from 15-200, depending on the campus and the time of the year.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 129H (GS) Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.

Introduction to Human Development and Family Studies (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 129S (GS) Introduction to Human Development and Family Studies (3) Introduction to psychosocial and family development at all stages of the individual and family life cycle.

Introduction to Human Development and Family Studies (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 216 Personal and Interpersonal Skills (2) Conceptions of lifespan personal and interpersonal skill enhancement.

Personal and Interpersonal Skills (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 219 Family Financial Management (3) How families plan their finances and factors that determine their decisions.

Family Financial Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 218 Foundations of Marriage (3) Factors influencing the husband/wife relationship across the life course.

Foundations of Marriage (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 229 (GS) Infant and Child Development (3) Theory, research, and methods of social/behavioral/biological sciences related to developmental processes and intervention during infancy and childhood.

HD FS 229 Infant and Child Development (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces students to the study of children from the prenatal period to (not including) adolescence. Students will become familiar with the most prominent theoretical ideas about child development. The latest research on prenatal development, infancy, early and middle childhood will inform the discussions, and students will become familiar with key studies. The major domains of children's functioning covered include social interactions and emotional development, cognitive changes and acquisition of language, physiological growth in infancy and biological changes that underlie the transition out of childhood into adolescence. A key feature of this course is how processes in these different domains interact to influence children's overall adaptation. Finally, informed by a life course developmental framework, this course will place these developmental processes in context. Students will become familiar with the theoretical and empirical literature that locates children's growth and development in the context of families and family change, peer groups, neighborhoods and communities, and the larger cultural context within which they are embedded. Students will be evaluated across several performance areas which may include tests, writing assignments, group projects, and participation in class discussions and panels. This course will be offered five times a year at University Park and varying amounts at Altoona and the Commonwealth Campuses. Enrollments vary by semester and location: Fall/Spring: 15-50 students at the Commonwealth and Altoona locations; 100-200 at University Park. Summer: 10-20 at the Commonwealth and Altoona locations; 20-30 at University Park.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 230 Overview of Curricular Practices in Early Childhood Care and Education (3) Curricular practices in programs for infants, toddlers and preschoolers. Focus on developmentally appropriate practice, emergent curriculum and home/child care links.

HD FS 230 Overview of Curricular Practices in Early Childhood Care and Education (3)

This course, intended for current or future providers of early childhood care and education, examines curricular practices in programs for young children. It is required for the proposed Early Childhood Care and Education option to the associate degree in Human Development and Family Studies.

The course addresses current practices in early childhood care and education programs for infants, toddlers, and preschoolers. After a brief examination of the history of early childhood care and education, this course focuses on the use of developmentally appropriate activities and strategies to maximize children's positive growth and development. Each of the traditional early childhood curricular areas (involving physical, social, emotional, cognitive development) is considered, as is the importance of the connection between families and early care and education settings. Reading and discussion in each curricular area stresses diversity issues and inclusion of children with special needs in groups with normally developing children. There is an emphasis on applications of the project approach and emergent curriculum as appropriate for use with infants, toddlers and preschoolers.

Students show mastery of the course material through tests over each topic of discussion, reports on outside reading related to current issues in early childhood care and education, individual and small group presentations about a specific curricular issues, and use of a reflective journal.

The course will be offered once each academic year, with an enrollment of 15-25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HD FS 229

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 231 Guidance in Early Childhood Care and Education (3) Positive guidance methods for infants, toddlers and preschoolers, leading to self-control and social capability. Includes focus on home/childcare links.

HD FS 231 Guidance in Early Childhood Care and Education (3)

This course, intended for current or future providers of early childhood care and education, examines guidance methods for use with young children. It is required for the proposed Early Childhood Care and Education option to the associate degree in Human Development and Family Studies.

The course emphasizes the use of guidance techniques that help children grow in independence, responsibility, self-control, and ability to function as group members. It addresses organization and guidance methods that foster the child's responsibility, independence, positive social interactions and emotional self-control. While the course covers various types of guidance, it emphasizes responding to children with respect and acceptance, using positive discipline. Since guidance is an area in which families and teachers frequently must confer, this course also deals with the use of effective parent-teacher communication skills. It requires weekly experience with young children.

Each student will produce a portfolio demonstrating understanding of guidance techniques and their theoretical backgrounds. In addition, portfolios will demonstrate evidence of competence in analyzing the early childhood care and education environment in terms of its effect on young children's behavior, as well as competence in solving environmental problems that contribute to guidance issues. Portfolios will also demonstrate evidence of competence in communicating with parents and families about guidance issues. Students will reflect, in writing, on their own use of developmentally appropriate guidance techniques in their work with young children.

The course will be offered once each academic year, with an enrollment of 15-25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HD FS 229

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 232 Creativity and Play in Early Childhood Care and Education (3) Planning for play, creativity and exploration in programs for infants, toddlers and preschoolers. Includes focus on home/childcare links.

HD FS 232 Creativity and Play in Early Childhood Care and Education (3)

This course, intended for current or future providers of early childhood care and education, examines the development of play and creativity in young children. It is required for the proposed Early Childhood Care and Education option to the associate degree in Human Development and Family Studies.

The course addresses the potential of play, creativity, and exploration in the optimal development of a child. Content includes the development of play, creativity, and aesthetics. The course emphasizes adult-child interaction styles and activities that encourage, enhance and expand play, exploration and creativity in infants, toddlers, and preschoolers throughout the daily care and education routine. There is an emphasis on effective communication with families regarding the benefits of play and open-ended activities. It requires weekly experience with young children.

Each student will develop a portfolio that demonstrates understanding of the development of play, exploration and creativity in the early years, as well as competence in planning for and enhancing that development. The portfolio will also show evidence of competence in communicating with parents and families.

In addition to the portfolio, the student will develop an activity card file containing ideas for developmentally appropriate play and creative activities for infants, toddlers, and preschoolers. Each student will participate in individual and group presentations related to course topics, and will take tests covering reading and other class material.

The course will be offered once each academic year, with an enrollment of 15-25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HD FS 229

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 233 Emergent Language and Literacy: Development and Practice in Early Childhood Care and Education (3)
Fostering development of language and literacy in infants, toddlers and preschoolers. Includes children's literature and focus on home/childcare links.

HD FS 233 Emergent Language and Literacy: Development and Practice in Early Childhood Care and Education (3)

This course, intended for current or future providers of early childhood care and education, examines the emergence of language and literacy. It is required for the proposed Early Childhood Care and Education option to the associate degree in Human Development and Family Studies.

The course emphasizes why and how to foster continuous development from first sound through recognizable speech; from initial symbol recognition through reading; from making the first mark through writing. Content also includes choosing literature appropriate for use with infants and young children and methods of integrating literature throughout the daily child care and education routine. There is a focus on developing activities centered on language and literature, and an emphasis on effective communication with parents and families. This course requires weekly experience with young children.

Students will produce a portfolio demonstrating understanding of language and literacy development, competence in planning developmentally appropriate language and literacy activities for infants and young children, and competence in evaluating child care settings in terms of support for emergent language and literacy. Portfolios will also demonstrate evidence of competence in choosing and using good literature with young children, and in communicating to parents and families the importance of facilitating early language and literacy.

In addition to the portfolio, students will develop files of language and literacy activities appropriate for use with infants and young children. They will also take tests related to reading and material covered in class.

The course will be offered once each academic year, with an enrollment of 15-25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HD FS 229

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 234 Mathematics and Science Reasoning: Development and Practice in Early Childhood Care and Education (3)
Fostering development of mathematical reasoning and scientific inquiry in infants, toddlers and preschoolers. Includes project approach and focus on home/childcare links.

HD FS 234 Mathematics and Science Reasoning: Development and Practice in Early Childhood care and Education (3)

This course, intended for current and future providers of early childhood care and education, examines the emergence of mathematics and science reasoning. It is required for the proposed Early Childhood Care and Education option to the associate degree in Human Development and Family Studies.

The course addresses processes involved in mathematical reasoning and scientific inquiry. It emphasizes the development of activities, questioning skills, and observation and documentation techniques that extend infants' and young children's exploration, discovery, and thinking patterns. Content also includes methods of integrating mathematics, science and reasoning activities throughout the daily child care and education routine. Participation in the project approach provides students with an experiential understanding of constructing knowledge. There is also an emphasis on effective communication with parents and families. This course requires weekly experience with young children.

Students will produce a portfolio demonstrating understanding of the development of mathematics and science reasoning in the very early years and competence in planning developmentally appropriate mathematics, science, and logical thinking activities for infants and young children. Portfolios will also demonstrate evidence of competence in communicating to parents and families the importance of exploration and discovery in facilitating young children's mathematics and science knowledge. Students will reflect, in writing, on their own growth in knowledge and competence in facilitating young children's thinking.

In addition to the portfolio, students will develop files of mathematics and science reasoning activities appropriate for use with infants and young children. They will also take tests related to reading and materials covered in class.

The course will be offered once early academic year, with an enrollment of 15-25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: HD FS 229

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 239 (GS) Adolescent Development (3) Social, behavioral, and biological development and intervention throughout adolescence.

HD FS 239 Adolescent Development (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Only in early infancy do minds, bodies, and abilities change as radically as they do during the teenage years. HD FS 239 is an introductory course that explores the developmental processes that shape our lives between puberty and the end of college. Although each life unfolds in its own unique pattern, we will explore the ways biological, psychological, and sociological influences systematically combine to shape its course. This class will help to develop an understanding of the concepts, methods, and research findings central to the study of adolescent development.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 249 (GS) Adult Development and Aging (3) Physiological, psychological, and social development and intervention from young adulthood through old age.

HD FS 249 Adult Development and Aging (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will prove an orientation into the multidisciplinary study of aging and development from middle adulthood to old age. Students will be introduced to theories of aging research methods and current information on the psychological, sociological, and biological aspects of aging.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 250 (US) (WMNST 250) Sexual Identity over the Life Span (3) Concepts of affectional and sexual orientation over life span, with emphasis on lesbian and gay male personal, family, and community adaptation.

HD FS (WMNST) 250 Sexual Identity over the Life Span (3) (US)

This course reviews concepts of sexual identity as informed by a human development perspective. Concepts of sexual orientation are discussed in the context of a review of lesbian, gay male, and bisexual lives. Developmental processes of lesbian and gay life are detailed: personal change from the teenage years through adulthood, changes in family and relationship patterns, and impact of communities, laws, and culture. These processes are contrasted to the developmental processes of women and men who identify themselves as heterosexual. The complex effect of gender, race, ethnicity, class status, and historical time on sexual orientation and its expression has generated ongoing controversies in scholarship as well as in public discourse. The course will be an introduction to these controversies as informed by human development research.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: 3 credits in HD FS or 3 credits in social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 287W (GS;US) Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.

HD FS 287W Intercultural Community -Building (3)
(GS;US)

This course provides students an experiential introduction to how individuals and families both affect and are affected by the various cultural/community contexts in which they develop, including schools, places of work, and youth and community programs. Students will identify and explore their own unique and shared assumptions, and the relationships between those assumptions and life histories and experiences. They will become aware of the dynamics of how communities are formed and function by forming a community themselves, and through involvement in a local community group or agency. Group discussions and written reflections will link their personal experiences to theory and research presented in class and readings on such topics as developing systems theories, cultural communication theories, and decision-making. The goals of the course are to increase students' understanding of the relations between values, power relations, and the various processes of social change, and encourage the development of communication skills and citizenship. Special emphasis will be placed on developing relationships within culturally and ethnically diverse groups. Because it is designated as a writing intensive course, particular attention will be given to the development of written communication skills. Students will be evaluated on the basis on their performance in several areas, which may include examinations and quizzes, several writing assignments, and participation in class discussions and simulations. The course may be delivered at certain Commonwealth College campuses and Altoona College. Depending on location, the course may be offered during the fall, spring and/or summer sessions, with anticipated class enrollments of 12-20 students.

General Education: GS
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 287X (GS;US) Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.

HD FS 287X Intercultural Community-Building (3)
(GS;US)

Students in HD FS 287X experientially study "individuals and families in their own and other cultures, and ... learn how the family, the workplace, the community, and the larger culture affect and are affected by the individual" (http://www.psu.edu/dept/HDFS/). They explore the origins of their unique and shared assumptions based on their perceptions, which in turn are founded on their particular life experiences-in addition to the students themselves, this represents the greatest resource in the course. The role of the instructor is to create a context within which participants can become aware of the dynamics of how communities are formed and function by forming a community themselves.

This course is student centered and focuses on academic and personal student learning. It utilizes an interdisciplinary orientation and makes extensive use of experiential learning activities as an alternative to lecture. Collaborative learning exercises and dialogue are used as the primary modes of communication, and the course emphasizes the student's responsibility in determining the quality of his or her education while contributing to an organizational climate which values difference.

HD FS 287X is designed to prepare students to integrate the diversity of experience that characterizes higher education and citizenship in their local communities. It supports the experience of negotiating differences and building a community within the one-week intensive classroom experience and during their semester long Community-Diversity Project. This transitional experience, in turn, will be more effectively applied to the small-groups, families, institutions, and communities within which the student will ultimately live and work.

Required reading is done before attending class; 40 hours of class contact time are offered in one week, 8:00 a.m. to 5:00 p.m. (one-hour lunch), M-F, before the start of the semester. Written course work is completed during the semester by e-mail, with the class convening for the final exam. The Community-Diversity Project is completed on site in the local community.

Learning will be evaluated in-class through writing assignments and quizzes. Post-class work during the semester requires recursive writing, and a Community-Diversity Project, with Progress Reports.

This course is not linked to, nor related to any other specific courses by being or requiring a prerequisite.

As a (GS) designated course, the focus of HD FS 287X serves well as a foundation course in all other departments.

HD FS 287X does not require any special facilities or labs. Enrollment is limited to 20 per section.

General Education: GS
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 287Y (GS;US) Intercultural Community-Building (3) An experiential introduction to negotiating differences in small groups, families, institutions, and communities.

HD FS 287Y Intercultural Community -Building (3)
(GS;US)

This course provides students an experiential introduction to how individuals and families both affect and are affected by the various cultural/community contexts in which they develop, including schools, places of work, and youth and community programs. Students will identify and explore their own unique and shared assumptions, and the relationships between those assumptions and life histories and experiences. They will become aware of the dynamics of how communities are formed and function by forming a community themselves, and through involvement in a local community group or agency. Group discussions and written reflections will link their personal experiences to theory and research presented in class and readings on such topics as developing systems theories, cultural communication theories, and decision-making. The goals of the course are to increase students' understanding of the relations between values, power relations, and the various processes of social change, and encourage the development of communication skills and citizenship. Special emphasis will be placed on developing relationships within culturally and ethnically diverse groups. Because it is designated as a writing intensive course, particular attention will be given to the development of written communication skills. Students will be evaluated on the basis on their performance in several areas, which may include examinations and quizzes, several writing assignments, and participation in class discussions and simulations. The course may be delivered at certain Commonwealth College campuses and Altoona College. Depending on location, the course may be offered during the fall, spring and/or summer sessions, with anticipated class enrollments of 12-20 students.

General Education: GS
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 296 Independent Studies (1-12) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 297A Foundations of Post-Secondary Transition (1) Course designed for high school students who plan on transitioning to post- secondary training after high school.

Foundations of Post-Secondary Transition (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 300H Honors Seminar: Concepts and Issues in Human Development and Family Studies (3) Introduces core concepts and issues in the study of Human Development and Family Studies.

Honors Seminar: Concepts and Issues in Human Development and Family Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 129 or permission of human development and family studies honors adviser

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 302A Leadership and Technology Skills for Human Services Professionals A (3) Development of skills essential for contemporary human services professionals, including critical thinking, problem solving, electronic communications, and information handling.

Leadership and Technology Skills for Human Services Professionals A (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HD FS 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 301 Values and Ethics in Health and Human Development Professions (3) Examines bases for choices among values in personal and professional relations in human development processes and supporting services.

Values and Ethics in Health and Human Development Professions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 302B Leadership and Technology Skills for Human Services Professionals B (3) Application and enhancement of leadership and technology skills in team settings; emphasis on active and collaborative problem-solving.

Leadership and Technology Skills for Human Services Professionals B (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: HD FS 302A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 310M Seminar in Honors--Research Methods (3) Overview of research and methods issues tailored around development of honors thesis proposals.

Seminar in Honors--Research Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: permission of Human Development and Family Studies honors adviser

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 312W Empirical Inquiry in Human Development (3) Introduction to the skills involved in critical thinking in general and the methods of empirical inquiry in particular. Open to HD FS majors only.

Empirical Inquiry in Human Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: a grade of C or better required inEDPSY 101 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 311 Human Development and Family Studies Interventions (3) Survey of individual and family formal and informal intervention efforts; historical and current perspectives and approaches.

Human Development and Family Studies Interventions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 315 (US) Family Development (3) Family functions over the life course; family from a multidisciplinary perspective, emphasizing adaptation and change.

HD FS 315 Family Development (3)
(US)

This course offers an overview of families focusing primarily on contemporary American families. The primary thrust of this course is to step beyond our personal experiences with families and place them within a broader social, historical, cultural and economic context. This class will be multi-disciplinary in its approach to the study of American families. However, we will begin with the historical, demographic and social changes that American families have undergone and try to understand some of the causes and consequences of these changes for the developmental life courses of adults and children in families today. Throughout this course we will be particularly concerned with the diversity of American families stressing differences based on gender, race and ethnicity, and socioeconomic status.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 315Y (US) Family Development (3) Family functions over the life course; family from a multidisciplinary perspective, emphasizing adaptation and change.

HD FS 315Y Family Development (3)
(US)

This course offers an overview of families focusing primarily on contemporary American families. The primary thrust of this course is to step beyond our personal experiences with families and place them within a broader social, historical, cultural and economic context. This class will be multi-disciplinary in its approach to the study of American families. However, we will begin with the historical, demographic and social changes that American families have undergone and try to understand some of the causes and consequences of these changes for the developmental life courses of adults and children in families today. Throughout this course we will be particularly concerned with the diversity of American families stressing differences based on gender, race and ethnicity, and socioeconomic status.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: HD FS 129 ; 3 credits of social behavioral or human biological sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 330 Observation or Experience with Children, Youth, and Families (1-6) Directed observations of, or supervised experience with children, youth, and families in group or home settings.

Observation or Experience with Children, Youth, and Families (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 397A Culture and Human Development (3) This course explores how children's development is organized within different cultural contexts for the purpose of understanding both the unversity and diversity of pathways.

Culture and Human Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 401 Project Planning, Implementation, and Evaluation in the Human Services (3) Exercises and activities related to the design, planning, implementation and management, and evaluation of projects and programs in the human services.

HD FS 401 Project Planning, Implementation, and Evaluation in the Human Services (3)

HD FS 401 is part of a sequence of courses that develop skills and competencies of the human services student. The course emphasizes the further development of communication skills, diversity skills, team-building skills, critical thinking skills, and technology and leadership skills. Intended to be completed prior to the internship experience, the course will initially focus students' efforts on the identification of a field-based human services project or program, and a setting within which it could be carried out. Subsequently, students will design and plan the project or program, examine and propose effective implementation and management procedures, and incorporate state-of-the art evaluation procedures into the design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: HD FS 312W ; approval by internship coordinator. Prerequisite or concurrent:HD FS 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 402 Human Services Seminar (4) Presentations and discussion of contemporary human issues by students and visiting professionals.

Human Services Seminar (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: HD FS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 405 (US) Gender and Social Development (3) A review of gender-related patterns of social development over the lifespan, as influenced by biological, sociological, and psychological factors.

Gender and Social Development (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: HD FS 129, HD FS 312W ; or 6 credits in social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 410 Communities and Families (3) Family and community interaction, emphasizing strategies for intervention to solve family-community problems.

Communities and Families (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 312W ; 3 credits of social/behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 412 Adult-Child Relationships (3) Theories, research, and application of adult behavior for maximizing adult- child relationships and optimizing child socialization and self-development.

Adult-Child Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 311;HD FS 315 orHD FS 315W;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 411 The Helping Relationship (3) Theory and research related to interpersonal conditions which facilitate personal growth; intensive interpersonal competency training.

The Helping Relationship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 311;HD FS 312W ; or 6 credits in Human Development and Family Studies or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 413 Developmental Problems in Adulthood (3) Analysis of individual developmental problems from young adulthood through old age and their prevention and modification.

Developmental Problems in Adulthood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HD FS 129;HD FS 249;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 415 Program Development in Family Relationships (3) Methods for planning, developing, and evaluating human service programs for families across the life span.

Program Development in Family Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HD FS 311;HD FS 312W;HD FS 315 orHD FS 315W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 414 Resolving Human Development and Family Problems (3) Strategies for, and roles of professional specialists in, the solution of problems in human development and family functioning.

Resolving Human Development and Family Problems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 312W ; 6 credits in Human Development and Family Studies or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 416 (US) (SOC 411) Racial and Ethnic Diversity and the American Family (3) This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States.

HD FS 416 (SOC 411) Racial and Ethnic Diversity and the American Family (3)

During the last several decades, the racial and ethnic composition of the U.S. population has changed dramatically. At end of the 20th century, non-Hispanic whites accounted for less than 75 percent of the U.S. population. While blacks remained the largest minority group, there were nearly as many Hispanics as blacks, and the number of Asians was increasing. Population projections indicate that by the middle of the 21st century, Hispanics will make up nearly one-fourth of the U.S. population. Blacks, Asians, and American Indians together will comprise an additional fourth of the population. The last several decades have also brought significant changes in family life in the United States, including declining rates of marriage, a rising age-at-marriage, an increase in cohabitation, and a dramatic rise in the proportion of births outside of marriage. While these trends in family life have been experienced by all racial and ethnic groups, there is substantial variation in family patterns by race and ethnicity. The course will build on other courses in social inequality and the family. The course does not overlap with any existing courses in the Department of Sociology or with courses offered in other relevant departments.

This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States. The student will read articles from major sociological journals and learn to extract major points and issues. He/she will learn to synthesize and critique various arguments on major issues in the field. The student will acquire skills in summarizing and evaluating arguments in essay form. He/she will also develop oral presentation skills. Final grades for the course will be based on class participation, a brief (approximately 5 pages) paper, a group presentation, a midterm examination (essay format) and a final examination (essay format). The course is not required for the Sociology minor or major. However, the course can count as one of the 400-level elective courses in Sociology for the Sociology minor, B.A. or B.S.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 417 (US;IL) Biocultural Studies of Family Organization (3) Study of variability in family organization with an emphasis on cultural and economic factors influencing household organization and family roles.

Biocultural Studies of Family Organization (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: HD FS 129;HD FS 312W;HD FS 315 orHD FS 315W ; or 6 credits in sociology or anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 418 Family Relationships (3) Dynamics of family interaction; effects of parenthood, sibling and intergeneration relationships on family solidarity.

Family Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HD FS 312W;HD FS 315 orHD FS 315W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 420 Laboratory in Individual and Family Enhancement (3) Supervised practice in methods of assessment, intervention, and evaluation to enhance individual and family development.

Laboratory in Individual and Family Enhancement (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 312W;HD FS 411 ; 6 additional credits in Human Development and Family Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 424 (US) Family Development in an Economic Context (3) Economic conditions influencing family functioning; familial effects on the economy; strategies to enhance work-family relations.

Family Development in an Economic Context (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: HD FS 312W;HD FS 315 orHD FS 315W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 427 (KINES 427) Developmental Sport & Exercise Psychology (3) Developmental changes in the antecedents and consequences of physical activity across the lifespan.

HD FS (KINES) 427 Developmental Sport & Exercise Psychology (3)

Change is constant with physical activity - our reasons for being active change across the lifespan an dour experiences with physical activity change how we view ourselves and those around us. Developmental Sport & Exercise Psychology focuses on developmental changes in the psychosocial antecedents and consequences of physical activity across the lifespan. Specific course objectives include (1) describing theoretical frameworks and methods used to study physical activity-related psychosocial development across the lifespan, (2) describing how self-perceptions develop and influence behavior in movement contexts at different points in life, (3) explaining how contextual factors influence developmental processes associated with physical activity, (4) identifying age-related differences in activity-related antecedents and consequences of physical activity, and (5) developing, reviewing, and critiquing theoretically-grounded interventions to address issues related to developmental processes associated with physical activity across the lifespan. Evaluation will be based on written examinations, submission of a series of reflection papers on reading assignments, a group presentation, and the students' engagement in the class. It extends but does not duplicate existing courses in the Department of Innersole, Human Development & Family Studies, and Psychology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: PSYCH 100 andKINES 321 orHD FS 129 orPSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 425 (US) Work as a Context for Human Development (3) Theory and research on role of work in adult development; interrealtionships between work and family; workplace interventions to enhance development.

Work as a Context for Human Development (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: HD FS 312W ; 3 credits in social and behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 428 Infant Development (3) Conceptual analysis, assessment, and empirical investigation of normal and deviant development, prenatal through first two years of life.

Infant Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 430 Experience in Preschool Groups (6) Guided practicum experience in planning and facilitating developmentally appropriate activities for young children.

Experience in Preschool Groups (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W;HD FS 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 429 Advanced Child Development (3) Processes of development during childhood from birth to adolescence. Emphasis upon theory, method, and empirical research.

Advanced Child Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 431 (SOC 431) Family Disorganization: Stress Points in the Contemporary Family (3) Focuses on divorce, remarriage, incest, family violence as well as problems associated with family formation and parent-child relations.

Family Disorganization: Stress Points in the Contemporary Family (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1996
Prerequisite: HD FS 312W ; 6 credits of Human Development and Family Studies psychology sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 432 Developmental Problems in Childhood and Adolescence (3) Analysis of problems in individual development from infancy through adolescence; prevention and modification of developmental difficulties.

Developmental Problems in Childhood and Adolescence (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229;HD FS 239 orPSYCH 212;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 434 (SOC 435) Perspectives on Aging (3) An analysis of the demographic, social, and cultural factors affecting the aged population in American society.

Perspectives on Aging (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: HD FS 312W ; 6 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 433 Developmental Transition to Adulthood (3) Conceptual analysis and empirical investigation of interrelationships between developmental processes during the period of pubertal growth.

Developmental Transition to Adulthood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 239;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 440 (SOC 440) Family Policy (3) An in-depth examination of family policy.

HD FS (SOC) 440 Family Policy (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to provide an in-depth examination of family policy. Students will identify and critically analyze major issues, controversies, and policies that affect families. Attention will be devoted to recognizing both intended and unintended consequences of family policies and understanding policy challenges and trade-offs. Students will gain an understanding of how policies are shaped by both facts and myths, as well as our values. Students will examine historical and current trends in family patterns (e.g., divorce, women's labor force participation, nonmarital births) to understand the implications they hold for individuals, families and society. Students will gain an awareness of the social, economic, historical, legal, and political contexts within which family policies exist and are proposed. Although the main focus is on U.S. family policy, some time will be devoted to learning about family policies in other countries. We will learn about several specific family policies in-depth (e.g., welfare), but a final goal is to help students develop a general way of looking at family policy that they can then use to understand any issue of family policy that unfolds throughout their lifetime. This course will foster thoughtful reflection and critical thinking, writing skills, research skills, and skills of synthesis, logic, and argument. Course goals will be accomplished through course readings, writing assignments, lectures, class discussions, debates and group projects. Mastery of course material and student evaluation are assessed in several ways. Students will take a midterm and final exam that cover lectures, class discussions, and assigned readings. Two papers are also required. The first paper is based on an analysis of newspaper articles dealing with family policy issues that students will collect and relate to course materials. The second paper is a literature-based analysis of a family policy in a society outside the United States. Class participation is also essential and its evaluation will be based on a combination of class attendance, contributions to class discussions, participation in group debates and projects, and an oral presentation of the final paper on a non-U.S. family policy.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: 3 credits of SOC or HD FS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 446 Programs and Services in Gerontology (3) Theoretical and historical views of the conceptualization and delivery of programs and services to older persons within a multidisciplinary developmental framework.

Programs and Services in Gerontology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 249 orHD FS 445;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 445 (PSYCH 416) Development Throughout Adulthood (3) Processes of development and change of behavior from early adulthood through old age, emphasizing theory, method, and empirical research.

Development Throughout Adulthood (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: HD FS 249 orPSYCH 100;HD FS 312W orPSYCH 301W;PSYCH 200, STAT 200 or 3 credits of statistics ; 6 credits in HD FS PSYCH or SOC.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 447 Issues in Gerontology (3) Analysis of major issues in adulthood and aging, with an emphasis on integration of theory and research.

Issues in Gerontology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 249 orHD FS 445;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 453 Family Participation and Involvement in Child Services (3) Current and historical perspectives of roles and functions of family members in designing, delivering, and evaluating of child service programs.

Family Participation and Involvement in Child Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HD FS 229;HD FS 312W;HD FS 315 orHD FS 315W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 450 Developmental Child Programs and Services (3) Current and historical views of the conceptualization and delivery of child programs and services within a multidisciplinary developmental framework.

Developmental Child Programs and Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 229 orPSYCH 212;HD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 454 (E C E 454) Development and Administration of Child Service Programs (3) Planning, administering, and evaluating child service programs at several administrative levels using methods from relevant disciplines.

Development and Administration of Child Service Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 312W;HD FS 453;C I 295 orHD FS 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 455 Development and Administration of Human Services Programs (3) Fundamentals of program development and administration of human service programs in community settings; emphasis given to program content, strategies, and the overall planning process.

Development and Administration of Human Services Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: HD FS 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 469U (IL) Family Change in the Global Economy (3) Exploration of how family life, quality, and structures in each region of the world are affected by the new global economy.

HD FS 469U Family Change in the Global Economy (3)
(IL)

We know that family life, structure, and practices undergo dramatic change when there are economic and political changes in the society. Economic globalization is unprecedented as a force for social and political change. How is it affecting family life and structures around the world? While we have considerable research on globalization and on family change, there has been little work that connects the two.

This is an exploratory seminar that involves locating those linkages and discovering families in each world region are changing as they meet up with global economic forces. As we explore each world region, we will learn about diverse cultures and how they are affected by global forces. In the Americas, Africa, Asia, the Middle East and Europe this course uncovers new forms of inequality that are emerging from the global economy and having direct effects on women and families. Through it all, we explore how human action, in the family, the community and the society, struggles for quality of life in a global economic context.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: HD FS 315 orSOC 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 468 Biological Bases of Behavioral Development (3) Biological, genetic, and experiential influences in development through the lifespan.

Biological Bases of Behavioral Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 129 orPSYCH 100;HD FS 312W ; 3 credits in human biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 477 Analysis of Family Problems (3) Analysis of families' behavioral, managerial, interpersonal, and financial problems and their interrelationships.

Analysis of Family Problems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: HD FS 312W;HD FS 315 orHD FS 315W ; 3 credits in social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 490 Introduction to Internship Experience (2) Planning and preparation for field experience in human service setting. Analysis of human service system and arrangement of site.

Introduction to Internship Experience (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: HD FS 312W ; approval by internship coordinator. Prerequisite or concurrent:HD FS 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 494H Senior Honors Thesis (1-6) Independent study under the direction of the thesis advisor of topics related to the interests of the student, culminating in presentation of a thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: approval of honors thesis advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 495B Internship: Advanced Project (3) Implementation of internship projects or scholarly paper. Open to HD FS majors only.

HD FS 495B Internship: Advanced Project (4)

HD FS 495B is taken at the same time as HD FS 495A, and within a year of the pre-internship course (HD FS 490), which helps you with the details of making arrangements for the HD FS internship, HD FS 495B focuses on the academic aspects of the internship experience. This course can be taken during the fall, spring, or summer semester. Currently, HD FS 495B consists of writing three papers; The Organizational Analysis, The Policy Analysis, and The Personal Development Paper. The purpose of the organizational analysis paper is to give the intern an opportunity to learn about his or her internship setting or organization in greater depth than might be possible otherwise. This will necessitate the intern taking an active approach to systematically securing information about the internship organization through the review of relevant documents, conducting formal or informal interviews, and observation. This paper will then be saved at the internship office, without identifying information or grade, to be viewed as a source of information about potential internship sites by future students who are seeking internships.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: or concurrent:HD FS 495A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 495A Internship: Advanced Experience (9) Full-time, one semester experiential training in human service settings. Open to HD FS majors only.

HD FS 495A Internship: Advanced Experience (8)

HD FS 495A represents a full-time, one-semester internship experience. Its focus is experiential learning accompanied by intensive supervision, provided by one-site personnel, as well as University-based mentoring. Taken within a year of the pre-internship course (HD FS 490), which helps the student with the details of making arrangements for their internship, HD FS 495A, taken during the same semester as HD FS 495B, is considered the capstone of the HD FS undergraduate program. The internship can be taken during the fall, spring, or summer semester. It is one full semester spent working as a human service professional in a setting of your choice. Generally interns will work as a full-time professional (35-40 hours a week) for the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: HD FS 490 ; permission of internship coordinator

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 495C Professional Practicum in Human Services (3-8) Guided professional practicum in human services, usually in the form of a project related to a human services issue.

Professional Practicum in Human Services (3-8)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: HD FS 401 orHD FS 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 496B Infant Temperament (1-3) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Infant Temperament (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497A Child Abuse Prevention and Intervention (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Child Abuse Prevention and Intervention (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: HD FS 229 orHD FS 239 ; andHD FS 312W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497B Parenting (3) Course will focus on the determinants of parenting in the diverse cultures within the US.

Parenting (3)

General Education: None
Diverse: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497C Peer and Consultation (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Peer and Consultation (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497D Foundations of Marriage (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Foundations of Marriage (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497E Risk and Resilience over the Life Span (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Risk and Resilience over the Life Span (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 497H Professional Development (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Professional Development (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Human Development and Family Studies (HD FS)

HD FS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual of group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities (HUM)

HUM 420 Dilemmas of War and Peace (3) A multidisciplinary examination of the dilemmas, paradoxes, problems and questions of war and peace, historically and in the contemporary world.

Dilemmas of War and Peace (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 297A Internship, Job and Graduate School Search (1) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.

Internship, Job and Graduate School Search (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Humanities and Social Sciences (H&SS)

H&SS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 101 Manufacturing Materials, Processes, and Laboratory (3) Mechanical properties of materials; primary processing methods used in manufacturing; ferrous and nonferrous metals; important plastic plus ceramic materials; dimensional verification and measurements; mechanical properties evaluation; laboratory methods; statistical interpretation of data.

Manufacturing Materials, Processes, and Laboratory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 105 Economics of Industry (2) Internal economics of industrial enterprise, cost factors, and methods of comparing alternate proposals.

Economics of Industry (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 215 Production Design (2) The study of manufacturing processes for the purpose of part creation and/or part feature creation using both current and advanced technologies.

Production Design (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: IET 101 orMET 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 109 Inspection and Quality Control (3) Inspection methods and procedures and their application to control and acceptance sampling based on statistical methods.

Inspection and Quality Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MATH 082

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 216 Production Design Laboratory (2) Laboratory methods in production design including conventional and advanced manufacturing processes, computer applications, and automation/robotics.

Production Design Laboratory (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: or concurrent:IET 215

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 308 Statistical Quality Control (3) Fundamentals of probability and statistics, introduction to quality control fundamentals, control charts, acceptance sampling.

Statistical Quality Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 321 Manufacturing Processes (3) Manufacturing processes for producing metal, plastic, and ceramic items. Primary emphasis is placed on machine tool processes.

Manufacturing Processes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 311 Elements of Metallurgy (3) Introduction to metallurgical concepts, metallurgical testing, phase diagram studies, heat treating concepts, ferrous and nonferrous systems.

Elements of Metallurgy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CHEM 110, CHEM 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 333 Engineering Economics for Technologists (2) Fundamentals of engineering economics; equivalence and rate of return analysis; replacement models; depreciation and tax considerations; and economic decision making for technologists.

Engineering Economics for Technologists (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: MATH 022 andMATH 026 orMATH 040 orMATH 041

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 405 Quality Control and Reliability Engineering (3) Application of statistical methods to the control of quality, sampling inspection, and reliability engineering.

Quality Control and Reliability Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: E T 313

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 402 Production Management (3) Principles and practices of managing the manufacturing operations of companies. Topics include management structure, physical plant, quality control, work sampling.

Production Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: IET 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 431 An Introduction to Plastics and Ceramics (3) An introductory study of the properties and processing parameters utilized for plastic and ceramic materials.

An Introduction to Plastics and Ceramics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: IET 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Indus Eng Technol (IET)

IET 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 100S Discover Industrial Engineering: First-Year Seminar (1) Informational First-year on Industrial Engineering as a career choice and profession; lab exercises; guest speakers; real world problems.

I E 100S Discover Industrial Engineering: First-Year Seminar (1)
(FYS)

The objective of this first-year seminar course is to provide information on industrial engineering as a career choice and as a profession. It is a fact that most first-year students have never heard of Industrial Engineering (I E), or the many varied opportunities that exist within the I E major. This course explores the many aspects of the major and also offers the opportunity to interact with I E faculty and students, something that is an uncommon occurrence during the first year of engineering study.

Class time is used for a variety of activities including: interactive class sessions where students work in teams to analyze and solve applied "real-world" problems in industrial and manufacturing engineering; I E faculty guest speakers addressing career opportunities in a particular area within I E; Lab experiences or demonstrations; Alumni guest speakers or panels; Plant tours (1 per semester); I E student panels on topics such as Co-op.

The class atmosphere is relaxed and there are no examinations. Homework assignments are given throughout the semester on relevant topics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 102S Human-Centered Engineering--First-Year Seminar (1) This First-year seminar considers what makes products and processes usable by people, through both design principles and student projects.

I E 102S Human-Centered Engineering (1)
(FYS)

This 1-credit first-year seminar considers what makes both consumer products and industrial processes usable by people. Course objectives include providing the knowledge and skills necessary to critically evaluate products and processes, providing basic understanding of human capabilities and limitations, and practicing communicating findings to others. Usability principles and evaluation methods are covered, along with other tools from both human factors engineering and industrial engineering domains. Software usability principles are covered, in addition to consumer products and industrial processes. Examples are drawn from campus, the community, video, and from a dedicated website containing a large collection of product photos. Student evaluation is based upon a series of individual and group critique/design exercises, analyses, and projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 101S Build Your Own Robot--First-Year Seminar (1) The objective of this first-year seminar course is to provide students hands-on experience with robotics and automation devices.

I E 101S Build Your Own Robot (1)
(FYS)

The focus of this first-year seminar course is to provide students hands-on experience with robotics and automation devices. Throughout the semester students will work in small groups (three to four students per group) to construct table top robots and automated machinery which will be controlled using personal computers in a laboratory. These activities which will be supplemented by videos, plant trips, and the Internet to expose students to industrial application of modern robotics and automation technology. Topics covered in the course will include:
working principles of robots and automated machines
impact of automation in a global economy and
group projects

The intent of this hands-on laboratory experience is to provide students an environment that enhances active learning, teamwork, and contact with faculty. Grading will be based on class participation, assignments, lab reports, and presentations. There will be no exams in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 103S Management Science and the Modern Engineer--First-Year Seminar (1) This First-year seminar will introduce students to quantitative methods for decision making through a number of hands-on learning exercises.

I E 103S Management Science and the Modern Engineer (1)
(FYS)

The objective of this First-Year Seminar is to introduce freshman students with interest in industrial engineering and other engineering disciplines to the area of quantitative methods for decision making through a number of hands-on learning exercises. Several complex and important problems, and solution techniques will be demonstrated in simple laboratory exercises, like learning linear programming by assembling Tinkertoy pieces, and understanding statistical process control by analyzing the weight of sugar boxes. Students will work in groups, which will enhance the development of interpersonal skills, team learning abilities, and communication skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 105S Manufacturing Science and Technology--First-Year Seminar (1) This First-year seminar will explore some aspects of manufacturing science and technology associated with the manufacturing of electronic products.

**I E 105S Manufacturing Science and Technology (1)
(FYS)**

This First-Year-Seminar course will provide a window on the manufacturing science and technology that have enabled miniaturization of electronic printed circuit cards which drive a host of commercial applications such as computers and cell phones. Students will use industrial grade machines in the Electronic Assembly Laboratory to explore the science and technology behind these manufacturing processes and will then assemble and test their own '10 seconds timer' printed circuit card using through-hole and surface-mount technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 104S Managing the Real (Unpredictable) World--First-Year Seminar (1) Informational First-year seminar on decision making under uncertainty in engineering and everyday life.

I E 104S Managing the Real World (1)
(FYS)

The objective of this first-year seminar course is to provide information on the use of operations research techniques for decision making in all branches of engineering and also day-to-day activities. This course is for students to understand, appreciate, and apply quantitative decision making techniques in their lives by the appropriate use of algebra and probability. The goal is to make students expand their normal way of thinking to include quantitative decision making. This course will be of use to students of all branches of engineering, science and business, providing them with an elementary introduction to probability and its application to decision making.

The lectures will use the aide of visual techniques such as:
Electronic presentations
Computer demonstrations including web-based examples
Video clippings

The class atmosphere is relaxed and there are no examinations. Homework assignments using computers are given throughout the semester on relevant topics for which software will be provided.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 300 Introduction to Industrial Engineering (1) Introduction to the industrial engineering profession by solving typical problems using various computational hardware and software.

Introduction to Industrial Engineering (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 302 Engineering Economy (3) Principles and methods for analyzing the economic feasibility of technical alternatives leading to a decision or recommendation.

Engineering Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 303 Engineering Economic Analysis (2) Economic analysis of engineering alternatives.

Engineering Economic Analysis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 302H Engineering Economy (3) Principles and methods for analyzing the economic feasibility of technical alternatives leading to a decision or recommendation.

Engineering Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 305 Product Design, Specification and Measurement (3) Principles of product design and specifications and methods for product verification.

I E 305 Product Design, Specification and Measurement (3)

Product Design, Specification and Measurement is a first level junior course in manufacturing, required for all the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in fall and spring semesters. It exposes students to the principles required for designing a product and developing the specifications for its components and the methods for product verification and checking conformance to specifications.

Students taking this course should be familiar with introduction to engineering design and should have graphical communication skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: Prerequisite or concurrent:MATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 306 Machining Process Design & Analysis (3) Application of Engineering Principles for the Design and Implementation of Economic and Effective Machining Processes.

I E 306 Machining Process Design & Analysis (3)

Machining Process Design & Analysis is an elective course within the Department of Industrial & Manufacturing Engineering that can be used to satisfy the undergraduate, manufacturing process course requirement. It will be offered both fall and spring semesters. Its purpose is to provide students with an in-depth experience into the science, engineering, and thought processes that are used to apply machining processes to economically convert raw materials into finished products. Students will learn how to design, analyze, implement, and troubleshoot machining processes and machining systems. Students taking this course must have previously completed I E 305, and have knowledge of produce specification, metrology, and computer aided design tools.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: I E 305, I E 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 307 Rapid Prototyping Processes (3) The study and application of rapid prototyping technologies in design and manufacturing.

I E 307 Rapid Prototyping Processes (3)

Speed to market is an essential element of competitiveness. New manufacturing technologies, driven by CAD, such as Rapid Prototyping (RP), Rapid Tooling (RT), and Reverse Engineering are making it possible for companies to significantly cut design and manufacturing cycles times. This course will explore these new manufacturing technologies, study the basic processes and their role in the design and manufacturing cycle, and provide hands on experience with these processes. Process models, characteristics and capabilities of specific RP processes such as Stereo Lithography Process, Fused Deposition Modeling, Selective Laser Sintering, Electron Beam Melting, and 3-D Printing will be studied. Use of these processes for Rapid Tooling applications for sand casting, investment casting, and injection molding will be studied. The role of CAD and Reverse Engineering in providing the data needed and current technological challenges for RP will be explored. The course will also develop cost models for the processes to help evaluate the production economics. Laboratory experience will be used to provide the hands on experience with the processes, and reverse engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: I E 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 310 Principles of Deformation Processing (3) Discussion, laboratory practices, and laboratory experiments covering principles of metal removal and forming, nonmetallic processing, and metrology.

Principles of Deformation Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: I E 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 312 Product Design and Manufacturing Processes (3) Theory and principles of manufacturing; effect on design selection and product quality; processes include material removal, casting, joining, plastic molding. Industrial engineering majors may not schedule this course.

Product Design and Manufacturing Processes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;E SC 414M orMATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 311 Principles of Solidification Processing (3) Discussion, laboratory practices, and laboratory experiments covering principles of metal casting and joining, nondestructive testing, and nonmetallic processing.

Principles of Solidification Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: I E 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 322 Probabilistic Models in Industrial Engineering (3) The study and application of probability theory in the solution of engineering problems.

I E 322 Probabilistic Models in Industrial Engineering (3)

Probabilistic Models in Industrial Engineering is a first level junior course required for all the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in fall and spring semesters. It exposes students to the probability theory and models and discrete and continuous probability distributions which are necessary for solving real life engineering problems with uncertainty. Reliability modeling, one such problem of interest to the manufacturers and consumers, will be taught in this course. The course will also cover sampling distributions and point and interval estimation of mean, variance and proportion.

Students taking this course should be familiar with elementary algebra, and differential and integral calculus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 322H Probabilistic Models in Industrial Engineering (3) The study and application of probability theory in the solution of engineering problems.

Probabilistic Models in Industrial Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 327 Introduction to Work Design (3) Job analysis, cognitive and physical considerations in design of work, work measurement.

I E 327 Introduction to Work Design (3)

Introduction to Work Design is a first level junior course required for all the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in fall and spring semesters. It exposes students to the basic introductory tools required for analyzing and designing both the job and the worksite in a cost-effective manner, as well as measuring the resulting output. These tools include human information processing, basic auditory and visual displays, anthropometry and musculoskeletal principles, cumulative trauma disorders, work measurement and stopwatch time study.

Students taking this course should be familiar with the basic concepts of cost.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: MATH 141, E MCH 011 orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 323 Statistical Methods in Industrial Engineering (3) The study and application of statistics in the solution of engineering problems.

I E 323 Statistical Methods in Industrial Engineering (3)

Statistical Methods in Industrial Engineering is a second level junior course required for all the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in fall and spring semesters. It exposes students to the statistical tools such as estimation, testing of hypotheses, control charts, process capability indexes, gage R & R studies, simple regression and design of experiments, which are necessary for analyzing and solving real life engineering problems using data.

Students taking this course should be familiar with the following topics taught in the first course in probability offered in the department.

Probability concepts, Random variables, Independence, Probability Distributions (both discrete and continuous), Mathematical Expectation, Variation and Binomial and Standard Normal tables.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: I E 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 328 Production Engineering (3) Theory and principles for economic design of tooling for production, including process planning and numerical control of machine tools.

Production Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: I E 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 330 Information Technology for Industrial Engineering (3) The study and application of computing and information technology to industrial engineering.

I E 330 Information Technology for Industrial Engineering (3)

Information Technology for Industrial Engineering is a first level junior course required for all the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in fall and spring semesters. It provides students with Information Technology background required to develop applications in Industrial Engineering. It covers Object-Oriented Programming, Enterprise Information Modeling, Analysis of Data Bases, Data Mining and Internet technologies.

Students taking this course should be familiar with set theory, elementary algebra, and differential and integral calculus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MATH 141 andCMPSC 200, CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 330L Information Technology for Industrial Engineering (3) The study and application of computing and information technology to industrial engineering.

Information Technology for Industrial Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 141, CMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 330P Information Technology for Industrial Engineering The study and application of computing and information technology to industrial engineering.

Information Technology for Industrial Engineering

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 141, CMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 400 Engineering for Production (3) The selection of the most effective materials and processes and the application of decision theory to product design.

Engineering for Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: I E 328, ENGL 202C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 399 (IL) Foreign Studies--Industrial Engineering (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies--Industrial Engineering (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 402 Advanced Engineering Economy (3) Concepts and techniques of analyses useful in evaluating engineering projects under deterministic and uncertain conditions.

Advanced Engineering Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: I E 302, I E 322, I E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 404 Management Science (3) The science and art of administration in the management, organization, and coordination of human activity in industrial enterprises.

Management Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: I E 327

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 405 Linear Programming (3) An introduction to the theory and application of the simplex method in solving the linear programming and dual problem.

Linear Programming (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 408 Cognitive Work Design (3) Design and evaluation of cognitive work, including the human/computer interface, visual displays, software design, and automated system monitoring, with emphasis on human performance.

I E 408 Cognitive Work Design (3)

Cognitive Work Design is a senior level course offered in the Department of Industrial and Manufacturing Engineering. It is one of two courses which follow I E 327, Introduction to Work Design. This course focuses on the cognitive part of human factors and work design. It will be offered in fall and spring semesters. This course will enable students to design, implement, and evaluate human-computer interfaces according to principles outlined in foundational human-computer interaction readings. Students will be engaged in the active learning of design, programming, and usability concepts by way of building interfaces on the personal computer.

Students taking this course should be familiar with computer programming and introduction to work design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: I E 327

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 414 Materials Joining Processes and Principles (3) Characteristics of principal processes for arc, resistance, and solid-state welding; brazing, soldering, adhesive bonding. Laboratory projects using various processes.

Materials Joining Processes and Principles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: I E 311, I E 312 orMETAL 408W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 419 Work Design - Productivity and Safety (3) Methods improvement, physical work design, productivity, work measurement; principles and practice of safety.

I E 419 Work Design - Productivity and Safety (3)

Work Design - Productivity and Safety is a senior level course offered in the Department of Industrial and Manufacturing Engineering. It is one of two courses which follow I E 327, Introduction to Work Design. This course focuses on the methods improvement physical work design, productivity, work measurement; principles and practice of safety. It will be offered in fall and spring semesters. This course will enable students to perform work measurement: develop an MTM analysis, and carry out a work sampling study.

Students taking this course are expected to understand basic concepts of work design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: I E 327

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 418 Human/Computer Interface Design (3) Design and evaluation of the human/computer interface, including human performance, visual displays, software design, and automated system monitoring.

I E 418 Human/Computer Interface Design (3)

The objective of this course is to enable students to design, implement, and evaluate human-computer interfaces according to principles outlined in foundational human-computer interaction readings. Students will be engaged in the active learning of design, programming, and usability concepts by way of building interfaces on the personal computer as well as on the Palm computing platform. A major component of the course is the capstone design project for which student teams will communicate with users to design, implement, and assess interfaces to improve existing work processes in an actual work domain (e.g., safety office, power plant).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: I E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 423 Quality Control and Reliability (3) Application of statistical methods to the control of quality, sampling inspection, and reliability engineering.

Quality Control and Reliability (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: I E 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 425 Introduction to Operations Research (3) An introduction to the method and techniques of mathematical decision making, including inventory, replacement, allocation, and waiting line problems.

I E 425 Introduction to Operations Research (3)

Introduction to Operations Research is a senior level course offered in the Department of Industrial and Manufacturing Engineering. It is one of the three courses in operations research offered to the undergraduate students. The field of operations research focuses on the formulation, analysis and implementation of quantitative methods to support effective management decision making. This course will introduce students to several important classes of mathematical models and techniques including network models, dynamic programming, Markov chains, queueing theory, and inventory control. Such models and techniques can provide valuable insights into design and planning problems, and thus facilitate their effective analysis.

Students taking this course should be familiar with probability concepts and linear programming.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: I E 322
Concurrent: I E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 424 Process Quality Engineering (3) Statistical methods for engineering process characterization and improvement. For non-Industrial Engineering majors.

Process Quality Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: MATH 141, MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 426 Industrial Automation (3) Fundamentals, control, and theory for application of pneumatic, hydraulic, electrical, fluidic, transfer, feeding, and numerical control devices to automated equipment.

Industrial Automation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: I E 328

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 428 Metal Casting (3) Application of engineering principles to the design of castings; casting of ferrous and nonferrous alloys; laboratory and simulation projects.

Metal Casting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: I E 311, I E 312 orMETAL 408W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 430 Industrial Project (3) A project is carried out in conjunction with an industrial company and supplemented by tutorials.

Industrial Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: I E 302, I E 327, I E 328

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 433 Regression Analysis and Design of Experiments (3) Theory and Application of Regression Analysis and Design of Experiments to build models and optimize process and product parameters.

I E 433 Regression Analysis and Design of Experiments (3)

Regression Analysis and Design of Experiments is an elective course for the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in the spring semester. It exposes students to the two important statistical tools which are regression analysis and design of experiments. The specific topics include simple and multiple regression analysis, 2k full and fractional designs and analysis and Taguchi's orthogona arrays.

Students taking this course should be familiar with the following topics taught in the second course in probability and statistics offered in the department.

Properties of point estimators, sampling distributions, testing of hypotheses, and introduction to linear regression and design of experiments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: I E 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 434 Statistical Quality Control (3) Statistical techniques for univariate and multivariate monitoring of independent and autocorrelated processes; foundations of quality control and improvement.

I E 434 Statistical Quality Control (3)

This course is about the use of modern statistical methods for process and product improvement. The goal is to impart a sound understanding of the principles and basis for applying them in a variety of practical situations in manufacturing and service fields. The course will give an overview of the basic statistical methods and then concentrate on some of the more useful recent developments including univariate and multivariate techniques to monitor autocorrelated data, analyzing process capability, and improving process quality in short-run environments. The course objectives are to: (1) understand the assumptions and theoretical foundations of process monitoring; (2) know how to select, set up, and use monitoring charts effectively depending on the system characteristics; and (3) understand the basic business and economic principles of process monitoring.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: I E 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 435 Operations Research Models (3) An introduction to basic deterministic and probabilistic models, linear programming, dynamic programming, simulation, Markov chains, queueing.

Operations Research Models (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: 3 credits of elementary probability theory

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 436 Six Sigma Methodology (3) Techniques for structured problem-solving to improve the quality and cost of products and processes.

I E 436 Six Sigma Methodology (3)

Six Sigma is a structured, quantitative approach to improving the quality and cost of products and processes. It provides a framework for quality improvement that builds upon statistical tools to achieve business results. Although statistical techniques are emphasized throughout, the course has a strong engineering and management orientation that will prepare students for synthesizing the material that comprises the Six Sigma body of knowledge. Important aspects of the Six Sigma approach include a strong focus on the customer, proactive management, fact-based decision-making, and interdisciplinary collaborations. The course objectives are: (1) to give students a fundamental understanding of and experience with solving a problem using the structured problem-solving approach of Define-Measure-Analyze-Improve-Control (DMAIC); (2) to provide an opportunity for students to solve or be involved with solving business problems with statistical tools; and (3) to help students build confidence in their business sense and statistical skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: I E 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 438 Metal Cutting Principles and Practice (3) Principles of metal cutting and introduction to current theories; analysis of metal removal processes; laboratory experiments for metal cutting analysis.

Metal Cutting Principles and Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: I E 310, I E 312 orMETAL 408W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 450 Manufacturing Systems Engineering (3) Components of automated manufacturing systems (CNC, robots, programmable logic controllers). Design, analysis and operational issues related to improved productivity in modern manufacturing systems.

I E 450 Manufacturing Systems Engineering (3)

The course is focused at providing students with an understanding of modern manufacturing systems and the associated problems in the planning, design, analysis and implementation of such systems. The central theme of the course is on Lean Manufacturing, which encompasses most of the components of modern manufacturing systems including: waste reduction, numerical control, robotics and material handling. These topics are covered to provide a basic understanding of the associated technology. Students also study how this equipment can be integrated into a flexible manufacturing system. The design, control and communication aspects of these systems will be explored. The use of Lean Manufacturing as a means of improving productivity, cell formation, set-up reduction, design, planning and control of cellular manufacturing within the context of JIT manufacturing will be discussed. Given the variety of equipment and software technologies that are covered, laboratory activities focused on numerical control, robotics, cellular layout, system control and waste elimination have become critical. This course will meet three times a week to include two 50-minute lecture periods and a double period laboratory.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 andI E 328

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 451 Numerical Control (3) Introduction to numerical control machines, design considerations, components, manual and computer-aided part programming for multiaxis NC machines.

Numerical Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;I E 328

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 452 Microcomputers--Programming and Industrial Applications (3) Microcomputer principles, capabilities, and limitations; programming and software techniques for real-time industrial engineering application, with integrated laboratory.

Microcomputers--Programming and Industrial Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;I E 426

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 454 Applied Decision Analysis (3) Theory and practice of decision analysis applied to engineering problems.

Applied Decision Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: I E 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 453 Simulation Modeling for Decision Support (3) Introduction of concepts of simulation modeling and analysis, with application to manufacturing and production systems.

I E 453 Simulation Modeling for Decision Support (3)

Simulation Modeling for Decision Support is a senior level course offered in the Department of Industrial and Manufacturing Engineering. It is the third course in operations research offered to the undergraduate students. The objective of this course is for students to learn to appropriately apply discrete event simulation modeling for decision support in IE problems through developing skills in model building, simulation output analysis, and communication of technical information and conclusions drawn from data analysis.

Students taking this course should be familiar with computer programming and operations research techniques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CMPSC 200, CMPSC 201 orCMPSC 202 andI E 323 andI E 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 455 Production Planning and Control (3) Production palnning/control methods from aggregate to detailed levels; includes underlying theories and principles and industrial applications.

Production Planning and Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: I E 322 . Prerequisite or concurrent:I E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 456 (M E 456) Industrial Robot Applications (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.

I E (M E) 456 Industrial Robot Applications (3)

This course is a technical elective, and is normally taken by students in their Senior years. In this course, students learn about present and future status of robot applications, and are required to apply fundamental knowledge of physics and mathematics to develop software to analyze and control robots.

The course deals with mechanics and control of robot manipulators and wheeled mobile robots. First, students are taught to analyze 3-D kinematics, statics and dynamics of robot manipulators. Then, control algorithms for robot manipulators are presented. Sensors, actuators and softwares used in industrial robots are discussed. In the end, kinematics and control of wheeled mobile robots are presented. During this course, application of computer, particularly Matlab, is emphasized as much as possible.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 328 orM E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 456 (M E 456) Industrial Robot Applications (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.

I E (M E) 456 Industrial Robot Applications (3)

This course is a technical elective, and is normally taken by students in their Senior years. In this course, students learn about present and future status of robot applications, and are required to apply fundamental knowledge of physics and mathematics to develop software to analyze and control robots.

The course deals with mechanics and control of robot manipulators and wheeled mobile robots. First, students are taught to analyze 3-D kinematics, statics and dynamics of robot manipulators. Then, control algorithms for robot manipulators are presented. Sensors, actuators and softwares used in industrial robots are discussed. In the end, kinematics and control of wheeled mobile robots are presented. During this course, application of computer, particularly Matlab, is emphasized as much as possible.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 305 orM E 360;CMPSC 200 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 462 Introduction to Expert Systems (3) Building expert systems in general; emphasis on knowledge representation and inference mechanisms in the manufacturing domain.

Introduction to Expert Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CMPSC 200, CMPSC 201 orCMPSC 202 andI E 323

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 463 Computer Aided Design and Manufacturing (3) Three dimensional modeling and manufacture of parts and assemblies using Computer Aided Design and manufacturing software, and numerically controlled machines.

Computer Aided Design and Manufacturing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Any IE Manufacturing Process elective

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 464 Assembly of Printed Circuit Boards (3) Manufacturing processes and principles for assembly of printed circuit boards with surface mount and through-hole technology.

Assembly of Printed Circuit Boards (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: PHYS 212, I E 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 466 Concurrent Engineering (3) Concurrent engineering methods for product/process development, capturing customer requirements, insuring manufacturability and serviceability.

Concurrent Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: MATH 141, MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 467 Facility Layout and Material Handling (3) Analytical, simulation and computer-aided graphical methods to generate effective layout designs; design and integration of material handling systems and equipment. For Industrial Engineering majors.

I E 467 Facility Layout and Material Handling (3)

Students taking this course will learn concepts and methods used to design an effective facility layout and material handling system. Topics include determination of requirements for people, equipment, and space; generation of alternative layouts based on analysis of material flow or qualitative activity relationships; development of concepts for material transport and storage, and evaluation of alternatives using models. Grading is based on homework and exams. Prerequisites for the course are I E 302 which covers methods for analyzing the economic feasibility of technical alternatives, and I E 327 which covers job analysis and physical considerations in design of work. The course is an elective for Industrial Engineering students in the manufacturing systems engineering and engineering service systems specialization tracks.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: I E 302, I E 327

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 468 Optimization Modeling and Methods (3) Mathematical modeling of linear, integer, and nonlinear programming problems and computational methods for solving these classes of problems.

I E 468 Optimization Modeling and Methods (3)

This course provides an analytic treatment of optimization models in linear, integer, and nonlinear programming. In particular, the course is concerned with the development of mathematical optimization models and computational solution techniques for solving these problems. The mathematical modeling of real-world applications is complemented with the use of modeling software such as LINGO or GAMS (General Algebraic Modeling System), which allows the user to readily develop large-scale mathematical models. The course also considers solution techniques for solving these optimization problems. Students will develop a basic understanding of the solution techniques through actual implementation of simple algorithms, as well as the use of commercial software such as those provided by LINDO, LINGO, and GAMS.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: I E 405, MATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 469 Global Industrial Engineering Experience (1) Students will learn how to prepare for a short term, professional exchange in a foreign nation. Students will then travel to a designated university within a foreign nation for the purpose of a five day cultural and professional exchange.

I E 469 Global Industrial Engineering Experience (1)

This course will teach industrial engineering students how to prepare for a short term, professional exchange in a foreign nation and how Industrial & Manufacturing Engineering education and practice is carried out in a foreign nation. Students will be required to research and report on one or more industries in a designated foreign nation. Their report will focus on the products and/or services produced by these industries, the processes employed, known use of industrial and manufacturing engineers and/or practice, and their domestic and global standing.

Students will travel to a designated university within that nation for the purpose of a one week cultural exchange. The designated university will have an Industrial Engineering, Production Engineering, and/or Manufacturing Engineering program. Information about the international destination and the dates of travel will be provided on the course syllabus each semester.

During this period, students will:

1. tour the department and engineering laboratories to learn about the education and research facilities at their host university
2. attend engineering classes within the host university to learn about the engineering topic matter as well as how foreign engineering classes are conducted
3. give and receive engineering presentations with their host university students
4. tour the local community to learn about their culture
5. tour local manufacturing industries and interact with local Industrial/Manufacturing engineers to learn about the companies as well as how industrial & manufacturing engineering is specifically practiced

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: 5th semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 470 Manufacturing System Design and Analysis (3) Contemporary design and analysis methodologies used to organize systems for economic manufacture of products.

I E 470 Manufacturing System Design and Analysis (3)

Manufacturing System Design and Analysis is a senior level course in manufacturing, required for all the baccalaureate students in the Department of Industrial and Manufacturing Engineering. It will be offered in fall and spring semesters. Students will be exposed to the contemporary techniques used to design and analyze manufacturing systems for economic manufacture of products. Students will learn to design manufacturing systems (human and automated) to satisfy differing types of product demand.

Students taking this course should be familiar with introduction to manufacturing and product specifications and introduction to manufacturing process design and analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: I E 310, I E 311, I E 464 or an approved coruse in any manufacturing process

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 477 Computer Control of Manufacturing Machines and Processes (3) Elements of computer control and discrete-time modeling. Design and analysis of digital controls for manufacturing machines and processes.

I E 477 Computer Control of Manufacturing Machines and Processes (3)

Objective of this course is to gain physical insight and hands-on experience with modern control engineering. Lectures and laboratory topics will include modeling and simulation of digital control systems, control computers, interfacing, analog-to-digital converters, digital-to-analog converters, programmable logic controllers, sensors and actuators. Lectures will be devoted to case studies in instrumentation for computer control of manufacturing machines and processes. Course includes a significant group project in which students will design and construct a computer controlled machine or process. This course is a senior undergraduate level technical elective course in the manufacturing system engineering track in the Industrial & Manufacturing Engineering Department. This course is also allowed for graduate credit in the Industrial & Manufacturing Engineering Department.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MATH 141, CMPSC 200, CMPSC 201 orCMPSC 202 andI E 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 478 Retail Services Engineering (3) Introduction to retail services operations, process models, and application of information technologies to enhance productivity and profitability.

I E 478 Retail Services Engineering (3)

Objective of this course is to understand modern retail industry with focus on their operations and information technologies that are used in such systems. The course starts with an overview of the basics of types of retailing, their channels, and economics of their operations. Much of the emphasis in the course is on processes and information technologies used in retail industry such as point of sale systems, barcode, RFID/EPC, global data synchronization, EDI, XML, data warehouse, analytics for decision support and supply chain management. Several case studies will be used to draw out the application of tools and techniques covered in the course. Course includes a group project focused on retail industry. Specific topics will include:
Global retail industry
Multi-channel retailing
Performance and metrics
Pricing
Layout and workforce
Information Systems and SCM
Barcode and RFID
Data warehouse and analytics
Case studies

This course is a senior undergraduate level technical elective course in the IT and Service Engineering track in the Industrial & Manufacturing Engineering Department.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: I E 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 479 (EDSGN 479) Human Centered Product Design and Innovation (3) Consumer product design for a global market, incorporating human factors principles and user desires in a multicultural perspective.

I E (EDSGN) 479 Human Centered Product Design and Innovation (3)

This course will focus on consumer product design for a global market, incorporating human factors and ergonomics principles as well as user needs and emotional desires. The students will be led through product design process, various product design strategies, product planning, managing the development process, product evaluation, decision making tools, and market entry. Special emphasis will placed on user centered design, incorporating user characteristics, user needs and emotional desires (including Kansei engineering approaches), survey methodology, and usability testing. To emphasize the multicultural perspectives in today's global product design, interdisciplinary teams from two universities on opposites of the globe will apply these principles on actual industrial product designs for leading consumer product manufacturers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: I E 408 orI E 419 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 480W Capstone Design Project (3) Industry-based senior capstone design project emphasizing manufacturing systems, service systems, and information systems in an interdisciplinary setting.

I E 480W Capstone Design Project (3)

Students will develop "real world" engineering project experience through an industry-based project. Projects will focus on manufacturing systems, service systems, and/or information systems. Students will work in teams to complete the projects, where the teams will be interdisciplinary and composed of students from within the major with different areas of expertise and students from other majors as needed. Students interested in taking this course should have senior standing and be familiar with basic principles in manufacturing, operations research, and human factors engineering. Students will be evaluated through in-class participation, and a group project that consists of weekly communication with the project sponsor along with three design reviews, interim written reports and a final report, presentation and poster.

This is a Writing-Intensive course in the department and hence students will be given opportunities to practice writing throughout the semester in multiple writing assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: I E 302, I E 327, I E 323, I E 305, I E 330, I E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 494H Senior Honors Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

Senior Honors Thesis (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 497B Healthcare Systems Engineering (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Healthcare Systems Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: I E 302, I E 323, I E 327 andI E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 497A Human Centered Product Design and Innovation (3) Consumer product design for a global market, incorporating human factors principles and user desires in a multicultural perspective.

Human Centered Product Design and Innovation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: I E 408 orI E 419 or graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 497D Micro/Nano Technology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Micro/Nano Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Engineering (I E)

I E 499 (IL) Foreign Studies--Industrial Engineering (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies--Industrial Engineering (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 400 Safety Engineering (3) An examination of the engineering aspects of the safety discipline and it's management in the work environment.

I H S 400 Principles of Industrial Health and Safety (3)

I H S 400 provides a basis on which students can build an understanding of and begin the application of management and engineering principles to the field of safety. It is intended to provide a background in the general engineering (loss prevention) principles as applied to safety in an applied industrial setting. The course will also cover the engineering associated with hazard recognition, evaluation and control, safety related resource allocation issues, economic aspects, legal and regulatory compliance and liability issues, risk assessment and management, program effectiveness measurement and optimization, engineering management in a global environment, safe behavior and the psychology of safety from an engineering perspective, safety engineering consensus standards and standards of competence for safety engineers. The course will cover the forensic aspects of incident investigation and engineering psychology of safety related behavior. The course will stress the importance of safety engineering as part of the design process, the day-to-day operation and the corrective process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 110, E MCH 210, MATH 141, PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 410 Safety Behavior and the Investigation Process (3) This course investigates the relationship between human behavior and safety; includes an overview of human behavior issues in the context of accident/incident investigation techniques.

Safety Behavior and the Investigation Process (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 420 Fire Protection Engineering (3) Overview of the behavior of fire, fire hazards, suppression systems, alarms and detection systems, and fire safe design and prevention.

I H S 420 Fire Protection Engineering (3)

This course provides a basic overview of the behavior and dynamics of fire. It includes a review of important chemistry and physics aspects as they relate to fire. Aspects such as heat transfer/thermodynamics, fluid dynamics, the ideal gas laws, etc. will be discussed. Theoretical topics of discussion include flammability limits, mechanisms of heat transfer, flame temperatures and travel speeds, vapor pressures, ignition, the combustion phenomenon, etc. Applied topics include fire hazards related to several types of occupancies and industries, materials of construction, building systems, fire codes, and fire safe design, hydraulics and fire suppression systems (water and non-water), alarms and detection systems, Life Safety Code, etc. The course includes lecture and practical exercises that provides students with the tools needed to analyze the behavior of fire, fire hazards, suppression systems, alarms and detection systems, evacuation systems and building materials. It also includes an introduction to the design process for suppression systems, vent and smoke movement systems, exit and evacuation systems, fire resistant compartmentalization, fire water systems, alarm and detection system layout, building material specification and evacuation capacities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 110, CHEM 111, MATH 141, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 425 Industrial Electrical Safety (3) Description and analysis of electrical hazards in industrial environments, hazard reduction practices, technologies, and programs. A laboratory is included.

Industrial Electrical Safety (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 211, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 430 Industrial Health and Safety Program Management (3) This course examines the essence of safety management in terms of its responsibilities, objectives, and organization.

Industrial Health and Safety Program Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MGMT 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 435 Introduction to Mill and Plant Operations (1) An introduction to methods used in the mineral and related process industries; relevant unit operations; selection of equipment. Not intended for students majoring in Mining Engineering, Mineral Processing, or Geo-Environmental Engineering.

Introduction to Mill and Plant Operations (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 440 Ventilation for Contaminant Control (3) Ventilation design and analysis for removal and control of industrial contaminants; measurement, isolation, dilution, and exhaust strategies; laboratory work included.

I H S 440 Industrial Ventilation (4)

Include a succinct, stand-alone course description (400 words maximum) to be made available to students and faculty on the World Wide Web. This single description must encompass all course sections at all locations over a period of time and, therefore, must focus on the common and durable aspects of the course. If the course is offered in multiple relatively stable fonnats, each may be described. The description should include the course objectives; relationship to courses and programs of study (but generally without course numbers); and, when possible, evaluation methods, special facilities, and frequency of offering and enrollment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MATH 141, PHYS 212, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 445 Industrial Hygiene and Toxicology (3) Recognition, evaluation, and control of physical, chemical, and biological hazards to promote safety and health using regulatory requirements and professional judgement.

Industrial Hygiene and Toxicology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, PHYS 211, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 447 Industrial Hygiene Measurements (4) Introduction to industrial hygiene measurement techniques for evaluating occupational exposure to chemical, physical, and biological hazards; laboratory work included.

I H S 447 Industrial Hygiene Measurements (3)

Include a succinct, stand-alone course description (400 words maximum) to be made available to students and faculty on the World Wide Web. This single description must encompass all course sections at all locations over a period of time and, therefore, must focus on the common and durable aspects of the course. If the course is offered in multiple relatively stable formats, each may be described. The description should include the course objectives; relationship to courses and programs of study (but generally without course numbers); and, when possible, evaluation methods, special facilities, and frequency of offering and enrollment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: I H S 445

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 450 Environmental Health and Safety (3) Overview of toxicology, exposure assessment, industrial hygiene, environmental laws, and contemporary issues in environmental health and safety.

I H S 450 Environmental Health and Safety (3)

This is a segment of public health that encompasses assessing, understanding, and controlling the impact of people on the environment and the impacts of the environment on people. This course will provide a broad overview of environmental health and safety topics selected to prepare students for professional health and safety practice, and to introduce students from other disciplines to important concepts that will increase understanding of the numerous and complex interactions we have with our environment. Problems to be examined include treatment and disposal of solid, liquid, and airborne wastes, and the potential toxic effects of hazardous materials from the perspective of individuals, local communities, and governments. An overview of the fundamentals of toxicology, industrial hygiene, and epidemiology will be provided to aid in understanding and interpreting environmental regulations, and the process of recognizing, evaluating, and controlling environmental health and safety hazards. Content will also include coverage of environmental monitoring methods, food safety, drinking water, and pests such as rodents, and insects. Evaluation will be by written examinations, homework assignments, and team projects and presentations focusing on review of topics in the current literature.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 490 Industrial Health and Safety Seminar (1) Seminar dealing with contemporary issues of industrial health and safety.

Industrial Health and Safety Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 470 Systems Engineering in Process Safety (3) Quantitative methods of systems analysis, risk analysis and rolerance, as well as accident cost and cost-benefit analysis are covered.

I H S 470 Systems Engineering in Process Safety (3)

This course provides for a basic understanding of the quantitative analysis methods of system safety engineering. The course also provides guidance in planning, implementing and managing an overall system safety engineering program. It includes coverage of such applicable science and engineering principles as risk, human reliability, fault logic, failure modes, incident cost and prediction. The course is presented in an applied format where several different types of industries are discussed such as oil and chemical, pharmaceuticals, defense, aerospace, paper, information technology and manufacturing industries. Regulatory influence on system and process safety is discussed. Quantitative aspects of the course include application of risk analysis, fault tree analysis, hazard and operability analysis, vapor-cloud dispersion modeling, human reliability analysis, failure modes and effects analysis, etc. This course is also intended to provide a background in managing an overall system safety program and its application to several industries, therefore, cost and effectiveness measurement are covered in the material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 495W Industrial Health and Safety Internship (2) The preparation of a technical report on hazard assessment and control, resulting from experiential education gained at industrial worksites.

I H S 495W Industrial Health and Safety Internship (2)

Preparation of two technical reports on hazard assessment and control, resulting from experiential education gained at industrial work sites.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: junior or senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 496 Independent Studies (1-18) Creative projects, including research and design,that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Industrial Health and Safety (I H S)

I H S 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 431 Information Systems Architecture (3) Principles and priorities of enterprise system design, middleware and service-oriented architectures and web services.

Information Systems Architecture (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 463 Languages of the Web (3) Taxonomy of programming languages and frameworks used in the development of web-based information systems.

Languages of the Web (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 480 Software Development Lifecycle (3) Modern Software Development Techniques and Processes. Software Paradigms including OO and lifecycle modeling and improvement.

Software Development Lifecycle (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 497A Fundamentals of Information Security (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.

Fundamentals of Information Security (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 497B Fundamentas of Telecommunications (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.

Fundamentas of Telecommunications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 497A Computer Forensics (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.

Computer Forensics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Science (IN SC)

IN SC 497C Business Intelligence (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that they may be topical or of special interest.

Business Intelligence (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 110 (GS) Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.

IST 110 Introduction to Information, People and Technology (3)
(GS)

Information, People and Technology presents the high points of an education in the School of Information Sciences and Technology. It opens an intellectual journey through the ideas and challenges that IT professionals face in the world. It will address major questions such as: How can we use technology to organize and integrate human enterprises? How can technology help people and organizations adapt rapidly and creatively? What can we do about information overload?

Three perspectives (or facets) address the core issues: information or the basic science of data encoding, transmission and storage; people or the interactions among technologies, institutions, regulations and users; and technology or the design and operation of basic information technology devices. Students completing the course will be confident users and consumers of information technology. Students will develop research and analytical skills to evaluate specific devices and understand how those devices function in larger socio-technical systems. Students will be able to predict and anticipate the impact of new technologies on human institutions as well as understand the potential impact of institutions on the use and design of information technologies.

The course employs an action-oriented approach. Students learn by doing—formulating and solving problems drawn from professional contexts, detecting and recovering from errors related to technology use, and locating, reading and studying materials that support their analysis and problem-solving. Students will accomplish this by participating in team-based learning. The course provides students with the opportunity to use, modify, and evaluate software to search for, frame, and express ideas with fluency. A variety of mechanisms are used to assess student performance. These evaluation methods typically include exams, quizzes, homework assignments, group projects, and peer and self-assessments.

IST 110 is the introductory course in IST, and, as such, serves as a prerequisite for 200-level (intermediate) IST courses. It is a required course for all majors and minors in IST, and meets requirements for a General Education or Bachelor of Arts Social Science (GS) course.

The course is delivered with significant student interaction with technology. At University Park, it is offered in multiple sections (typically 40-60 students per section), in the Fall and Spring semesters. At other Penn State campuses, it would be offered in class sizes typically ranging between 20-50 students.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 110H (GS) Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.

Information, People and Technology (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 110S (GS) Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.

Information, People and Technology (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 110S (GS) Information, People and Technology (3) The use, analysis and design of information systems and technologies to organize, coordinate, and inform human enterprises.

Information, People and Technology (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 111 Seminar in IST (1) Introduction to academic requirements, career planning & information literacy for students majoring in College of IST.

IST 111 Seminar in IST (1)

IST 111 introduces the student to the academic requirements, career planning and information literacy for the School of Information Sciences and Technology degree programs. Seminar in Information Sciences and Technology is required of all Information Sciences and Technology Associate degree candidates.

Upon completion of the course, the student will have an understanding of the programs and requirements of the School of Information Sciences and Technology and the University, and the career options for which they prepare students. The student will also develop and exercise habits and techniques for continuing self-assessment of learning styles, personality traits, vocational interests, and career plans. The student will learn how to maintain involvement in professional conversations and networks, including local, state, national, international organizations, listservs, etc. Students will have a basic knowledge of professional news literature, and the ability to identify and use reference tools and databases, which provide access to professional knowledge and literature. Finally, the student will have a basic understanding of government plans, policies and actions regarding the information professions including: regulatory agencies of the executive branch, legislative activities, and judicial decisions at local state and national levels. Students will be graded on course attendance, participation, examinations and brief exercises.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 130 (GA) Emerging Technologies in Popular Culture (3) A survey course that explores emerging technologies used to produce and consume popular cultural artifacts.

IST 130 Emerging Technologies in Popular Culture (3)
(GA)

Popular culture refers to people's capacity to classify, codify, and communicate their experiences symbolically. Popular culture is shaped by the development of new technologies of text, sound and image recording and dissemination. While mass media companies have traditionally served as the primary means by which popular culture is diffused throughout society, emerging technologies enable people to produce and consume their own cultural artifacts as well as redefine mass produced cultural artifacts. As people become more adept in their use of emerging technologies, mass media industries such as film, news, radio and television respond by introducing Internet-based services that deliver both newly designed and repackaged traditional content to consumers. We use four approaches to analyze the intricate relationships between people and industry, emerging technologies and popular culture:
1. Production Analysis: Who owns the media? Who creates new media? What technologies are being used to produce new media? how does new media challenge the historical dominance of mass media?
2. Textual Analysis: how do specific works of popular culture gain their meaning?
3. Audience Analysis: How do different audiences make sense of the same cultural and technological artifacts?
4. Historical Analysis: how do current popular culture perspectives on emerging technologies differ from those of the past? What accounts for these changing perspectives?

Through individual and team-based learning activities, students will analyze and interact with cultural artifacts across popular culture genres. The course content and the assignments are directed at helping students to both create and critique cultural artifacts in ways that demonstrate their understanding of, engagement with, and reflections upon the relationships among people and industry, emerging technology, popular culture.

Assessment is based on students' ability to clearly and convincingly articulate their analysis through classroom discussions, individual activities, and team-based projects. Students will gain hands-on experience with social media such as wikis, virtual worlds, and podcasts. Students will also design and produce short films that demonstrate their ability to integrate and synthesize central themes from the course. Grading will be based on individual and team components.

This is an introductory course in IST, and meets the requirements for a General Education course in Arts (GA).

This course is delivered with significant student and instructor interaction with computers and digital media.

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 111S Seminar in Information Sciences and Technology (1) Introduction to academic requirements, career planning, and information literacy for students majoring in the College of Information Sciences and Technology.

IST 111S Seminar in IST (1)

IST 111S introduces the student to the academic requirements, career planning and information literacy for the School of Information Sciences and Technology degree programs. Seminar in Information Sciences and Technology is required of all Information Sciences and Technology Associate degree candidates.

Upon completion of the course, the student will have an understanding of the programs and requirements of the School of Information Sciences and Technology and the University, and the career options for which they prepare students. The student will also develop and exercise habits and techniques for continuing self-assessment of learning styles, personality traits, vocational interests, and career plans. The student will learn how to maintain involvement in professional conversations and networks, including local, state, national, international organizations, listservs, etc. Students will have a basic knowledge of professional news literature, and the ability to identify and use reference tools and databases, which provide access to professional knowledge and literature. Finally, the student will have a basic understanding of government plans, policies and actions regarding the information professions including: regulatory agencies of the executive branch, legislative activities, and judicial decisions at local state and national levels. Students will be graded on course attendance, participation, examinations and brief exercises.

Since this is a core requirement, all IST students will be enrolling; it should be offered at least once per year. As enrollment growth warrants, it may require more frequent offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 210 Organization of Data (4) Introduction to concept of databases including the storage, manipulation, evaluation, and display of data and related issues.

IST 210 Organization of Data (4)

The objective of IST 210 is to provide an introduction to the storage, retrieval, manipulation, analysis and display of information. This course includes an introduction to data structures, physical storage devices and access, database models and database management systems architectures, database analysis and design, query languages, user interface design, database administration and policy and social concerns in data management. Students will learn to use a commercial database management system and group assignments and projects, and other performance indicators. Students will be periodically assessed through examinations, individual and group assignments and projects, and other performance indicators.

This course is required of all Information Science and Technology (IST) undergraduates under both Associate and Baccalaureate degrees. It is a common course requirement and is a prerequisite for all degree options. IST 110 is the prerequisite for this course.

This course also requires student access and use of a robust commercial database management system such as Oracle, DB2, or SQLServer.

The laboratory component of the course provides a gentle introduction to boolean algebra and programming concepts (e.g., variables, arrays, and iterations) that are critical for learning database query languages. Furthermore, it provides hands-on activities and team-oriented problems that enhance the student's learning about database technologies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 211 Advanced Topics in Relational Database Management Systems (3) In depth coverage of: database administration, advanced Structures Query Language inquires, normalization, referential integrity; troubleshooting, tweaking; implementation dependent transactions, embedded SQL, Open Database Connectivity.

IST 211 Advanced Topics in Relational Database (3)

The course aims to develop an in depth understanding and ability to use advanced relational database management systems, specifically to understand and use advanced normalization procedures, advanced referential integrity, and advanced SQL queries in depth. Students will be exposed to the administrative aspects of robust database management systems.

This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts that define the course.

Students will be evaluated by examination, exercises, quizzes, and a small project from design to implementation (including documentation).

IST 211 is the first advanced IST course for the students pursuing the Data Option in the Information Sciences and Technology Associate Degree program. Successful completion is required prior to enrollment in IST 213, 214. It may be taken simultaneously with IST 212. IST 210 is a prerequisite for IST 211.

Since this is an option requirement, only selected IST students will be enrolling; it should be offered at least once per year in class sizes of 30 or less. As enrollment growth warrants, it may require more frequent offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 212 Object-Oriented Database Systems (3) Introduction to object-oriented database systems.

IST 212 Object-Oriented Database Systems (3)

IST 212 aims to develop students understanding and ability to use object oriented relational database management systems, specifically to understand and use OODBMS architecture and to understand the requirements of ODBBMS database and system administration with regard to security, performance, tuning, and referential integrity. Students will also understand, develop and execute OODBMS data models. Students will learn to troubleshoot, tune, and tweak ODMBS and to understand, develop and execute implementation dependent transactions.

This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts that define the course.

Students will be graded on course attendance and participation, quizzes and examinations, and a small project from design to implementation (including documentation).

IST 210 is a prerequisite for IST 212. IST 212 is a requirement for students pursuing the Data Option in the Information Sciences and Technology Associate Degree program. IST 212 can be taken simultaneously with IST 211, IST 213 or IST 214.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 213 Advanced Topics in Data Management (3) Introduction to emerging technologies and special applications of database management systems.

IST 213 Advanced Topics in Data Management (3)

IST 213 aims to develop students understanding and ability to use various specialized database management systems and emerging data technologies. Students will learn to understand and use new concepts in data modeling, in data warehousing and data mining. Students will learn to understand, develop and execute decision support systems, intelligent agents, dynamic web pages to support databases. Students will learn to understand and employ two and three tier client/server architecture to support databases and to keep abreast of emerging technologies in the data management.

The course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts that define the course.

Students will be graded on course attendance and participation, quizzes and examinations, brief exercises, and a small project from design to implementation (including documentation).

IST 210 and IST 211 are prerequisites to IST 213. IST 213 is a requirement for students pursuing the Data Option in the Information Sciences and Technology Associate degree program. IST 213 can be taken simultaneously with IST 212, and/or 214.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 214 Database Management Project (3) Project course in database management systems.

IST 214 Database Management Project (3)

IST 214 is a capstone course which enables students to synthesize their learning and apply it to a database management project requiring them to gather information on project requirements, assemble a requirements document, estimating project costs, develop the data model, and design the input/output. Students will also be involved in project management, database design, database implementation, systems development (two tier client-server), and the concepts of system maintenance.

IST 214 is the capstone course in the Data Option in the Associate degree in Information Sciences and Technology. IST 210 and 211 are prerequisites to IST 214. IST 214 can be taken simultaneously with IST 212 or 213.

Students will be graded on the project from design to implementation (including documentation).

The majority of campuses offering the Associate degree in IST will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 210, IST 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 220 Networking and Telecommunications (3) Introduction to digital network topologies; transmission media, signal modulation, digital packet switching and routing, systems integration, communications management, and security.

IST 220 Networking and Telecommunications (3)

The course includes an introduction to: telecommunications history; telecommunications transmission media (conducted and radiated); transmission characteristics (including an introduction to coding and modulation techniques); error characteristics, detection, and correctional; local and wide area networking applications, hardware, and software; the OSI models; industry standards; topologies; protocols; internetworking devices; communications management; security and recovery; information system applications; and the selection of telecommunications and networking systems. Special attention will be paid to evolving Internet Protocol (IP) technologies, e.g., Internet2.

IST 220 is an introduction to digital networking and telecommunications and their applications in information systems. IST 110 is the only prerequisite. It is a required core course for both the two-year and four-year Information Sciences and Technology degrees, and is a critical part of the curriculum. Its objective is to provide the students with a basic understanding of the working of digital networks and the ability to apply this knowledge to specific applications and situations. Evaluation of knowledge objectives will be by examination; and of application (i.e., selection and management) objectives by grading of group and individual projects and case studies.

As a "core course", IST 220 will be offered every semester at University Park, in as many sections as necessary to meet current demand. At other locations where the Associate and Baccalaureate degrees are offered, it will be offered 1-2 times annually depending on demand. Ideally, section size should not exceed 45 students per class.

While the course is about digital technology and how it works, it is not a "hands on" course, or a training course in particular equipment and/or applications. While there will be demonstrations of relevant technologies, the course is not equipment-intensive and will not involve special technology needs beyond the normal access to computing and the Internet.

The course is not duplicative of any other course currently offered. Although there is some overlap with CMPET 401-402, CSE 458, and COMP 421, none of these courses cover exactly the same material, and they operate at a different level of depth and detail. M I S 180 also overlaps somewhat, but it appears that no current course provides the same 200-level mixture of local and wide-area networking and business communications topics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 221 Introduction to Telecommunications Systems (3) Telephony, digital telecommunications, private telecommunication systems, transmission media, signaling, switching and networking, and amplitude modulation.

IST 221 Introduction to Telecommunications Systems (3)

IST 221 introduces the students to the basic communications system - the transmitter, the media through which the information is transmitted, and the receiver. As well, it provides students the foundation in analog and digital communications. It also explains to the students the need for specially preparing the information before transmission. It introduces the telecommunications technology highlighted in the core courses and the following courses are built on this, examining the complexities of the components involved. IST 225 is a required core course for the Telecommunications Option in the Associate degree in Information Sciences and Technology (IST).

Upon completion of IST 221, the students will be able to describe the telephone system, how it functions, evaluate digital communications and explain the function of the PBX. The student will also be able to discuss transmission media, their applications and the amplitude modulation technique used in transmission.

Evaluation will be based upon formal written examinations, research papers and homework assignments. The students will also be asked to do oral presentations on chosen topics. Both written papers and oral presentation will be researched through the library, the Internet and other sources. They will be encouraged to use different software technologies, (e.g. Microsoft PowerPoint) for their presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 222 Voice and Data Communications (3) Noise in communications systems, types of modulation, transmission codes, terminals, interfaces, and the telephone.

IST 222 Voice and Data Communications (3)

IST 222 covers other forms by which information is treated for transmission and the effect of noise on the transmission system. Digital communications is treated at a deeper level by examining the codes in current use that enable transmission. The process of transmission, in both analog and digital forms, is treated at a deeper level and finally, the signals employed in telephone are further examined. IST 222 forms the next step in providing the students with a deeper understanding of telecommunications principles essential for the practitioners in this field. IST 222 is a required core course for the Telecommunications Option in the Associate degree in Information Sciences and Technology.

This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts that define the course.

Upon completion of this course, the students will be able to recognize the effect of noise on the system and evaluate factors relating to frequency and pulse modulation. The student will be able to discuss and convert transmission codes from one form to another, describe different terminals, use different types of interfaces and describe the telephone network.

Evaluation will be based upon formal written examinations, research papers and homework assignments. The students will also be asked to do oral presentations on chosen topics. Both written papers and oral presentation will be researched through the library, the Internet and other sources. They will be encouraged to use presentation software, (e.g. Microsoft PowerPoint) for their presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 223 Protocols and Networks (3) The telephone network, modems, protocols, network configurations, Internet and emerging technologies, error correction, fiber optics.

IST 223 Protocols and Networks (3)

The student will leave IST 223 with an understanding of the wireline operation of the telecommunications industry, and how they can become productive players in the industry. IST 223 will extend the student's knowledge of how the system is networked, and the components that converts analog signal to digital and digital signal to analog for transmission. IST 223 then examines the rules governing the oepration of the systems, different types of networks, error detection and correction. The students are then taken through a study of fiber optics. IST 223 is a required core course for the Telecommunications Option in the Associate degree in Information Sciences and Technology (IST).

IST 223 will incorporate collaborative and action-learning experiences whereever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts that define the course. It forms a component part of the course requirements for the Telecommunication Option in the Associate degree in Information Sciences and Technology.

Evaluation will be based upon formal written examinations, research papers and homework assignments. The students will also be asked to do oral presentations on chosen topics. Both written papers and oral presentations will be researched through the library, the Internet and other sources. They will be encouraged to use presentation software, (i.e. Microsoft PowerPoint) for their presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 225 PC Hardware Basics (3) Preparation for PC hardware support: Students learn data recovery and how to build, configure, upgrade, troubleshoot, diagnose, and repair PC's.

IST 225 PC Hardware Basics (3)

IST 225 covers materials needed to prepare students to function as PC support technicians in business and industry. In a hands-on laboratory environment, students learn to build, configure, upgrade, troubleshoot, diagnose, and repair PC hardware. Course modules cover all the basic hardware components of the PC - their functions, interactions, installation, configuration, upgrading, repair, and replacement. Detailed coverage of system BIOS, CMOS setup, and the boot process is also included. Preventive maintenance and data recovery procedures are also studied. IST 225 is one of four courses required for the Networking Option in the Associate degree in Information Sciences and Technology (IST).

The IST 225 is designed to help the student to thoroughly understand all the basic hardware and firmware PC components, from PC resources, their function (BIOS and CMOS setup) and interaction, to diagnosing and resolving resource conflicts. The IST student should be able to install, configure, troubleshoot, repair, recover data, correct errors or replace all basic hardware components. The student should also be able to make appropriate hardware recommendations, purchases and upgrade decisions, as well as, determine appropriate preventive maintenance procedures. Finally, the Information Sciences and Technology major will learn how to foster communications, interpersonal, and group interaction skills through appropriate collaborative and active learning projects, laboratory exercises, and related experiences.

Achievement of knowledge objectives will be evaluated by examinations. Ability to perform hands-on support activities will be evaluated by grading appropriate group and individual hands-on laboratory projects, scenarios, and case studies.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 224 Wireless Systems (3) Wave propagation, transmission lines, antennas and waveguides, microwave radio communications, satellite communications, and cellular telephones.

IST 224 Wireless Systems (3)

Up to this point, the technology the students have dealt with has been wireline. An important component of the telecommunications industry is the wireless technology. The students get into this area starting with transmission lines which explains to them how waves are propagated through a medium with distributed parameters. This leads on to the formation of antennas and propagation by antennas. This forms the basis of radio work (wireless). The students are then ready to examine radio frequency (RF) applications such as microwave radio communications, satellite communications and cellular telephones. The wireless course is an extension to the wireline component of the program, and completes the course requirements for the Telecommunications Option in the Associate degree in Information Sciences and Technology (IST).

This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts that define the course.

Upon completion of this course, the students will be able to discuss electromagnetic wave propagation, evaluate the different parameters of transmission lines and describe cellular telephone/personal communication of antennas, waveguides functions, relevant parameters, as well as microwave and satellite communications.

Evaluation will be based upon formal written examinations, research papers and homework assignments. The students will also be asked to do oral presentations on chosen topics. Both written papers and oral presentation will be researched through the library, the Internet and other sources. They will be encouraged to use presentation software, (e.g. Microsoft PowerPoint) for their presentations. The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 223

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 226 Networking Essentials (3) Concepts for peer-to-peer and server-based network:International Organization for Standardization-Open Systems Interconnection (ISO-OSI) reference model, industry standards, troubleshooting, performance monitoring, and optimization.

IST 226 Networking Essentials (3)

IST 226 covers basic networking concepts such as network types, cable types, wireless technologies, and network adapters. It discusses network models, including the ISO-OSI reference model and all industry standard network architectures. Both peer-to-peer and server-based commercial network operating systems are introduced with hands-on laboratory experience provided. Basic network administration issues are introduced. Internetworking/enterprise networking devices and architectures are also covered, as are network troubleshooting, performance monitoring, and optimization. IST 226 is one of four courses required for the Networking Option in the Associate degree of Information Sciences and Technology (IST).

Achievement of knowledge objectives will be evaluated by examinations. Ability to perform hands-on network administration and support activities will be evaluated by grading appropriate group and individual hands-on laboratory projects, scenarios, and case studies.

Upon completion of this course, the students will be able to understand both cabled and wireless media types and be able to select appropriate media. The student will also understand the ISO-OSI and IEEE models and other industry standards, the roles of drivers and protocols and network architectures. The student will have experience with the installation, configuration and administration of basic server-based networking, as well as, an understanding of wide area/enterprise networking, performance monitoring and network troubleshooting. Most important, the student will learn how to foster communications, interpersonal, and group interaction skills through appropriate collaborative and active learning projects, laboratory exercises, and related experiences.

The majoriety of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 227 Network Administration (3) Administering peer-to-peer and client/server networks: Planning, installation, server configuration, resource management, remote access, performance monitoring, and optimization.

IST 227 Network Administration (3)

IST 227 covers the essential knowledge and skills required to successfully administer peer-to-peer and client/server networks. Hands-on experience with commercial networking software such as Windows 9x, NetWare, Windowns NT Workstation, and Windows NT Server is an important course component. Topics covered include pre-installation planning, network installation, network software architecture, server configuration, profiles and logon scripts, user account management, policies, resource sharing and security, disk management, remote access, backup and recovery, performance monitoring, and network optimization. IST 227 is one of four courses required for the Networking Option in the Associate degree in Information Sciences and Technology (IST).

Upon completion of this course, the students will be able to understand network software architecture, plan and install peer-to-peer and server-based networks. The IST student will also be able to manage user accounts, profiles, logon scripts, and system policies. The student will have practical experience with disk storage, resources, security, backup and recovery procedures. Finally, the student will be able to manage remote access features, monitor and optimize network performance, and foster communications, interpersonal, and group interaction skills through appropriate collaborative and active learning projects, laboratory exercises, and related experiences.

Achievement of knowledge objectives will be evaluated by exam. Ability to perform hands-on network administration and support activities will be evaluated by grading appropriate group and individual hands-on laboratory projects, scenarios, and case studies.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 226

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 230 Language, Logic, and Discrete Mathematics (3) Introduction to formal languages, mathematical logic, and discrete mathematics, with applications to information sciences and technology.

IST 230 Language, Logic, and Discrete Mathematics (3)

IST 230 is one of the five introductory core courses for the baccalaureate degree program in Information Sciences and Technology. The purpose of IST 230 is to provide students with an understanding of an array of mathematical concepts and methods which form the foundation of modern information science, in a form that will be relevant and useful for IST students. Exams and assignments will be used to assess that understanding. IST 230 will draw some of its material from several mathematical disciplines: formal language theory, mathematical logic, discrete mathematics. In-depth treatments of each of these subjects are offered elsewhere in the University as advanced mathematics and computer science courses. The difference is that IST 230 will present these concepts in a more elementary way, with much more emphasis on IST applications, and in a more eclectic, web-based format. IST 230 will be structured as a small number of modules. Each module will introduce a group of mathematical concepts and present applications of those concepts to problems of information storage, information retrieval, information management, etc. These include: MODULE 1: SET, RELATIONS, FUNCTIONS, NUMBERS set operations, applications of relations, equivalence relations, function composition, inverse functions, logarithms, exponential function, number systems, applications of number theory. APPLICATIONS: mathematical data types (integers, fractions, real numbers, tuples, function spaces); exponential growth; non-feasible algorithms; public key encryption. MODULE 2: LOGIC AND BOOLEAN ALGEBRA predicates, quantifiers, formulas, interpretations, syllogisms, logical consequence, tableau method, boolean connectives, boolean functions, valuations, truth tables, logic gates. APPLICATIONS: database query languages; specification languages; switching circuits; boolean search expressions. MODULE 3: COMBINATORICS AND PROBABILITY combination, permutation, discrete probability APPLICATIONS: lexicographic ordering; combinatorial explosions; lower bouncs of algorithms; reliability of computer systems MODULE 4: GRAPHS AND TREES directed and undirected graphs, weighted graphs, walks, paths, matrix representations, graph algorithms, spanning trees, rooted and structured trees, combining trees to form new trees, inserting nodes in trees, sorting, searching. APPLICATIONS: flow diagrams; task scheduling; critical paths; network connectivity; finite state machines; parsing; derivation; trees as data structures for storing information. MODULE 5: INDUCTION AND RECURSION induction and recursion on the natural numbers and other structures such as trees. APPLICATIONS: recursive evaluation of mathematical and Boolean expressions; recursive searching and sorting algorithms; asymptotic analysis of algorithms. MODULE 6: GRAMMARS, LANGUAGES AND FINITE STATE MACHINES alphabets, strings, grammars, languages, regular languages, regular expressions, finite state machines, language recognizers. APPLICATIONS: regular expression search; efficient pattern matching using finite-state machines.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 228 Advanced Network Administration (3) TCP/IP planning, installation, configuration: IP addressing, subnetting, routing, Dynamic Host Configuration Protocol (DHCP), Windows Internet Naming Service (WINS), address/name resolution, Domain Name System (DNS); database, web, mail server management.

IST 228 Advanced Network Administration (3)

IST 228 covers the essential knowledge and skills required to successfully administer TCP/IP networks and applications servers such as database servers, web servers, and mail servers. Hands-on experience with commerical software such as SQL Server, Exchange Sever, and Internet Information Server is an important course component. Topics covered include TCP/IP planning, installation, and configuration, IP addressing, subnetting, IP routing, DHCP, WINS, address and name resolution protocols, DNS, and management of database, web, and mail servers. IST 228 is one of four courses required for the Networking Option in the Associate degree of Information Science and Technology (IST).

Upon completion of this course, the IST students will be able to plan, install, configure and troubleshoot TCP/IP. The student will also understand IP addressing, subnetting, supernetting, routing and configuration. The student will have practical experience installing and configuring DHCP, WINS, and various protocols. Finally, the IST student will have administrative skills with database, server and web software, as well as, the ability to foster communications, interpersonal, and group interaction skills; through appropriate collaborative and active learning projects, laboratory, exercises, and related experiences.

Achievement of knowledge objectives will be evaluated by exam. Ability to perform hands-on network administration and support activites will be evaluated by grading appropriate group and individual hands-on laboratory projects, scenarios, and case studies.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 226

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 240 Introduction to Computer Languages (3) Introduction to the specification and application of languages and language paradigms that interact with computers.

IST 240 Introduction to Computer Languages (3)

IST 240 is one of two courses added to the three core courses for the associate degree program to form the core courses for the baccalaureate degree program in Information Sciences and Technology. The primary goal of this course is to study the foundations underlying the design, specification and use of a wide variety of language paradigms used to interact with computers. The following details the content of the course: (1) nature of languages; (2) elements of languages; (3) classification of languages; (4) formal descriptions of languages; (5) data and types; (6) names and bindings; (7) control structures; (8) language processors; and (9) study experiences.

Student evaluation may be accomplished by means of assignments, examinations, and possibly a project. This course will most likely involve Web-based course material and will therefore require student access to computers and the Web. Although other existing courses are similar to IST 240 in content, none of those courses fit the objective of this course and of this program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: CMPSC 101
Concurrent: IST 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 247 Contemporary Projects in Software Development (3) The analysis, design, coding, testing, and documentation of a software project using state-of-the art languages/tools and concepts.

IST 247 Contemporary Projects in Software Development (3)

The primary focus of the course will be the development (including definiation, design, etc.) and implementation (including supporting documentation) of a contemporary software project. The project should extend concepts and languages/tools learned in previous courses and/or require new knowledge. These new elements should be self or team-taught by the students with the instructor as a facilitator. Active and collaborative learning techniques will be incorporated into all activities. IST 247 is a required course in the Software Development Option of the Associate degree in Information Sciences and Technology (IST).

Upon completion of the course, the students will have experience with all phases of a system development project, ranging from team work and learning new material using collaborative methods to making formal presentations of their projects at different stages.

Students will be graded on course attendance, participation, quizzes, examinations, brief exercises and their project presentation (from design to implementation, including documentation).

IST 247 has prerequisites of CMPBD 205 and either IST 211 or IST 256. It may be taken simultaneously with other IST courses excluding the prerequisites.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 302;IST 211 orIST 256

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 250 New Media and the Web (3) Introduction to how the World Wide Web utilizes emerging technologies. Students acquire conceptual understanding of constructing Web sites.

IST 250 New Media and the Web (3)

This course provides an introduction to how the world wide web utilizes new media technologies. Students will acquire a sound conceptual understanding of how simple to complex web sites are constructed, and how this knowledge can be applied in their professional career. Knowledge gained in this course will dovetail into Information Sciences and Technology Associate degree options.

There are three major course objectives: (1) students will be able to perform a written critical evaluation of any web site, using the criteria listed below for evaluation; (2) students will be able to develop a written and/or electronic comprehensive proposal for the design/redesign of a web site; and (3) students will collaborate in meaningful, deep discussions of the topics listed above with peers, experts, and faculty via interactive technologies, as demonstrated by chat logs or other interaction records.

Students will construct a simple web page that exemplifies the weekly topics. This web page may be built over the course of the initial 10 weeks as new topics are introduced, or the students may construct separate examples for each topic area. In some cases (such as e-commerce) the students may construct a non-functional prototype as opposed to a fully functional site. A quiz on the weekly topic(s) will occur at the end of each week. The quiz will be derived from the assigned readings and chats. This quiz will be on-line and automatically scored. Students will develop a comprehensive proposal for the design/redesign of a web site. Included in the proposal will be: (1) rationale for each decision; and (2) how conceptual criteria covered in segment 1 are applied to the design. IST 250 is part of the core curriculum for the Information Sciences and Technology Associate degree; thus it links to the other core courses in this degree. IST 110 is a prerequisite but may be taken concurrently. In addition, this course is a prerequisite for all courses in the Associate degree Web Administration Option. Generally, enrollment will be 20 students per semester building to 20 students per semester over a 3-4 year ramp-up period of the Information Sciences and Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 110 or concurrent enrollment

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 255 Fundamentals of Web Administration (3) An introduction to fundamental web administration concepts: Internet, graphic design, Hypertext Markup Language (HTML), security, legal/ethical implications, Internet business.

IST 255 Fundamentals of Web Administration (3)

Students will be required to demonstrate understanding of the course content by building web pages that incorporate and illustrate the facts, concepts, and procedures in the course content, and by identifying given features (such as security flaws) in given web sites. IST 255 is a required course for the Web Administration Option of the Associate degree in Information Sciences and Technology (IST).

Upon completion of the course, students will have knowlede of the fundamental web administration concepts, including information about the Internet, graphic design, basic HTML, security, legal/ethical implications, and buisness on the Internet.

Achievement of knowledge objectives will be evaluated by examination of students projects, including the following: The student will develop a web page(s) according to established guidelines that demonstrates basic knowledge of visual design, including GUI design principles, use of text, graphics, audio, animation and video.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 256 Programming for the Web (3) An introduction to fundamental Web programming concepts: Advanced Hypertext Markup Language (HTML), Dynamic Hypertext Markup Language (DHTML), extensible Markup Language (XML), Data Warehouses, JavaScript, common Gateway Interface (CGI), and Java.

IST 256 Programming for the Web (3)

The first part of the course consists of introduction of web programming facts and concepts. Students will be required to demonstrate understanding of the course by building web pages via individual and group activities that incorporate and illustrate the facts, concepts, and procedures in the course content. The latter half of the course will involve in-depth programming projects in JavaScript, CGI, and Java, and will incorporate concepts from the first part of the course. IST 256 is required and represents the introductory web programming course for the Web Administration Option of the Associate degree in Information Sciences and Technology (IST).

Upon completion of the course, the IST student will be able to identify basic concepts for programming for the web, including decentralized computing and shared information, client/server/database, e-commerce, design issues, and scalability issues, as demonstrated by miscellaneous tests. The student will also have experience with basic UNIX/NT programming skills, including system programming basics for webmasters, Unix, and NT systems, as demonstrated by completed projects. They will be able to utilize advanced HTML, DHTML concepts, including style sheets, dynamic content, and scripting events, as demonstrated by completed projects. The student will also understand basic concepts for databases/data warehousing/data mining, including information and the organization, database and database management system environments, the relational database model, and object-oriented database model, as demonstrated by miscellaneous tests. They will be able to identify basic concepts about XML, multimedia resources, GUI Programming Environments, such as Visual J++, Symantec Cafe, NetObject's Fusion, and Dreamweaver (or the current equivalent environments. They will be able to utilize current programming technologies to produce functional programming code that enhances web page capabilities.

Students will be graded on course attendance, participation, quizzes, examinations, brief exercises and their project presentation (from design to implementation, including documentation).

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 257 Advanced Web Administration (3) Web site server installation, access, management, security, performance monitoring and optimization, network services, and troubleshooting.

IST 257 Advanced Web Administration (3)

IST 257 will help the student to acquire advanced web administration skills, including web server installation, access, management, security, performance monitoring and optimization, database strategies, network services, and troubleshooting. IST 257 is a required course for the Web Administration Option in the Associate degree in Information Science and Technology (IST).

Upon completion of the course, the student will be able to demonstrate an understanding of advanced web administration concepts. The IST student will be able to install, manage, create virtual directories, incorporate network services as demonstrated by inclusion of a functional FTP service, e-mail, and news groups within an active web server environment. They will have knowledge of web security features by utilization of user authentication, network-related techniques, certificate-based techniques and be able to monitor and optimize performance on a web server.

Students will be graded on course attendance, participation, quizzes, examinations, brief exercises and their project presentation (from design to implementation, including documentation).

IST 257 does not appear to be offered in any form at this time. IST 255 is a prerequisite for this course. IST 257 is a required course for the Web Administration Option in the Associate degree in Information Sciences and Technology.

The majority of campuses offering the Associate degree in IST will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 255

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 258 Web Administration Studio (3) Web Administration option capstone course: Students plan and build a fully functioning Web site that meets client needs.

IST 258 Web Administration Studio (3)

State-of-the-art web server/database topics will initially be examined, then the students will divide (3-5 people) into small project groups for the remainder of the course as they design and implement their projects. IST 258 is the capstone course in Web Administration Option in the Associate degree in Information Sciences and Technology. IST 255 and 256 are prerequisites for this cap stone course.

The student will plan, build, and deliver a fully-functioning web site that meets specific client needs. The student will be able to create a dynamic web site by scripting and programming dynamic web pages, creating active content with Active Server Pages, and linking to databases using ASP. The student will also be able to link databases with web servers, install, configure, test and secure a server. The Information Sciences and Technology major will utilize appropriate collaborative and active learning strategies to complete a small group project, from developing a plan for managing, optimizing, and monitoring performance to writing documentation and troubleshooting procedures.

Students will be graded on course attendance, participation, quizzes, examinations, brief exercises and their project presentation (from design to implementation, including documentation).

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 255, IST 256

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 260W Introduction to Systems Analysis and Design (3) Introduction to systems analysis and design, stressing the process of requirements acquisition, specification, design, and implementation.

IST 260W Introduction to Systems Analysis and Design (3)

IST 260W is an introductory course to system analysis and design. It covers the process and is intended to be independent of the specific system, whether it be a hardware, software, telecommunication, logistics, or information system. This course can be used as a prerequisite to specific Associate degree system design courses. It can also be used for breadth for those IST students who do not pursue technical emphases. It serves as a writing across the curriculum course for the Information Sciences and Technology Associate degree. The course looks at two design paradigms. A small design project is included in the course.

The objectives of the course include: (1) teaching students the importance of teamwork, project management, and oral and written communication skills; (2) teaching students a systems design strategy that emphasizes customer requirements at all stages of the process; (3) introducing students to the object oriented design process; (4) giving students a full design experience on a small project such as designing an e-Commerce system; and (5) showing students examples of the writing required for systems design and requiring them to write individual and team reports as well as give oral presentations on their designs.

Students will be evaluated by examinations and by grading of their written reports and oral presentations.

System design courses are taught at the upper-division level in Engineering and Business departments. This is a lower-division course that serves as an introduction for Associate degree students to give them a background for project-level courses in their fourth semester. It will serve as a core requirement in the Associate degree program and act as a prerequisite for the design courses that are capstone courses in many of the Associate degree options. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: IST 110, IST 210, IST 220 andENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 271 Integrated Business and Manufacturing Processes (3) History, principles, supply-chain management, enterprise system, resources, automation, process economics, data organization, and metrics development.

IST 271 Integrated Business & Manufacturing Processes (3)

IST 271 presents the history and principles that have guided the growth of the manufacturing industry and the business and enterprise system development into the highly automated MRP/ERP (Manufacturing Resource Planning/Enterprise Resource Planning) systems of today. IST 271 is one of the five technical electives of the Industrial/Manufacturing Technology option of the Associate degree in Information Sciences and Technology (IST). This course will be taken in the second year. Prerequisite: IST 210, IST 295A Concurrent: IST 273.

Upon completion of the course, students will be able to understand the basic language and concepts of the modern manufacturing process and its historical development.

Weekly homework/reading assignments, two midterms and a final will be administered during the semester. Students will work collaboratively on case studies.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 210, IST 295A
Concurrent: IST 273

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 272 Electronic Essentials (3) Introduction to electronics, digital logic, data acquisition, and computer automation.

IST 272 Electronic Essentials (3)

IST 272 is a survey of topics in electronics, digital logic, motors, data acquisition and computer automation. The student will learn basic electronics and digital logic as well as how to use computers to control equipment and recieve data from instruments. Emaphsis will be placed on applications rather than theory. This course is designed to give the student the necessary background to work with engineers in an industrial setting.

IST 272 conveys the basic terminology and concepts of electrical engineering and is required for the Industrial/Manufacturing Technology Option in the Associate Degree in Information Sciences and Technology. Prerequisistes: IST 271, Math 110 Concurrent: CMPSC 101 or CMPBD 204. It is a prerequisite for IST 274.

Upon completion of this course, students will be able to understand electrical specifications of equipment, read a schematic for an electronic device as well as troubleshoot simple circuits. More importantly, the student will learn how to collaborate with one another and faculty to apply learned skills to problems relating to data acquisition and computer automation.

Weekly homework assignments will be given during the first four sections of the course. Two midterm exams will be given one at the end of Module 2 and another at the end of Module 4. Students will construct a computer automated mechanical device. They will develop a proposal for the design and then implement the design and demonstrate its operation.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 271, MATH 110
Concurrent: CMPBD 204 or CMPSC 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 273 Mechanical Essentials (3) Introduction to statics, strength of material, and metallurgy.

IST 273 Mechanical Essentials (3)

IST 273 is a survey of topics in statics, strength of material, and metallurgy for non-scientists. The student will learn the concepts of forces, moments and equilibruim. The effect of forces on the material (stress and strain) is covered as well as various relevant properties of materials. Emphasis will be placed on applications rather than theory. This course is designed to give the student the necessary background to work with engineers in an industrial setting. IST 273 is one of five technical electives of the Industrial/Manufacturing Technology Option of the Associate degree in Information Sciences and Technology (IST). This course will be taken in the second year. Prerequisite: Math 110; concurrent IST 271.

Upon completion of the course, students will be able to understand the basic language and concepts of mechanical engineering enabling them to communicate effectively with engineers and the labor force in a manufacturing engineering setting. The student will also refine their collaborative skills as they work with each other and faculty to apply learned skills to problems related to manufacturing engineering.

Weekly homework assignments will be given during the entire course. Two midterm exams will be given. Students will work together in teams to design and construct a mechanical device applying the knowledge acquired in this course.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: MATH 110
Concurrent: IST 271

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 274 Tools of Manufacturing Processes (3) Examination of industry tools, their applications, and study of applications and tool usage that represents the total business and manufacturing process.

IST 274 Tools of Manufacturing Processes (3)

IST 274 presents industry tools and their application, with detailed study of synergistic applications and tool usage that tie together the total business and manufacturing process. IST 274 is one of the five technical electives of the Industrial/Manufacturing Technology Option of the Associate degree in Information Sciences and Technology. This course will be taken in the second year. Prerequisite: IST 271 & IST 273; concurrent with IST 272.

Upon completion of the course, the student will be able to apply the concepts of the modern manufacturing process, with current industry tools, to affect business and manufacturing process solutions. The student will also build on the other courses in this option (IST 271, IST 272, and IST 273) to provided an integrated tool and business perspective, with an emphasis on practical solutions. Students will incorporate tools, experiences and case studies gained during their internship (IST 295A) of the previous summer. Finally, students will have knowledge of theory, tools and applications to give the student useable ability, while opening the academic door to further study, optimization, and tool development.

Weekly homework/reading assignments, two midterms and one final will be given during the entire semester. Students will work collaboratively on several case studies, based if possible on experiences gained during their internship. A term project will be required of each student.

The majority of campuses offering the Associate degree in Information Sciences and Technology will have 20-30 students enrolled in the course. The course will be offered one semester each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 271, IST 273
Concurrent: IST 272

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 295A Distributed Team Project (1-3) Supervised experience in which student teams work on information system design projects gathered from industry or units within the University.

IST 295A Distributed Team Project (3)

This course offers a web-based distributed project that simulates an internship of a student in a company. Faculty gather information system design projects from industry or units within the university. These projects are announced on the web and students bid to join groups to work on the projects. Each project has a faculty mentor with an additional industrial mentor where appropriate. Student groups are formed by the mentors based on the resumes and skill sets of the students. Students bid on one project at a time until they have been selected to be a member of a project team. Membership in a group may include students from different campuses throughout the Penn State System. The majority of communication within the groups and with the mentors is to be via the internet. This course gives a true experience in information project development. Students will be graded as a team by the faculty mentor on the quality of the project. An individual written report detailing the work accomplished during the course is required from all team members. The grade of the individual report and the team project grade form a basis for student evaluation.

The objectives of the course include: (1) teaching students the importance of teamwork, project management, and oral and written communication skills: and (2) exposing students to the virtual workplace and providing them with meaningful information and technology related tasks.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 295B IST Internship (1-3) Supervised work experience where the student is employed in an information sciences and technology position in industry, government, or academia.

IST 295B IST Internship (1-3)

This course is offered as an internship for a student within a company. Faculty and industry collaborate to specify the duties of the intern. The faculty member responsible for the course then approves the internship. The internship must consist of a minimum of 400 hours of meaningful information and technology related tasks. A written report by the student, detailing the work accomplished during the internship, is required. This report and a report from the intern supervisor form the basis for the grade.

The objectives of the course include: (1) teaching students the importance of teamwork, project management, and oral and written communication skills; and (2) exposing students to the workplace and providing them with meaningful information and technology related tasks.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 297A Technology in the Classroom (3) Introduce students to basic professional skills needed to ensure a successful and smooth transition into the professional world.

Technology in the Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 297A Technology in Classroom (3) Introduce students to basic professional skills needed to ensure a successful and smooth transition to the professional world.

Technology in Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 297B Supervised Experience in Instructional Support (2) Introduction to best practices in and supervision of instructional support activities such as coaching, team facilitation, grading, and learning assessment.

Supervised Experience in Instructional Support (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 297B Supervised Experience in Instructional Support (2) Introduction to best practices in and supervision of instructional support activities such as coaching, team facilitation, grading, and learning assessment.

Supervised Experience in Instructional Support (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 297C Gender and the Global Information Technology Sector (3) Integrates information technology and gender studies. Overviews issues and socio-cultural shaping of gender in the IT field.

Gender and the Global Information Technology Sector (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 301 Information and Organizations (3) Overview of organizational structures and functions. Includes information processing and analytic perspectives of organizations.

IST 301 Information and Organizations (3)

This course provides students the opportunity to learn and experience:
1. Applicable organization and the ways in which IT can alter and enable these activities.
2. A series of analytic techniques that students can use to investigate the effects of new IT on work and organization.
3. Examples and problems set in and drawn from a range of domains including military, medical, high technology, business and government.

This course is designed around a series of ill-structured, contemporary problems that require students to develop responses by applying analytic techniques and theories of work and organization. At the end of the course, students will be able to:
1. Apply theories of work and organization as analytic techniques.
2. Conduct organizational and inter-organizational process analyses.
3. Map information flows among organizational units and actors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: IST 210, IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 302 IT Project Management (3) Exploration and application of the basic concepts, methodologies, and tools of project management in the field of information sciences and technology.

IST 302 IT Project Management (3)

This course is designed to introduce and explore the basic concepts and practices of project management and help students understand how to plan and manage IT projects successfully. Throughout the course, students will be asked to utilize course concepts, methodologies, and tools while utilizing technology applications and addressing real-world problems. Students will learn the skills necessary to define project scope, create workable project plans, and manage projects with quality, budget, and schedule in mind. The course is structured around the key phases of project lifecycle, including initiating a project, developing project plans, executing and managing a project, and closing out a project. In addition, students will be taught how to identify and address the change management and political issues associated with project management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: IST 210, IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 311 Object-Oriented Design and Software Applications (3) Introduction to object-oriented applications including applications in an Object Oriented Design (OOD) language or OOD languages.

IST 311 Object-Oriented Design and Software Applications (3)

IST 311 will be among the courses making the System Development Option in the Baccalaureate degree in Information Sciences and Technology program and would normally be taken in the 5th or 6th semester. It is the first course in the Option sequence. The course is intended to provide students with background in object-oriented design and programming. Students will learn basic object concepts and develop skills to implement programs utilizing object tools. To prepare for such a work environment, students will learn to work together to design, implement and test projects. IST 311 would normally be taken in the 5th or 6th semester. Prerequisiste(s): CMPSC 102 or CMPSC 101, IST 240.

CSE 120, Intermediate Programming, handles some topics contained in IST 311, but the focus of CSE 120 is not on object-oriented design. Rather a major portion of its content is on top-down programming. CSE 120 includes numerical methods and algorithm analysis, areas not included in IST 311. IST 311 will introduce students to team-based projects, as well as design principles and object concepts. Student performance will be evaluated by means of assignments, examinations, and team-based projects.

Upon completion of the course, students will be able to apply system development principles using an object-oriented language, show how object-oriented techniques increase productivity of complex systems and begin the development of team skills when programming complex systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 101;IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 321 Information Technology and Systems Integration I (3) Introductory course on integration of information technology into different systems, including the planning, development, and implementation of the integration.

IST 321 Information Technology and Systems Integration I (3)

IST 321 focuses on introducing the student to the role of information systems and technologies in achieving a variety of system goals. Emphasis will be placed on the theories and skills required for planning, developing, implementing, and managing the integration of information technology and different systems. IST 321 is required of all Information Sciences and Technology (IST) undergraduates who have chosen the Information Technology Integration Option in their Baccalaureate degree. It is the prerequisiste for IST 421 which is also required for the Option.

Upon completion of the course, the student will be able to recognize information technology integration. They will also understand the "information value chain" within a system, and be able to foster an understanding of the role of IT in system integration.

Students will be periodically assessed through examinations, individual and group assignments and projects, and other performance indicators where appropriate.

IST 311 will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 321L Information Technology and Systems Integration I (3) Introductory course on integration of information technology into different systems, including the planning, development, and implementation of the integration.

IST 321L Information Technology and Systems Integration I (3)

IST 321 focuses on introducing the student to the role of information systems and technologies in achieving a variety of system goals. Emphasis will be placed on the theories and skills required for planning, developing, implementing, and managing the integration of information technology and different systems. IST 321 is required of all Information Sciences and Technology (IST) undergraduates who have chosen the Information Technology Integration Option in their Baccalaureate degree. It is the prerequisiste for IST 421 which is also required for the Option.

Upon completion of the course, the student will be able to recognize information technology integration. They will also understand the "information value chain" within a system, and be able to foster an understanding of the role of IT in system integration.

Students will be periodically assessed through examinations, individual and group assignments and projects, and other performance indicators where appropriate.

IST 311 will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 321P Information Technology and Systems Integration I (0) Introductory course on integration of information technology into different systems, including the planning, development, and implementation of the integration.

IST 321P Information Technology and Systems Integration I (3)

IST 321 focuses on introducing the student to the role of information systems and technologies in achieving a variety of system goals. Emphasis will be placed on the theories and skills required for planning, developing, implementing, and managing the integration of information technology and different systems. IST 321 is required of all Information Sciences and Technology (IST) undergraduates who have chosen the Information Technology Integration Option in their Baccalaureate degree. It is the prerequisiste for IST 421 which is also required for the Option.

Upon completion of the course, the student will be able to recognize information technology integration. They will also understand the "information value chain" within a system, and be able to foster an understanding of the role of IT in system integration.

Students will be periodically assessed through examinations, individual and group assignments and projects, and other performance indicators where appropriate.

IST 311 will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 331 Organization and Design of Information Systems: User and System Principles (3) Interdisciplinary survey of topics related to the use and usability of information systems.

IST 331 Organization and Design of Information Systems: User and System Principles (3)

Not too many years ago, people gained information from watching television news or reading the newspaper. Now, nearly half the population of the United States is connected or planning to connect to the Internet. Recent examples include the release of the "Star Report" which generated a record number of "hits" that almost paralyzed the Internet. IST 331 examines these issues, paying special attention to those problems that are directly impacting the performance and future of this rapidly expanding market. The course will expose the "positive and negatives" of the current information system. Next, it will factor in the "human elements" of the equation, and finally, IST 331 will help the Information Sciences and Technology major to understand the enormous responsibility of their work and how they can "make a difference." This course will serve as a required course in the Infon-nation, Society, and Public Policy Option of the proposed major in Information Sciences and Technology. Upon completion of this course, the students will be able to evaluate the current information systems and apply communication principles. They will also recognize problems in design, appreciating the "human factor" as it relates to pedagogy and research. The material in this course lends itself to active learning elements such as writing projects, library and internet research, and collaborative learning. Evaluation will be based on a combination of examinations, written assignments and papers, and collaborative projects. The exact mix of evaluation components will be determined by the individual instructors. The proposed course has some overlap in content with existing courses in Psychology, English, Instructional Systems, Industrial Engineering, and Management Science and Information Systems. Frequency: IST 331will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Enrollment: Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: IST 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 341 (US;IL) Human Diversity in the Global Information Technology (3) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general.

IST 341 Human Diversity in the Global Information Technology (3) (US;IL)

This course examines the effects of human diversity on the analysis, development and use of information systems and technology. This course explores the meaning and implications of diversity. It takes a comprehensive view of diversity that builds upon the notion of 'diversity' as 'differences.' When applied to demographic characteristics of the IT workforce and IT user base, the term includes such meanings as: race, ethnicity, nationality, gender, sexual orientation, religion, socio-economic status, age and disability. The concept of diversity is also applied beyond demographic attributes to also include the characteristics of individuals that make them unique in the ways that they bring different skills, thoughts, perspectives, ideas and talents to the work place. The concept of diversity in IT work is examined from two different viewpoints: that of the 'minority' person who is interacting with the 'majority' person; and that of the 'majority' person who wants to develop greater awareness regarding successful interaction with 'minority' individuals. This course makes extensive use of problem-based learning, experiential learning, case studies, guest speakers and team work with students in other countries.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 341 (US;IL) Human Diversity in the Global Information Economy (3) Globalization, human diversity and their impacts on IT products, work, workforce, and the knowledge economy and social inclusion in general.

IST 341 Human Diversity in the Global Information Technology (3)
(US;IL)

This course examines the effects of human diversity on the analysis, development and use of information systems and technology. This course explores the meaning and implications of diversity. It takes a comprehensive view of diversity that builds upon the notion of 'diversity' as 'differences.' When applied to demographic characteristics of the IT workforce and IT user base, the term includes such meanings as: race, ethnicity, nationality, gender, sexual orientation, religion, socio-economic status, age and disability. The concept of diversity is also applied beyond demographic attributes to also include the characteristics of individuals that make them unique in the ways that they bring different skills, thoughts, perspectives, ideas and talents to the work place. The concept of diversity in IT work is examined from two different viewpoints: that of the 'minority' person who is interacting with the 'majority' person; and that of the 'majority' person who wants to develop greater awareness regarding successful interaction with 'minority' individuals. This course makes extensive use of problem-based learning, experiential learning, case studies, guest speakers and team work with students in other countries.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 390 Introduction to Professional Development (1) Interdisciplinary course to introduce students to the issues, concepts and skills involved in successfully transitioning into professional life.

IST 390 Introduction to Professional Development (1)

IST 390 focuses on introducing the students to professionalism and professional development in the field of IT. Emphasis will be placed on the theories and skills required for planning, developing, implementing, and managing professional skills. For example, students will attempt to master relationship skills such as client relationship management and interpersonal communication, business skills such as presentation planning and scheduling; leadership skills such as decision making and goal setting; and career management skills such as networking and interviewing. Additional focus will be placed on the various resources and strategies available for pursuing a successful job search. Students will be given opportunities to practice the concepts, theories, and methodologies learned in class by working in teams on real-world case studies (many derived from corporate partners). Students will be periodically assessed through examinations, case studies, individual and group assignments and projects, and other performance indicators where appropriate.

The audience is students who are ready to enter the work force. For those pursuing Baccalaureate Degrees, this would mean a class standing of Junior or Senior. For those pursuing Associate Degrees, this would mean a second year standing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 402 Emerging Issues and Technologies (3 per semester/maximum of 9) Introduction to emerging issues, technology forecasting and analysis; overview of emerging issues and leading technologies in IST and how they impact information systems, users, the IT labor force and society.

IST 402 Emerging Issues and Technologies (3 per semester/maximum of 9)

Information Sciences and Technology (IST) is a rapidly changing discipline. New issues, methods, tools, applications and terminology appear on a continual basis. A key skill is the ability to analyze new issues and assess new technologies within the context of the information age. This course prepares students to understand the difference between potential technological failures and success, fads and revolutionary technology. It also helps students to view emerging issues as an opportunity rather than a threat. Intellectual tools are provided to assist in understanding issues, assessing and forecasting technological changes for feasibility and planning in real world situations. The course provides students with:
a.) A process framework for analyzing new issues and a theoretical framework to study technological and social impacts of such issues.
b.) A process framework for recognizing and understanding new technologies and a theoretical framework to take advantage of such technologies.
c.) Exposure to new issues and technologies.
d.) Hands-on experience in studying recent technological advances in detail.

The course will also provide students with the ability to:
a.) Understand the concept of issue analysis and technology forecasting.
b.) Recognize the important of new issues and technologies in information sciences.
c.) Incorporate these new issues and technologies into an existing information systems framework.
d.) Develop and implement new technology solutions, or discuss policies for addressing emerging issues.
e.) Predict impacts of issues and technology on information management, users, policies, and the environment.

Each time the course is offered; new issues and.or information technology areas will be explored. Examples of issues and technologies addressed include: wireless communications, security and intrusion detection, intelligent agents, web search, languages, intelligent systems, bio-informatics, advanced visualization and human-computer interactions, ubiquitous-pervasive computing, groupware, computer aided cognition, system design by global IT teams, IT outsourcing, and digital divide.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: IST 210, IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 411 Distributed-Object Computing (3) Introduction to distributed-object computing and its use in client/server and real-world computing applications.

IST 411 Distributed-Object Computing (3)

This course presents the fundamental concepts of distributed-object computing with applications to client/server computing which is an important platform for real-world computing systems. The course focuses on tools and techniques used in the design, development and deployment of client/server systems, including traditional architectures and also distrubuted-object technologies. Students will also consider issues of managing client/server systems and the relationships between organizational processes and information-system architectures. IST 411 will be an elective course for the Baccalaureate degree program in Information Sciences and Technology. It is expected that students completing the Systems Development Option may take this course to fulfill requirements for the option.

No other course offers an introduction to distributed objects and client/server applications. CMPBD 450 covers network operations, but not the problem of distributed computing. IST 311 and 414 provide general introductions to software, object-oriented design, and applications, but do not address problems specific to client/server architecture and distributed computing. CSE 513 covers the fundamentals of distributed systems and is far more advanced and theoretical than is necessary for IST.

Upon completion of this course, students will have a broad understanding of the fundamental concepts of distributed objects and distributed-computing architectures, and have the ability to apply these concepts to real-world applications. They will receive a broad examination of the major issues surrounding the design, development, deployment, and maintenance of client/server applications, and have the ability to construct such systems. The student will also have experience with current software standards, languages, software, and implementation technologies relating to client/server applications, and have the ability to use these in real-world applications. Student performance will be evaluated by means of assignments, examinations and optionally, a project or paper.

IST 411 will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 412 The Engineering of Complex Software Systems (3) Introduction to the engineering of complex software systems including software system specification, design and implementation, integration and test, and evolution.

IST 412 The Engineering of Complex Software Systems (3)

IST 412 will provide the students with the skills needed to design, implement, test, and evolve complex software systems. The course will also give students insight into the complexities of managing complex software system projects. It will also give the students an introduction to the responsibilities or complex software system development including software reliability and software safety. IST 412 will be an elective course for the Baccalaureate degree program in Information Sciences and Technology. It is expected that students completing this Option may take this course to fulfill requirements for the option.

Following IST 311, which is required for the Systems Development Option, IST 412 is one of three 400-level courses that may be taken to fulfill the option requirements. The prerequisiste of IST 311 ensures that the student has sufficient background in the use of programming languages.

Student performance will be evaluated by means of written and programming assignments, examinations, and a team-bases complex software system project.

Upon completion of this course, the student will have experience with software systems, designing principles, implementation concepts, testing of a complex software system project and management of a team-based project.

IST 412 will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: IST 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 413 Usability Engineering (3) This course addresses activities in the system development process that ensure usability. It considers the emerging concept of usability, requirements gathering and analysis, activity design, information design, interaction design, documentation design, user testing and usability evaluation.

IST 413 Usability Engineering (3)

The modern system development process includes concurrent engineering of usability - features of a system that make it approachable, learnable, as well as easy and satisfying to use. Topics in the course include the emerging concept of usability, requirements gathering and analysis, the use of scenarios and claims to describe and analyze both current human practices and envisioned practices, activity design, information design, interaction design, documentation design, and user testing, including techniques for formative and summative usability evaluation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: IST 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 421 Advanced Enterprise Integration: Technologies and Applications (3) Advanced course on the integration of information technology into systems applications.

IST 421 Advanced Enterprise Integration: Technology and Applications (3)

IST 421 expands the knowledge gained in IST 420 on the theories and skills required for planning, developing, implementing, and managing information systems. IST 421 is required of all Information Sciences and Technology (IST) undergraduates who have chosen the Information Technology: Integration and Application Option in their Baccalaureate degree. Upon completion of the course, the student will have expanded knowledge of information technology and systems integration issues across multiple application settings. They will also have a deeper understanding of the specific information technology (both hardware and software) that can serve as the foundation for designing systems within an organization, and have experience that fosters an understanding of the role of IT achieving system performance goals.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: IST 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 420 Fundamentals of Systems and Enterprise Integration (3) Introductory course on integration of information technology into different venues, including the planning, development, and implementation of the integration.

IST 420 Fundamentals of Systems and Enterprise Integration (3)

IST 420 focuses on introducing the student to the role of information systems and technologies in achieving a variety of system goals. Emphasis will be placed on the theories and skills required for planning, developing, implementing, and managing the integration of information technology and different systems. IST 420 is required of all Information Sciences and Technology (IST) undergraduates who have chosen the Information Technology Integration Option in their baccalaureate degree. It is the prerequisite for IST 421 which is also required for the Option. Upon completion of the course, the student will be able to recognize information technology integration. They will also understand the "business processes and information value chain" within a system, and be able to foster an understanding of the role of IT in system integration. Students will be periodically assessed through examinations, case studies, individual and group assignments and projects, and other performance indicators where appropriate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: IST 240, IST 301, IST 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 425 (MGMT 425, ENGR 425) New Venture Creation (3) Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors.

IST (MGMT/ENGR) 425 Introduction to Entrepreneurship (3)

The goal of IST (MGMT/ENGR/ENTR) 425 is to better prepare undergraduate students to be business leaders in adaptive, globally-minded, technology-savvy companies. The course is structured so students develop skills that are of high value in any workplace: they develop improved leadership skills, higher self-efficacy, creativity and the ability to deal with ambiguity. On course completion, students will have a working knowledge of traditional and non-traditional ways for identifying a new product or business opportunity, quantifying the potential, understanding the key competitive factors, researching the audience and producing a convincing executive summary for internal or external financing and launch. Students who want to augment the skills and knowledge from their major with the ability to refine a new product/service process in an interdisciplinary team will find IST (MGMT/ENGR/ENTR) 425 a valuable course.

This is a novel problem-based learning (PBL) course, where the learning is student-centered, with faculty acting primarily in the role of facilitators. Active learning happens in this course because students develop ownership in their new business venture concept and are fully responsible for the genesis of the idea. The course leverages the on-line course management system (ANGEL) to define weekly learning objectives, support electronic delivery of assignments, robust video content with entrepreneurs is provided on CD-ROM or via ANGEL, providing additional insights into entrepreneurship. The technology or business segment focus of the class is easily adapted by using different case studies and course mentors.

This will be one of two courses in the new two-course sequence for business students in entrepreneurship. This course will be accepted as a supporting course in the Engineering Entrepreneurship Minor (E-SHIP) and in the Engineering Leadership Development Minor (ELDM). IST (MGMT/ENGR/ENTR) 425 can be used as a technical elective in many of the engineering departments. It will be accepted as a Support of Option course for the Information Sciences and Technology (IST) major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 431 The Information Environment (3) Survey of social environment of information technology themes: Community, sovereignty, privacy, ethics, economics, and knowledge management.

IST 431 The Information Environment (3)

The ways that people communicate and utilize information is being changed dramatically by new information technologies. Information and the technologies that are employed by create, organize, transger, and utilize that information in a networked environment, using such global networks as the internet or internal networks such as intranets, have become a key component of the global economy. This global environment can change the way we interact, communicate, and function on the job and in our daily lives. The new technologies also raise new economic, legal, ethical, and social issues that are of grave importance to society. IST 431 examines the overall context of the new information environment and new technical issues relating to knowledge management in the global networked environment. IST 431 is a required course in the Information, Society and Public Policy Option.

There may be some overlap of material with COMM 405, COMM 483, COMM 485, PHIL 407, PHIL 423, PHIL 433 and PL SC 460m but none of these courses cover the same material, or approach it in the same manner.

Upon completion of this course, the student will gain an appreciation of the differences between "cyberspace" and the "real" world. The student will also understand that the implementation and modern information technologies has significant social and policy implications that demand appropriate policy issues in several different contexts (globa, national, local). The student will also be able to discuss the major themes in information policy studies (e.g., community, privacy, access, economic participation, security) and be able to relate these themes to the applications of particular technologies. They will be able to describe policy frameworks and issues, as well as the ethical and social implications of these choices.

Homework assignments; Socratic dialogue; analysis and write-up of case studies; assessment of group research projects and presentations; participation in on-line discussion groups; two mid-term and one final examination (objective and essay). The precise mix of evaluation components will be determined by individual instructors; a typical weighting might be exams (60%), written assignments and papers (20%), and collaborative projects (20%).

IST 431 will be offered every semester at University Park. At every other campus location where the Baccalaureate degree program is offered, the course will be offered 1-2 times annually depending on demand. Student enrollment at University Park will begin at approximately 50-75 in the first year and grow to 200 over a 3-4 year time period. At other locations, enrollment should range from 25-50 annually.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: IST 210, IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 426 (ENGR 426, MGMT 426) Invention Commercialization (3) Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path each technology.

IST (MGMT/ENGR) 426 Invention Commercialization (3)

The goal of IST (MGMT/ENGR/ENTR) 426 is to have students understand why invention commercialization is complicated and difficult by participating in the process. For example, the inventor rarely has insights into the markets for his/her invention, is often not interested in the details of commercialization, and can be secretive. In addition, the business and financial communities often do not take the time, or have the resources, to understand new technologies and perform complex due diligence. Thus lack of due diligence often leads to rejection of innovation because existing companies often discount new technologies from outside the company as NIH - "not invented here".

Effective transfer of new invention or innovation to a commercial product requires at least three different functional communities to interface: technical, legal and business. Each uses a different language, comes from different educational and cultural backgrounds, and may have an inherent distrust of the others. These functional barriers are difficult to overcome.

This course teaches how these barriers can be broken down as student teams help bridge the perceived chasm between key players in the invention commercialization process. In these teams, students bring the skills and knowledge from their major to develop an invention commercialization recommendation for the Technology Transfer Office and the inventor. For example, business students focus on finance and market opportunity assessment; engineering and IST students focus on design refinements, prototyping support, and (if appropriate) making technology suggestions to the inventor.

Upon completing the course, the students will have a working knowledge of different university and corporate technology or invention commercialization processes, important intellectual property management tools for inventions (patents, license agreements, option agreements) source of funding to move inventions toward product development, and delivering top quality presentations which outline the recommended commercialization path. Students who enjoy open-ended projects which involve the interplay of business and invention of who wants to work on interdisciplinary teams with the newest inventions will find this course a valuable course. NOTE: Because the inventions/products are based on Penn State faculty intellectual property, students must sign the Penn State Special Intellectual Property Agreement For Students - For Use When Assigning Intellectual Property to The Pennsylvania State University. The form can be viewed at http://guru.psu.edu/policies/RAG13.html

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 432 Legal and Regulatory Environment of Information Science and Technology (3) Legal environment of information technology, constitutional/political issues, intellectual property, management, e-commerce, privacy, access, computer contracting, cyberspace regulation.

IST 432 Legal and Regulatory Environment of Information Science and Technology (3)

The new information technologies are creating a global economy heavily dependent upon networked information, hardware, software, and electronic commerce, which calls for adaptation of existing legal and business practices. In many cases, the new technologies pose problems that existing laws or legislation are inadequate to cope with; but the complexity of the environment makes new solutions elusive. This course examines the legal, regulatory, and political environment within which intellectual property rights and examination of contracting issues, licensing of information and products, data protection, patents, cyberspace regulation, and implications for personal privacy. It also focuses on where technology is making regulation difficult by challenging previous concepts upon which our legal and regulatory systems depend.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: IST 301 orSRA 231 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 441 Information Retrieval and Organization (3) Introductory course for seniors and graduate students covering the practices, issues, and theoretical foundations of organizing and analyzing information and information content for the purpose of providing access to textual and nontextual information resources. Introduces students to the principles of information storage and retrieval systems and databases.

IST 441 Information Retrieval and Organization (3)

This is an introductory course for Information Sciences and Technology senior and graduate students covering the practices, issues, and theoretical foundations of organizing and analyzing information and information content for the purpose of providing access to textual and non-textual information resources. This course will introduce students to the principles of information storage and retrieval systems and databases. Students will learn how effective information search and retrieval is interrelated with the organization and description of information to be retrieved. Students will also learn to use a set of tools, such as search engines, and procedures for organizing information. They will become familiar with the techniques involved in conducting effective searches of information resources.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: IST 210, IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 440W Information Sciences and Technology Integration and Problem Solving (3) Problem-based approach to technology integration by focussing on real-life problems faced by an organization.

IST 440W Information Sciences and Technology Integration and Problem Solving (3)

This course is the undergraduate capstone for Information Sciences and Technology majors in the Baccalaureate degree. It requires students to work collaboratively in teams of 4-6 students, with each team comprised of students from more than one option and, if possible, more than one campus. Each team is given a significant real-world problem or issue in which information technology is part of the solution. Teams will be expected to manage the project effectively and to communicate its results clearly to a variety of audiences within an organization. Major topics include: review of problem-based and case-based learning; overview of project management practices; assessment of organizational and technical issues posed by the scenario; development and testing of work plans and analysis of options; communication within the group; communication within a management environment; and presentation of results to a variety of audiences inside and outside the organization.

IST students need to understand the organizational and social contexts in which technology functions. Indeed, many technology problems are multi-dimensional--they have an economic dimension, a legal dimension, a human resources dimension, and so on. This course will require students to analyze, evaluate, and test alternative solutions and to weigh their advantages and disadvantages for the organization.

Students will be evaluated in three ways: by the effectiveness of their team's solution of the technical or organizational problem; by the quality of the students' written and oral presentations; and by the quality of their project management and internal communication. A substantial written paper will be required of each student and each time; in addition, each team will also construct a Web-site for sharing results. Other technologies will be used as required by the project.

It is expected that membership on teams of students will be drawn from the various options in the Information Sciences and Technology major. At least nine credits (including at least one IST 300-level and one IST 400-level course) in the student's option must be completed before enrollment in IST 440W. This course should be offered every fall and spring semester beginning in the fall semester 2002. It will be taught in sections of 25 and have a total enrollment of approximately 100 per semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: ENGL 202C orENGL 202D seventh-semester standing (this course is intended for seniors) and the five common course requirements plus at least three of the required courses in an option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 442 (IL) Information Technology in an International Context (3) International concepts to improve strategies for the design, dissemination, and use of information technology.

IST 442 Information Technology in an International Context (3) (IL)

IST 442 focuses on the implications of the international context for the design, diffusion and use of information technology. The course will provide students with an understanding of the three crucial IT-related characteristics of the international context: 1. information infrastructure, 2. the economic and policy environment, and 3. social and cultural structures. Students will develop analytic skills that will enable them to predict the implications of the international context for information technology and will apply these skills in a final project that addresses a problem in the areas such as information systems integration, interface design, or management of information technology projects.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 443 IT Professional Services Theory and Practice (3) Explores and applies the basic concepts, methodologies, tools, and techniques of consulting and professional service organizations in information sciences and technology.

IST 443 IT Professional Services Theory and Practice (3)

This course is designed to introduce students to basic IT professional services theories and practices, including an examination of the professional services industry. A consulting-oriented systems life cycle framework is used as the outline of the course. The phases of this framework include: problem/system analysis and evaluation, requirements definition, solution design, solution development, solution implementation, and on-going evaluation and maintenance. Students will learn how to identify and define client problems, map workflows, develop recommendations, and prototype solutions. They will be given opportunities to practice the concepts and methodologies they learn by working on real-world problems in teams for corporate clients.

This course is designed around real-world problems and projects involving IT systems development, integration and implementation. In this course, the student will be part of a consulting team that is assigned to work with a real corporate client. The student works with the other team members to define their client's problem, map out appropriate workflows, and make recommendations for a solution. Depending on the project, the recommended solution may be prototyped or fully developed during the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: IST 210, IST 220 . Prerequisite or concurrent:IST 302 orIST 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 445H Globalization Trends and World Issues (3) This course covers trends in globalization and their influence on U.S. policy making as well as the role of the U.S. in international issues.

Globalization Trends and World Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: 6 credits of honors course work

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 444 Advanced IT Professional Services (3) Explores advanced IT professional services topics, and the unique application of consulting methods in various industry sectors.

IST 444 Advanced IT Professional Services (3)

This course is designed to allow students to explore in-depth IT professional services issues and strategies. The advanced topics to be covered during the semester include IT strategy consulting, consulting leadership issues, complex and/or strategic consulting methodologies, IT governance consulting, and an in-depth analysis of professional service firm operations and strategies, and the management of multiple, simultaneous projects and initiatives. This course is designed around real-world issues and projects involving problem identification, advanced research methods, IT solution development, integration, and implementation, primarily from a strategic and/or program management perspective. Furthermore, students will explore the culture, operations, and strategies of large, medium and small IT services organizations. The student will understand leadership and managerial issues associated with strategic alignment of IT and business strategies, executive-level stakeholder management, program management, IT strategic planning, and managing the political landscapes of large-scale IT consulting projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: IST 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 446 An Introduction to Building Computer/Video Games (3) An interdisciplinary course that introduces students to process and techniques involved in developing a video or computer game.

IST 446 An Introduction to Building Computer/Video Games (3)

The course is project driven. Students will form teams and collaborate with one another to develop an interactive immersive experience. During the course, students will be exposed to several techniques for building graphical 3D worlds, animating characters, moving the camera and lights in real-time, and building intelligent characters (using state machine-based architectures). They will also learn different techniques of interactive storytelling, such as linear narrative, branching narrative, and adaptive narrative. Furthermore, they will be introduced to several tools that will aid in realizing their own projects and ideas, such as graphic engines (e.g. Wildtangent), and game engines (e.g. Unreal Tournament).

The course is heavily project driven. Students will, in the first half of the course, learn the tools used in the development of interactive 3D environments. They will submit 2 individual assignments using these tools to develop a simple interactive environment. These individual assignments will be graded and critiqued.

In the second half of the course, students will work on a game idea from generation to actual implementation. Students will be grouped in teams of three to develop a project, integrating concepts they learned through the class. They will use one or more of the tools they learned to build this project. Projects will be continuously evaluated and critiqued during game tuning sessions. In addition, projects will be formally evaluated through two prototypes that are critiqued by the class and the instructor. The students will continuously revise their designs and projects through the semester. The final version of the system is due by the end of the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IST 311, IST 331 or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 451 Network Security (3) Fundamental issues and concepts of network security, network security technologies and protocols, and emerging technologies in network security.

IST 451 Network Security (3)

Information technology has become a key component to support critical infrastructure services in various sectors of our society. In an effort to share information and streamline operations, organizations are creating complex networked systems and opening their networks to customers, suppliers, and other business partners. Increasing network complexity, greater access, and a growing emphasis on the Internet have made information/network security a major concern for organizations.

IST 451 focuses on network security. The course will provide the students with a comprehensive understanding of the fundamental issues and concepts of network security, and the mainstream network security technologies and protocols that are widely used in the real world. The course will also address emerging technologies in network security.

A major component of the course will be several team-based hands-on attack-defense projects. Each project has two phases: the attack phase and the defense phase. A group may be asked to defend against the attacks enforced by another group. This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts, theories and technologies that define the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 452 Legal and Regulatory Environment of Privacy and Security (3) Exploration of legal, regulatory, public policy, and ethical issues related to security and privacy for information technology professionals in public institutions, private enterprise, and IT services.

IST 452 Legal and Regulatory Environment of Privacy and Security (3)

Institutional constraints on security historically focused on traditional criminal enforcement and a slow but steady increase in civil remedies through the twentieth century. Professional security protection could satisfy reasonable assurance criteria by managing legal and regulatory risks based on commonly-held understandings of burglary, theft, conversion and widely-understood but related institutional constraints in the protection of physical property. This focus retained effectiveness so long as physical security over tangible property appeared successful, even extending to the maintenance of control over mainframe computers and their peripherals. However, the proliferation of networked computers has made access and storage ubiquitous, vastly increasing the vulnerability of confidential data, private information and critical national security infrastructure. Security and privacy regulation compliance responsibility now falls much more harshly on both organizations and most of their individual personnel. These complex new duties constrain organizations in the data management industry as well as suppliers and users of data and all participants in the information supply chain, including consultants, software suppliers, applications service providers, maintenance, outsourcing and communications providers.

Other factors exacerbate these liability risk management difficulties. Advances in network computer storage and use, the broadening perception of heightened value of information and the pervasive availability of rich data warehousing increase the vulnerability of data management. Risks of information theft and integrity losses as well as the explosion of privacy rights and national security concerns now require pervasive and fuller understanding of liability risk management principles/techniques among all managers and subordinates in the data management industry and in government. Information suppliers, handlers, owners and network service providers are increasingly exposed to civil litigation, regulatory oversight/compliance and criminal prosecution for various information-related wrongs. For example, confidentiality is compulsory for corporate trade secrets, privacy is required for personally identifiable information about individuals and secrecy is mandatory over matters of national security; all of which create complex legal duties that are fundamentally driving the design of information handling processes. This course surveys legal and regulatory constraints on information security and privacy practices.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: IST 301 orSRA 231 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 453 Legal, Regulatory, Policy Environment of Cyber Forensics (3) Legal, regulatory and public policy environment of computer and network forensics that constrain investigatory and monitoring activities in computer and network environments.

IST 453 Legal, Regulatory, Policy Environment of Cyber Forensics (3)

This course covers the major legal, regulatory and policy issues in cyber-forensics including, pre-trail discovery, production of electronic documents (electronic data discovery or EDD), custody, EDD cost balancing, admissibility of electronic evidence, “business records,” expert witness roles and qualification, constitutional rights to privacy and confidentiality, privilege, litigation support, forensic service providers, document retention standards, legal constraints on electronic records management, EDD employment policies, key EDD laws, civil, criminal and regulatory procedure and evidence, litigation holds, spoliation, obstruction of justice, interaction with inside and outside service providers and counsel, EDD strategy, audit trails, and multi-disciplinary relations with computer and network forensic experts. Students are exposed to the failure and successes of particular cyber forensic techniques in the dominant legal and regulatory forums.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IST 110 and 6th-semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 454 Computer and Cyber Forensics (3) Fundamental issues and concepts of computer forensics; aspects of computer and cyber crime; methods to uncover, protect, exploit, and document digital evidence; tools, techniques, and procedure to perform computer and cyber crime investigation.

IST 454 Computer and Cyber Forensics (3)

Computer and communication technologies have become the key components to support critical infrastructure services in various sectors of our society. In an effort to share information and streamline operations, organizations are creating complex networked systems and opening their networks to customers, suppliers, and other business partners. Increasing network complexity, greater access, and a growing emphasis on the Internet have made information and network security a major concern for organizations.

IST 454 focuses on computer and cyber forensics. Students will learn different aspects of computer and cyber crime and ways in which to uncover, protect, exploit, and document digital evidence. Students will be exposed to different types of tools (both software and hardware), techniques and procedure, and be able to use them to perform rudimentary forensic investigations.

A major component of the course will be several hands-on exercises and a final team-based project. This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts, theories and technologies that define the course.

Integrated throughout are perspectives of computer and related legal process, including computer crimes from state and federal law, methods of interaction with law enforcement and prosecutors, admissibility of expert witness testimony and the use of forensic reports in civil, regulatory and internal investigations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 456 Security and Risk Management (3) Contemporary Security Issues; security management processes, architecture and models; risk analysis and management; security planning, analysis and safeguards; security policies development and administration; contingency planning, incidence handling and response; and security standards and certification processes.

IST 456 Security and Risk Management (3)

Communication technologies have become a key component to support critical infrastructure services in various sectors of our society. In an effort to share information and streamline operations, organizations are creating complex networked systems and opening their networks to customers, suppliers, and other business partners. Increasing network complexity, greater access, and a growing emphasis on the Internet have made information systems and network security a major concern for organizations.

IST 456 focuses on security and risk management. Students will learn contemporary security issues; security management processes, architecture and models; risk analysis and management; security planning, analysis and safeguards; security policies development and administration; contingency planning, incidence handling and response; and security standards and certification processes.

A major component of the course will be several case studies and a final team-based project. This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphasis will be placed on developing and practicing writing and speaking skills through application of the concepts, theories and technologies that define the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IST 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 461 Database Management and Administration (3) Introduces advanced topics in database management systems that are fundamental to effective administration of enterprise information systems.

IST 461 Database Management and Administration (3)

The objective of the course is to enable a student to comprehend principles of database management and administration. The students will learn how data are stored (indexing), accessed (query processing), shared (currency and transactions), and controlled (security). Students will be creating and using these features in a database in the laboratory. They can then develop, use, and tune database systems and applications, utilizing advanced database management features. This course assumes basic familiarity with relational model, Entity-Relationship diagram, SQL query language, and normalization (as covered in IST 210). It builds the foundation on more advanced concepts of database systems that are fundamental to a career in database administration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: IST 210, IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 462 Database Modeling and Applications (3) This course introduces advanced topics in database modeling and applicaitons.

IST 462 Database Modeling and Applications (3)

The objective of the course is to enable a student to comprehend advanced database modeling and their applications. Students will model requirements using the advanced techniques and implement various applications in different domains. This course assumes basic familiarity with relational model, Entity-Relationship diagram, SQL query language, and normalization (as covered in IST 210). This course will cover more advanced topics in database modeling and database applications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: IST 210, IST 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 489H Research Methods for the Information Sciences and Technology (3) Seminar course focused on approaches to studying information and communication technologies and writing theses and other research reports.

IST 489H Research Methods for the Information Sciences and Technology (3)

IST 489H provides students the opportunity to learn and experience:
1) Conceptualizing what are information and communications technologies.
2) Approaches to conducting research on, and reporting results of studies, of ICT.
3) The research process and its academic context.

The course is designed around a series of ill-structured, contemporary, problems that require students to develop responses by applying research approaches to ICT. At the end of the course, students will be able to:
1) Apply different conceptualizations of ICT to common problems.
2) Select and initiate research on ICT.
3) Begin writing research-oriented work such as theses and papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IST 110 honors standing or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 497A Enterprise Architecture Fundamentals (2) This course is designed to provide a first exposure to enterprise architecture (EA) and set a "common language" and understanding for IT professionals, functional business people, and customers that need an understanding of EA and its business value.

Enterprise Architecture Fundamentals (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Sciences And Technology (IST)

IST 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Information Systems (INFSY)

INFSY 430 Programming for Business Applications (3) Introduction to the syntax and grammar of COBOL language with emphasis on applications to business data processing.

INFSY 430 Programming for Business Applications (3)

INFSY 430, Programming for Business Applications, is an elective course for information systems majors in the business program. The objective of the course is to introduce students to beginning concepts of syntax and grammar of an introductory programming language used to support business processes. Students in the course will learn how to develop modern computer-based information systems through business applications that help them understand the role of information in business organizations.

Design and development are emphasized with in class labs and homework assignments integrated throughout the course. Collaboration and analytical processes are stressed. The course coverage also includes an introduction to modeling techniques, language development, data integrity, and project administration. The course prerequisites are IST 110 or MIS 204 & MIS 103 or CMPSC 203.

Students learn how to work with business applications and work both individually and in groups on problems related to program development. A suitable software development environment is used.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: IST 110 orMIS 204 andMIS 103 orCMPSC 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 100 (GS;IL) World Technologies and Learning (3) This course examines the impact of learning technologies from email to online learning on world cultures from a socio-technical perspective.

INSYS 100 World Technologies and Learning (3)
(GS;IL)

INSYS 100 examines the socio-cultural impacts of learning technologies of various sorts on world cultures. The course will be offered once each year and will examine several international cases of learning technologies such as email, online learning, telecommunications, and wireless computing, as they are used for education and learning and implemented in several world cultures such as the US, UK, India, China, Africa, Europe, and Oceania. The primary objective of the course is to help students understand how learning technologies impact other cultures, and their own, how learning technologies bring dramatic change and how these changes can be predicted, understood, and planned for. The course will be offered in a blended fashion with portions of the course content, and discussions being held online as well as in face-to-face classroom delivery. The course includes a writing component in the form of several short analyses of cases and a final reflective paper. The analyses are to be conducted in cohorts though online discussions with a final product posted for peer review and faculty evaluation. Consideration of the cases in this way calls the students into active engagement with the content in ways that require them to integrate information from a variety of sources, and analyze the trustworthiness of those sources so that they can share with one another informed judgments and predictions for the future of world learning technologies. The course may offer an important introduction to the area of Instructional Systems, but it is otherwise not related to specific programs of study. It contributes to the General Education requirements for undergraduates. Students will be evaluated based on online discussion papers based on the cases of international learning technology use, completed in cohorts and submitted as a group paper, two quizzes based on the first and final portions of the course to determine students’ facility with basic concepts of systems, technological determinism, scenario planning and emerging learning technologies, and a short final paper illustrating the impact of technologies on their own learning experiences and drawing these understandings into broader contexts predicting potential impacts on learning for future generations. Anticipated enrollment is 100.

General Education: GS
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 200 Technology as a Thinking Tool (3) Use of technologies for knowledge representation, critical thinking, planning, and learning.

Technology as a Thinking Tool (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special ineterest

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 411 Orientation to Instructional Systems (2-3) An orientation to selection, utilization, and curricular integration of instructional media.

Orientation to Instructional Systems (2-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 412 Developing Effective Training Presentations (3) The design, development, and presentation of effective training presentations for business and industry.

Developing Effective Training Presentations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 413 Designing Instructional Manuals and Text (3) Designing textual materials for information retrieval, performance, and learning using job aids, manuals, programmed instruction, information mapping, etc.

Designing Instructional Manuals and Text (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 425 Corporate Instructional Systems (3) Provides an overview of the applications and applicability of Instructional Systems Design in business/corporate environment.

Corporate Instructional Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: INSYS 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 415 Systematic Instructional Development (3) Preparation in the use of a nine-step model for systematically analyzing instructional problems and developing validated, practical solutions.

Systematic Instructional Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 441 Design, Development, and Evaluation of Internet Resources (3) Design, production, and evaluation of instructional materials for delivery on the Internet.

Design, Development, and Evaluation of Internet Resources (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 442 Innovative Instructional Applications of Microcomputer Technology (3) Educators experience and develop innovative instructional applications of text-processing, database management, spreadsheet, and telecommunication software in their classrooms.

Innovative Instructional Applications of Microcomputer Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EDTEC 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 443 Educational Applications of Logo (3) Prepares educators to use and to teach the Logo programming language on microcomputers. Students write programs and develop course materials.

Educational Applications of Logo (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: EDTEC 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 447 Instructional Design for Multimedia Technologies (3) State of the art multimedia technology hardware such as interactive video, CD-ROM and digitizing audio and video.

Instructional Design for Multimedia Technologies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 471 Introduction to Educational System Design (3) Investigates systems theory and how components of educational systems interact; develops insights on current issues and models in Educational System Design.

Introduction to Educational System Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 472 Communication and Educational Systems Design (3) Develops communication and technology-based presentation skills in educational systems designers.

Communication and Educational Systems Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: INSYS 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 497B Social Networking and Media (3) Introduction to social networking tools including blogs, wikis, podcasts, and social bookmarking.

Social Networking and Media (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498A Internet Safety for Educators (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Internet Safety for Educators (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498A Internet Safety for Educators (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Internet Safety for Educators (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498A Internet Safety for Educators (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Internet Safety for Educators (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498B Colloquium on Learning and Instruction for Individual Classroom Settings (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Colloquium on Learning and Instruction for Individual Classroom Settings (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498C Social Media and Learning (3) This course introduces students to social media and Web 2.0 technologies with the intent of having them evaluation applications to learning in formal settings.

Social Media and Learning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Instructional Systems (INSYS)

INSYS 498B Social Media and Learning (3) This course introduces students to social media and Web 2.0 technologies with the intent of having them evaluate applications to learning in formal settings.

Social Media and Learning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 102 Personal Insurance Planning (3) Introduction to the principles and practices of personal insurance planning. May not be used to satisfy Smeal College baccalaureate degree requirements.

Personal Insurance Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 301 Risk and Insurance (3) Introduction to the principles and methods of handling business and personal risks; emphasis on insurance techniques.

Risk and Insurance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 305 Property and Casualty Insurance (3) Insurance coverages available for protection of property; fire and allied lines, consequential losses, casualty coverages, fidelity and surety bonds.

Property and Casualty Insurance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: INS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 310W Property and Liability Insurance Market (3) Property and liability insurance industry and company operations.

Property and Liability Insurance Market (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: INS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 320 Life Insurance (3) Protection and savings features of the life insurance contract as they affect the individual; business uses of life insurance.

Life Insurance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: INS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 400 Estate Planning (3) Creation, conservation, and distribution of property rights, emphasizing investments, insurance, wills, trusts, and taxation.

Estate Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: B A 301 orINS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 401 Fundamentals of Private Pensions (3) Analysis of pension regulation, funding, vesting, retirement annuities under insured and self-insured plans, actuarial cost analysis, plan termination insurance.

Fundamentals of Private Pensions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: ACCTG 211;B A 301 orFIN 301;ECON 002 ; andSCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 401 Fundamentals of Private Pensions (3) Analysis of pension regulation, funding, vesting, retirement annuities under insured and self-insured plans, actuarial cost analysis, plan termination insurance.

Fundamentals of Private Pensions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: ACCTG 211, B A 301, ECON 002, SCM 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 405 Corporate Risk Management (3) Insurance management for corporate organizations; self-insurance, risk transfer, and other alternatives to insurance.

Corporate Risk Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996 Ending: Fall 2010
Prerequisite: B A 301 orINS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 405 Corporate Risk Management (3) Insurance management for corporate organizations; self-insurance, risk transfer, and other alternatives to insurance.

Corporate Risk Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301, FIN 301 orINS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 410 Compound Interest and Annuities--Certain (3) Compound interest and annuity functions; equations of value; determination of yield rates; construction of tables.

Compound Interest and Annuities--Certain (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 411 Life Contingencies I (3) A study of the mathematical theory of life contingencies; single-life functions and their applications.

Life Contingencies I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989
Prerequisite: INS 410, STAT 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 412 Life Contingencies II (3) Joint-life and survivor-life functions, population life tables, and multiple decrement theory, with applications to disability and retirement problems.

Life Contingencies II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984
Prerequisite: INS 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 427 Optimization for Business Decisions (3) Optimization models quickly and efficiently analyze a large number of scenarios to find the best course of action for business applications.

INS 427 Optimization for Business Decisions (3)

This course introduces you to optimization-a set of useful and practical techniques businesses use to make the most efficient use of limited resources. For example, an investor with a fixed amount of funds to invest can use optimization to design a portfolio that best matches his needs, or a manufacturer with a fixed production capacity can use optimization to find out the most profitable way to use this capacity. Optimization is designed to answer the question "what's best?" and an optimization model is designed to quickly and efficiently analyze a large number of scenarios to find the best course of action. The main goal of this class is to make you an intelligent consumer of optimization techniques, and help you develop insight and understanding for the type of applications where optimization provides value added.

The modern reality of analyzing business problems using quantitative methods is the spreadsheet. Spreadsheets are well-suited for optimization and models built using spreadsheets lend themselves to sensitivity analysis-being able to answer the question "what if?" quickly and effectively. We will do a number of case studies to build problem structuring as well as problem solving skills. case study also provides practice with communicating your analysis.

The tools and skills taught in the course have applications across most of the business school curriculum. Here is an example list of the applications featured in the course:
1) Setting prices dynamically for revenue maximization, known as "revenue management" is an optimization-based technique used by most major airlines, hotel chains, and car rental companies.
2) Optimization is used to select investment strategies over time in order to achieve the desired cash-flow stream.
3) Optimization is used to design supply chains networks-help to decide where to locate production and distribution facilities, and how to efficiently use them to provide the best level of customer service.
4) Optimization is used to design and operate transportation networks in a way that makes the most efficient use of the transportation capacity.
5) Optimization is used extensively in process industries to determine the composition of a wide range of products that range from gasoline to dog food, to baby formula.
6) Optimization can also be used for workforce scheduling in hospitals, restaurants and schools.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 110 orMATH 140 and eitherSCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 496 Independent Studies (1-18) Creative Projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 497A Basic Property & Casualty Ratemaking (3) This course is intended to give a basic introduction to actuarial methods and concepts used to develop manual rates for property and casualty insurance.

Basic Property & Casualty Ratemaking (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 497C The Economics of Biotechnology, Phamaceuticals and Health Insurance (3) The course provides an overview of the economic and management issues facing the biotechnology and pharmaecutical industries. Topics covered will include R&D, financing, alliances and joint ventures, M&A, production, marketing and the important role of public and private medical insurance on product development, pricing and product demand.

The Economics of Biotechnology, Phamaceuticals and Health Insurance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 497B Financial Models for Actuarial Science (3) This course covers material in the Society of Actuaries Actuarial Models - FE exam, such as interest rate models, valuation of derivative securities, and risk management techniques, and particularly their application to insurance, pensions, and investments.

Financial Models for Actuarial Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Insurance (INS)

INS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 001 (GA) The Arts (3) Develop critical perception, knowledge, and judgments through an examination of the basic concepts common among the arts.

The Arts (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 005 (GA) Performing Arts (3) Introduction to music, dance, and theatre. Orientation to the aesthetics, theory, and practice of professional performance.

INART 005 Performing Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 005 is not an "art appreciation" course in any traditional sense of the term. Rather, it is focused on the act of experience and the encouragement of critical thinking about those experiences. No effort is made to encourage students to "like" or "dislike" the things that they see and hear or to encourage them to accept the view that some experiences are more or less valuable than others. The idea, simply, is to have informed experiences in the performing arts and think about them in a critical context. Although INART 003 is designed for potentially large enrollments, students relate to the instructor on a one-to-one basis through e-mail and interact with other students using an on-line bulletin board. Writing, criticism, and analytical thinking are required. Grading in INART 005 is determined by attendance, participation in discussions, and a mid-semester and final examination. Fifty percent of the semester grade will be determined by the extent and quality of participation in weekly discussions. Thirty percent of the semester grade will be determined by the mid-semester and final examination (15% each). The final 20% of the semester grade will be based on attendance.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 003 (GA) Reception of the Arts (3) This course considers how art uses time, space, and causality to define culture and the human condition.

INART 003 Reception of the Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 003 approaches the study of the arts from the audience's point of view. It is designed to meet the General Education Arts requirement. The course is offered in the Fall and Spring University Park, with a typical enrollment of 50, and is available to other locations through Campus Course Exchange. There are no prerequisites, and students are assumed to have little or no background in art. As a result of taking the course, students are able to use analogy, the idea of structure, and theories of reception and communication in both art and non-art situations. The course is offered on-line, making it particularly useful for students with family and personal obligations, for older students with job obligations, and for students with handicaps limiting their access to traditional "classroom" courses. Although INART 003 is designed for potentially large enrollments, students relate to the instructor on a one-to-one basis through e-mail and interact with other students using an on-line bulletin board. Writing, criticism, and analytical thinking are required. Evaluation is based on five on-line quizzes, two on-line exams, and participation in on-line discussions. Tests measure students' ability to reason, synthesize materials, and apply ideas about art to other situations. The discussion sessions expand ideas found in art to apply them to everyday life. Writing is required for the course. Students must contribute at least three short essays and post commentary on others' work for 20 points of the final grade. Informal e-mail conversations supplement this requirement. The course's extensive web site includes lessons corresponding to each chapter in the text, a lexicon of difficult terms, links to other web sites, study guides, works of art, and provocative essays about art.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 010 (GA) The Popular Arts in America: Mass Media Arts (3) An introduction to the arts of the mass media with emphasis on how film, radio, television, and the print media influence and reflect society.

INART 010 The Popular Arts in America: Mass Media Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 010 examines the history and form of the popular arts as antecedents for the development of the mass media arts of 21st century America. The primary goal of the course is to help students develop a critical and analytical approach to dealing with contemporary mass media. The course presupposes some familiarity with modern popular media and takes as its content both historical and contemporary examples as sources for analysis. While the class offers facts and data, the central focus of the course in the theory, stylistic elements, and structural workings of media content. The pedagogical goal of this approach is to examine not just what the mass media arts are but also where they come from, how they function, and what effects they have on our culture and society. The key to this goal is understanding the naturalized ideologies imbedded in the structural form of popular culture: how the early expressions of popular culture - the minstrel shows, vaudeville, burlesque, pulp fictions, and the early cinema both shaped cultural attitudes and reflected societal notions of race, gender, and socioeconomic norms. Class meetings consist of lectures and in-class discussions that illustrate modern critical approaches to popular culture and the terminology used in presenting critical arguments and ideological viewpoints on these art forms. Reading assignments will support classroom work by presenting students with a diversity of opinion on popular culture and significant examples of that culture in print media. Further, examples of historically significant popular mass media arts will be shown in class and then discussed in relation to the concepts and critical viewpoints covered in lectures. In addition to regular scheduled classes, students will participate in an on-line Media Journal that requires watching, listening to, and reading examples of contemporary mass media art (television programs, motion pictures, comics, graphic novels, etc.). Every two weeks, students will be required to see, read, or hear an assigned contemporary work of popular mass media art and record their critical responses on the online Media Journal that will be accessible to all other members of the class. Grades will be based on three equally weighted objective examinations that will account for 75% of the semester grade. The remaining 25% of the grade will be determined by participation in the online Media Journal.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 015 (GA) The Popular Arts in America: Performing Arts (3) The development of the performing arts of American popular culture; emphasis on popular music, dance, theatre, and variety arts.

INART 015 The Popular Arts in America: Performing Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 015 examines the Popular performing arts and their place in American popular culture. broken into four units: popular music, popular stage dance, popular theatre, and acts like the circus and stand up comedy. The course will highlight important influences, artists, events, works, and effects such as:

1) Popular Music: This unit will trace the development of the American popular music from the emergence of the popular songwriter in the 1830s to the beginnings of rock and roll. Jazz, country, blues, and mainstream pop will be major genres examined.
2) Popular Stage Dance: This unit will cover the evolution of dance as a popular performance art from percussive dances performed in the minstrel show to rock and roll choreography in music videos.
3) Popular Theatre: This unit examines the founding forms of popular theatre (minstrelsy, vaudeville, and burlesque) and their effect on later arts like motion pictures and television.
4) Popular Variety Arts: This unit deals with those performing arts that fall outside of the broader categories of dance, music, and theatre.

The circus, stand up comedy, and stage magic will be highlighted. There will be three equally weighted objective tests in the course, each covering approximately one-third of the course's content. These examinations account for 75% of the semester grade (25% each). Students in INART 01 5 also participate in the Popular Arts Forum, a semester-long examination of an important contemporary issue in popular culture (cultural imperialism and censorship; sexuality in popular culture; gender, ethnicity, and race in the popular arts; etc.) that requires research, critical thinking, the formation of objective opinions, and discussion. The Popular Arts Forum is conducted online utilizing resources held on the Forum website and World Wide Web. Asynchronous online discussions on the topic will occur three times during the semester. The class will be broken into groups of fifteen students for the purpose of discussion. Participation in the Popular Music Forum will account for 25% of the semester grade. The discussion grade will be determined by the quality of participation and degree of involvement in the discussion.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 050 (GN) The Science of Music (3) Waves, physics of sound, hearing, musical scales, musical instruments, and room acoustics.

INART 050 The Science of Music (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the physical and acoustical bases of sound and music.

The physics will include a study of vibrating systems and simple harmonic motion, wave propagation, reflection and refraction, superposition, resonant frequencies, harmonics, phase, the relationship of speed and velocity, and spectra. The acoustics portion will apply these physical properties to hearing, sound and music, covering the nature of the human auditory system, and correlations of pitch to frequency, loudness to amplitude/power/intensity, timbre to spectra and envelope. NOTE: there need be no specific math prerequisite for the course. Though high school algebra and trigonometry will be recommended, these topics will be integrated with the rest of the course material.

With physical and physiological groundwork laid, the subject matter will move to purely musical areas: the construction of musical scales, the nature of consonance, dissonance, and harmony. Twelve-tone equal temperament, the basis of Western common practice music, is not an absolute, but a decision made to facilitate certain musical choices, and a compromise in terms of optimal consonance. The nature of the different instruments will then be discussed - strings, winds, brass, and voice. Different instruments naturally produce different scale types and different types of spectra. Students will learn to appreciate the inherent differences in different instrument types.

The last portion of the course will return to acoustics, exploring the role that performance spaces play in the propagation and reception of sound. The shape and materials of a room determine its characteristic sound. Students will learn about how sound in large auditoriums is characterized by the balance of direct and reflected sound, the distinction between specular and diffuse reflections, the absorptive properties of different building materials, and the nature of reverberation. Smaller performance spaces are subject to standing waves, flutter echo, and comb filtering. Taking steps to avoid undesirable characteristics is often an easy matter once the nature of these characteristics is understood.

Finally, an overview of perceptual psychological studies of auditory streaming will explore how the auditory system organizes sound on a primitive, unlearned level.

Grading will be based on weekly homework assignments, two midterm exams and a final
exam.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 055 (GA) History of Electroacoustic Music (3) A history of electroacoustic music as a consequence of developments in culture and technology from 1880 to present.

INART 055 History of Electroacoustic Music (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the interrelationship and parallel development of technology, art and music from the earliest electronic devices to the current ubiquitous computer audio workstation and electronics dance music.

Electronica is a multi-faceted genre that borrows from a number of past innovators. Its artists routinely acknowledge the influence, for example, of *musique concrete*, Karlheinz Stockhausen and the theremin, yet their audiences are often unaware of the roots of the music that occupies much of their recreational time and social energy.

Electroacoustic music developed hand in hand with innovations in communications technology, which in turn influenced the way music was conceived and created. Too often, these correlations are not discussed. Both electrical engineers and musicians use filters, without necessarily realizing that they are both using the same technology for different purposes. FM synthesis revolutionized commercial electronic instruments in the 1980s, yet few people realize that this was the same form of modulation that was the basis of much radio broadcast technology. Many innovators in electronic music started out as inventors or engineers. The creation of electroacoustic music is one of the most fertile cross-disciplinary fields of the twentieth (and now twenty-first) centuries. It has affected the production and reception of music indelibly, and is now a vital component of digital multi-media art, a leading trend of the new century.

The course asks students to be aware of vital technological developments in audio (the evolution from the Edison phonograph to the CD player), electronics (the evolution from the spark gap oscillator to the vacuum tube to the transistor to the microprocessor), cultural movements (from Impressionism and Romanticism to modernism to postmodernism), and to become sensitized to the chief innovators in the field (the differences in the music of Schaffer, Stockhausen, Carlos, Chowning, and others). They are made aware not only of names and terms, but also taught to recognize differences in the different sounds of different composers and styles.

The course has been offered two semesters as a 297 offering. It is designed so that it may eventually be offered completely online. The text is online, and the listening assignments are also posted at the PSU Digital Music Library.

Grading will be based on weekly quizzes that ask for definitions and short answers, four tests that require essays and identification of listening examples, and two papers focused on different compositions/composers.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 062 (GA;US;IL) West African and African American Arts: from the 1960s to the present (3) An introduction to West African and African American Arts from the 1960s to the present.

INART 062 West African and African American Arts: From the 1960's to the Present (3) (GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the interrelationship and parallel development of arts in West Africa and the United States from the 1960s to the present. The cultural ties between the slave trading states of West Africa and the slaves and their descendents of the Americas, though weakened by over three centuries of separation, were never completely erased and the similar experiences of colonial oppression in Africa and slavery in America created expressions in art of remarkable similarity and correspondence. Although this comparable and often equivalent development in artistic expression on both sides of the Atlantic was, by and large, unrecognized and unacknowledged, the emergence of black nationalism in the 1960s reestablished the historic cultural associations between African and African American arts and created a remarkable artistic interchange that continues to the present day. The 1960s was a pivotal period for both African and African American art. The Civil Rights movement in the United States and the collapse of colonial rule in West Africa gave rise to a new sense of black identity for Africans and those of African descent and a new art that embodied and expressed that newfound identity. During the 1960s, the visual, performing, and literary arts of Africa and Black America celebrated their shared cultural heritage and found common use as instruments of political and social change. The sense of shared history and like experience on both continents influenced and informed black art in powerful ways and continues to motivate and inspire artists as they reflect and comment on their geographically separate, though spiritually linked, worlds. This course focuses on works of art drawn from many diverse traditions in both Africa and the United States and sets those works in the context of the social, political, and cultural movements that helped to create them. Examples of African and African American visual, performing, and literary arts will be examined, compared, and contrasted in order to gain insight into those works while serving as a vehicle for gaining a better understanding of the cultures that created them. INART 062 is a wholly online course that will be offered simultaneously by Penn State and Kwame Nkrumah University of Science and Technology in Ghana. This will allow students in Africa and the United States to participate as members of the same class in discussions and joint projects created on the World Wide Web. Grading will be based on participation in weekly online discussions, an objective mid-term and final, and the successful completion of a collaborative online project developed by students in both countries. INART 062 will be offered in the fall and spring semesters each year.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Other Cultures and Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 100W (GA) Seminar in Integrative Arts (3) A study of various arts with emphasis on comparison, contrast, and other aspects of interrelation. Topics will change each semester.

INART 100W Seminar in Integrative Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 100W is a semester-long seminar that explores a theme or topic through selected works of the visual or performing arts. Various arts will be examined with emphasis on comparison, contrast, and other aspects of interrelation. Although topics will change each semester, they will always be bound to broad concerns in the arts that are shared or common. The approach will be strictly interdisciplinary with emphasis on writing, discussion, and the direct experience of art. INART 100w is a General Education Arts offering (GA), a writing intensive course (W), and, for selected topics, will satisfy the Intercultural and International Competence Requirement (GI). At University Park, the course is built around twelve to thirteen motion pictures shown as part of the Palmer Museum of Art's film series, a gallery exhibition at the Palmer, and two or three performances at the Center for the Performing Arts. Students are required to attend all of these events and showings. The film series and the gallery exhibition are free. Tickets for the two events at the Center for the Performing Arts must be purchased. Attendance will constitute 20% of the semester grade. Each week, there will be a required online discussion based on the "Commentaries" associated with the event or exhibition of that week. These "Commentaries" are included with the background information on the events and exhibitions contained in the course web site. Discussions will last for one week and all students are required to participate in all online discussions. Participation in discussions will constitute 30% of the semester grade. INART 100W is a "writing intensive" course and, as a consequence, a major portion of the course is devoted to the acquisition of skills and practice in writing. There are three required papers in the course: one 600 word critical review, one 900-word critical opinion paper, and a final 1500-word critical opinion paper, Grading will be based on the quality of students' critical arguments and the quality of their writing. These three papers will constitute 50% of the semester grade.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 100 (GA) Seminar in Integrative Arts (3) A study of various arts with emphasis on comparison, contrast, and other aspects of interrelation. Topics will change each semester.

INART 100 Seminar in Integrative Arts (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 100 is a semester-long seminar that explores a theme or topic through selected works of the visual or performing arts. Various arts will be examined with emphasis on comparison, contrast, and other aspects of interrelation. Although topics will change each semester, they will always be bound to broad concerns in the arts that are shared or common. The approach will be strictly interdisciplinary with emphasis, on discussion and the direct experience of art.

INART 100 is a General Education Arts offering (GA) and, for selected topics, will satisfy the Intercultural and International Competence Requirement (GI).

At University Park, the course is built around twelve to thirteen motion pictures shown as part of the Palmer Museum of Art's film series, a gallery exhibition at the Palmer, and two or three performances at the Center for the Performing Arts. Students are required to attend all of these events and showings. The film series and the gallery exhibition are free. Tickets for the two events at the Center for the Performing Arts must be purchased. Attendance will constitute 20% of the semester grade.

Each week, there will be a required online discussion based on the "Commentaries" associated with the event or exhibition of that week. These "Commentaries" are included with the background information on the events and exhibitions contained in the course web site. Discussions will last for one week and all students are required to participate in all online discussions. Participation in discussions will constitute 50% of the semester grade.

The remaining 30% of the semester grade will be based on a series of objective tests based on the background materials that relate to each film, performance, or gallery exhibition required in the course.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 110 (GA) The Dramatic Arts in the Mass Media (3) The place of television-radio-film drama in our culture; relationship with other art forms; standards of evaluation.

INART 110 Dramatic Arts in the Mass Media (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 110 examines the history and development of the dramatic arts of the mass media with a particular focus on television as the strongest exemplar of media practice. The primary goal of the course is to help students develop a critical and analytical approach to dealing with the dramatic arts of the contemporary mass media. The course presupposes some familiarity with modern popular media and takes as its content both historical and contemporary examples as sources for analysis. While the class offers facts and data, the central focus of the course in the theory, stylistic elements, and structural workings of media content. The pedagogical goal of this approach is to examine not just what the mass media arts are but also where they come from, how they function, and what effects they have on our culture and society. The key to this goal is understanding the effects and influence of dramas in the mass media on our society and its beliefs and values. Class meetings consist of lectures and in-class discussions that illustrate modern critical approaches to popular culture and the terminology used in presenting critical arguments and ideological viewpoints on the dramatic arts of the mass media. Reading assignments will support classroom work by presenting students with a diversity of opinion on mass media and the influence of television dramas and comedies. Further, examples of historically significant radio and television dramatic works will be shown in class and then discussed in relation to the concepts and critical viewpoints covered in lectures. In addition to regular scheduled classes, students will participate in an on-line Television Journal that requires watching and critically responding to assigned television programs. Each week, students will be required to watch and critically respond to assigned television programs. Their critical responses will be posted on the online Television Journal and made available to all members of the class. Grades will be based on three equally weighted objective examinations that will account for 75% of the semester grade. The remaining 25% of the grade will be determined by participation in the online Television Journal.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 115 (GA) The Popular Arts in America: Popular Music (3) An examination of the roots, development, and significance of popular music in our culture.

INART 115 The Popular Arts in America: Popular Music (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

INART 115 examines the roots, development, and significance of popular music in our culture. It covers the origin of popular music in the early nineteenth century and introduces the major genres of the art: blues, jazz, country, mainstream pop, and rock and roll. The thrust of the course is sociological and cultural rather than musicological and will trace the music's development in a historical context. The intent of the course is to provide students with a comprehensive overview of popular music, the significance of major artists in its development, and its importance in our social and cultural history. There are three equally weighted objective tests in the course, each covering approximately one-third of the course's content. These examinations account for 75% of the semester grade (25% each). Students in INART 115 also participate in the Popular Music Forum, a semester-long examination of an important contemporary issue in popular music (censorship, copyright infringement and music piracy, music and violence, etc.) that requires research, critical thinking, the formation of objective opinions, and discussion. The Popular Music Forum is conducted online utilizing resources held on the Forum website and World Wide Web. Asynchronous online discussions on the topic will occur three times during the semester. The class will be broken into groups of fifteen students for the purpose of discussion. Participation in the Popular Music Forum will account for 25% of the semester grade. The discussion grade will be determined by the quality of participation and degree of involvement in the discussion.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 116 (GA;US) The Popular Arts in America: The History of Rock and Roll-The 1950s (3) This course examines the roots, development, and significance of rock and roll music in its first decade.

INART 116 The Popular Arts in America: The History of Rock and Roll-The 1950s (GA;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is composed of eight chronologically arranged units of study that examine the major developments in early rock and roll in an historical context.

Rock and roll music, especially in the 1950s, was the reflection of the dynamic cross-cultural interplay between country, gospel, rhythm and blues, and mainstream pop. Of central importance in early rock and roll was the influence of African American music and culture and the effect that African American music and culture had when brought into the mainstream. Through an examination of the foundation of emergence of rock and roll in our culture, students gain an understanding of the role played by intercultural cross-influences in shaping both our music and our cultural sensibilities.

Both the content of the course and the assignments in the Popular Music Forum are directed at helping students understand, reflect upon, and critically think about the intercultural nature and effect of our musical heritage.

The thrust of the course is sociological and cultural rather than musicological, and the intent of the course is to provide students with a comprehensive overview of the early development of rock and roll and its importance in our social and cultural history.

Each unit of study will be accompanied by key examples of recorded music from the period of the late 1940s through the 1950s. The course includes approximately 100 important recordings for required study.

Grades in INART 116 will be determined by a series of eight objective tests and four assignments in the Popular Music Forum. The Popular Music Forum will examine important issues in popular music and culture concerning or related to rock and roll in the 1950s that require research, critical thinking, the formation of objective opinions, and discussion. The Popular Music Forum is conducted online as a series of asynchronous discussions on Forum topics. The class will be broken into groups of fifteen students for the purpose of discussion.

Grading will be based on a point system. There are 1200 possible points that can be earned during the course - 800 points on exams (2/3 of the final grade) and 400 points on written assignments in the Popular Music Forum (1/3 of the final grade).

General Education: GA
Diversity: US
Bachelor of Arts: Arts
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 200 (GA) The Popular Arts in America: Elvis Presley - The King of Rock and Roll (3) The significance and influence of Elvis Presley as an artist and cultural force focusing on his recordings and major performances.

INART 200 The Popular Arts in America: Elvis Presley - The King of Rock and Roll (3) (GA)

(BA) This course meets the Bachelor of Arts degree requirement.

INART 200 is composed of eight chronologically arranged units of study that trace Elvis Presley's life; accomplishments; the significance of his art; his influence as a performer, recording artist, and motion picture star; and , perhaps most important, his place as a force and symbol of social/cultural change in the second half of the 20th century. Elvis was the principal symbol of change in a time when change was all-important. He was the first of the great rock and roll superstars, a herald of the cultural revolution of the 1960s, and the central figure in the musical revolution that brought rock and roll into the popular mainstream. He was - and is - the King of Rock and Roll and his place and importance in the cultural history of the twentieth century can never be overstated or exaggerated.

The thrust of the course is sociological and cultural rather than musicological and the intent of the course is to provide students with a comprehensive overview of Elvis as an artist, his significance in the development of rock and roll, and his importance in our social and cultural history.

Each unit of study will be accomplished by key examples of recorded music and video records of important performances from television and motion pictures. The course includes approximately 100 important recordings and 15 video performances for required study.

Grades in INART 200 will be determined by a series of eight objective tests and four assignments in the Popular Music Forum. The Popular Music Forum will examine important issues in popular music and culture concerning or related to the life of Elvis Presley that require research, critical thinking, the formation of objective opinions, and discussion. The Popular Music Forum is conducted online as a series of asynchronous discussions on Forum topics. The class will be broken into groups of fifteen students for the purpose of discussion.

Grading will be based on a point system. There are 1200 possible points that can be earned during the course - 800 points on exams (2/3 of the final grade) and 400 points on written assignments in the Popular Music Forum (1/3 of the final grade).

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 205 (GA) Introducing the Beatles (3) The influence and achievement of the Beatles as artists focusing on their recordings and films as sociocultural artifacts.

INART 205 Introducing the Beatles (3)
(GA)

INART 205 is composed of eight unites of study that trace the lives and work of the Beatles. The course's chronological design is arranged in order to capture the band's artistic trajectory from two-track recording and the relatively primitive Please Please Me album through the sonic heights of Revolver, Sgt. Pepper's Lonely Hearts Club Band, The White Album, and Abbey Road. This course examines the group's wide-ranging sociocultural influence in terms of music, fashion, film, gender, consumerism, and politics. The thrust of the course is interpretive in nature, with the Beatles' songs and albums receiving considerable scrutiny in terms of their composition, production, and attendant musicianship. Developments in recordings and instrument technology are germane to our understanding of the Beatles' evolving aesthetic, as is the bandmates' development as songwriters who eventually eschew issues associated with romance in order to address larger and more prescient subjects such as loneliness, oppression, nostalgia, ethics, and redemption in their music.

Each unit of study will be accompanied by the analysis of key examples from the Beatles' massive recorded corpus. More than 100 songs will receive consideration, as will the group's five forays as feature-film stars.

Grades in INART 205 will be determined by two objective examinations- a midterm and a final. Class participation will be a key ingredient in student performance, as will students' work on two papers. The first of such assignments will involve a shorter paper in which students address a particular aspect of the band's sociocultural emergence during their early years. The longer term paper will be researched, argumentative essay in which students will be assigned to discuss any aspect of the Beatles' career - a particular album (or series of albums), their musical influence, or their cultural impact, among other topics - and construct a mature, expansive thesis about its meaning.

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 210 (GA) Integrative Approaches to Computer-Aided Music Composition (3) Interdisciplinary introduction to music composition using software to assist with notation; historical perspectives drawn from art, dance, theater, and literature.

INART 210 Integrative Approaches to Computer-Aided Music Composition (3) (GA)

INART 210 is an interdisciplinary introduction to music composition using software to assist with notation. Historical perspectives are drawn from period music, art works, dance, theater, and literature. Student composers are required to complete five collaboration projects with students from other arts areas. Through collaboration, student composers will be able to develop a more informed critical point of view about music composition as an art and important form of human expression. Collaborations are encouraged with student choreographers, filmmakers, animators, visual artists and actors, including improvisation and interactive techniques. Students will have access to music classroom facilities and Macintosh computer lab for score and sound editing; semester end recording of compositions. Prerequisite: basic music literacy skills: Music 008 or instruction permission.

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: MUSIC 008 or instructor permission

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 258 (GA) Fundamentals of MIDI and Digital Audio (3) Music Technology (Introduction to how musical information is stored and processed in computer systems.)

INART 258 Fundamentals of Midi and Digital Audio (3)
(GA)

INART 258 will cover the fundamentals of how musical information is stored and transmitted in digital devices. It will be broken into three sections.

The first section will be introductory. Acoustical principles will be covered, such as the nature of sound transmission and measurements of frequency, amplitude, phase, timbre and localization. Computer basics will also be covered, with topics including binary number representation and basic computer operation.

The next section will cover the MIDI transmission protocol that enables musical information to be stored and transmitted compactly. Topics will include the nature of the MIDI data structure, the types of messages that may be passed, and the suitability of MIDI for expressive performance. MIDI software will be discussed, including notation software, editor/librarian software and sequencers. The bulk of the course's project component will involve working with sequencing programs. Students will also be exposed to using MIDI on the web, downloading files and importing them into various applications.

The final section will cover digital audio so that students may understand how instruments capable of understanding MIDI messages are able to translate the instructions into audio signals. Topics will include sampling theory, digital vs. analog recording, filters, signal processing and editing sound files. Projects involving digital audio will also use a sequencing program that is able to combine MIDI and audio data.

The course will have two meetings per week. The first will be a lecture, covering theoretical principles. The second class meeting will be a hands-on lab demonstration. Students will also complete a final project that will be determined in consultation with the instructor, demonstrating the relevance of the course materials to the student's field of study.

Grading will be based on 2-3 short in-class exams, a series of web-based quizzes, a series of non-graded lab assignments, and a series of assignments using the sequencing software that require in-depth mastery of the program. Students will also complete a project in digital audio, typically resulting in a music video created in iMovie. The nature and composition of the final project will be decided through consultation with the instructor. This final assignment typically will demonstrate the relevance of the course contents to the students' major field of study.

Music technologies have generalized the act of making music from the traditional set of skills taught in music conservatories. Students mastering the skills in this course will benefit from an expanded and generalized sense of what music is and how it can be represented and performed.

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 008 or concurrent enrollment in eitherMUSIC 131 orMUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 214 Introduction to Web Content and Design (3) Introduction to website creation using project activities to explore writing and editing, navigation issues, usability, and overall website architecture.

Introduction to Web Content and Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 258A (GA) Fundamentals of Digital Audio (3) A thorough introduction to digital music production technologies, covering fundamentals of how digital musical information is stored, processed and transmitted.

INART 258A Fundamentals of Digital Audio (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

A thorough introduction to digital music production technologies, covering the fundamentals of how musical information is stored and transmitted in digital devices.
This course is meant for people who are passionate about working with sound, and who are willing to take on new technical and creative challenges in audio production. It is the pre-requisite for more many advanced courses in music technology and audio production. Students complete a series of low-stakes audio exercises on fundamental operations, a series of written responses to questions on the underlying theory of digital audio, and a small number of extended creative projects.
The software used is at the level of professional audio production workstations. Students complete the course with a set of vocational skills in computer music and audio.
General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 008 or concurrent enrollment in eitherMUSIC 131 orMUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 258B (GA) Fundamentals of Digital Audio (1) A general overview of music technologies current to music educators and performers.

INART 258B Fundamentals of Digital Audio (1)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

A general overview of music technologies current to music educators and performers, as defined by their accrediting organization. This course is meant for students who do not intend to pursue further studies in music technology. Students will be exposed to software that is meant for non-specialists, and learn basics of music recording and editing. Students complete a set of lessons, each of which features a hands-on exercise. They gain a set of technical tools that should be of immediate relevance to their careers, including basics of music recording, audio editing, Internet resources, music arranging and score preparation. This course has a significant active learning component, as all assignments are hands-on creative projects. It qualifies as a General Education Arts (GA) and a BA course.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2010

Concurrent: concurrent enrollment in either MUSIC 131 or MUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 294 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 297A Ivyside Pride (3) Exploration and performance of choral music in a variety of genres. By audition only.

Ivyside Pride (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 297B The History of Punk Rock (3) The History of Punk Rock examines the roots, development and significance of punk rock and underground music in American popular culture.

The History of Punk Rock (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 401 Applications in Digital Imaging (4) An advanced digital photography course that explores new methods in the creation and presentation of images using the latest technologies.

INART 401 Applications in Digital Imaging (4)

INART 401 is an in-depth course that explores new methods in the creation and presentation of images using the latest technologies.

The course will help students to:
1. Gain a deeper understanding of the medium of digital imaging aesthetically, critically, and as a technical process.
2. Explore the potential of the medium's ability to express ideas in new ways.
3. Develop an in depth understanding of Adobe Photoshop.
4. Experiment with new methods of image making that is unique to digital technologies.

Grading is based on the quality of work in required creative projects (80%) and participation in formal critique sessions (20%).

INART 401 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: PHOTO 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 410 (AM ST 410) Early Pennsylvania Decorative Arts and Furniture (3) The study of Pennsylvania and related furniture, pottery, paintings, and decorative arts of the seventeenth, eighteenth, and early nineteenth centuries.

INART (AM ST) 410 Early Pennsylvania Decorative Arts and Furniture (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the aesthetic, cultural, and social significance of the household arts common in Pennsylvania in the seventeenth, eighteenth, and nineteenth centuries. Emphasis is placed on the major periods and styles (Puritan, William and Mary, Queen Anne, Chippendale, and Federal) as represented in furniture, pottery, paintings and decorative arts. Indigenous styles and crafts representative of Pennsylvania arts and crafts will be explored in detail.

The course combines lecture and discussion with seven field trips to historic sites to provide students with the opportunity to view furniture and decorative arts within the setting of period homes.

The course carries no prerequisite.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 415 (AM ST 415) Nineteenth Century Pennsylvania Architecture and Restoration (3) Interior and exterior design of early Pennsylvania architecture; understanding and evaluation of and experience in restoration.

INART (AM ST) 415 Nineteenth Century Pennsylvania Architecture and Restoration (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides students with hands-on practical experience in the restoration of historic buildings of the nineteenth century. Each semester, students will research, evaluate, identify problems, and develop solutions to restore these structures in an historically correct manner. Students will then practically restore these structures and gain practical experience in the process of restoration.

Major classroom topics will vary in order to meet the specific needs of the project at hand. Topics may include wood technology, structural problems and solutions, vernacular architecture, use of early tools, etc. Students will also take field trips to several restored homes to gain insight into applicable methods and approaches to restoration and gain perspective on costs and outcomes.

INART 410 Early Pennsylvania Decorative Arts and Furniture is the prerequisite for this course.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: INART 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 494H Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 494 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an indivdual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 497A Ivyside Pride Advanced (3) Exploration and performance of choral music in a variety of genres. By audition only.

Ivyside Pride Advanced (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 497B Management of Historic Sites and Museums (3) Students will gain experience in the development, installation, promotion, and documentation of exhibits as they work within a budget.

Management of Historic Sites and Museums (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Arts (INART)

INART 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Biosc (IBIOS)

IBIOS 450 Molecular and Cellular Toxicology (3) The course provides an in-depth coverage of the processes by which drugs and chemicals interact with biological systems.

IBIOS 450 Molecular and Cellular Toxicology (3)

The molecular toxicology course is designed to provide a mechanistic understanding of how drugs and chemicals result in toxicity. The effects of chemicals at the cellular and molecular level are stressed.

Studies on mechanisms of toxicity influence a wide spectrum of toxicological interests from the basic to more applied. In addition to the significance of these studies in clarifying the pathogenesis of various toxic responses, elucidation of how chemicals work at the cellular and molecular level helps the physiologist or biochemist obtain a better grasp of normal processes. Principles of toxicology are integrated with knowledge of biochemistry, physiology and molecular biology to help the students better understand normal as well as abnormal cell biology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: B M B 401 orB M B 437 or consent of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Integrative Biosc (IBIOS)

IBIOS 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 150 (GH;IL) World Mythologies in the Arts (3) Interdisciplinary, cross cultural, historical, and contemporary study of world mythologies as represented in the visual arts, literature, and film.

I HUM 150 World Mythologies in the Arts (3)
(GH) (IL)

This course is an interdisciplinary, cross-cultural, historical, and contemporary examination of myth as it appears in the visual arts, literature, and film. Each iteration of the course covers myths in the arts of at least several of the following cultures - Greek and Roman, Celtic, Norse, European, Egyptian, Near Eastern, Indian, Chinese, Pacific, African, and Native American. The course is thematic and intercultural, for example in the way myths are told in historical cultures and then retold and transformed in art, literature, and films in later cultures. The course is not a survey of world mythologies, but an interdisciplinary examination of myths in the arts such as painting, film, and literature, with an emphasis on the interpretations and transformative processes applicable to myths as they are (sometimes radically) altered and embodied in art forms that may be far removed in time, place, and meaning from the original contexts of they myths themselves. The films Whale Rider and, particularly, Dead Man, are rich examples of such mythological transformation. In the latter, the ideas of William Blake and Sioux and Inuit mythology are combined in original ways; such a transformed mythological example most likely would not appear in a typical survey of world mythology. The course is intended to familiarize students with the ways that different cultures have interpreted the world in which they live -- how cultures created their own explanations for phenomena they could not understand, and how contemporary culture gives new life to older myths. We will examine such questions as the meanings of myths as represented in the arts, the various purposes of myths in the arts, such as the functions of creation myths and myths of the hero; theories of how myths originate; and ways that myths have been analyzed, interpreted, and adapted in other cultures through the arts. We will consider in what ways myths are reconceived and altered when they appear in later cultures and in different media within the arts. Students learn to compare and contrast myths in the arts, discuss common elements in myths in the arts, and to interpret the meaning of the myths both within the cultural and historical context in which they were created and the ways they are reinterpreted in later cultures in the arts. Students may work individually and in small groups; may be expected to submit portfolios; may be given quizzes and mid-term and final exams; may be expected to write a term paper; may do a special project such as each student creating his/her own myth in literary, visual, or video form; may be asked to present material to the class.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 300W Interpretations in the Humanities (3) A study of selected themes, topics, or periods that introduces students to interdisciplinary approaches to knowledge, interpretation, and creative expression.

I HUM 300W Interpretations in the Humanities (3)

This course is designed to familiarize majors in all School of Humanities degree programs with several different approaches to understanding creative and scholarly works in a range of humanities areas; to expose them to the viewpoints of others and encourage dialogue among students; to reinforce the interdisciplinary connections among humanities fields; and to improve students' ability to formulate, express, and defend their own interpretations using the approaches studied. Individual instructors select the particular interpretive methods to be studied, along with appropriate primary works or texts and exemplars of the scholarly or critical methods chosen. Instructors will typically organize their sections around specific themes, periods, or topics, which will thus vary from time to time. Students should take the course at the beginning of their upper- division study in the major, ideally in the first semester of the junior year, and after completion of the general education requirements (lower-division study).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: ENGL 015, ENGL 202 and at least 30 credits

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 302 Technology and the Humanities (3) An interdisciplinary study of the effects on the individual of scientific and technological change.

I HUM 302 Technology and the Humanities (3)

This interdisciplinary course relates science and technology studies to issues in the humanities and social sciences. It is intended to appeal to students in any major who wish to develop a greater understanding of issues related to technology. The issues addressed will vary but are likely to include some that are historical and others that are contemporary. Sample topics that have been studied in this course include ethical issues related to uses of biomedical technologies; social issues in the development and uses of digital technologies; and the aesthetic significance of electronic reproduction in the creative and performing arts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 312 (GH;IL) The Western Tradition II (3) The Middle Ages and the Renaissance.

I HUM 312 The Western Tradition II (3)
(GH;IL)

This course is appropriate for introducing students to a broad spectrum of materials, methods, and perspectives across the humanities. The course addresses medieval and/or Renaissance culture (primarily European, though interaction with other cultures may be included). It pays attention to architecture, art, drama, literature, philosophy, religion, music, and history. Students are introduced to methods for linking the original works they study (by theme, historical context, and in other ways) and to both discipline-based and interdisciplinary modes of understanding them.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 311 (GH;IL) The Western Tradition I (3) From prehistory through the Roman world.

I HUM 311 The Western Tradition I (3)
(GH;IL)

This course is appropriate for introducing students to a broad spectrum of materials, methods, and perspectives across the humanities. The course addresses ancient Greek and/or Roman culture with attention to architecture, art, drama, literature, philosophy, science, music, and history. Students are introduced to methods for linking the original works they study (by theme, historical context, and in other ways) and to both discipline-based and interdisciplinary modes of understanding them.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 313 (GH;IL) The Western Tradition III (3) The making of the modern mind.

I HUM 313 The Western Tradition III (3)
(GH;IL)

This course is appropriate for introducing students to a broad spectrum of materials, methods, and perspectives across the humanities. The course addresses modern Western culture (and sometimes some interactions with other cultures), with attention to architecture, art, drama, literature, film, philosophy, music, and history. Students are introduced to methods for linking the original works they study (by theme, historical context, or in other ways) and to both discipline-based and interdisciplinary modes of understanding them.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 410 (IL) Religion and Culture (3) A comparative examination of several world religions in their social and cultural contexts.

I HUM 410 Religion and Culture (3)
(IL)

A comparative examination of several world religions in their social and cultural contexts-for instance, Christianity, Judaism, Hinduism, Islam, Buddhism, Native American beliefs, and others. Students will explore commonalities and differences among the belief systems and the cultures from which they developed, and investigate the cultural significances of religious belief.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 400 Expressions in the Humanities (3) Capstone course for School of Humanities majors: students synthesize and apply approaches to a topic in creative expression and knowledge.

I HUM 400 Expressions in the Humanities (3)

The general goals for this course are (1) to give you a "capstone" experience in which you can bring together the differing disciplines, questions, and material you've encountered in your study within the School of Humanities; (2) to give you some idea of how the various humanities disciplines are related to one another and to their cultural setting at a specific moment in time in regard to a particular issue; (3) to extend your ability to compare works of art in different media or traditions (e.g., painting and literature); and (4) to refine your abilities in viewing, listening, close reading, writing, and discussing works from varied genres and to allow you as seniors to take over some responsibility for your own education by teaching each other parts of the course.

The guiding thread for our exploration will be the questions, "Do we have a "self" or are we multiple selves?" and "What kind of self or selves are we?" Among the subordinate themes we will pursue are the basis for asserting that there is or should be an equality among people; the workings of the social context to ground one's identity and value, but also to restrict its scope; the relation of modern science to the concept of the self and society; the power of the unconscious and the rise of psychoanalytic theory and practice; and critiques of Western assumptions about the individual inherent in Marxism, feminism, and other critical perspectives. We'll pursue these issues through a range of works from Descartes' Meditations, which laid the foundation for modern Western individualism, to Sherry Turtle's Life on the Screen, which argues that interactions on the Internet show how we are multiple social constructions, not a single self.

In addition to learning about the various works we'll study, there are several goals for how you will learn during this course: (1) You'll become comfortable moving back and forth between different kinds of texts (e.g., literature, philosophy, painting, psychology); (2) You'll develop your ability to express your own perceptions in writing; (3) You'll become more skilled at expressing your ideas in dialogue with others by asking good questions, listening carefully, and responding thoughtfully; (4) You'll increase your own mastery of part of the material by investigating it and teaching it to the class; and (5) You'll identify questions that have interested you during your time as a student in the School of Humanities and pose them to other students for discussion.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: I HUM 300W seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 430 Philosophy and Literature (3) The study of philosophical viewpoints in literature.

I HUM 430 Philosophy and Literature (3)

The study of literary texts (novels, poetry, drama) emphasizing the philosophical viewpoints they express, and relating those viewpoints to schools of thought in philosophy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 453 Texts and Culture (3) Study of art, literature, film, and other creative genres to illustrate the interrelationships between creative expression and cultural practices.

I HUM 453 Texts and Culture (3)

This interdisciplinary course offers students the opportunity to study selected works of art, literature, film, popular culture, performances, and other creative genres in order to understand the relationships between creative expression and cultural practices. The perspectives of several academic disciplines and interpretive approaches will be brought to bear on the works studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 460 Thematic Studies (3) Analysis of a group of related ideas in art, music, literature, and/or philosophy. (May be repeated for credit.)

I HUM 460 Thematic Studies (3)

An interdisciplinary course that addresses a theme expressed in more than one genre or field of the humanities. The course may include works that address a similar theme across a long period of time, or across cultures, or it may focus on a group of thematically related works within one period or culture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 461 (IL) Selected Periods in the Humanities (3) Interdisciplinary studies dealing with selected periods of world culture. (May be repeated for credit.)

I HUM 461 Selected Periods in Humanities (3)
(IL)

Study of interdisciplinary aspects of a particular chronological period, including works from several disciplines or genres within the humanities. The period chosen may be from any time and any culture (or more than one culture during the same period).

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 491 Seminar in Interdisciplinary Humanities (3) Interdisciplinary studies dealing with selected periods of world culture. (May be repeated for credit.)

I HUM 491 Seminar in Interdisciplinary Humanities (3)

This course for advanced students in interdisciplinary humanities or related fields is intended to allow them to explore important issues in interdisciplinary study and to report and write critically about various methods for integrating the academic disciplines and the arts. The course topic will vary and may include a theme, a period, or a particular issue from any time or culture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: I HUM 300W seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 495 Internship (1-6) Supervised internship for undergraduate or graduate Humanities majors in state offices, educational institutions, arts agencies, community organizations, or humanities councils.

Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: senior-level status for undergraduate students; 18 credits of course work for graduate students; approval of program required

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Interdisciplinary Humanities (I HUM)

I HUM 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 100 (GS;IL) Introduction to International Agriculture (3) Survey of agriculture and food production in developing countries; focus on small traditional farmers, their methods, and socioeconomic environment. (NOTE: Write for a further listing of courses in and related to International Agriculture.)

INTAG 100 Introduction to International Agriculture (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of this course are to acquaint students with: (1) the characteristics, issues and problems concerning small, traditional agriculture in "Third World" countries, and (2) the concepts of agricultural change, to provide frameworks within which to analyze, understand, criticize and think about the issues and problems. Readings and class presentation are intended to expose students to several viewpoints, with examples from several areas of the world. Integral to the course are slide and video presentations and speakers that illustrate the reality of small traditional agriculture and provide views of the people and their culture. A major goal is to challenge students to develop independent thinking about agricultural change and development in order to critically analyze and judge research, writing and policies. This is accomplished through writing assignments, class discussion and in-class activities. The course examines the reasons for the problems and policies relating to agriculture and food in Third World countries, and tries to answer several questions about small traditional agriculture. Specific questions examined are: what is it; why is it the way it is; how and why do these farmers make the decisions they do; and what does this knowledge imply for agricultural growth, sustainability and technological change.

The course is part of the International Agriculture minor, and satisfies two General Education requirements. Evaluation consists of film reports, two short papers and three exams. The course is offered once every academic year.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 481 Problems in Agriculture in Tropical Areas (3) Students apply their "expertise" to problems in agriculture. An integral component is a trip to tropical areas at their expense.

Problems in Agriculture in Tropical Areas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1983
Prerequisite: completion of six credits in applicant's major and successful completion of interview

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 495 Internship in International Agriculture (1-3) Observation of and participation in the operation and management of a University-approved international agricultural firm or international agricultural development agency.

Internship in International Agriculture (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986
Prerequisite: Prior approval of proposed internship plan

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 497A Comparing US/French Agricultural Systems (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Comparing US/French Agricultural Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Agriculture (INTAG)

INTAG 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 290 International Business Goes to the Movies (1 per semester/maximum of 3) A business elective to expose students to international and global issues through the eyes of film makers around the world.

I B 290 International Business Goes to the Movies (1 per semester/maximum of 3)

I B 290 is an international business elective class which exposes students to international and global issues through the eyes of film makers around the world. Using film as the medium, students can evaluate differing perspectives and arguments on issues affecting business and economics in the global environment. This course is intended for students who are likely to study abroad during their PSU careers. Thus, the course attempts to prepare students for immersion in a variety of cultures, often different from the US. The course objective is to begin a broadening process of students' world views by examining a wide range of issues captured in film around the world.

Typical topics include the rise of globalization and its impact on various countries and societies, a range of cross-cultural issues and controversies inherent in competing cultural differences between peoples of various nations, the impact of American culture on social, political, economic, and legal institutions throughout the world, and the differential role played by economics in various societies and at different stages of economic development across many nation states.

This course employs film as a powerful medium to enable historical and modern understandings of global issues and international perspectives. As students enter the business world and learned professions, it is imperative that their world view include images and understandings found in a host of competing cultures including Eastern and Central Europe, East Asia, The Middle East, Latin America as well as Western Europe, Australia, and North America.

Upon completion of the course, students will be introduced to a wide range of international issues as well as a foundation for approaching cross-cultural disputes inherent in international and global business. In addition, they will obtain an appreciation of international cinema and its wide scope as an art form, as an informational source for business, and as a powerful medium for argument and debate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 297 Special Topics (1-9) Formal courses given infrequently to explore in depth, a comparatively narrow subject interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 303 (IL) International Business Operations (3) A survey of the major aspects of international business environment and operations with an emphasis on the cultural dimension.

I B 303 International Business Operations (3)
(IL)

International business is important and necessary because economic isolationism has become impossible. Failure to become a part of the global market assures a nation of declining economic influence and deteriorating standards of living for its citizens. International business therefore presents more opportunities for expansion, growth, and income than does domestic business alone. This course will cover the major aspects of international business environment and operations with emphasis on its impact on the local businesses in your state. In other words, in this course you will learn why international business differs from domestic business, economic theories on international trade, and how managers deal with the uncontrollable forces such as cultural differences of international environment. In this course you will develop a global perspective through studying the impact of other countries and their peoples on society and develop skills that will enable you to interact effectively in an interdependent global community.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 395A Practicum in International Business (3-5) Professional and guided international business work experience taken as part of an approved education abroad program.

I B 395A Practicum in International Business (3-5)

I B 395A is an international business internship that will be taken as part of an approved education abroad program. It is designed to provide experiential-based learning for junior- and senior-level students through which they will apply both prior knowledge and skills learned in the classroom to on-going operations of firms engaged in international business. And at the same time acquire additional knowledge, skills, attitudes and other competencies that will be relevant for further classroom-based learning.

Students will be expected to be adaptable, to communicate at different levels within the organization and, in addition to their knowledge and skills, to contribute to team outcomes and/or delivery of services. Although the specific nature of the practicum will depend on the company or organization involved, it will be project based. Following are examples of typical projects that might be undertaken: serving as a member of a team designing and/or implementing a new management information system, creating a new in-house personnel handbook, undertaking feasibility studies for new products, and researching and reporting on services to support new customers.

Grades will be determined by the faculty member supervising the practicum and will be based on an evaluation of work performance supplied by the company supervisor and the evaluation of written reports. The faculty supervisor will evaluate: required written reports describing the project(s) undertaken during the course of the practicum, how they were completed, and the skills that were used to complete them; a profile of the organization providing the internship; the student's critical appraisal of the company and his or her experience, including a reflection on cultural differences between work in the U.S. environment and the international work environment; and a research-based paper on a project undertaken during the internship or a related topic.

This course and the approved education abroad program of which it is a part, will satisfy the 15-credit study abroad requirement for students who have elected the international business option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000 Ending: Fall 2010
Prerequisite: B A 301, B A 302, B A 303, B A 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 395A Practicum in International Business (3-5) Professional and guided international business work experience taken as part of an approved education abroad program.

I B 395A Practicum in International Business (3-5)

I B 395A is an international business internship that will be taken as part of an approved education abroad program. It is designed to provide experiential-based learning for junior- and senior-level students through which they will apply both prior knowledge and skills learned in the classroom to on-going operations of firms engaged in international business. And at the same time acquire additional knowledge, skills, attitudes and other competencies that will be relevant for further classroom-based learning.

Students will be expected to be adaptable, to communicate at different levels within the organization and, in addition to their knowledge and skills, to contribute to team outcomes and/or delivery of services. Although the specific nature of the practicum will depend on the company or organization involved, it will be project based. Following are examples of typical projects that might be undertaken: serving as a member of a team designing and/or implementing a new management information system, creating a new in-house personnel handbook, undertaking feasibility studies for new products, and researching and reporting on services to support new customers.

Grades will be determined by the faculty member supervising the practicum and will be based on an evaluation of work performance supplied by the company supervisor and the evaluation of written reports. The faculty supervisor will evaluate: required written reports describing the project(s) undertaken during the course of the practicum, how they were completed, and the skills that were used to complete them; a profile of the organization providing the internship; the student's critical appraisal of the company and his or her experience, including a reflection on cultural differences between work in the U.S. environment and the international work environment; and a research-based paper on a project undertaken during the internship or a related topic.

This course and the approved education abroad program of which it is a part, will satisfy the 15-credit study abroad requirement for students who have elected the international business option.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 orFIN 301;B A 302 orSCM 301;B A 303 orMKTG 301 ; andB A 304 orMGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparativey narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 403 International Business and National Policies (3) Evaluation of national economic policies in the light of international economic theory; their impacts on operations of the international business firm.

I B 403 International Business and National Policies (3)

I B 403 integrates macro and micro analyses of the dynamics between international businesses/ multinational enterprises (MNES) and national Governments. Students who successfully complete I B 403 will acquire knowledge of and tools to understand, analyze and evaluate actions, theories and philosophies that influence home and host Government policies, the roles businesses play in shaping, these policies, and how policies and other factors shape competitive strategies of international business firms in the areas of trade, investment and other international economic activities. Theories, Models and Policies - Country-based advantages Imperfect Competition, Barriers to Entry and Strategic Trade Policy Competitive Analysis: Product Life Cycle and Porter Models Integrating Market and Non-Market Strategy Manipulating and Managing External Stakeholders Across Borders Transitional Economies: Opportunities, Risks and Strategies Strategies for Successful Foreign Direct Investment in China Evaluating Opportunities and Risks in Global Industries Privatization of Telecommunications Economic Integration: the Case of Europe Industrial Policy, Foreign Direct Investment and Economic Growth Foreign Market Entry Strategies for Regulated Industries Industrial Policy and International Competition International Competition in Services Industries Update on U.S. and EU policies in the Airline Industry and Impacts on Industry Structure and Firm Strategy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211, B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 411 International Business (3) Analysis of business firms in international environments; effect of international economic, political, and sociocultural factors on multinational business operations.

International Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301, SCM 310, MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 404 Contemporary Issues in International Business (3) Investigation of issues in international business practice interpreted from the foundations of the social sciences. Topics will be chosen from contemporary issues in global business and economics.

I B 404 Contemporary Issues in International Business (3)

I B 404 enables students to study the most current topics in international and global business from the framework of the social science issues that form the framework for understanding, business decisions. The course provides structured experiences in library research and data gathering, techniques, and builds the habit of reading the international business press daily and analyzing it weekly. The class is typically organized around 3 integrative business topics that represent a spectrum of questions important to business. These include questions about finance and economics in international business, questions about people and organizations in an international environment, and questions about products (development, production, distribution of goods and services) in international business contexts. This is not an introductory course, and as such, the topics chosen should be substantive and nuanced. For example, one topic might be how the structure of franchises must be modified to reflect the property rights in a particular country, and how those property rights laws impact the value of the franchise. The second topic might be how the internationalization of the structure and role of Boards of Directors in multinational firms contribute to globalization, and challenge the cultural norms in those organizations The third topic might be how North American firms have been forced to adjust their product packaging, in response to environmental impact laws in Germany, and how this shifts the locus of the product message from point-of-purchase to alternative media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211, B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 440 (US;IL) (PL SC 440, AAA S 440) Globalization and Its Implications (3) This course explores the socioeconomic implications of globalization.

I B (AAA S/PL SC) 440 Globalization and Its Implications (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the socioeconomic implications of globalization and some fundamental changes that have taken place in the global socioeconomic system. The bipolar configuration of global power has been radically altered, market-state relations have been reformulated, and global systems of production and finance have been reorganized.Given these recent changes in the world's structure, globalization as a socioeconomic force is examined with a special emphasis on its implications on social issues, capital-labor relations, the roles of unions and trans-nationals, unemployment issues, poverty and inequality, gender and ethnicity issues, race relations, and democratization around the world. This course also allows students to explore how different countries, communities, social classes, business firms and even institutions are affected differently by globalization. The implications of globalization on Africana communities is given special attention.

The course is organized into three parts: A) The first part of the course attempts to define globalization and identify its essential characteristics in light of social and economic change. This part attempts to answer questions such as what constitutes globalization, how do we know if glonalization is taking place, and what aspects of it are new. B) The second part of the course attempts to assess the implications of the different aspects of globalization (identified in the first part) on many critical social issues, including capital-labor relations, the roles of unions and transnational corporations, problems of unemployment, poverty and inequality, gender, ethnic, and race relations, and democratization. C) The third part of the course examines the implications of globalization to African communities.

This course exposes students to the economic, social, political, and cultural implications of the unfolding global order. It allows them to explore how different countries, communities, social classes, business firms and even institutions are affected differently by globalization. Evaluation will be based on daily attendance, along with a class presentation of a design of a research paper; an actual research paper, a mid-term exam and a final exam.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: AAA S 100 orAAA S 110 orPL SC 003 orPL SC 014 orPL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 450 The Business Enviornment of Europe (3) This course provides an overview of the economic, institutional, and regulatory environment in Europe at the EU and national levels.

I B 450 The Business Environment of Europe (3)

This course provides an overview of the business, economic, and regulatory environment in Europe at the European Union (EU) and national levels. The course examines how regional integration, through the EU, has shaped industrial, competition, monetary, and related economic policies, and how Europe's international trade and finance capabilities affect the global economy. As a result, a significant part of the course focuses on the evolution of the EU, its institutional structure, and its impact on business (both European and foreign). The course also compares business-government relations, models of capitalism, and corporate governance in individual European countries, using the United States as a basis of comparison. Particular attention is given to France, Germany, Ireland, and the United Kingdom, and how their business environments differ from each other.

While the primary focus of this seminar will be on these themes, we will use articles from the *Financial Times* and similar publications as the basis of discussion in each class for a range of topics related to Europe. The approach taken in this course is a multidisciplinary one, with the assumption that business executives must understand the political, cultural, institutional, historical, and geographic aspects of Europe if they are to be successful in the business environment of Europe.

Students are expected to be active participants in class discussion. Readings usually will include a textbook, readings packet, and a subscription to the*Financial Times*. Evaluation will be based on a combination of participation and attendance, exams, quizzes, a group project, and essay assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: ACCTG 211, B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 496H International Business Honors Thesis Research (0-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

International Business Honors Thesis Research (0-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 496H International Business Honors Thesis Research (0-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

International Business Honors Thesis Research (0-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 497 Special Topics (1-9) Formal courses given infrequently to explore in depth, a comparatively narrow subject interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 497B Urban Property Rights and Land Use Issues (3) International perspectives on real estate as property, evaluation of land use regulations, and differences in real estate markets across countries.

Urban Property Rights and Land Use Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 497A International Business in Emerging Nations (3) This course provides an overview of the international business strategy and economic environment of emerging Asian nations with special focus on China, India and South East Asia. It uses a selective group of other geographic areas and the United States as a basis for comparing these emerging business models.

International Business in Emerging Nations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

International Business (I B)

I B 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Internship (INTSP)

INTSP 295A Internship in Arts and Humanities (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.

ALT 295A Internship in Arts & Humanities (1-6)

Individual exploration of practical applications of a field of study through a supervised work experience. Final analytic paper, essays, journals and oral presentation as required by the instructor. Satisfactory employer evaluation required for passing grade. Prior approval of a member of the College faculty required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Internship (INTSP)

INTSP 295C Internship in Education, Human Development, & Social Sciences (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.

ALT 295C Internship in Education, Human Development, & Social Sciences (1-6)

Individual exploration of practical applications of a field of study through a supervised work experience. Final analytic paper, essays, journals and oral presentation as required by the instructor. Satisfactory employer evaluation required for passing grade. Prior approval of a member of the College faculty required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Internship (INTSP)

INTSP 295B Internship in Business & Engineering (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Writte and oral critique of activity required.

ALT 295B Internship in Business & Engineering (1-6)

Individual exploration of practical applications of a field of study through a supervised work experience. Final analytic paper, essays, journals and oral presentation as required by the instructor. Satisfactory employer evaluation required for passing grade. Prior approval of a member of the College faculty required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Internship (INTSP)

INTSP 295D Internship in Mathematics & Natural Sciences (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.

ALT 295D Internship in Mathematics & Natural Sciences (1-6)

Individual exploration of practical applications of a field of study through a supervised work experience. Final analytic paper, essays, journals and oral presentation as required by the instructor. Satisfactory employer evaluation required for passing grade. Prior approval of a member of the College faculty required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: minimum 30 credit hours; minimum 2.0 GPA; prior approval of proposed assignment(s) by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Internship (INTSP)

INTSP 370 Internship Preparation (1) Planning and preparation for upper-level or capstone internship experience, suited to students' individual academic and career interests.

ALT 370 Internship Preparation (1)

Planning and preparation for upper-level or capstone internship experience, suited to students' individual academic and career interests. Evaluation methods include two-three page reflective/analytic papers at the end of each segment; preparation and presentation at mock interview. This is an optional preparatory course for upper-division/senior-level internships in degree programs not offering formal internship preparation and will be offered for elective credit.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: formal acceptance into a College major; junior standing; minimum 2.0 GPA; completion of core research/skills course(s) for student's degree program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Internship (INTSP)

INTSP 495A Internship in Business for non-Business Students (1-6) Supervised off-campus, non-group instruction including field experiences, practica, or internships. Written and oral critique of activity required.

ALT 495A Internship in Business for non-Business Students (1-6)

Individual exploration of the application of a non-business field of study in a business-related setting. Final analytic paper, essays, journals and oral presentation as required by the instructor. Satisfactory employer evaluation required for passing grade. Prior approval of a member of the College faculty required. Intended for non-Business students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: senior standing; minimum 2.0 GPA;ENGL 015, MATH 021, ECON 002 orECON 004, MGMT 301, MKTG 301, INTSP 370, ACCTG 211 or substitute approved by the instructor; prior approval of proposed assignment(s) by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 100 (GS;IL) Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.

INTST 100 Introduction to International Studies (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an interdisciplinary course designed to provide students with an introduction to a range of global issues. The course will emphasize the themes of international interdependence and globalization and their development over time. A key component of this course is cultural diversity and the connecting international and domestic issues, particularly those of race and culture. In both their written and oral work, students will be required to relate international issues to their own fields of study. The disciplines involved are mainly political science and economics, ecology, history, and cultural studies.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 100S (GS;IL) Introduction to International Studies (3) An introductory multidisciplinary course designed to familiarize students with critical international issues.

INTST 100S Introduction to International Studies (3)
(GS;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an interdisciplinary course designed to provide students with an introduction to a range of global issues. The course will emphasize the themes of international interdependence and globalization and their development over time. A key component of this course is cultural diversity and the connecting international and domestic issues, particularly those of race and culture. In both their written and oral work, students will be required to relate international issues to their own fields of study. The disciplines involved are mainly political science and economics, ecology, history, and cultural studies.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 400 (IL) Seminar in International Studies (3) An upper-division seminar focusing on one or two critical international issues from an interdisciplinary perspective; individual projects.

INTST 400 Seminar in International Studies (3) (IL)

This interdisciplinary course will offer a seminar on some current event, issue, or phenomenon that involves a large number of countries. Topics will vary each year and depend on the faculty member leading the course, but it may include subjects such as the European Union, global economic change, international pop culture, or international response to human rights violations. Both written and oral work will be assigned and graded. Students will discuss material from a variety of academic fields such as political science, economics, sociology, history, anthropology, and cultural studies.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: INTST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 493 International Studies (3) Selected topics in International Studies.

International Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior participation in an Education Abroad program or international work experience and enrollment in the International Studies major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written or oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Approval by International Studies or Global Studies Advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Intl Studies (INTST)

INTST 497A Community Based Learning: Writing Local Jewish History (3) Students in this course will participate in community-based learning (CBL) in Berks County, PA and will slo conduct and report research about CBL.

Community Based Learning: Writing Local Jewish History (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 001 Elementary Italian I (4) For beginners. Grammar, with reading and writing of simple Italian; oral and aural work stressed.

Elementary Italian I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 002 Elementary Italian II (4) Grammar and reading continued; oral and aural phrases progressively increased; composition.

Elementary Italian II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 1988
Prerequisite: IT 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 010 Intensive Elementary Italian (6) Intensive Italian basic reading, writing, listening, and speaking skills stressed. Lab. Equivalent to IT 001 and half of IT 002.

IT 010 Intensive Elementary Italian (6)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is intended for students with no experience of Italian. It provides an intensive language-learning environment in which to complete 6 credits of elementary Italian (equivalent to IT 001 and the first half of IT 002). Students receive an extensive introduction to Italian grammar, speech, and culture. Evaluation methods include a variety of written and oral exercises (presentations, compositions, quizzes, exams, etc.). All work is done in Italian. The course is offered once per year. Enrollment is limited to 18. The course can count toward the completion of the Italian minor. This course prepares students for IT 020, a continuation of elementary and intermediate Italian.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 003 Intermediate Italian (4) Advanced grammar; oral and written composition; reading of modern authors; Italian life and culture.

Intermediate Italian (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: IT 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 020 Intensive Intermediate Italian (6) Continuation of Intensive Elementary Italian, building on grammar and communication skills (reading, writing, listening, and speaking).

IT 020 Intensive Intermediate Italian (6)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is for students who have successfully completed IT 010 Intensive Elementary Italian, and who seek an Intensive learning environment of Italian grammar (all aspects: reading, writing, listening, and speaking). Students learn intermediate Italian in an intensive language-learning environment. Extensive reinforcement of elementary Italian grammar (reading, writing, speaking, listening) and introduction to intermediate Italian grammar, speech, and culture through a variety of written and oral exercises. All work is done in Italian. Homework in the accompanying workbooks is assigned each week. Pronunciation practice in the language lab is also required weekly. There are also supplementary grammatical and cultural activities on the course web page. Equivalent to last half of IT 002 and all of IT 003.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Summer 2004
Prerequisite: IT 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 050 Italian Conversation Tutorial (1-3) Roundtable conversation practicum for students concurrently enrolled in IT 001, 002, 003, 010, or 020. May be repeated up to 3 times for credit.

IT 050 Italian Conversation Tutorial (1-3)

(BA) This course meets the Bachelor of Arts degree requirements.

Students supplement their elementary or intermediate language classes (001, 002, 003, 010, 020) with this practicum, which has as its objective to improve pronunciation and oral conversational skills. This course must be taken concurrently with an elementary or intermediate language course and may be repeated up to three times for credit. Evaluation based on student participation (80%) and performance in oral drills and exercises (20%).

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: Concurrent enrollment inIT 001, IT 002, IT 003, IT 010 orIT 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 051 Elementary Intensive Italian for Graduate Students I (3) Intensive introduction to Italian: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

IT 051 Elementary Intensive Italian for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Italian. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Italian vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 052 Elementary Intensive Italian for Graduate Students II (3) Intensive introduction to Italian: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

IT 052 Elementary Intensive Italian for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Italian. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Italian vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: IT 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 053 Intermediate Intensive Italian for Graduate Students (3) Continued intensive study of Italian at the intermediate level: reading, writing, speaking, listening, cultural contexts.

IT 053 Intermediate Intensive Italian for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Italian. Continued intensive study of Italian at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: IT 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 083S (GH;IL) First-Year Seminar in Italian Literature, Film, and Culture (3) Introduction to the study of Italian literature, film, and culture.

IT 083S First Year Seminar in Italian Literature, Film, and Culture (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The first-year seminar will introduce students to the study of Italian literature, film and culture in their first year at Penn State. Students will read significant texts (in English), view videos (with subtitles), listen to music and explore Italian thought and culture in general. These experiences will help prepare them for additional courses in literature and in Italian, but will also serve as an introduction to things Italian, and as a point of comparison with U.S. culture. In addition to the academic topic and issues this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them including the opportunity to develop relationships with faculty and other students who share their academic interests. This course satisfies both the first-year seminar and a General Education humanities or Bachelor of Arts humanities requirement. We will offer the course once a year with enrollment limit of twenty students.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 110 Topics in Italian Conversation (3) Focus on intensive oral communication practice, especially aimed at preparation for study or work abroad and tourism.

IT 110 Topics in Italian Conversation (3)

This course focuses on intensive oral communication practice, especially in preparation for work, study, or tourism in Italy. Extensive use of video, Italian television, class debates, individual and group presentations, etc. Students should check with department for specific topics as they could vary by semester offered. Prerequisites: IT 003, IT 020, or permission of program. Course does not count toward Italian major, minor, or general education. Evaluation methods include class presentations/debates, short writing assignments, and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: IT 003 orIT 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 131 (GH;US) Italian American Culture and Civilization (3) Italian-American experience from the late 19th century to present. Socio-political issues seen through cinema and through literary and other readings.

IT 131 Italian American Culture and Civilization (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

Between 1870 and 1920 over five million Italians immigrated to the United States. They were mainly men, and they came primarily to strike it rich. Of those who came, about one-third returned to Italy. Those who remained, often joined by their families, left an indelible mark on the American cultural, political, artistic, educational and social landscape. This course investigates the fascinating story of Italian immigration to the United States, a story that many students' great-grandparents and grandparents actually lived and bequeathed in memory via their personal stories. Our inquiry will be interdisciplinary. We will study historical texts, literature and film, which address the historical and sociological conditions of 19th Century Italy, the odyssey of immigration to and assimilation in the United States, and life in the ethnic neighborhood. We will also explore the Mafia, forms of prejudice, and ways Italians uniquely manifested their social values in labor unions, religion and education. Upon successfully completing this course, students will have a solid grasp of how Italians, in becoming Americans, contributed to the rich fabric of life in the United States.

Evaluation will be done through limited class participation, examinations, and quizzes. There will be eight multiple-choice exams with one essay question, and four quizzes based upon the novel readings. IT 131 will provide an Italian American equivalent to IT 130 (Italian Culture and Civilization). It should fulfill Humanities Breadth and Cultural Diversity requirements. The course will not count toward the minor or major in Italian because it is given in English; nonetheless, it will be complementary in so far as it will give our students a more rounded education concerning Italy and its legacy. IT 131 will be offered once a year with 50 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 130 (GH;IL) Italian Culture and Civilization (3) Italian life from antiquity to the present; literature, film, the arts, and contemporary problems in historical perspective.

IT 130 Italian Culture and Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course aims to develop critical and analytical skills of undergraduate students. It is an Intercultural/International Competence course dealing thoroughly with ethnicity, religion, and global perspective as it pertains to Italian culture and civilization. The course traces, among other themes, the importance of the Roman Empire, the Catholic Church, the Renaissance, presence and contributions of the Roman Catholic Church, the Italian Renaissance, and Italian immigration, artistic patrimony, and culinary contributions. Historical texts used will emphasize the social history of Italians that portrays the continuous processes of adaptations through the ages. Consideration will be given to the various representative Italians such as Dante, Da Vinci, Machiavelli, St. Francis, St. Clare, Fellini, and Fermi. We will read novels and analyze films that depict aspects of Italian thought and culture from religion to politics.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 187 Italian Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Italian Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 230 (GH) Masterpieces of Italian Literature in English Translation (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.

Masterpieces of Italian Literature in English Translation (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 301 Pathways to Fluency (3) For majors, minors, and others with adequate preparation; deepening of grammatical skills, integrated conversation, composition, and reading.

IT 301 Pathways to Fluency (3)

For majors, minors, and others with adequate preparation, students in this course review grammatical skills through conversation, class debates, reading, and writing assignments based on contemporary cultural materials (web sites, music lyrics, newspaper and magazine articles, etc.) Prerequisite: IT 003. Evaluation methods include class participation, in-class activities (both oral and written), composition, and exams.

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 2005
Prerequisite: IT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 320 Introduction to Italian Culture; Food, Fashion, Family (3) Focus on the social, historical, and socio-political issues of Italy in the last two centuries.

IT 320 Introduction to Italian Culture: Food, Fashion, Family (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on advanced grammar development in the context of social, historical, and sociopolitical issues of Italy in the last two centuries with particular emphasis on contemporary current events. Readings from newspapers, magazines, and the web on Italian geography, regional differences, Italian politics, food, and cultural traditions. Evaluation methods include exams, current events reviews, class debates, and oral presentations. This course is in Italian. It is for students who have completed IT 003 or equivalent. It will be offered once per year. Enrollment limited to 20.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: IT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 325 Introduction to Italy's Genius (3) Focus on the art, literature, and philosophy of Italy from the Renaissance to present. In Italian.

IT 325 Introduction to Italy's Genius (3)

In this course students develop their advanced grammar and conversational skills through readings and class discussions of a variety of works in the Italian arts (literature, art, philosophy, etc.). Taught in Italian. Evaluation methods include class participation, exams, and writing assignments. Prerequisite: IT 003. Course counts toward the Italian major and minor. Offered once per year. Enrollment limited to 20.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: IT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 330W Greatest Books of Italian Literature (3) A survey of the greatest books of Italian literature (prose, poetry, drama). Time period varies each semester. In Italian.

IT 330W Greatest Books of Italian Literature (3)

This course is a survey of the greatest books of Italian literature (prose, poetry, drama). Time period varies each semester, and may include early literature (St. Francis, Marco Polo, Dante, Boccaccio, Petrarch, Machiavelli, etc.) or modern authors (Vico, Goldoni, Manzoni, Foscolo, Leopardi, Pirandello, Fo, Calvino, Eco, etc.). Please check with department faculty for current offering. Taught in Italian. Course objectives are to read, discuss, and better understand the enduring relevance of Italy's literary masterpieces, while strengthening linguistic skills in writing (especially), as well as reading, speaking, and listening, through weekly or bi-weekly written reading reactions, critical notebooks, and class discussions/participation. Course is appropriate for students who have successfully completed an intermediate Italian course (such as IT 003 or 020) and counts toward the Italian major (all tracks) and minor. Successful completion of this course may permit further Italian study at the 400-level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: IT 003, IT 020 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 350 Masterpieces of Italian Literature (3) The literature of Italy from the origins to the end of the Renaissance.

Masterpieces of Italian Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: IT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 399 (IL) Foreign Study--Italian (1-12) Advanced training in Italian language skills.

Foreign Study--Italian (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: IT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 412 Theory and Practice of Translation (3) Advanced practicum in Italian explores the technical, artistic, and practical applications of translation between Italian and American cultures.

IT 412 Theory and Practice of Translation (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the technical, artistic, and practical applications of translation between Italian and American cultures in wide variety of contexts: literature, technical writing, film subtitling, etc. Taught in Italian. Evaluation consists of reading quizzes, short translation assignments, class presentation, longer (roughly 10-page) individual final translation project. Prerequisite: Any 300-level course in Italian.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: any 300-level course in Italian

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 415 Dante (3) Readings in the Divina Commedia and the related lesser works of Dante Alighieri.

Dante (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: IT 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 450 Nineteenth-Century Italian Literature (3) Italian romanticism, Verismo and neoclassicism, their origin and development in the novel, poetry, and drama.

Nineteenth-Century Italian Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: IT 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 422 Topics in the Italian Renaissance (3) Topics vary by year and may include "Theories of Love," "Magic, Witchcraft, Alchemy, and the Emergence of Modern Science," etc.

IT 422 Topics in the Italian Renaissance (3)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course students develop their advanced language skills while pursuing study of Italian Renaissance and/or Humanist topics. Topics in Italian Renaissance literature vary by year and may include "Theories of Love," "Magic, Witchcraft, Alchemy, and the Emergence of Modern Science," etc. Check with faculty for current topic. Course may only be taken once for credit. Course counts toward the Italian major and minor. Course taught in Italian. Evaluation methods include two midterms, short reading response papers, class presentation, and final exam. Prerequisite: any 300-level Italian course.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2005
Prerequisite: any Italian course at the 300-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 460 Twentieth-Century Italian Literature (3) Modern and contemporary Italian prose, drama, and poetry.

Twentieth-Century Italian Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: IT 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 475 Modern Italian Literature and Cinema (3) Focus on silent films, fascism, WWII, Resistance, Neorealism, and reactions against Neorealism.

IT 475 Modern Italian Literature and Cinema (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will explore the literary, cultural, and historical backdrops behind a variety of films from Fellini's The Road, to one of the greatest spaghetti westerns ever made (Leone's Once Upon a Time in the West), to the Oscar winner for Best Foreign Film (Benigni's Life is Beautiful). Selected 19th and 20th-century prose texts also trace such issues as the individual's role in society and the use of the imagination in the representation of history. This course aims to provide students with the fundamental tools to read texts and watch films critically and intelligently while presenting an overview of some major themes of Italian culture. Students will be evaluated on three in-class exams, paper outline, final paper, and participation in class discussions/activities/debates. IT 475 is the first interdisciplinary course taught in English at the IT 400 level. The course helps satisfy the Italian minor requirement. It is also good for students who have taken IT 130 and want to know more about 20th-century Italian lit/film/culture without having to do course work in Italian. IT 475 may also be of particular interest to students of film and media studies, English or comparative literature, religious studies, and history. This course satisfies the Italian minor or bachelor of arts humanities requirements. IT 475 will be offered once a year with 40 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 485 Italian-American Cultural Studies (3) In-depth exploration of Italian-American cultural contributions.

IT 485 Italian-American Cultural Studies (3)

Italian-American Cultural Studies explores the representation of self-representation of Italian-Americans that have been produced over the past century in a variety of aesthetic forms. Through analysis of literary and cinematic works, informed by readings in history and sociology, students will refine their critical reading and writing skills, come to a deeper understanding of important currents in 20th-century American history, gain a more informed appreciation of the contributions of Italian-Americans to the arts, engage critically with concepts such as "identity," "ethnicity," "gender," and "heritage." This course fulfills requirements for the major and minor in Italian, and allows students interested in Italian-American culture to undertake more in-depth and specialized study than is possible in the 100-level General Education survey offered by the department in English. Evaluation methods include participation in class discussion, short analysis papers, and a longer (8-10 page) research paper. The ability to screen VHS and DVD videos is necessary.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: any 300-level Italian course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 480 Italian Women Writers Through the Centuries (3) Analysis of the works of women authors in their historical and literary contexts.

IT 480 Italian Women Writers Through the Centuries (3)

Italian women have been stereotyped as the "mamma" or grandmother who cooks, prays, and idolizes her sons. Such an image does not accommodate the wide variety of experiences, perspectives, and contributions of Italian women throughout history. This seminar will explore the writings of female authors from delimited historical periods (alternating among Renaissance, 19th and 20th Centuries). Depending on time period, genres will include autobiography, poetry, historical novel, drama, film, nonfiction. Throughout the course we will consider the political and social developments in Italy with an emphasis on issues of special relevance to women. As we approach each text, we will examine such questions as: the significance of its form; the author's use of language; the ways in which masculinity and femininity are constructed; intersections with the text's historical moment; the political, philosophical and/or theological questions posed by the text; the ways in which the text inserts or distances itself from the Italian literary canon; and the text's depictions, re-evaluations and uses of history. Through their journal assignments in class discussion, students will be encouraged to reflect upon the implications of course concepts in their own culture and historical moment. Evaluation methods include participation in class discussion, journal entries, short analysis papers, and a longer (8-10 page) research paper. In Italian. Prerequisite: any 300-level Italian course. This course is conducted in Italian and counts for the Italian major and minor. The ability to screen VHS and DVD videos is necessary. Enrollment is limited to 20, and the course will be offered at lease once every four semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: any 300-level Italian course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 490 Dante in Translation (3) The reading of Dante's Divine Comedy and selected minor works.

Dante in Translation (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: junior standing or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 497A Boccaccio and His Influence (3) Emphasis on gender issues raised in Boccaccio's oeuvre juxtaposed with retreatments of these in later work influenced/inspired by Boccaccian writing. Conducted in English.

Boccaccio and His Influence (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Italian (IT)

IT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 001 Elementary Japanese I (4) Introduction to modern Japanese; development of audio-lingual facility and ability to read and write Japanese without aid of romanization.

Elementary Japanese I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 001 Level One Japanese A (4) Introduction to modern Japanese; development of audio-lingual facility and ability to read and write Japanese without aid of romanization.

Level One Japanese A (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 002 Elementary Japanese II (4) Continuation of elementary Japanese, with emphasis on improving audio-lingual facility and strengthening reading and writing skills in modern Japanese.

Elementary Japanese II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 002 Level One Japanese B (4) Continuation of elementary Japanese, with emphasis on improving audio-lingual facility and strengthening reading and writing skills in modern Japanese.

Level One Japanese B (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 003 Intermediate Japanese (4) Continued study of modern Japanese at elementary level; extensive audio- lingual practice for conversational fluency; reading/writing original scripts.

Intermediate Japanese (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 003 Level Two Japanese A (4) Continued study of modern Japanese at elementary level; extensive audio- lingual practice for conversational fluency; reading/writing original scripts.

Level Two Japanese A (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 051 Elementary Intensive Japanese for Graduate Students I (3) Intensive introduction to Japanese: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

JPANS 051 Elementary Intensive Japanese for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Japanese. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Japanese vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 052 Elementary Intensive Japanese for Graduate Students II (3) Continued intensive study of Japanese at the intermediate level: reading, writing, speaking, listening, cultural contexts.

JAPNS 052 Elementary Intensive Japanese for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Japanese. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Japanese vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: JAPNS 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 053 Intermediate Intensive Japanese for Graduate Students (3) Continued intensive study of Japanese at the intermediate level: reading, writing, speaking, listening, cultural contexts.

JAPNS 053 Intermediate Intensive Japanese for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Japanese. Continued intensive study of Japanese at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: JAPNS 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 099 (IL) Foreign Study (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 110 (IL) Intermediate Japanese II (4) Intermediate Japanese - Continued study of modern Japanese at intermediate level; extensive audio-lingual practice for conversational fluency; reading/writing original scripts.

JAPNS 110 Conversation, Reading, and Composition (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course offers the instruction of intermediate Japanese where students learn how to communicate and express various ideas using the Japanese language. Each chapter includes new essential vocabulary items, grammar patterns, and kanji which enable us to achieve higher overall communicative fluency in Japanese. By the end of the semester, students are able to construct grammatical structores, such as presuppositions, desire, hypothetical condition, causative, completion, regret, etc. The usage of polite expressions of humble and honorific is introduced. Various aspects of Japanese culture and customs are also discussed throughout the semester. This course fulfills the International Cultures requirement.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 120 (GH;IL) Japanese Literature in Its Cultural Context (3) Japanese literature and film from classical through contemporary times, with attention to changing cultural settings. Taught in English.

JAPNS 120 Japanese Literature in its Cultural Context (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is intended to provide an introduction to the literature of Japan from the seventh century to the postmodern era. Prior study of Japan is not required and materials will be available in English. Students will learn about major eras of Japanese literature and culture, such as the age of the Man'yoshu, the age of the Genji monogatari (The Tale of Genji), the age of No and Kyogen, the age of Wit and Learning, the age of Meiji, the age of industrialization, the postwar years, and postmodernity. The readings will include several genres, such as poetry, folktale, short story, and novel, with an emphasis on prose fiction. The course is structured so that students develop a historical/cultural perspective in order to understand the contexts that have inspired the literary works. By examining literature in its cultural contexts, students will investigate such topics as the relation between social institutions and the individual, the traditional patriarchal system, the changing roles of women, westernization, the Emperor system, and postmodern consumer culture, among others.

Students will read literature and related materials from different periods, with occasional presentations of films. Class work includes some lecture but emphasizes guided discussions, group discussions, and students' presentations. This participatory approach is intended to deepen students' appreciation of the texts, to help them understand value systems that may differ from, or else be shared with, those predominant in modern Western cultures, and to assist students in developing both analytical and expressive abilities. Evaluation will be through means such as in-class presentations, two midterms, one analytic paper (3-7 pages), and in-class participation and discussion.

The course is designed to be suitable for all students generally interested in Japan, or interested in various fields of humanistic study, whether or not they have previously studied the culture of Japan. This course is required for the Japanese major. It is designed to count as General Education and as a B.A. "Other Cultures" course. It will be taught once a year with an enrollment of 40-50.

This course will be taught in the active-learning mode, featuring both lecture and discussion, including oral presentations, which provides students abundant opportunity for expressing their opinions. Web-based activities may also be included, depending on the instructor. Specifically:
Writing, speaking, self-expression: Students will write reaction papers and comprehensive essays (e.g. take-home essay exams), which require the analysis and comparison of various literary works.
Opportunity for information gathering, synthesis and analysis in solving problems; A wide range of texts--synchronic and diachronic terms of time and space--will be comparatively analyzed. Students will use the library as well as electronic resources to research texts and authors for their oral presentations and essays.
Application of intercultural/international competence: Students will explore a wide range of texts in Japanese literature and cultures. Students will compare/contrast texts based on cultural and social contexts.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 110 (IL) Level Two Japanese B (4) Intermediate Japanese - Continued study of modern Japanese at intermediate level; extensive audio-lingual practice for conversational fluency; reading/writing original scripts.

JAPNS 110 Conversation, Reading, and Composition (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course offers the instruction of intermediate Japanese where students learn how to communicate and express various ideas using the Japanese language. Each chapter includes new essential vocabulary items, grammar patterns, and kanji which enable us to achieve higher overall communicative fluency in Japanese. By the end of the semester, students are able to construct grammatical structores, such as presuppositions, desire, hypothetical condition, causative, completion, regret, etc. The usage of polite expressions of humble and honorific is introduced. Various aspects of Japanese culture and customs are also discussed throughout the semester. This course fulfills the International Cultures requirement.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 121 (GH;IL) Japanese Film and New Media (3) Survey of Japanese film and new media in the twentieth century and beyond, with attention to changing cultural settings. Taught in English.

JAPNS 121 Japanese Film and New Media (3)
(GH; IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is intended to provide an introduction to modern and cutting-edge forms of cultural production in Japan from the twentieth century to the present day. Prior study of Japan is not required and materials will be available in English. Students will learn about major technologies and forms of media, including film, manga, anime, and various forms of “new media” (cell-phone novels, blogs, MMOGs, IM, and Web 2.0 for instance). Readings and screenings will cover several artistic modes including formalism, historiography, documentary, period drama, and experimental works. The course, or individual units within the course, will be structured so that students develop an historical perspective, allowing them to understand the cultural contexts that have inspired the creative works under study. By examining Japanese film and new media with attention to changing cultural settings, students will investigate such topics as the relation between social institutions and the individual, the formation and expression of identity, changing gender roles and family structures, the impact of technological and economic trends on social structure, and changing climates of censorship and freedom of expression. In addition, students will learn to think critically about various media's techniques and aesthetics of representation, and will become more engaged, critical spectators of film and related media.

Class work includes some lecture but emphasizes guided discussions, group work, writing exercises, and some student presentations. This participatory approach is intended to deepen students' appreciation of the works, to help them understand value systems that may differ from those predominant in western cultures, and to assist students in developing both analytical and expressive abilities. Through critical reading, group discussion and interpretive writing, students will hone skills for evaluating modes of cultural production and consumption in modern Japan.

The course is designed to be suitable for all students generally interested in Japan, or interested in various fields of humanistic study, whether or not they have previously studied the culture of Japan. This course is required of the Japanese major. It is designed to count as General Education, as a B.A. “Other Cultures” course, and as an IL "International Cultures" course.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 199 (IL) Foreign Study--Basic Japanese (1-8) Small group instruction in spoken and written modern Japanese at the introductory level.

Foreign Study--Basic Japanese (1-8)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 299 (IL) Foreign Study--Intermediate Japanese (1-12) Small group instruction in spoken and written modern Japanese at the intermediate level.

Foreign Study--Intermediate Japanese (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: JAPNS 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 399 (IL) Foreign Study (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 401 (IL) Level Three Japanese A (4) Further acquisition of the four language skills in Japanese--reading, writing, speaking and listening comprehension.

JAPNS 401 Advanced Conversation (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course aims to enhance students' abilities in speaking, listening, reading, and writing. The objectives in this course are: 1)to review, reinforce, and expand the basic grammar; 2)to expand knowledge of Kanji, vocabulary and idioms; 3) to be able to speak not only in single sentences, but in dialogues to perform basic communicative functions; 4) to be able to read and understand simple essays and stories; 5) to be able to write a short composition; and 6) to able to type Japanese on the computer.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 401 (IL) Advanced Japanese I (4) Further acquisition of the four language skills in Japanese--reading, writing, speaking and listening comprehension.

JAPNS 401 Advanced Conversation (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course aims to enhance students' abilities in speaking, listening, reading, and writing. The objectives in this course are: 1)to review, reinforce, and expand the basic grammar; 2)to expand knowledge of Kanji, vocabulary and idioms; 3) to be able to speak not only in single sentences, but in dialogues to perform basic communicative functions; 4) to be able to read and understand simple essays and stories; 5) to be able to write a short composition; and 6) to able to type Japanese on the computer.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 402 (IL) Advanced Japanese II (Post Study Abroad) (4) Exclusively for study abroad returnees. To further develop Japanese proficiency in speaking, listening, reading, and writing.

JAPNS 402 Advanced Reading (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This class is offered exclusively to students who have studied abroad in Japan. Only primary multimedia sources (i.e., not a text book)will serve as course materials. Five classes a week will consist of reading session, multimedia presentation, and high level discussion. Intensive analysis and class discussion of multimedia materials will provide the student the opportunity to develop advanced ability to understand, construct, and express opinions and complex verbal concepts in appropriate contextual forms/modes.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language and Other Cultures
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: JAPNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 402 (IL) Level Three Japanese B (4) Exclusively for study abroad returnees. To further develop Japanese proficiency in speaking, listening, reading, and writing.

JAPNS 402 Advanced Reading (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This class is offered exclusively to students who have studied abroad in Japan. Only primary multimedia sources (i.e., not a text book)will serve as course materials. Five classes a week will consist of reading session, multimedia presentation, and high level discussion. Intensive analysis and class discussion of multimedia materials will provide the student the opportunity to develop advanced ability to understand, construct, and express opinions and complex verbal concepts in appropriate contextual forms/modes.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language and Other Cultures
Effective: Spring 2011 Future: Spring 2011
Prerequisite: JAPNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 404 (IL) Practical Written Communication: Japanese for Professional and Academic Purposes II (3) Continuation of emphasis on written styles used in newspapers, magazines, business reports, academic writing, and other texts; aspects of translation.

Practical Written Communication: Japanese for Professional and Academic Purposes II (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: JAPNS 403Y

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 403Y (IL) Practical Written Communication: Japanese for Professional and Academic Purposes I (3) Discussions, presentations, readings, and compositions emphasizing written styles used in newspapers, magazines, business reports, academic writing, and other texts.

JAPNS 403Y Practical Written Communication: Japanese for Professional and Academic Purposes I (3) (IL)

A continuation of Japanese 402, this course includes, as objectives, (1) to improve the students' proficiency in speaking, listening, reading, and writing Japanese, and (2) to acquire abilitites to produce and understand communications that are stylistically appropriate for professional and academic contexts.

The fundamental grammatical structures of the Japanese language, as used in everyday communication, are presented in Japanese 402, the prerequisite course. Japanese 403 goes beyond that everyday "polite standard Japanese" style that is used in newspapers, magazines, business reports, and other written texts. Topics will include dialiectical and stylistic variations, language attitudes, conventions and aspects of practical usage in different written contexts, the addition of approximatley 250 new kanji (Chinese characters) for both recognition and production, and the expansion of vocabulary for practical written communication especially in professional and academic contexts.

Different offerings of Japanese 403 may vary, but courses of this sort are often taught through collections of newspaper articles and other written materials in textbooks. The organization tends to be topical (e.g., the impact of technology on society, the Japanese economy, customs such as New Year's Celebration of Children's Day, etc.) to permit the development of functional clusters of vocabulary and the practice of written conventions approporiate to various contexts. The availability of web-based materials permits easy supplementaiton and updating of published materials.

Evaluation will be through means such as vocabulary quizzes, a midterm and final exam, an in-class presentation, several short writing assignments, and a short essay.

Prerequisite knowledge: Japanese 402 or equivalent. Japanese 403 can be taken as part of the major of Japanese, the minor in Japanese Language, or for other purposes such as preparation for living and working in Japan. Japanese 403 will be offered once a year to 15 students.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: JAPNS 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 452 (IL) Contemporary Japan: Cultures, Lifestyles, Trends (3 per semester/maximum of 6) Survey of aspects of modern Japanese society; includes readings from Japanese newspapers, magazines, and fiction; topics may vary each semester.

JAPNS 452 Contemporary Japan: Cultures, Lifestyles, Trends (3 per semester/maximum of 6) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course orients students to cultural issues and trends in contemporary Japan, and the way that those issues and trends are explored in literature, film, newspapers and magazines. The course examines a selection of Japanese-language materials from an array of genres, modes of representation, and historical settings. Focusing on the postwar era to present (1945-), this course introduces various aspects of contemporary Japanese culture, from literary works of the postwar experience to recent popular culture, including anime (animated movies) and manga (graphic novels). Each work is discussed in terms of its own literary or artistic merit, the social context that produced it, its position within the larger trends of literary development in Japan, and its relevance for the modern reader. This course is designed for (prospective) Japanese major or minor students interested in broadening their knowledge of Japanese culture and society as well as for students who wish to compare other cultures and literatures they have studied with those of Japan.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010
Prerequisite: JAPNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 453 (IL) Japanese Film (3 per semester/maximum of 6) Selected films and directors representing various aspects of Japanese culture and cinema; topics may vary each semester.

JAPNS 453 Japanese Film (3 per semester/maximum of 6) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This class will be a seminar-style study of Japanese culture, texts, and language as seen through the lens of Japanese cinema. The goal is to deepen the students' understanding of diverse aspects of Japanese life, history, and culture while developing language skills. Typical class sessions may involve watching sections of film (with our without English subtitles); working with listening comprehension; engaging with student presentations (in Japanese) on studios, directors, or actors; discussing Japanese film history; and analyzing film stills for aesthetic qualities.

Participants will be required to view and discuss films in Japanese (with or without English subtitles). Viewing's will be accompanied by secondary readings (at least some of which may be in Japanese). We will also be discussing the films and readings in the context of nation, identity, history, sociology and culture. Exercises will range from group discussion, web-based research in Japanese and English, presentations, essays and film analysis. Students must prepare for class by reading the material carefully, taking notes, writing down questions, and being ready to take part in lively conversations. Course discussion will take place primarily or exclusively in Japanese.
This course satisfies the International Cultures requirement.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010
Prerequisite: JAPNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 454 (IL) Japanese Literature (3 per semester/maximum of 6) Selected works from important Japanese texts representing genres such as autobiography, poetry, fiction, and drama; topics may vary each semester.

JAPNS 454 Japanese Literature (3 per semester/maximum of 6)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This class will be a seminar-style study of contemporary Japanese literature. The goal of the course is to help students move from grammar-assisted reading assignments (which may provide vocabulary lists, grammar notes, and cultural notes) to reading ‘raw' materials in Japanese, where students are responsible for knowing how to use the appropriate reference materials so that they can compile vocabulary lists, grammar notes, and cultural notes on their own. Students will be reading selected works from an array of genres such as autobiography, poetry, fiction, drama and essays, with topics and thematic focuses varying from semester to semester.

Typical class sessions may involve reading aloud from a literary work; engaging with student presentations (in Japanese) on authors, genres, thematic elements, and relevant historical or cultural events; discussing Japanese literary history; analyzing short passages for their aesthetic qualities; and working with specific items of grammar or vocabulary. Participants will be required to read and discuss Japanese literature in Japanese. Exercises will range from group discussion, web-based research in Japanese and English, presentations, essays, quizzes and tests. Students must prepare for class by reading the material carefully, taking notes, writing down questions, and being ready to take part in lively conversations. Course discussion will take place primarily or exclusively in Japanese. This course satisfies the International Cultures requirement.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010
Prerequisite: JAPNS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Japanese (JAPNS)

JAPNS 499 (IL) Foreign Study--Advanced Japanese (1-15) Small group instruction in spoken and written modern Japanese at the advanced level.

Foreign Study--Advanced Japanese (1-15)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: JAPNS 110 orJAPNS 299

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 004 (GH;US;IL) (CAMS 004, RL ST 004) Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationship to culture.

J ST (CAMS/RL ST) 004 Jewish and Christian Foundations (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jewish and Christian Foundations seeks to help students better understand the Bible as the scriptural background for both Judaism and Christianity. Some people believe the Bible is "scripture," self communicated by God to humanity. To others, this text is a compendious collection of poetry, historical writing, law, myth, and mystical writings, which stems from the religious, political, and cultural milieu of the ancient Near East. Some people believe this is a book designed to bring people to belief in the power and reality of the god discussed in these writings. For others, the book is a source of both unity and division among people in the world, and must be treated as ambiguous in nature. Still others see the biblical text as the single most important collection of literature to have shaped the religious, political, and imaginative contours of western civilization. This course focuses on selected portions of the biblical text, representing diverse strands of historical remembrances, interpreted and re-interpreted in light of critical historical events, and serving, first as an oral, and later as a written account of the life, beliefs, and hopes of Jewish and Christian peoples. Readings from both the Hebrew Bible (the Christian "Old Testament") and the Christian scriptures (the "New Testament") will be used. RL ST 004 provides a broad discussion of the origin of both Judaism and Christianity within a historical and geographical framework. The principle teachers, writers, and "founders" are discussed, including Moses, Isaiah, David, Ezra, Jesus, Peter, and Paul. Students are challenged to read and understand these important writings which have interpreted the human condition and which have oriented generations of people towards a transcendent referent associated with love and loyalty. Evaluation methods may include two hour examinations, a final examination, and two short writing assignments. The examinations are not cumulative. Class participation will also be a factor in overall evaluation for the final grade. RL ST 004 may be used to fulfill requirements for the Religious Studies, Classics and Ancient Mediterranean Studies and Jewish Studies major/minor. This course will be offered twice a year with 125-150 seats per offering. Finally, students will be challenged to evaluate and respond to the literature as it touches on human experience experiences which all people share regardless of their personal religious affiliation.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 005 (ANTH 010) Mediterranean Prehistory (3) Archaeology of the circum-Mediterranean area, from the Middle Pleistocene through the third millennium B.C., emphasizing the evolution of regional cultures.

Mediterranean Prehistory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 010 (GH;IL) (HEBR 010) Jewish Civilization (3) Life of the Jewish people from biblical times; emphasizing cultural, religious, and institutional developments.

J ST (HEBR) 010 Jewish Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jewish tradition goes back thousands of years, and Jews have resided in many different lands. They have become an integral part of many different cultures, yet have often retained (or been forced to retain) a certain degree of separateness or difference. In this course we will trace continuity and change in Jewish traditions from ancient to modern times, and across different regions. Taking into account inter-cultural contact and historical events -- ranging in place from the Middle East to Muslim Spain to Asia, Africa, Europe, and the Americas, and in time from the ancient world to the medieval era, the Holocaust, and contemporary Israel and the U.S. -- we will explore developments. in Jewish history, literature, and culture. The course considers topics such as the attitudes other groups have had toward Jews (and vice-versa), the question of whether Jewish identity is a race, a religion, or an ethnicity, the dilemmas Jews face today, and the ways that Jews in many diverse settings have balanced change and continuity. We will explore the factors that shape Jewish experience in different times and places, the diversities within and among Jewish lifestyles, and the ways in which events and interactions with other peoples have influenced the development of Jewish civilization. Finally, we will consider the dilemmas Jews face today in terms of the preservation of their identity and traditions. The course includes class discussion. Students are evaluated on the basis of essay exams, essay assignments, quizzes, in-class discussion and commentaries, group projects, journals, a final comprehensive exam/essay, web-based activities, and on-line discussion; such means as quizzes, essay examinations, and group projects.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 012U (GH;IL) (CAMS 012U, RL ST 012U) Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

Lands of the Bible (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities and Social and Behavioral Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 012 (GH;IL) (CAMS 012, RL ST 012) Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

J ST (CAMS/RL ST) 012 Lands of the Bible (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS/J ST/RL ST 012 introduces students to the lands, cities, and peoples associated with the Hebrew and Christian scriptures. Using methodologies from historical geography, archaeology, ancient history, epigraphy, and anthropology, students study the Fertile Crescent, from the Nile Valley, through the Levant and its Jordan River valley, to Mesopotamia--the river valleys of the Tigris and Euphrates. Students will study the cities and states of the cultures along these rivers in the Bronze and Iron Ages, including Memphis/Saqqarah, Thebes, Ugarit, Jerusalem, Lachish, Megiddo, Shechem, Samaria, Hazor, Ebla, Babylon, Ur, Petra, Jericho, 'Akko, and others. These are the lands of the Hebrew and Christian scriptures, but also cities that have been revealed through modern study. For example, the texts excavated at Ugarit (Syria) in the 1920's shed light on the relations between ancient Israelites and their Canaanite neighbors in the period of the "Conquest" and the monarchies of the Iron I and Iron II periods. Students will learn that the culture of the ancient Near East is inexorably linked to an understanding of the religious traditions that grew up in the region, including Judaism, Christianity, and Islam. Classes will be a combination of lecture, discussion, and problem-solving, with frequent use of slides and occasional use of artifacts to illustrate the topics at hand. Students are evaluated on three of the following five means: a midterm test, a final essay examination, a five to seven page term paper, a team research oral presentation, a team research poster presentation. Participation in class discussion will also be evaluated. This course fulfills three credits of the General Education or the B.A. humanities requirement. For majors in Classics and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology. The course fulfills the three credit requirement for courses in RL ST 001-099 for the Religious Studies major, and the Jewish Studies major's requirements. The course also would fulfill three credits of the six credit requirement for courses in any field that may be below the 400-level for the Religious Studies Minor, three credits of the nine credits required in course work for the Jewish Studies Minor, and three of the 18 credits required for the Classics and Ancient Mediterranean Studies minor. This course will be offered once a year with 50 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities and Social and Behavioral Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 060 (GS;IL) (ANTH 060, PL SC 060, SOC 060) Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.

Society and Cultures in Modern Israel (3)

General Education: GS
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 083S (GH;IL) First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.

J ST 083S First-Year Seminar in Jewish Studies (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Through a combination of readings, lectures, discussions, and research projects, students will learn to master the subject material of the course and acquire basic skills important to the study of humanities. Students will learn to read academic books, as well as original documents, to formulate arguments, and to write analytical essays and papers. Analyses of this type will provide students with techniques for formulating, identifying, and judging academic arguments and presentations in many fields of learning other than Jewish Studies. The topics chosen for these seminars will introduce students to some of the major figures, historical, literary, religious, and sociological developments in Jewish Studies. By concentrating on these topics, the students will better understand the cultural assumptions of different groups and societies. Although the course will focus on a specific topic, the instructor will aid the student in seeing the larger implications of the issues and controversies discussed in the class. The international and intercultural aspects of the topic will consistently be considered. The course will require students to express their ideas as well as to gather information through research, discussion, and writing. It will consistently challenge students to consider social behavior, the nature of the community, and the value of scholarly work as these relate to the particular topic of the seminar. The course fulfills the first-year requirement, as well as one of the humanities requirements in general education or a Bachelor of Arts humanities requirement. The first-year seminar will be offered twice per year with an enrollment limit of 20 per section.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 070 (GH;IL) (CAMS 070, RL ST 070) Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christrian traditions, and today.

J ST (CAMS, RL ST) 070 Prophecy: The Near East Then and Now (3) (GH;IL)

The objective of this course is to introduce students to the prophetic traditions of the ancient Near East and the Bible of the Judeo-Christian traditions. The course will explore the development of prophetic circles in the ancient Near East (incl. Egypt, Syria, Canaan, and Mesopotamia) and then focus on the major prophetic traditions of the Hebrew Bible (to include at least Isaiah, Jeremiah, Ezekiel, Amos, Hosea, Micah, Haggai, Zechariah, and Daniel) and how these traditions were understood in early Judaism and nascent Christianity. Special attention will be paid to the roles of priests, kings, and prophets in ancient Israel to better understand Israelite and Judaean prophetic traditions in ancient Israelite society. The course will then examine the rise of apocalypticism and its modern manifestations in the coalition of conservative Christians and Jews in "Zion" -- the new Jerusalem. Additional emphasis will be placed on the religious and political interactions which manifest themselves in the prophetic movements--then and now--including the rhetoric of ideology and propoganda. Important figures and events illustrate these cultural and political trends, in antiquity, and in the contemporary setting.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 083T (GH;IL) First-Year Seminar in Jewish Studies (3) Critical approaches to the history, sociology, and literature of Jewish Studies.

First-Year Seminar in Jewish Studies (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 090 (GH;IL) (CAMS 090, RL ST 090) Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.

J ST (CAMS/RL ST) 090 Archaeology of Jerusalem: Past and Present (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jerusalem, a holy city for Judaism, Christianity and Islam, is symbolically depicted in art and literature as the physical and spiritual center of the world. Throughout its history, this "city of peace" was a focal point attracting numerous cultures and peoples, the latter sometimes as prophets and more often as conquerors. The reasons for Jerusalem's centrality and significance during the past five millennia as a heavenly and earthly capital are explored in this course.

The course curriculum will survey the religious, political, archaeological and historical record of ancient Jerusalem, beginning with its earliest settlement during the fourth and third millennia BC. Jerusalem's urbanization in the second millennium BC, its role as the capital of biblical Israel and Judah during the First and Second Temple periods, and its transformation as a center of Christianity and later Islam are studied utilizing the testimony of artifacts, architecture, and iconography in relation to the written word. Throughout the ages and continuing into the 21st century, Jerusalem remains a contested city for the three monotheistic faiths. The holy city's impact on the politics of the modern Middle East will be critically examined in light of Jerusalem's history and recent archaeological discoveries and their modern-day interpretation.

Objectives include the critical evaluation of archaeological, historical and literary evidence and its relationship to modern-day political and religious perceptions of Jerusalem. The course will encourage research skills (including library training sessions) and writing and oral communication skills based on an analytical approach to the texts and material culture relevant to Jerusalem.

Student evaluation will be based on active participation (attendance, discussion sessions, group presentations, and individual oral presentations), two short papers, a midterm, and a final exam.

This course will fulfill three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in CAMS, the course will fulfill the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the CAMS ancient Mediterranean archaeology option it will fulfill the three credits of archaeology course work requirement. The course will fulfill three credits of course work concerned with the ancient period or with the land of Israel.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 102 (GH;IL) (CAMS 102, HIST 102, RL ST 102) Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.

J ST (CAMS/HIST/RL ST) 102 Canaan and Israel in Antiquity (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

From the domestication of animals and the dawn of agriculture to the development and socialization of monotheism, the world of the first civilizations led to that of the Bible and ancient Israel. This course, involving a critical view of Biblical texts in light of other anicent sources, archaeology and historical methods, explains the nature and the evolution of society, religion and thought in the Biblical era. Learn how civilization arose, and how the state appropriated religion and applied it for its purposes. How the science of administration developed and deployed ideological tools to further its own ideas of the West developed. This course is deeply subversive, particularly of religious and academic shibboleths. The only authority in this class is that of the most persuasive reader, and doctrines, whether religious or political, will have to be checked at the door.

An example of evaluation may be: weekly participation in discussion; mid-term and final essay examinations involving a critical evaluation of ancient text's claims in combination with archaeological evidence; a research essay, where the class or section size is lower than 30; an ability to read critically, bringing different classes of evidence to bear on issues arising from the texts, and construct coherent and compelling arguments to a particular thesis. The course provides a Near Eastern counterpart to HIST 100, 402 and a Near Eastern aspect to the Jewish Studies major. It complements RL ST 110, by offering historical exploration of the culture under study in that course. Related courses include HEBR, 010, ENGL 104, RL ST 004, RL ST 012, and RL ST 111. The course helps round out the majors in History and Jewish Studies, particularly in ancient history. It also extends the program in Religious Studies (history of religions), and it contributes to the ancient stream of the prospective program in Jewish Studies and History. The class will be offered once every other year with an enrollment limit of 15-20.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 110 (GH;US;IL) (CAMS 110, RL ST 110) Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.

J ST (CAMS/RL ST) 110 Hebrew Bible: Old Testament (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Hebrew Bible is the record of the interaction between the people of ancient Israel and their God. As a religious text, the Bible is inextricably intertwined with the cultures of Israel's neighbors, including the Canaanites, Syrians, Greeks, Assyrians, Babylonians, Arabs, Egyptians, and the peoples of the eastern desert. To study the Hebrew Bible and its development during the first millennium BCE is to study the history, culture, and literature of the entire region. Hebrew Bible introduces students to the literature of ancient Israel, its rituals, the stories which established a people's identity, and which defined their moral behavior. Great figures of the texts, such as Moses, David, Solomon, Bathsheba, Ruth, Jeremiah, Daniel, and Ezra, teach us important lessons about life and how people of faith attempted to relate to one another, to God, and to people outside their ethnic group. Students will read from the text and from a textbook which contains scholarly opinion from a variety of sources. Recent archaeological and epigraphical studies will be incorporated into the course to enhance our work. The ultimate goal will be to assess the meaning of the texts in their ancient Near Eastern environment, and to understand the development of Hebrew religion and the beginnings of Rabbinic Judaism. Students will be evaluated using an hour examination, a 6-8 pp. "hermeneutical essay," a final examination, class attendance and discussion. As an introduction to the scriptures of the Hebrew Bible / Old Testament, RL ST 110 utilizes the methodologies used in the academic study of religion. The course is related or linked to many courses in religious studies which use these same methods or which are related to the history and development of Judaism, Christianity, or Islam. RL ST 110 may be used to fulfill requirements for the Religious Studies major. RL ST 110 may also be used to fulfill the GI or GH requirements in the major or minor in Religious Studies, Classics and Ancient Mediterranean Studies and Jewish Studies. The course will be offered at least once a year, with an enrollment of 120.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 111 (GH;IL) (CAMS 111, RL ST 111) Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.

J ST (CAMS/RL ST) 111 Early Judaism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Early Judaism will introduce students to the history of Judaism as reflected in Jewish literature from the period of the Babylonian exile (587/6 BCE) to the closure of the Babylonian Talmud (ca. 600 CE). In this period, ancient Hebrew religion was transformed into a new world religion-Judaism. Students will read selections from the Bible, and from other religious literature, including the Dead Sea Scrolls, the Apocrypha, the Christian Scriptures, the Mishnah, and the Talmudim. By tracing the development of various Jewish "parties," students will appreciate how Classical Judaism evolved, and how the early Church emerged from Jewish roots in the first centuries CE. Early Judaism grew from its roots in the period of Achaemenid domination. Jews were dispersed throughout the eastern Mediterranean, so influences from Persian, Hellenistic, and Roman thought naturally influenced the faith's development. Students in Early Judaism will develop a new appreciation for the basic beliefs and practices of Judaism as well as for the beginnings of the Jesus movement and the development of the early Christian Church. Theological and historical questions concerning the origins of evil, the primacy of prayer, the beginnings of Jewish religious architecture, and the rise of anti-Semitism will be explored. Religion is always linked inextricably to culture. Judaism's transformation in contact with diverse cultures will become evident throughout RL ST / CAMS / J ST 111. The methodologies used in this course will enable students to read and evaluate primary and secondary sources used in the academic study of Judaism. Many other courses in Religious Studies (001, 004, 110, 120, 124), Jewish Studies (010 and 102), and Classics and Ancient Mediterranean Studies, as well as History and Art History are closely related or linked to this course. RL ST 111 may be used to fulfill 3 credits in the Humanities, or to fulfill the GI requirement in the major or minor. The course will be offered once each year, with an enrollment of 65. This course will satisfy 3 credits towards the minor in Jewish Studies or the major in Religious Studies, plus being cross-listed with CAMS, fulfilling part of the requirement for courses in supporting or related areas of all Classics and Ancient Mediterranean Studies majors. The course also provides an excellent addition to other courses, such as CAMS 010, "Mesopotamian Civilization;" CAMS 044, "Ancient Near Eastern Mythology;" CAMS 045 "Classical Mythology;" CAMS 033, "Roman Civilization; and CAMS/RL ST/J ST 012, "Archaeology of the Lands of the Bible."

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 114 (GH;US;IL) (RL ST 114) Modern Judaism (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.

J ST (RL ST) 114 Modern Judaism (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course explores the opportunities and problems of Jews around the world from the late eighteenth century -- the "age of emancipation" -- to the present time. Commercial, political, and intellectual revolutions in the 1700s, giving rise to modern capitalism, republicanism, and an emphasis on reason, combined to induce political states to grant Jews unprecedented freedom. Emancipation introduced new elements into Jewish life: religious change, personal choice, and internal disagreements. In practical ways, life improved for Jews, as they became more prosperous and assimilated. But freedom also increased the chances for loss of identity, as liberals discarded some rituals as old-fashioned and many individuals chose to give up traditional practices. In addition, anti-Semitism persisted, although it was now, at times, more difficult to detect. Traditional forms of hostility to Jews, such as heresy trials and political expulsions, were replaced by subtle expressions of political and social discrimination. But hatred of Jews did not disappear, despite widespread acceptance in Western culture of political liberalism. The class explores these trends in Europe, the Americas, and Israel. It begins by looking at the fragile freedom of nineteenth-century Jews. In the twentieth century, Jewish experience has often been characterized by open conflict: in the Holocaust, the formation of Israel, contemporary black-Jewish relations in the United States, and Jewish-Muslim relations in the Middle East. The course concludes with these recent struggles. Course readings include personal narratives (reminiscences or letters) and works of fiction (a short story, play, and novel). The class is primarily a discussion class, using writing assignments as the principal method of evaluation. The course requires three graded essays and an ungraded proposal. Students are also asked to keep a journal of commentary on course readings. Class attendance and participation are components of the final grade. The course serves as an introduction to modern Judaism as a religion and culture. It prepares undergraduate students for advanced work in European and American Judaism, as well as Israeli history and culture. These advanced courses are found in the Religious Studies and Jewish Studies programs and in the Departments of History and Comparative Literature. It may be used to complete the major or minor requirements in Religious Studies and Jewish Studies. The class fulfills the humanities requirement for non majors. The course is normally offered once every two years, and the enrollment is 40 students.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 118 (US;IL) (HIST 118) Modern Jewish History: 1492 to Present (3) Jewish social and political history from 1492 to the present.

Modern Jewish History: 1492 to Present (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 115 (GH;US) (HIST 115, RL ST 115) American Jewish History and Culture (3) Examination of the history, culture, social tenstions, and contributions of Jews and Judaism in America.

J ST (HIST/RL ST) 115 American Jewish History and Culture (3)
(GH;US)

Throughout American history, Jewish presence on American soil has compelled Americans to re-think the meaning of religious and ethnic diversity. As one of the earliest non-Christian immigrant populations, American Jews struggled to explain how they could nonetheless fit into American cultural, political and social life. At the same time, many Jews have been concerned with their own survival as a distinctive group, unwilling to cede those practices, behaviors or traits that designate them as a people apart from other Americans. This course is about how these two seemingly contradictory goals—to integrate into America and to remain distinctive from other Americans—shaped the history and experience of Jews in the United States and influenced the way Americans think about diversity and pluralism.

The student of American-Jewish history must be attuned to the multiple ways that Jewishness has been defined: as a race, a religion, a nationality, and an ethnicity. In this course, far from choosing just one of these designations, we will explore Jewish life from many different angles. Topics to be considered include religious reform, immigrant experience, political activism, popular culture, and struggles over community authority. Readings focus on a number of primary texts, including memoirs, novels, films and philosophical essays. Secondary books and articles will also help deepen students' understanding of trends in American-Jewish history and awaken them to diverse interpretations of history. Students will be encouraged to engage actively and critically with the texts by writing short reading responses, longer essays, and participating in classroom discussion and presentations, all of which will serve as the basis for their evaluation.

This course complements offerings in Religious Studies, Jewish Studies and History. It provides a foundation for an already existing upper-level seminar in American Judaism (listed in Jewish Studies and Religious Studies). In addition, the course strengthens the History department's offerings in American history, serving as a basis for students interested in immigration, ethnicity and religious history. Students who are interested in modern Jewish history will also find this course a worthwhile addition to their program of study, since, unlike other courses, it deals primarily with the story of Jewish life in the United States.

This course will be offered approximately once a year, and the enrollment will be 40 students, as is typical for other 100-level Jewish history classes.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 120 (GH) (CAMS 120, RL ST 120) New Testament (3) Introduction to the history, literature, and religion of early Christianity in the Jewish-Hellenistic setting.

J ST (CAMS/RL ST) 120 New Testament (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces the student to the New Testament (NT), the principal religious text of Christians. As such, it is one of the most significant and most studio texts in human history. Written in Greek between approximately 55 C.E. and 110 C-E the New Testament consists of 27 individual books, each written by a separate author (c, authors), that were later assembled into the "New Testament." Because of the growth of Christianity, the NT has influenced every aspect of our world-to name only a few: history, politics, economics, literature, philosophy, ethics, medicine, science, the arts (music, architecture, the visual arts), gender roles, theater and drama, law, psychology, and sociology. After introducing the student to the academic study of religion and the "historical-critical method," our study begins by examining the materials from which the NT's text is reconstructed, and the period in which the NT was authored. This includes exploring other parallel phenomena (such as miraculous hearings, resurrections, and virgin births) in contemporaneous Graeco-Roman religions. After this background is in place, the course turns to an examination of the gospels and their interrelationships, the pictures of Jesus presented (and their relationship to first-century B.C.E. Judaism), variations among Christian understandings of Jesus reflected in the NT and other contemporaneous Christian writings (he was a man, an angel, a lesser divinity), Paul and his life and writings, and the emergence of Christianity from Judaism as a distinct, new, apocalyptic religion. Along the way, we examine the manuscript tradition of the NT, changes that have been made to its text, and different interpretations of certain passages in the NT. We also examine the historical-critical tools scholars use to date and sequence passages in the NT (form, redaction, literary, and historical criticism, for example), for one can correlate the evolution of early Christian theology with the evolution of the NT's text.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 124 (GH;US;IL) (CAMS 124, RL ST 124) Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.

J ST (CAMS/RL ST) 124 Early and Medieval Christianity (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course traces the development of one of the world's "Big 5" religions from the death of its founder (about the year 30 CE) down to the middle ages. It focuses on significant trends, controversies, personalities, and turning points. These are not just diverse in terms of chronological breadth, but are also spread geographically from the eastern end of the Roman Empire (the border with Persia) to northern Europe. Attention is given to the various manifestations of Christianity (Judaic, Hellenistic, Latin), and the linkage between local patterns (culture, history and predispositions) and how these shaped the sort of Christianity that took root in particular areas. Students typically will be evaluated on four "pop" quizzes, a midterm and a final exam. The course can be used towards a major or minor in Religious Studies, Classics and Ancient Mediterranean Studies, and Jewish Studies and used to fulfill 3 credits in the Humanities for non-majors. This course will be offered once a year with 175 seats per offering.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 121 (GH;IL) (HIST 121) History of the Holocaust 1933-1945 (3) Historical analysis of holocaust themes.

History of the Holocaust 1933-1945 (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 131 (GH;US;IL) (CMLIT 110) Jewish Literature: An International Perspective (3) Literature of the Jewish tradition in various cultures and contexts, such as Europe, Israel, Islamic countries, and the Americas.

J ST 131 (CMLIT 110) Jewish Literature: An International Perspective (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CMLIT 110 (J ST 131) will provide an introduction to the multiple worlds of Jewish experience and the different literatures they continue to inspire. Jewish literary creativity has varied widely with the personal and communal experience of writers in many parts of the world, and in many different time periods. Readings usually range from the first Jewish literary text, the Hebrew Bible, to twentieth-century works, including writings about the Holocaust. The course typically includes units such as Jewish writing and culture in Eastern Europe, in the Americas, in Spain during the Middle Ages, and in Israel and the Middle East today. The material may be organized chronologically, thematically, or by regions or languages. Texts that critique or apparently suppress Jewish identity, as well as texts with representations of Jews by writers of other heritages, may be included for comparative purposes. We will include writings by Jewish authors who have written in languages usually associated with Jewish tradition (such as Hebrew and Yiddish) and in other languages (such as Spanish, Arabic, German, English, etc.). Topics discussed in the literature may focus on questions of Jewish identity and continuity, the situation of Jews as a minority people, the immigrant and diasporic experience, representations of the Holocaust, and the establishment of Israeli culture as a mixture of several traditions. We will question generalizations about the meaning of "Jewish" by showing the wide range of characteristics associated with Jewish literary productions, and the great diversity of depictions of Jews and Jewish lifestyles, in different times and places. In addition to our primary focus on literary texts, we may include examples of other cultural productions (film, music, the visual arts, philosophy, etc.). All offerings of the course include writing assignment and discussion in the evaluation methods. The syllabus often includes 2 or 3 midterm exams (with essay questions); a final exam, paper, or project; oral presentations; participation in online discussions. CMLIT 110 (J ST 131) counts towards the Comparative Literature major and the World Literature minor. No prior knowledge of Jewish tradition is required, and General Education students are welcome. This course also fulfills the General Education Humanities requirement, the Bachelor of Arts Humanities requirement, and the United States and International Cultures requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 132 (GH;US) (ENGL 132) Introduction to Jewish American Literature (3) A historical and thematic survey of Jewish Literature of the United States.

J ST (ENGL) 132 Introduction to Jewish American Literature (3)
(GH) (US)

This course will provide an introduction to Jewish American literature through a historical survey of the tradition's key texts, figures, and themes. the course will focus on the defining aspects of the literature and on what the literature "thinks" about Jewish American culture and identity. But rather than assuming a unity to Jewish-American culture, this course will use Jewish literature to seek ways of articulating and representing both the points of cohesion and the points of divergence that characterize Jewish life in America. the United States has absorbed large numbers of Jewish immigrants hailing from many parts of the world, holding many different ideas about Jewish practice, and affiliating themselves with many different political, social, and cultural traditions. Moreover, Jews have settled and made homes in a wide variety of American communities. This course aims to explore Jewish American culture's marked diversity by offering a literary window onto the major fault-lines running through Jewish American culture: lines demarcated by gender, by political affiliation, by geography, by pre-immigration community by religious practice, by attitude toward world Jewry, by national allegiance, and by minhag (or custom), to name just a few. The class therefore provides an opportunity to consider the constitution, origin, and development of Jewish American's identity and social formations by looking at how that identity and those social formations exist and what they "do" in literature written by and about Jews in America. Materials will consist predominantly of primary texts, including prose fiction and nonfiction, poetry, drama, and film. Course methodology will emphasize the close reading of these texts. Through occasional writing exercises, formal papers, in-class projects, and essay examinations, students will respond to, integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies and English, and it will satisfy the GH and US requirements. Most obviously, the course will offer students of Jewish literature, world literature, and American literature an opportunity for contextualization. It enables students in Jewish Studies to study the rich literature of American Jews, and it adds to courses covering Jewish American history, religion, and culture. The course offers students in English a valuable, sustained introduction to an important U.S. and world sub-culture.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 134 (GH;IL) (CAMS 134, RL ST 134) Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.

J ST (CAMS/RL ST) 134 Archaeology of Biblical Israel (3)
(GH;IL)

Ancient Israel and the Levant, a region that included present-day Israel, Jordan, Palestine, Lebanon, and southern Syria, traditionally served as the land bridge and crossroads that connected the great empires of Mesopotamia and Egypt. Its strategic geographic location has ensured its significance throughout history. Many different cultures and peoples have influenced and controlled this region resulting in a very multi-cultural past reflecting the history of the entire Ancient Near East. This is the background to the origins of the Israelites at the end of the second millennium B.C.E., the birth of the Hebrew Bible, and the emergence of Judaism, Christianity and Islam. This course will focus on Biblical Israel in the southern Levant from the emergence of Ancient Israel (ca. 1200 BCE) through the Second Temple and Roman periods concluding with the development of the region as the "Holy Land" for Jews, Christians and Moslems. Students will examine the emergence of Israel; the arrival and settlement of the Philistines; state formation and the period of the United and Divided Monarchies; the fall of Israel and Judah to the Assyrians and Babylonians; the return from exile during the Persian period; Hellenism and the influence of the Roman world on Palestine; the reemergence of Judah during the Second Temple period; the destruction of the Second Temple and emergence of Rabbinic Judaism; Palestine and its role as the "Holy Land" to Jews, Christians and Moslems. The course grade will be based on active participation (attendance, discussion sessions, group presentations and individual oral presentations), one midterm exam and one paper. This course fulfills three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in Classics and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the Classics and Ancient Mediterranean Studies ancient Mediterranean archaeology option it fulfills the three credits of archaeology course work requirement. The course fulfills three of the nine credit requirement for courses in RL ST 100-299 for the Religious Studies major, and Jewish Studies major's requirement for three credits of course work. CAMS/J ST/RL ST 134 GH may be used to fulfill the requirements for 12 credits of course work at any level towards a Classics and Ancient Mediterranean Studies Minor. This course will be offered once a year with 50 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 133 (GH) (CAMS 133, RL ST 133) Archaeology of the Levant and Ancient Israel (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.

J ST (CAMS/RL ST) 133 Archaeology of the Levant and Ancient Israel (3) (GH)

Ancient Canaan, a region that included present-day Israel, Jordan, Palestine, Lebanon, and southern Syria, traditionally served as the land bridge and crossroads that connected the great empires of Mesopotamia and Egypt of the ancient Near East. Its strategic geographic location has ensured its significance throughout history. In the past as in the present, many different cultures and peoples have influenced and controlled this region resulting in a very multicultural past reflecting the history of the entire Ancient Near East. This is the background to origins of the Israelites at the one of the second millennium B.C.E. and the impact of this history is still evident in modern political events of the region. This course will focus on Canaan in the southern Levant from the origins of agriculture to the emergence of ancient Israel down to ca. 1 000 B.C.E. Students will examine cultural, social and political developments and transitions in Canaan and Israel in antiquity that will include the development and emergence of urban society; pastoral nomadism; the age of internationalism of the Middle Bronze - Late Bronze Ages; religion and oultic practices; Egyptians in Canaan during the 13th and 12th centuries B.C.E.; daily life in Canaan; the arrival and settlement of the Philistines; and the Emergence of Israel. Emphasis will be placed on a critical reading of contemporary historical and Biblical texts and an analysis of the archaeological evidence In order to reconstruct the history, culture, and society of Canaan and ancient Israel. The course grade will be based on active participation (attendance, discussion sessions, group presentations and individual oral presentations), one midterm exam and one paper on a topic that requires a critical examination of both historical texts and archaeological evidence. The course fulfills three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in Classics and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the Classics and Ancient Mediterranean Studies ancient Mediterranean archaeology option it fulfills the three credits of archaeology course work requirement. The course fulfills three of the nine credit requirement for courses in RL ST 100-299 for the Religious Studies major, and the Jewish Studies major's requirement for three credits of course work. This course will be offered once a year with 50 seats per offering.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 151 (CAMS 151, HEBR 151) Introductory Biblical Hebrew (3) Fundamentals of Biblical Hebrew grammar, syntax, and vocabulary.

J ST (CAMS/HEBR) 151 Introductory Biblical Hebrew (3)

The aim of CAMS/J ST/HEBR 151 is to introduce students to the fundamentals of Biblical Hebrew as quickly and thoroughly as possible. Biblical Hebrew is the language in which the Old Testament was written, between the period of approximately 1200-200 B.C.E. This focuses primarily on the morphology and syntax of Biblical Hebrew. Drills on each point of grammar, as well as translation of sentences from Hebrew to English and English to Hebrew, and brief passages taken from the Bible are the basis of the student's homework throughout the semester. By the end of the semester, the students will be prepared to read short, unmodified passages of the Bible. The course will focus primarily on reading and writing, though students will read aloud in class regularly in order to ensure correct pronunciation and understanding. CAMS/J ST/HEBR 151 will prepare students to continue with CAMS/J ST/HEBR 152 and then 400-level courses.

The course goals, in addition to providing the students with a firm grounding in Hebrew grammar and vocabulary, include giving the students a basic understanding of the history of the Biblical text. The primary focus will be on mastering paradigms and syntax, but the students will also be introduced to the Biblical texts themselves, which together from such an important piece of literature.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 152 (HEBR 152, CAMS 152) Intermediate Biblical Hebrew (3) Intermediate study of Biblical Hebrew grammar, syntax, and vocabulary.

J ST (CAMS/HEBR) 152 Intermediate Biblical Hebrew (3)

CAMS/J ST/HEBR 152 continues from CAMS/J ST/HEBR 151, which is a prerequisite for enrollment. After a brief review of key grammar and morphology from the first semester, the course will complete the process of providing students with a sufficient grasp of Hebrew vocabulary, morphology, and syntax to enable them to read unadapted passages from Biblical Hebrew texts (with the aid of a lexicon) by the end of the course. Class sessions will focus on grammar drills, sentences, and similar exercises as homework to supplement class work. As the semester progresses, students will read more and more from actual Hebrew texts, rather than composed sentences by the textbook author, so that when the students enter more advanced classes, they will find the transition to reading Hebrew as smooth as possible.

In tandem with the increasing emphasis on Hebrew written by ancient Hebrews, the course will continue to focus on the linguistic and cultural background for the texts that the students read. Students will be evaluated on a combination of written work, including frequent quizzes, tests, homework completion, and course attendance and participation. CAMS/J ST/HEBR 152 will prepare students to continue with courses at the 400-level.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: J ST 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 170 (RL ST 170) Death and Afterlife in the Biblical Era (3) Changing concepts of death and the afterlife in the Jewish and Christian traditions c. 1500 B.C.E.-300 C.E.

Death and Afterlife in the Biblical Era (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 205 (GH;US) (HIST 205, RL ST 205) American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.

J ST (HIST/RL ST) 205 American Antisemitism (3)
(GH;US)

This course explores the phenomenon of antisemitism in American history from the time of Peter Stuyvesant to the present. The significance and role of American antisemitic movements and authors, as well as its role in American society and culture, are examined and compared to those in European history over the same periods. At the same time, the impact of antisemitism on the lives and mentalities of American Jews is discussed. The course focuses on readings taken from original sources and recent historical treatments. The readings include material on colonial texts, Grant's notorious Order, nativists and anti-immigration texts, Gilded Age antisemitism, the Immigration Acts of the 1920's, Henry Ford's antisemitic campaign, Southern antisemitism and the Leo Frank case, the quota system at American universities, employment discrimination, the "Gentlemen's Agreement" system, Black antisemitism, and the New Antisemitism.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 235 (US;IL) (HIST 235, RL ST 235) The Church and the Jews (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.

J ST 235 The Church and the Jews (3)
(US;IL)

This course will examine a key aspect of western history - the complex relationship between the Western (Roman Catholic) Church and the Jews, from the first century to the present. We will analyze ideas and policies regarding Jews as expressed in different realms, from theology and canon law to church art and popular preaching. We will also examine how changing conditions led to striking changes in church attitudes and policy, and how church policy was often at odds with popular sentiments about Jews.

The course will be designed to enable students to grasp the fluidity of attitudes over time, and the interplay of economic, social, political, and theological factors; to grasp of essential elements of a key area of conflict in western culture; and to develop their skills in the close reading of primary texts.

Students will be evaluated on the basis of three quizzes and a final exam.

The course would offer a chance for students to develop perspectives previously gained in a number of courses, particularly HIST 001 and 002 (The Western Heritage), RL ST 001 (Introduction to World Religions), RL ST 101 (Comparative Religion), HIST 107 (Medieval Europe), HIST 407 (Early Medieval Society), and J ST 010 (Jewish Civilization). It would complement such courses as HIST 108 (The Crusades), HIST 408 (Church and State in the High Middle Ages), HIST 412 (Intellectual History of the Middle Ages), HIST 414 (Renaissance and Reformation), J ST 111 (Early Judaism), J ST 110 (Hebrew Bible), RL ST 120 (New Testament), and RL ST 124 (Early and Medieval Christianity).

The course will count for 3 credits toward: a) the 22 credits required for the minor in Jewish Studies, b) the 33 credits required for the major in Jewish Studies, c) the 30 credits required for the major in Religious Studies, and d) the 36 credits required for the History major.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 280 (GH;IL) (WMNST 280, RL ST 280) Women and Judaism (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.

J ST (WMNST;RL ST) 280 Women and Judaism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Women and Judaism will introduce students to the roles and views of women as seen in the Jewish tradition. Because Judaism is not monolithic, these views will vary even within time periods and even among rabbis. The goal of this course, therefore, is not for students to leave the class with one idea of what a Jewish woman is or one idea of what issues are at stake for women in Judaism. Rather, the goal is for students to understand the complex relationship women have to this religion. This course will also explore the views of Jewish women and the issues that concern then in contemporary society. Objectives include the following: students will begin to understand the stereotypes that influence how Western society views Jewish women, and as a result, how they have come to view themselves. They will be asked to examine the many important roles that Jewish women have played both in their religion and the society at large. They will be asked to examine how the Jewish tradition both helped and hindered women to play these roles. They will see how Jewish women contributed to the development of their own religion and to the larger culture in which they live. They will develop a deeper appreciation for the complexity of the relationship between women and religion. Topics include images of Jewish women in the Bible and the media, women and Jewish views of sexuality, Jewish ethics, Judaism and feminism, and women and Jewish theology. Students will be evaluated by examination, writing ability (several short papers or one larger paper), and group presentations.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 294 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 297H (CAMS 297H) Gensis 1-3 (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Gensis 1-3 (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 401 (IL) (HIST 401) Ancient Technologies and Socio-cultural History in the Ancient Levant (3) Social and intellectual development in the Ancient Levant as they affected and were affected by technological development.

Ancient Technologies and Socio-cultural History in the Ancient Levant (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: RL ST 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 409Y (IL) (HIST 409Y, RL ST 407Y) European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.

J ST (HIST) 409Y (RL ST 407Y) European Anti-Semitism from Antiquity to the Present (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course analyzes major episodes in the history of anti-Semitism and tries to clarify the Motives and dynamics involved. It seeks to understand what these episodes have in common, and what is unique in each case. Is there a single universal, eternal anti-Semitism? Or are there rather anti-Semitisms", each belonging to a unique historical context? Is there a single continuous line of development in anti-Semitism? What is the relationship of a particular anti-Semitism to the national culture in which it originates?

We will be reading the major original texts of anti-Semitism from Roman and ancient writers, through early Christian texts and medieval Christian Blood Libels against the Jews, documents of the Spanish expulsion, Lutheran tracts, Voltaire's essays, German philosophical texts from Kant to Marx, Wagner's racial essays, the Protocols of Zion, and documents of Nazi anti-Semitism by Hitler and Streicher.

The major part of the grade will depend on a short research paper which will be presented in various drafts, so that the final version represents the culmination of discussion and constructive criticism and advice. This course is a parallel course to J ST/HIST 416 (Zionist History) and J ST/HIST 118 (Modern Jewish History). This course will count toward the Religious Studies, Jewish Studies, and History majors and minors in the 400-level category. This course is offered once every other year with 25 seats per offering.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 410 (US;IL) (HIST 410, RL ST 410) Jews in the Medieval World (3) Trends in medieval Jewish society under Islam and Western Christendom.

J ST 410 Jews in the Medieval World (3)
(US;IL)

The Jews lived in widely scattered communities under Christian and Islamic rule in the medieval period. This course will examine how Jews adapted the traditions they developed in Palestine and Babylonia in the early centuries C.E. to the new conditions they encountered in Europe and the Mediterranean region from the ninth to the fifteenth centuries. It will focus on the general problem of how traditional societies survive in rapidly changing circumstances, particularly when their members are a minority population. The course will aim at developing students' skills in comparative analysis as they compare the adaptive strategies of Jews in different cultural spheres (the Franco-German region versus Spain, for example). They will also be asked to compare the different polemical stances Jews adopted vis-a-vis Christianity, on the one hand, and Islam, on the other. They will be encouraged to understand the ways in which Jews internalized certain aspects of the majority culture and rejected others. It is hoped that they will come to see how deeply Jewish history was intertwined with medieval Christian and Islamic history, despite inter-religious hostilities and the frequent need for Jews to defend against majority aggression.

Students will be evaluated on the basis of two mid-term exams (the first after the survey of the Muslim world, the second after the examination of the Franco-German region) and a comprehensive final exam.

The course will be linked to most of the courses taught in the field of Jewish Studies, especially J ST 111 (Early Judaism), J ST 114 (Modern Judaism), and J ST 118 (Modern Jewish History from 1492). It will also be linked to offerings in Religious Studies: RL ST 001 (Introduction to World Religions), RL ST 101 (Comparative Religion), RL ST 107 (Introduction to Islam), RL ST 124 (Early and Medieval Christianity), and RL ST 165 (Introduction to Islamic Civilization). Further, it would complement HIST 001 and 002 (The Western Heritage), HIST 107 (Medieval Europe), HIST 108 (The Crusades), HIST 407 (Early Medieval Society) HIST 408 (Church and State in the High Middle Ages), HIST 412 (Intellectual History of the Middle Ages), and HIST 471W (Classical Islamic Civilization, 600-1258).

The course will count for 3 credits toward:
a) the 22 credits required for the minor in Jewish Studies
b) the 33 credits required for the major in Jewish Studies
c) the 30 credits required for the major in Religious Studies
d) the 36 credits required for the History major

It will be offered once a year with an enrollment of approximately 60 students.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 411 (US;IL) (RL ST 411) Jewish Studies (3) Study of the life and thought of a particular period or movement in the history of Judaism.

Jewish Studies (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 412 (RL ST 412) American Judaism (3) The development of Jewish religion and culture in America from the colonial era to the present.

American Judaism (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: HEBR 010 orJ ST 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 416 (HIST 416) Zionist History 1890-1948 (3) History of Zionist thought and politics to the foundation of Israel 1948.

Zionist History 1890-1948 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 420 (ANTH 420) Archaeology of the Near East (3) Culture of the Near East and India from Paleolithic times through the Bronze Age.

Archaeology of the Near East (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: ANTH 008, ANTH 009, ANTH 011 orANTH 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 424H (HIST 424H, PHIL 434H, RL ST 424H) Monotheism and the Birth of the West (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.

J ST (HIST/RL ST) 424H (PHIL 434H) Monotheism and the Birth of the West (3)

Learn about the formation of Western culture, while learning to analyze the texts and other evidence about its formation from a critical, rather than naive, viewpoint. The idea of monotheism probably arose very early and was even briefly implemented as a state cultic policy in Egypt in the 14th century BCE. Why, then, did it take another seven centuries to become widespread--appearing in ancient Judah, Babylon, and Ionia almost simultaneously? To answer this question, the course focuses on several developments, through the medium of primary texts and archaeology: the shift from a state hinterland based in extensive agriculture and household processing to one organized for intensive agriculture and industrial processing the rise of recognizably modern science; the promotion of individuation and an international elite culture in the context of Assyrian and Babylonian imperial ambitions; the development of the historical and archaeological arts in the context of archaizing in order to reinvent local traditions; and the socialization of monotheism and of democracy. Students will be evaluated on their discussion of the textual evidence as well as on reports in class and a final paper. This is the sole honors course treating the birth of the West. It expands on knowledge acquired in courses listed as prerequisites and in CAMS/J ST/RL ST 012; CAMS 044; ANTH/CAMS 133; CAMS/PHIL 200; HIST 100; HIST/J ST 102; and PHIL 200 and enriches the student experience in CAMS 400, CAMS 440, and CAMS 480; HIST 402; J ST 411; PHIL 437, PHIL 453, and PHIL 461. This course counts toward the major in Jewish Studies, History, and Religious Studies and toward the minor in Jewish Studies and Religious Studies. This course will be offered once every other year with 35 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: J ST 004, J ST 102, J ST 110 orJ ST 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 426 (US) (ADM J 426, HIST 426) Jewish/American Organized Crime in New York City (3) History of Jewish/American organized crime in New York City from 1890 through the Great Depression.

J ST 426 (ADM J/HIST) Jewish/American Organized Crime in New York City (3) (US)

This course will be dealing with the history of Jewish/American organized crime in New York City from 1890 through the Great Depression. As such it will also be dealing with the social, political, and economic history of New York. The course will cover the rise of Jewish/American racketeers within New York, their political and policing patrons, types of criminal enterprise including the formation of narcotics syndicates, their involvement in New York's burgeoning labor movement especially garment and trucking unions, the under explored roles of Jewish/American female organized criminals, the impact of Prohibition on New York's Jewish/American underworld, their overseas Jewish contacts in the Far East, particularly Shanghai who specialized in smuggling opium, heroin, and weapons.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 427 (ENGL 427) Topics in Jewish American Literature (3) An in-depth examination of important themes, writers, and/or historical developments in Jewish Literature of the United States.

J ST (ENGL) 427 Topics in Jewish American Literature (3)

This course will provide sustained examination of major themes, texts, and figures in the Jewish American literary tradition. The course will focus on depth rather than breadth in its analysis of the defining aspects of the literature and on what the literature reveals about Jewish American culture and identity. The United States has absorbed large numbers of Jewish immigrants from many parts of the world, holding many different ideas about Jewish practice, and affiliating themselves with many different political, social, and cultural traditions, and moreover Jews have settled and made homes in a wide variety of American communities. Close analysis of literature will therefore provide an opportunity to consider the constitution, origin, and development of Jewish America's wider cultural, political, and social contexts. Materials will consist predominantly of primary texts, including prose fiction and nonfiction, poetry, drama, and film, and the methodology will emphasize the close reading of these texts. Through short writing exercises, in-class projects, essay examinations, and a longer research paper, students will respond to, integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies, English, and Comparative Literature. Most obviously, the course will offer students of Jewish literature, world literature, and American literature an opportunity for contextualization. It enables students in Jewish Studies to study the rich literature of American Jews, and it adds to courses covering Jewish American history, religion, and culture. The course offers students in English and Comparative Literature a valuable, sustained introduction to an important U.S. and world sub-culture and -literature.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ENGL 015 orENGL 030;J ST 132 orCMLIT 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 457 (US;IL) (ANTH 457, SOC 457) Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.

J ST (ANTH/SOC) 457 Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) (US;IL)

This course addresses an understudied aspect of Jewish experience. It aims to expand our understanding of Jewish communities by focusing on those that are, alternatively, small, situated in out-of-the-way places, culturally outside the Jewish urban mainstream, or embedded in a larger society with markedly different values and traditions. These communities often constitute the points-of-contact between Jews and non-Jews, and in so doing sometimes transform Jews, non-Jews, and the relationships among them. Other such communities constitute experiments in Jewish lifeways and provide mainstream Jews with pilot projects for potential social and cultural change. This course will explore the significance of small, little-known, idiosyncratic, and anomalous Jewish communities on Jewish history and culture, and draw on them to instruct students on the social and cultural processes of small or unusual communities generally. The communities studied will be located both in the U.S. and elsewhere in which Jews have lived as a minority community during modern times. The course will look at the founding, growth, and decline of such communities and at their social processes and institutions. It will explore how to understand and analyze such communities, which vary from one part of the world to another. The social world of Jewish communities, large and small, is a core interest of Penn State's Jewish Studies Program. This course will complement the current offerings in Jewish Studies, strengthening the social, cultural, and contemporary perspectives available in the Program. It will provide students with an opportunity to explore individual experience and micro-level processes among Jews, and to study the dynamics of identity and survival. It will complement the current offerings in Sociology and Anthropology by affording an opportunity to focus on community-level social processes and by adding a course on contemporary Jewry. The course will integrate knowledge from a variety of sources and fields, promote intercultural understanding, and meet US and IL requirements. Materials will be interdisciplinary, and will include ethnographies, sociological studies, population studies, histories, and personal narratives. They will include primary texts, creative works, and scholarly analyses. The assignments will be structured to facilitate preliminary experience in independent analysis, library research, or field research. The course will be offered approximately once a year. Enrollment will be limited to 30 students in order to promote active, engaged learning. Evaluations will be based on short papers and outlines that will prepare students for their final, term papers.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: ANTH 001 orANTH 045, HEBR 010, J ST 010, SOC 001, SOC 005, SOC 007, SOC 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 478 (PHIL 478, RL ST 478) Ethics After the Holocaust (3) Explores the philosophical effects of the Holocaust for thinking about the primary question: Is ethics possible?

J ST (PHIL/RL ST) 478 Ethics After the Holocaust (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an examination of ethical theories before the Holocaust and how those theories have failed, philosophically and empirically. Course topics will include the history of ethical theory, the nature and problem of evil, goodness and suffering, witnessing and testimony, and the promise of an ethics. This course provides students with philosophical approaches to the issues that emerge out of the events of the Holocaust. The course will help students expand their knowledge of the events of the Holocaust through a philosophical approach that does not merely expose them to what happened, but asks them to think about the implications of what happened: most specifically, how do we understand ethical life, if it cannot stop or confront evil? This course provides students with the philosophical approaches to the issues that emerge out of the events of the Holocaust. It will encourage them to think critically, write effectively and express their thoughts logically. Student evaluation will be based on weekly reaction papers, group presentations, and a final seminar paper. This course covers material in the history of philosophy, contemporary philosophy, and writings pertaining to the Holocaust in various forms (historical, literary documentary, and so forth). It provides links to other major areas in the history of philosophy, postmodernism, ethics, philosophy of religion, and Jewish history. It will be offered every other year.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005
Prerequisite: one course in Jewish Studies or Philosophy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 468 (PHIL 468) Modern Jewish Philosophy (3) Explores the major figures in modern Jewish philosophy and their influences on contemporary philosophy.

J ST (PHIL) 468 Modern Jewish Philosophy (3)

The primary objective of this course is to encourage students to have a reflective stance on Jewish thought. Students will learn what comprises Jewish thought and how it is distinguished from theology. They will learn what role religion plays in philosophical thought and what is at stake for a philosophy that emerges from a particular religion. This course will give students perspective on how Judaism links to other philosophical movements, for example, the enlightenment of the modern period. It will enable to think about Judaism from a theoretical perspective, adding a new dimension to what they might study from historical, sociological, or literary viewpoints. Some questions we will consider include: In what ways does it converge/diverge, with the philosophical strains that influence it? In what ways have particular events in history shaped Judaic thinking? Does Judaism, or Judaic thinking, have an essence? If so, what is it? What does Judaism mean for the Jews, and what does it mean for others? And finally, what role does mysticism have in the play between religion and philosophy? Students will be evaluated by written work (short papers and a longer seminar paper) and a class presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: one course in Philosophy and/or Jewish Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 480 (CAMS 480) Greeks and Persians (3) Development and achievements of the Achaemenid kingdom; relationships between Persians and Greeks.

Greeks and Persians (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: CAMS 010, CAMS 025 orCAMS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 494 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 484 Interdisciplinary Approaches in Jewish Studies (3) An interdisciplinary approach to problems in Jewish Studies, including Art History, Literature, and Sociology.

J ST 484 Interdisciplinary Approaches in Jewish Studies (3)

Jewish Studies is a relatively recent discipline, emerging only since the 1960s, which encompasses a broad series of problems, data, and approaches. This course is designed to introduce advanced students to the background of Jewish Studies as a discipline in 19th and early 20th century scholarship, the various approaches or subdisciplines which characterize Jewish Studies, and a number of key issues which have preoccupied scholars. These include Zionism, the Holocaust, Israel, anti-Semitism, American and diaspora, assimilation and fundamentalisms. Another important issue is whether Jewish Studies should be as part of the academic mainstream, including in emerging areas of scholarship, or whether it should primarily serve the Jewish community.

While it is not the goal to provide complete discussions of these topics, any of which could be or are the topic of semester-long courses, brief reviews of current issues and literature provides student with useful introductions to subjects which they may not have studied previously and to the larger field of Jewish Studies. The course, therefore, addresses issues otherwise partitioned in departments such as sociology, history, art, and literature. Since the course will be team-taught, this will expose advanced students to a variety of different faculty members and approaches outside their particular subdisciplines and will foster greater interaction within the Jewish Studies program. The course serves as a capstone for the Jewish Studies major and minor and as a workshop for interdisciplinary synthesis for advanced students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999
Prerequisite: J ST 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 494H Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 497A (GER 497A) Yiddish Reading (3) This course is an introduction to the Yiddish language, focusing on grammar, vocabulary, and reading skills.

Yiddish Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 497B (RL ST 497B) Cultural History of Food From Biblical Times to the Modern Era (3) Historical exploration of the Jewish food traditions in the Bible as they now find expression in modern "food movements."

Cultural History of Food From Biblical Times to the Modern Era (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 499C (IL) (CAMS 499C, HIST 499C) Archaeological Field School (3-6) This course introduces students to the basics of archaeological field methods.

Archaeological Field School (3-6)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Jewish Studies (J ST)

J ST 499D (IL) (CAMS 499D, HIST 499D, ANTH 499D) Conservation and Public Archaeology (3) The conservation and public archaeology option will entail hands-on conservation of on-site architectural remains.

Conservation and Public Archaeology (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 001 (GHA) Introduction to Outdoor Pursuits (1.5-3 per semester, maximum of 12) Introduction to selected outdoor pursuit activities, such as, but not limited to, rock climbing, cross country skiing, backpacking, hiking, orienteering.

KINES 001 Introduction to Outdoor Pursuits (1.5)
(GHA)

Introduction to Outdoor Pursuits is a course that is designed to 'introduce' the student to selected outdoor pursuit activities. The selected activities will depend on the time of the year and availability of resources. The activities could include (but are not limited) to rock climbing, indoor wall climbing, trail day hiking, mountain biking, backpacking, orienteering, kayaking, canoeing, and cross-country skiing. All selected activities will follow the same basic format of skill development and training procedures, history of the activity, available written resources and professional organizations related to the activity, logistical equipment preparation, safety management/risk assessment, and future opportunities to participate in the activity. It is the sole purpose of this course to allow the student to explore different outdoor pursuit activities and then to make a more informed decision as to which activities they might choose to further develop their skill base and competency necessary to partake in the activity at a more advanced level on a lifelong basis. Students will be evaluated by a combination of evaluation techniques. Some examples could include written exams, skill testing and activity management, short writing assignments of topics related to activity, journal keeping and subjective evaluation of performance. This course fulfills the BPA General Education requirement. After completion of the course, students are encouraged to engage in PSOC (Penn State Outing Club) programs, the advanced skills track in the Department of Kinesiology, and other appropriate courses to help with the continued development of 'life skills'.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 003 Drugs in Sports (1) Nature of drug use, misuse, and abuse in the athletic setting with implications for counseling and controls.

Drugs in Sports (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 005 Health Aspects of Sport (1) Basic principles and concepts of safety, health, and fitness for recreation and sport.

Health Aspects of Sport (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 004 (GHA) Principles of Fly Tying and Fly Fishing for Trout (1.5) A course designed to enhance student's knowledge, skill, and performance in fly tying and the sport of fly fishing for trout.

KINES 004 Principles of Fly Tying and Fly Fishing for Trout (1.5) (GHA)

Kinesiology 004 is a unique course designed to give PSU students of all experience levels an introduction to the lifetime sport of fly fishing. The purpose of the course is to present the students with the many aspects of fly tying and fishing for trout so that they can enjoy fishing success for the remainder of their active adult lives.

In the course the student will acquire the knowledge, skills, and tactics that they will use to problem solve in the constantly changing natural environment. Instruction /participation will include, but is not limited to, the following topics: conditioning, basic fly tying, tying local patterns, conservation techniques, equipment use/care/selection, fly casting, aquatic entomology, stream hydrology, interpretation of fly fishing opportunities, fly fishing-tactics, basic knots, and field trips to local streams. This is an active lab course where students will participate daily.

There are several unique features surrounding the fly fishing course that should be noted. Because of the geologic location of the University, we are located near many of the premiere fly fishing streams in the eastern United States. These streams have made the university not only a destination for fly fishing minded students but also provides an outstanding opportunity for discovery by other students of a positive, new activity. We use these streams as our labs for the field trips to apply what is learned and enhance the basic understanding of the sport. This is not a new course but a new model of the first accredited university fly tying and fishing course started in the 1930s by Mr. George Harvey. George's early teaching and innovations are so well thought of by the fly fishing community that he is known as the dean of fly fishing and Penn State as Fly Fishing.

Students will be evaluated by a combination of techniques. There will be a written exam, skills testing for casting and fly tying, and subjective evaluation of performance. Students who successfully complete KINES 004 will possess a command of fly fishing knowledge and skills. They will be able to approach every fly fishing situation with critical thinking that will allow them to be confident that they can be successful. Students will find that they have enhanced their quality of life now and for the remainder of their lives.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 006 (GHA) Cycling (1.5) A course designed to give students an understanding of and the ability to establish an exercise program involving riding.

KINES 006 Cycling (1.5)
(GHA)

Kinesiology 006 introduces students to the performance of cycling as a lifelong activity that helps maintain and enhance physical fitness and overall wellness. This course provides the information that the student needs to understand, organize, plan and implement a physical fitness program that features cycling as a primary activity. The centerpiece of this course is a progression of individually-paced rides of varying lengths that are conducted over various terrains. Past activities have included individual time trials, 5 through 25 mile road and trail rides, interval rides, hill rides, and rides to various locations of interest including, Beaver Stadium, the deer research pens, Sunset Park, and various other landmarks around campus and in the community. These activities are complemented by a series of lectures on such topics as the physiology of exercise, cycling safety; goal-setting for personal health; principles and concepts of physical fitness; training methods to address different cycling goals; and nutrition and weight control. Students also participate in team-based projects such as group-designed scavenger hunts and "landmark rides." As a final project, each student is asked to define a measurable fitness goal and design a fitness cycling program to realize that goal. As part of this assignment, students assemble data to indicate that they have achieved their goal, and then identify and analyze the factors that contributed to their success. Students also have the opportunity to monitor their performance throughout the course using a variety of personal assessment inventories and instruments, such as logs and heart rate monitors. When a student completes Kinesiology 006, he or she will be able to identify the components of an effective physical fitness program and explain how cycling contributes to the success of this program; develop realistic fitness goals and design a cycling program to meet these goals; perform a variety of fitness cycling techniques; and understand how cycling promotes psychological well-being. Various evaluation techniques will be used to assess individual progress in Kinesiology 006. These techniques will include (but are not limited to) conventional objective testing, performance on an individual time trial cycling test, personal assessment inventories and assignments, and journaling assignments. There are no special facilities for this course. The Department plans to offer two to four sections each fall and spring semesters with an enrollment of 30 in each section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 008 (GHA) Competition Casting (1.5) A course designed to enhance student's knowledge, skills, and performance in all forms of casting for sport fishing.

KINES 008 Competition Casting (1.5)
(GHA)

Kinesiology 008 is a unique course designed to give PSU students, of all experience levels, an introduction to the lifetime activity of competitive casting for all types of sport fishing. The purpose of the course is to present the students with the many aspects of casting as it relates to sport fishing. Casting is the key skill in the sport of angling, if you can not cast you can not fish. It is critical to the students enjoyment as an angler. It allows them to be successful fishers for the remainder of their active adult lives.

In the course, the student will acquire the knowledge, skills, and tactics that they will use to problem solve in the constantly changing natural environment. Instruction/participation will include, but is not limited to, the following topics: conditioning, basic bait, fly and spin casting, conservation techniques, equipment use/care/selection, aquatic entomology, stream hydrology, interpretation of fishing opportunities, fly fishing tactics, basic knots, and field trips to local streams. This is an active lab course where students will participate on a daily basis.

Students will be evaluated by a combination of techniques. There will be a written exam, skills testing for casting, and subjective evaluation of performance. Students who successfully complete KINES 008 will possess a functional command of fishing knowledge and skills. They will be able to approach every fishing situation with the critical thinking that will allow them to be confident that they can be successful. Students will find that they have enhanced their quality of life now and for the remainder of their lives.

KINES 008 class is the first level course that is taught in sequence with the fly fishing and fly fishing masters courses in the Kinesiology activity program.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 010 (GHA) Indoor Rock Climbing (1.5) A course designed to provide students with the basic skills, safety, and knowledge of rock climbing.

KINES 010 Indoor Rock Climbing (1.5)
(GHA)

Kinesiology 010 is a course designed to give students a comprehensive introduction to the skills, safety, terminology and equipment used in the sport and recreational activity of rock climbing. This course also provides the knowledge base and experience the student needs to evaluate their continued safe participation in rock climbing. Students will be involved from the onset of the course practicing responsibility, cooperation, and collaborative skills. Group work is an essential component to the success of the student and the course as students work together in teams of climber and belayer (method of securing a climber by the use of a rope). This group connection will also develop communication and trust between climber and belayer. Group work provides the climber with feedback and positive encouragement during the climbs. Observing team member(s) learn and practice constructive encouragement and visual observation in evaluating technique and route choice. Also, immediate instructor and peer assessment will be valuable tools in assisting the climber as they practice to achieve a higher proficiency in climbing techniques. One other vital component to be learned and tested is the proficiency of belaying which instills the important responsibility of safe climbing for all. Each class can begin with a physical preparation for climbing focusing on cardiovascular, strength, and flexibility movements with instruction on proper methods and training procedures. Important information on safety issues and equipment will be presented as a visual demonstration or as an individual assignment. Students have the opportunity to write journals to record goals, share what they have learned in the lessons, and evaluate their progress in the class. Other activities may include internet evaluations of rock climbing web sites and interactive sites. Additional evaluation tools may include objective testing, skill proficiency, and safety knowledge. As a final activity, students can participate in a fun team competition that focuses on group work, problem solving, decision making, and cooperation that challenges the skills practiced in this course. The class will be taught every fall and spring semesters with a suggested enrollment of up to 35 students. An indoor climbing facility or wall will be used.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 010A (GHA) Lead Rock Climbing (1.5) A course designed to provide students with skills, safety, and knowledge of lead rock climbing in a top rope environment.

KINES 010A Lead Rock Climbing (1.5)
(GHA)

Kinesiology 010A is designed to give students a comprehensive introduction to the skills, safety, terminology and equipment used in the sport and recreational activity of lead rock climbing. Lead climbing involves the climber placing protection with which to protect oneself as opposed to top roping (Kinesiology 010). This course will also provide the knowledge base, experience, and awareness the student needs to evaluate their continued safe participation in lead climbing. The course format is identical to Kinesiology 010 in establishing the same class environment of group work, responsibility, cooperation, and collaborative skills. A strong group work ethic is emphasized with safety practices of utmost importance. Students will be introduced to advanced climbing techniques-foot work, hand holds, and body positions and benefit from immediate encouragement and assessment from both instructor and peers. Lead climbing challenges the climber to be more critically aware of making good decisions in clipping, route choice and direction, backstepping if necessary, body positions, equipment use, and safety. This class delves more into issues of kinesthetic awareness of the climber's relationship to the climbing surface and to gravitational forces when climbing. Students will also be introduced to tying rope knots, making belay stations, tying a cold shut, knowledge and practice in mock falling, cleaning a route, crag, slab, and crack climbing, and lead belaying. To insure the student's safety in lead climbing, mock lead climbing scenarios (students will be top roped and belayed) will provide the students with realistic climbing situations. Each class begins with a physical preparation for climbing focusing on cardiovascular, strength, and flexibility movements with instruction on proper methods and training procedures. Important information on safety issues and equipment will be presented as a visual demonstration or as an individual assignment. Students have the opportunity to write journals to record goals, share what they have learned in the lessons, evaluate their progress in the class, and demonstrate the necessary climbing and clipping techniques for a lead climbing pin. Other activities may include internet evaluations of rock climbing web sites and interactive sites. Additional evaluation tools may include objective testing, skill proficiency, and safety knowledge. As a final activity, groups can participate in a group lead climb activity in which each student is challenged to use the skills learned and practiced in this course. Offerings: Every fall and spring semesters with approximately 35 students. An indoor rock climbing facility/wall will be used.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: KINES 010 or with permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 011 (GHA) Basic Downhill Skiing (1) Students will gain a comprehensive understanding and basic level of proficiency in Downhill Skiing.

KINES 011 Basic Downhill Skiing (1)
(GHA)

Downhill skiing has grown as a recreational physical activity over the past century. The early days of skiing in the United States were typified by a variety of styles and techniques, many of which were brought to this country by European ski instructors. In 1961, the Professional Ski Instructors of America was formed to unify ski instruction across the country and to develop a successful standard for teaching people to ski. As the equipment and the snowmaking capabilities have changed so has PSIA changed and adapted the techniques to successful skiing. Downhill skiing can be performed at any level across all ages. If done properly, downhill skiing will promote comprehensive wellness while developing important life-long motor skills. This course will promote the proper and safe way to enjoy downhill skiing. Ultimately students will learn the benefits of downhill skiing as a lifetime activity for health and wellness.

Students will be evaluated using a standard percentage scale. Evaluation is based on attendance and active participation (25%); demonstration of acquired skills (55%), theoretical knowledge as measured by written exam (20%). Five sections will be offered every Spring Semester with a maximum enrollment of 50 per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 012 (GHA) Snowboarding (1) Students will gain a comprehensive understanding and basic level of proficiency in Snowboarding.

KINES 012 Snowboarding (1)
(GHA)

Snowboarding has exploded as a recreational physical activity over the past two decades. The early days of snowboarding in the United States were typified by a variety of styles and techniques. The Professional Ski Instructors of America identified a need to unify snowboard instruction across the country and thus formed AASI, the American Association of Snowboard Instructors, to develop a successful standard for teaching people to snowboard based upon many of the basic principles behind skiing. As the equipment and the snowmaking capabilities have changed so has PSIA/AASI changed and adapted the techniques to successful snowboarding. Snowboarding can be performed at any level across all ages. If done properly, snowboarding will promote comprehensive wellness while developing important life-long motor skills. This course will promote the proper and safe way to enjoy snowboarding. Ultimately students will learn the benefits of snowboarding as a lifetime activity for health and wellness.

Students will be evaluated using a standard percentage scale. Evaluation is based on attendance and active participation (25%); demonstration of acquired skills (55%), theoretical knowledge as measured by written exam (20%). Five sections will be offered every Spring Semester with a maximum enrollment of 50 per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 011A (GHA) Intermediate Downhill Skiing (1) Students will gain a comprehensive understanding and intermediate to advanced level of proficiency in Downhill Skiing.

KINES 011A Intermediate Downhill Skiing (1)
(GHA)

Downhill skiing has grown as a recreational physical activity over the past century. The early days of skiing in the United States were typified by a variety of styles and techniques, many of which were brought to this country by European ski instructors. In 1961, the Professional Ski Instructors of America was formed to unify ski instruction across the country and to develop a successful standard for teaching people to ski. As the equipment and the snowmaking capabilities have changed so has PSIA changed and adapted the techniques to successful skiing. Downhill skiing can be performed at any level across all ages. If done properly, downhill skiing will promote comprehensive wellness while developing important life-long motor skills. This course will promote the proper and safe way to enjoy downhill skiing. Ultimately students will learn the benefits of downhill skiing as a lifetime activity for health and wellness.

Students will be evaluated using a standard percentage scale. Evaluation is based on attendance and active participation (25%); demonstration of acquired skills (55%), theoretical knowledge as measured by written exam (20%). Five sections will be offered every Spring Semester with a maximum enrollment of 75 per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 013 (GHA) First Aid, Personal Safety, and CPR (1) A course designed to provide students with the opportunity for Red Cross certification in Community First Aid, Safety, and CPR.

KINES 013 First Aid, Personal Safety, and CPR (1)
(GHA)

Kinesiology 013 provides students with the opportunity for American Red Cross certification in Community First Aid and Safety and Adult, Infant and Child CPR. Students will also be introduced to the AED device. This course can only be taught by an individual who holds a current participation and instructor card in Community First Aid and Safety and Adult, Infant and Child CPR. The main goal of this first aid and CPR course is to provide students with the knowledge and skills necessary to assess an emergency situation, to call for help, to administer mouth to mouth resuscitation or CPR, perform correct choking procedures for conscious and unconscious victims, and to minimize the consequences of injury or sudden illness until advanced emergency medical help arrives. Students will learn to recognize emergencies and make appropriate decisions regarding care. This course teaches the necessary steps in the emergency medical services (EMS) system chain. Students will also receive information on the prevention of injury and illness, with a focus on personal safety. Using healthy lifestyle awareness questionnaires, participants will assess their environment and personal habits to help reduce their risk of injury and illness and risk to others. In accordance by the American Red Cross, this course will provide visual and auditory learning with the use of a required Red Cross manual and videotape. Manikins will be provided for practical skill use. This course also requires the students to work with a partner to practice and demonstrate the skills to each other and then to the instructor for evaluation. Active learning reinforces the information learned from the reading materials and videotape. Peer and instructor feedback are provided before actual demonstration for evaluation of the skills. An objective test for each segment of the course has been prepared by the American Red Cross and a score of 80% or higher is required for Red Cross certification. The tests will be administered by the instructor after the demonstration and passing of the required skills. Frequency of offering: Every fall and spring semesters with an enrollment of up to 12 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 015 Lifestyles for Health (1) Concepts of health, life-style, and risk factors; development and implementation of personal action plans.

Lifestyles for Health (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 017 (GHA) Ballroom Dance (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.

KINES 017 Ballroom Dance (1.5)
(GHA)

Kinesiology 017 introduces students to ballroom dance as a social/recreational or competitive activity, with the goal of leading to an active lifestyle. This course provides the basic skills and information necessary to develop and continue one's interest in ballroom dancing. Dance history and etiquette, cooperation with a partner, and learning the fundamentals of leading/following techniques are stressed from the beginning of the semester. As different dances are introduced (FoxTrot, Waltz, Jitterbug/Swing, Polka, Cha-Cha-Cha, Tango, Viennese Waltz, and/or others), additional figures are added throughout the semester. The accompanying practice affords each student with the opportunity to build confidence by combining skills in a variety of ways, listening to music, and preparing to "perform" during evaluation sessions. Both assessment and evaluation for each student occur throughout the semester. Formal evaluation occurs twice during the semester, at the mid-semester and at the end of the semester. Students dance with a partner of his/her own choice in a group of 3-5 couples. The remainder of the class has the option of practicing or observing. Evaluation may also include a written test (on handouts, class notes, etc.), written critique of a dance concert on campus (e.g. Eisenhower Auditorium concerts), or a paper on the competitive aspects of ballroom dancing, DanceSport. Outside opportunities for dancing are encouraged: Penn State Ballroom Dance Club, Swing Club, etc. Attendance at each class is essential; this is an activity which is dependent upon learning and practicing with a partner. Upon completion on Kinesiology 017, the student will be able to identify music for each of the dances taught, perform basic figures for each dance in combination, know proper leading and following techniques, and work in concert with one or more partners. Frequency of offering: Ten to twelve sections every fall and spring semesters, with an enrollment of 40 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 017S (GHA) Ballroom Dance (1.5) A course designed to provide students with basic dance skills and an understanding and appreciation of ballroom dance.

Ballroom Dance (1.5)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 019 (GHA) Jazz Dance (1.5) A course designed to teach the basic skills of jazz dance and develop a further appreciation of jazz dance.

KINES 019 Jazz Dance (1.5)
(GHA)

Jazz Dance/Kinesiology 019 introduces students to the art and movement form of jazz dance. This course provides the student with a broad knowledge base of jazz dance history, influential people in the art of jazz dance, dance vocabulary, an experiential study of the jazz style of movement, and posture, balance, and presentation. The course will also encourage students to view and pursue dance as a lifelong activity for the purpose of physical, social, and psychological wellbeing. The student will be introduced and challenged to basic class technique and locomotor movement inherent to the jazz style. The student will experience how to convey their feelings through different elements and styles of jazz while learning about performance qualities and style, dance technique, basics of music/timing/rhythm and choreography, movement memory, movement alignment and presentation, and dance fitness. While learning to appreciate jazz dance as both an art form and a lifestyle activity for total well being, students will be involved in both individual and group movement situations that will encourage and enhance cooperative and collaborative learning skills. Each class will begin with a physical preparation for dance focusing on cardiovascular, strength, and flexibility movements with instruction on proper methods and training procedures. The instructor has the opportunity to provide encouragement and feedback during all movement segments during the class time. Through experiential practice of the jazz movement, the student will be able to identify and/or demonstrate the basic components of dance, correct posture, increased muscular control, spatial levels and floor patterns, and dance as an expressive outlet that is health and life enhancing. Activities to enrich the student's understanding and learning value of jazz movement would include films of dance performances for the students to critique, field trips, evaluating dance internet resources, and creating and participating in a dance performance. The student can be evaluated by a combination of written examinations/quizzes, skill testing, subjective evaluation of skill development, verbal presentation of jazz dance, and a final choreographed project. The student can also be encouraged to keep a journal charting their progress and understanding of jazz dance as an art medium and as a lifelong recreational activity. It is anticipated that two sections of Kines 019 will be offered every fall and spring semesters with a maximum enrollment of 20 students per section. Facilities include a theatre stage and studio space as available and adequate.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 024 (GHA) Introduction to Lifetime Sports (1.5) Students participate in lifetime sports such as archery, bowling, golf, and at least one racquet and/or winter sport.

KINES 024 Introduction to Lifetime Sports (1.5)
(GHA)

Kinesiology 024 is a course divided into three or four units, with each unit designed to give students the opportunity to learn sports that have potential for lifetime participation. These units include (but are not limited) to racquet sports, winter sports, archery, bowling, and golf. Other sports that have lifetime social and wellness values may be offered due to specific location considerations such as facility and faculty expertise.

The Kinesiology 024 format with three or four sports will give students an opportunity to gain a breadth of information and experience that will serve as a "gateway" to learning opportunities in more advanced classes that offer more depth and focus. These units may also stimulate participation in intramural clubs, and recreational play and encourage participation in lifetime activities.

Participating in lifetime sports will help students understand that regular activity has social, emotional, and physical benefits with potential for total well-being and a better quality of life.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 020 (GHA) Modern Dance (1.5) A course designed to teach the basic skills of modern dance and to develop a further appreciation of modern dance.

Modern Dance (1.5)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 025 (GHA) Introduction to Court Sports (1.5) A course designed to introduce students to various court sports such as tennis, racquetball, handball, squash, and/or badminton.

KINES 025 Introduction to Court Sports (1.5) (GHA)

Kinesiology 025 is a course that has been designed to give the Penn State student an introduction to selected lifetime court sports such as but not limited to tennis, racquetball, squash, table tennis, badminton, handball, and platform tennis.

Kinesiology 025 is taught in a modular (two or three for a given semester) format with two to three court sports being chosen for the course content for the semester. Students will know which court sports have been selected by listings in the semester Directory of Classes. The fundamental skills, strategies, etiquette, and rules will be covered for each court sport selected. Successful completion of this court sports course serves as a "gateway" to advanced level courses in court sports, intramural and recreations play and provide the skills and knowledge necessary to participate in a lifetime activity.

In Kinesiology 025 information gathering is done in an applied environment and usually in the context of solving complex movement problems. Information is gathered, solutions formulated and performances delivered and analyzed as different practice and game techniques are employed, different strategies are suggested and as different movement approaches are tested.

The students in Kinesiology 025 will work collaboratively with fellow students and peer tutors in their efforts to master court skills which will serve as a gateway to life long participation in these activities. The holistic approach to teaching activity classes employed in Kinesiology classes requires that students understand and appreciate the cultural traditions and values which are embedded in these movement forms.

Students will be evaluated by a combination of (but not limited to) evaluation techniques. Examples of those techniques are written examinations, skills testing, tournament performance, and subjective evaluation of skill level and game performance.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 026 (GHA) Archery/Indoor & Outdoor (1.5) Course designed to introduce students to Archery/Bowhunting.

KINES 026 Archery/Indoor & Outdoor (1.5) (GHA)

KINES 026 is designed to give the Penn State student an introduction to archery from a historical perspective which includes, but is not limited to, cultural use of the bow and arrow for food, protection, recreation and competition. Emphasis is given to the unique role of the bow in Pennsylvania State History and to its role in Pennsylvania Rural Culture. The use of the longbow, the recurve bow, the compound bow and the crossbow will be covered. In addition, Archery can be an activity that provides a positive outlet for those who are physically challenged. The fundamental skills, strategies, rules and regulations will be covered for Archery. Students are encouraged to develop specific outdoor skills which will enhance their success with a bow. These skills include but are not limited to identifying weather patterns which affect shooting, shooting from different heights and angles, selection of the proper clothing, understanding and respecting the wildlife and game animals native to geographical areas. Emphasis is placed upon ethical harvest techniques consistent with current wildlife biology and respective game commission and wildlife managers. Successful completion of the course will provide a foundation for participation in intramural activities, recreational coeducational activities, and will provide a gateway to lifelong movement. While KINES 026 will focus on the skills, strategies and rules of the sport, the underlying sub-focus of the course is the development of persistence and discipline necessary for success and the resulting self-enhancement that accompanies personal success. The commitment to Archery requires students to develop a focus which is achieved only through rigorous attention to fine motor movement. The improvement of individual skills in Archery is important but the process required for target success can be a foundation for a lifelong recreational opportunity. KINES 026 will focus on the skills strategies and rules of archery. Students will be engaged in a collaborative atmosphere. As they seek to solve complex shooting problems they will be required to cooperate to achieve various team goals. Students are evaluated and graded by a combination of techniques which may include but are not limited to tournament performance, written reports, skill acquisition, logged activities and subjective evaluation of team-building ethics. Dress should be appropriate for the conditions (indoor or outdoor). Equipment for this course will be provided but students will be encouraged to purchase their own personal equipment as "personalized bows" greatly enhance a person's on-target efficiency. Frequency of enrollment: Two to four sections every fall and spring semesters with a maximum of 20 students per section. Facilities: There is an existing range in White Building, however the activity can be taught outdoors.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 027 (GHA) Badminton 1 (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.

KINES 027 Badminton I (1.5)
(GHA)

Kinesiology 027 is a course designed to give the student a comprehensive involvement in the game of badminton. The basic fundamentals, rules, and strategies will be taught in a drill/modified game format until the student has developed skills and understanding sufficient to compete successfully. It is through the competition that the socialization, fitness, and enjoyment of the game will be enhanced. Hopefully, the desire to continue badminton as a lifelong activity will result. Successful completion of Badminton I will allow the student to choose an advanced level of this course if he/she desires.

Students can be evaluated by a combination of written examinations/quizzes, skills testing, tournament performance, and subjective evaluation of skill development and game performance.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 027S (GHA) Badminton 1 (1.5) The course promotes health, fitness, and enjoyment of the game of badminton.

Badminton 1 (1.5)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 028 (GHA) Fencing I (1.5) Kinesiology 028 is designed to give students knowledge of the rules, strategies and skills of the sport of Fencing.

KINES 028 Fencing I (1.5)
(GHA)

Kinesiology 028 is a course designed to give the student a comprehensive involvement in the sport of FENCING. The basic fundamentals, rules, and strategies will be taught in a drill/modified game format until the student has developed skills and understanding sufficient to compete successfully. It is through the competition where the socialization, fitness and enjoyment of the game will be enhanced. Hopefully, the desire to continue Fencing as a lifelong activity will result. Successful completion of Fencing I will allow the student to choose an advanced level of this course if he/she desires.

Students will be evaluated by a combination of written examinations/quizzes, skills testing, attendance. The department plans to offer four sections every fall semester and two sections every spring semester with a maximum of 25 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 029 (GHA) Golf I (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.

KINES 029 Golf I (1.0-1.5)
(GHA)

Kinesiology 029 is a course designed to give students the understanding, knowledge and skills to begin an exploration of the game of golf. While the courses main area of emphasis is on golfs' short game (putting, chipping and pitching) students will be educated about full swing fundamentals and proficiencies will be developed in short and mid-irons.

Perhaps the most unique feature of Golf I is the weekly on course practice. Each week during this course, students will get a chance to apply the skills they have learned during the week on an actual golf course. This practice time is in a situation where only the students from the class are on the course. This situation creates an ideal practice area for the student golfer to be come acquainted situational application of golf skills.

Students who enroll in Kinesiology 029 will find, in the game of golf, a unique form of self-expression. The daily "movement problems" that students will encounter offers a new type of information gathering process accompanied by unusual opportunities to synthesis that information into a "golfing personality". The development of motor skills will complement students' oral and written capabilities.

The active lifestyle requires that the participant be able to gather, synthesis and analyze information. Students in Kinesiology 029 will be asked to involve themselves in Web and CD-ROM based assignments to gather, synthesis and analyze valuable information about golf's rules and etiquette, equipment, and travel planning.

Students will be evaluated by a combination of (but not limited to) evaluation techniques. Examples of those techniques are written examinations, skills testing, written papers and subjective evaluation of skill level and game performance.

The student, who successfully completes Kinesiology 029-Golf I will possess a command of basic golf rules, golfs terminology and golf etiquette. These basic fundamentals will ease the transition from golf student to golfer. Students will find that, after completion of Golf I the work done in this course will prepare them for actual participation in the game of golf.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 029A (GHA) Golf II (1.5) A course designed to provide a further understanding of and a more advanced proficiency in golf skills, rules and etiquette.

KINES 029A Golf II (1.5)
(GHA)

KINES 029A is a course designed to give students advanced understanding, knowledge and skills and to continue the development of their game of golf. While the courses main area of emphasis is on golfs' short game (putting, chipping and pitching) the student will be educated about full swing fundamentals and proficiencies will be developed in midirons, long irons, fairway metals, and driver.

Perhaps the most unique feature of Golf II is the on course practice. Each week during this course, students will get a chance to apply the skills they have learned during the week on an actual golf course. This practice time is in a situation where the student will learn how to integrate themselves into normal golf play. This creates an ideal practice area for the student golfer to become acquainted with situational application of golf skills and be a part of the golf atmosphere.

Students will be evaluated by a combination of (but not limited to) evaluation techniques. Examples of those techniques are written examinations, skills testing, and subjective evaluation of skill level and game performance.

The student, who successfully completes Kinesiology 029A-Golf II will be proficient in golf rules, golf terminology and golf etiquette. These advanced fundamentals will ease the transition from golf student to golfer. Students will find that, after completion of Golf II, the work done in this course prepares them for actual participation in the game of golf.

The use of the Penn State golf course is required for this course. Three to five sections will be offered every fall semester with an enrollment of up to 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: KINES 029 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 029S (GHA) Golf I (1-1.5) A course designed to give students an understanding of and a proficiency in golf skills, rules, and etiquette.

Golf I (1-1.5)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 042 (GHA) Ice Skating--Beginning (1.5) A course of instruction focused on the physical development and knowledge of basic ice skating skills.

KINES 042 Ice Skating--Beginning (1.5)
(GHA)

A course of instruction focused on the development of basic ice skating skills, and the introduction of a new physical fitness activity into the lifestyle of the Penn State student. The course objectives are to develop balance and control while performing the basic skills necessary for the execution of many ice skating maneuvers. Basic ice skating skills are relevant to skaters who have goals of recreational skating, learning to play hockey and/or figure skate. These skills include: forward and backward stroking, forward and backward stops, negotiating circles and curves through the use of forward and backward crossovers, developing edge control through the development of consecutive sustained edges, and changing direction from forward to backward and backward to forward through the use of basic two-and one-foot turns. Skills are acquired through the use of exercises and patterns designed to strengthen the fundamentals of skating and to further develop balance, edge control, and confidence while participating in the activity. These exercises are incorporated into each class period, along with a thorough review of previously learned skills and the introduction of new skills. Every effort is made by the instructor to break each skill down into logical steps so that the student will understand the process of each skill. The instructors are encouraged to allow for individual differences in the pacing of skill development. As the course progresses, the instructor has the option of using partner and small group exercises to balance the individual efforts through peer support and involvement. This course will provide the necessary skill foundation for participation in upper-level courses including advanced/beginner, intermediate and advanced skating, as well as hockey, figure and/or recreational skating activities. In addition to the core component of physical skill development, the student will acquire an enlightened appreciation and understanding of the skill and art of ice sports.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 041 (GHA) Handball (1.5) A course designed to introduce students to a basic instructional course in the fundamentals of 4-wall handball.

KINES 041 Introduction to Handball (1.5)
(GHA)

Kinesiology 041 is a course that has been designed to give students an introduction into the dynamic game of handball. It is a challenging game requiring the participant to be able to hit a ball with either hand during a rally in a 20'x 40' four-walled court. The technique of hitting a ball is similar to the motions used in throwing a baseball. Since both hands are used to execute shots, the development of the non-dominant hand ("off" hand) is a unique challenge. The course is structured to develop the "off" hand through a logical progression of drills and game settings, which help the participant to mirror image the dominant hand's motion.

Handball is also a sport, which develops an individual's eye/hand coordination to the highest level possible. This eye/hand coordination transfers exceptionally well for participants who pursue activities such as racquetball, tennis, squash, badminton, hitting a softball, and fielding a softball.

The tremendous amount of footwork and body movement required to execute a shot in handball develops a fitness level similar to a cross-country skiing workout. Handball is a great lifetime activity.

The fundamental skills, strategies, and rules of handball, along with game play, will be integrated throughout the course. The participant will also apply the rules of the game by being taught how to referee a match between fellow students.

Students will be evaluated by a combination of (but not limited to) evaluation techniques. Examples of those techniques are written examination, skills testing, tournament performance, and subjective evaluation of skill level and game performance.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 042A (GHA) Ice Skating--Advanced Beginning (1.5) A course of instruction focused on the physical development and knowledge of basic ice skating skills.

KINES 042A Ice Skating--Advanced Beginning (1.5) (GHA)

A course of instruction focused on the development of beginning and advanced beginning ice skating skills, and the introduction of a new physical fitness activity into the lifestyle of the Penn State student. The course objectives are to develop balance and control while performing the basic skills necessary for the execution of many ice skating maneuvers. Basic and advanced beginning ice skating skills are relevant to skaters who have goals of recreational skating, learning to play hockey and/or figure skate. These skills include: forward and backward stroking, forward and backward stops, negotiating circles and curves through the use of forward and backward crossovers, developing edge control through the development of consecutive sustained edges and power pull change of edge exercises, and changing direction from forward to backward and backward to forward through the use of one-foot turns. Skills are acquired through the development of exercises and patterns designed to strengthen the fundamentals of skating and to further develop balance, edge control, and confidence while participating in the activity. These exercises are incorporated into each class period, along with a thorough review of previously learned skills and the introduction of new skills. Every effort is made by the instructor to break each skill down into logical steps so that the student will understand the process of each skill. The instructors are encouraged to allow for individual differences in the pacing of skill development. As the course progresses, the instructor has the option of using partner and small group exercises to balance the individual efforts through peer support and involvement. This course will provide the necessary skill foundation for participation in upper-level courses including intermediate and advanced skating, as well as hockey, figure and/or recreational skating activities. In addition to the core component of physical skill development, the student will acquire an enlightened appreciation and understanding of the skill and art of ice sports.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: KINES 042 or some experience with the activity

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 042B (GHA) Ice Skating--Intermediate/Advanced (1.5) A course of instruction in basic figure skating: field moves, freestyle, choreography, pairs skating, and ice dance.

KINES 042B Ice Skating--Intermediate/Advanced (1.5) (GHA)

A course of instruction focused on the refinement of basic, intermediate, and advanced ice skating skills. The course objectives are to develop balance, control, and confidence while performing skills relevant to the disciplines of figure skating: freestyle, field moves, ice dance and/or pairs. These skills include: field moves that follow a straight line, diagonal, circular, or continuous pattern. Such exercises and patterns are designed to develop and strengthen the qualities that define figure skating: power, edge control, flow, quickness, and extension. Emphasis is placed on developing both sides (bilateral) of the skater. Students are introduced to basic, intermediate and, when appropriate, advanced freestyle maneuvers including jumps, spins, edge moves, footwork sequences, and connecting steps. Basic ice dance positions and patterns are introduced, and students with a particular interest in this area are given the opportunity to further develop these skills. Introductory pairs skating positions are developed through stroking and crossover patterns. Students with a particular interest in this area are taught pairs edge moves, spins, and basic throw jumps. Students are introduced to the fundamental principles of choreography including pattern, form, development, musical interpretation, style, and expression through the composition of a program incorporating skills developed and refined throughout the course. The student has the option of solo, pair, or group work to balance individual efforts through peer support and involvement. The instructors are encouraged to allow for individual differences in the pace and development of skills. This course will provide the necessary skill foundation for participation in organized figure skating programs (USFSA, ISI) and club programs promoting a healthful physical fitness activity for the Penn State student. In addition to the core component of physical skill development, the student will acquire an enlightened appreciation and understanding of the skill and art of figure skating and ice sports.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: KINES 042 and/orKINES 042A or equivalent skating experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 043 (GHA) Power Skating (1.5) A course of instruction in basic power skating specifically designed for ice hockey, applicable to other ice sports.

KINES 043 Power Skating (1.5)
(GHA)

A course of instruction focused on the development and refinement of basic, intermediate, and advanced ice skating skills. Principles of biomechanics and force application are stressed to gain power, strength, flexibility, quickness, and agility. Daily power stroking sessions are conducted to develop physical stamina, endurance, and mental fitness. The course objectives are to improve balance, edge control, and coordination necessary for the successful execution of many ice skating maneuvers. These skills include: forward and backward power strides, forward and backward stops, forward and backward starts, negotiating circles and curves through the use of forward and backward crossovers, developing edge control through the development of consecutive sustained edges and power pull change of edge exercises, changing direction with front to back and back to front turns, stick handling and puck control. Skills are acquired through the development of drills and patterns designed to strengthen the fundamentals of skating and to further develop balance, edge control, and confidence while participating in this activity. These exercises are incorporated into each class period, along with a thorough review of previously learned skills and the introduction of new skills and drills. Every effort is made by the instructor to break each skill down into logical steps so that the student will understand the process of each skill. The instructors are encouraged to allow for individual differences in the pacing of skill development. This course will provide the necessary skill foundation for participation in intramural, club, and adult hockey leagues, as well as recreational skating activities. In addition to the core component of physical skill development, the student will acquire an enlightened appreciation and understanding of the skill of ice sports.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: KINES 042 orKINES 042A or equivalent skating experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 044 (GHA) Racquetball I (1-1.5) The course promotes health, fitness, and enjoyment of the game of racquetball.

KINES 044 Racquetball I (1-1.5)
(GHA)

Kinesiology 044 is a course designed to give the student a comprehensive involvement in the game of racquetball. The basic fundamentals, rules, and strategies will be taught in a drill/modified game format until the student has developed skills and understanding sufficient to compete successfully. It is through the competition where the socialization, fitness, and enjoyment of the game will be enhanced. Hopefully, the desire to continue racquetball as a lifelong activity will result. Successful completion of Racquetball I will allow the student to choose an advanced level of this course if he/she desires.

Students will be evaluated by a combination of written examinations/quizzes, skills testing, tournament performance, and subjective evaluation of skill development and game performance.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 045 (GHA) NAUI Basic Scuba (1.5) A course to introduce students to the fundamentals of Scuba diving.

KINES 045 NAUI Basic Scuba (1.5)
(GHA)

KINES 045 introduces students to the fundamental academic concepts and practical skills of scuba diving as described by NAUI (National Association of Underwater Instructors) standards. This course addresses academic elements and applied sciences such as: the gas laws, Archimedes' principle, physics (light, sound, heat, aquatic pressure relationships), physiology (arterial gas embolism, miscellaneous barotrauma, decompression illness, hypo and hyperthermia), dive planning, equipment configuration and function, and environmental considerations (salt vs. fresh water, dangerous plants and animals, water temperature and visibility, and altitude). In addition this course introduces practical confined water skills including: basic skin diving skills, fundamental Scuba skills (regulator clearing and retrieval, emergency out-of-air ascents, buoyancy control, rescue techniques, ditch and don of gear, underwater communication, and proper partnership), and equipment preparation and assembly.
General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: meet NAUI standards and/or by permission of the instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 046 (GHA) Squash I (1-1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of squash.

KINES 046 Squash I (1-1.5)
(GHA)

Kinesiology 046 is a course designed to provide students with the motor skills and cognitive understanding necessary to successfully compete in the game of squash. Initial emphasis will center around three areas: 1) developing racquet skills and mechanics; 2) acquiring an understanding of the rules and regulations of the game; and, 3) developing appropriate movement skills. Subsequent effort will focus on applying the above to live-game situations. Here, students will learn to recognize, comprehend, and develop on-court strategies, and will learn to employ these tactics in game play.

Students will emerge from this course with beginning-level squash skills and a solid foundation in racquet fundamentals. This will serve as a "connector" to, not only advanced levels of squash, but other forms of racquet play as well. In turn, this will facilitate the discovery and appreciation of the significant lifetime benefits offered by all racquet sports.

Students will be evaluated by (but not limited to) a combination of techniques: written examinations, skills testing, performance standards, and subjective evaluation of skill level.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 047 (GHA) Beginning Swimming (1.5) A course designed to give students skills and knowledge necessary to be safe in shallow and deep water.

KINES 047 Beginning Swimming (1.5)
(GHA)

Kinesiology 047 introduces students who are non-swimmers (or those who are fearful of water) to the performance of swimming skills that can be used as lifelong activities for maintenance of physical health and psychological well-being. Students will learn and practice a progression of swimming-related skills designed to acclimate the non-swimmer to the aquatic environment. An introduction to personal safety and rescue skills provides the students with knowledge necessary for safe behavior in an aquatic setting.

The course provides basic knowledge of physics and hydrodynamic principles that will help the students become more effective and efficient swimmers. Exercises and activities that relate to being in and moving through the water will enable the student to understand and demonstrate various hydrodynamic principles.

Group games and activities designed to improve fitness components of endurance, strength, and flexibility are a key component of the beginning swimmers class. Students will often work in groups to improve their swimming skills.

When a student completes this course, he or she should possess skills necessary to be safe in deep water. The student will have developed enough skill to enter deep water and swim at least the length of the pool unassisted. He/she will be able to understand and demonstrate hydrodynamic principles as they relate to movement in the water.

Various evaluation techniques will be used to assess individual progress in Kinesiology 047. These techniques will include (but are not limited to) objective tests, skills performance tests, and personal assessment inventories and assignments. Students will also keep a written journal of their activities.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 047A (GHA) Advanced Beginner Swimming (1.5) A course designed to give students skills and knowledge necessary to be safe in shallow and deep water.

KINES 047A Advanced Beginning Swimming (1.5)
(GHA)

Kinesiology 047A introduces students who have limited swimming skills and knowledge to the performance of more refined strokes that can be used as lifelong activities for maintenance of physical health and psychological well-being. Students will be introduced to new strokes and techniques including the front crawl, back crawl, elementary backstroke, sidestroke, breaststroke, and butterfly.

Proper breathing techniques will be stressed.

An introduction to personal safety and rescue skills provides the students with knowledge necessary for safe behavior in an aquatic setting. Students will have an opportunity to learn some basic self-help skills. Reaching and throwing assists from dry land will be included.

The course provides basic knowledge of physics and hydrodynamic principles that will help the students become more effective and efficient swimmers. Exercises and activities that relate to being in and moving through the water will enable the student to understand and demonstrate various hydrodynamic principles.

Group games and activities designed to improve fitness components of endurance, strength, and flexibility are a key component of the advanced beginning swimming class. Students will often work in groups to improve their swimming skills. Group games such as water polo and water basketball will help students develop endurance and strength.

When a student completes this course, he or she should possess skills necessary to swim continuously for at least four lengths of the pool without stopping. The student will also be able to understand and demonstrate hydrodynamic principles as they relate to movement in the water. Proper use of the diving board will also be stressed.

Various evaluation techniques will be used to assess individual progress in Kinesiology 047A. These techniques will include (but are not limited to) objective tests, skills performance tests, and personal assessment inventories and assignments. Students will also keep a written journal of their activities.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: students should be comfortable in shallow and deep water and be moderately proficient in front crawl elementary backstroke sidestroke and breaststroke

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 047B (GHA) Intermediate Swimming (1.5) A course designed to teach students a variety of swimming strokes and increase their knowledge of fitness using aquatic activities.

KINES 047B Intermediate Swimming (1.5)
(GHA)

Kinesiology 047B introduces students who have attained moderate swimming skills and knowledge to advanced swimming strokes and related swimming activities that can be used throughout one's lifetime for maintenance of physical health and psychological well-being. Students will be introduced to new strokes and techniques including the front crawl, back crawl, elementary backstroke, sidestroke, breaststroke, and butterfly. Students will also be taught the trudgen, trudgen crawl, inverted breaststroke, and overarm sidestroke. Body alignment, coordination, and proper breathing techniques will be stressed. Students will be required to swim longer distances in this class than in Kinesiology 047 or Kinesiology 047A. The course provides the information that the student needs to understand, organize, plan, and implement a physical fitness program that features swimming as the primary activity.

Personal safety and rescue skills as well as swimming rescues using equipment will be part of this class. Students will have an opportunity to learn how to help themselves and others in an aquatic environment. Group games and activities designed to improve fitness components of endurance, strength, and flexibility are a key component of the intermediate swimming class. Students will often work in groups to improve their swimming skills. Group games such as water polo and water basketball will help students develop endurance and strength.

When a student completes Kinesiology 047B, he or she should possess skills necessary to swim continuously for at least five hundred yards (twenty lengths of the pool) without stopping. Proper use of the diving board will also be stressed. The students will be able to perform a forward dive in tuck and/or pike position at the completion of this class. Each student will be able to identify the components of an effective physical fitness program and explain how swimming contributes to the success of this program. Students should be able to develop a swimming program that would help them meet realistic fitness goals.

Various evaluation techniques will be used to assess individual progress in Kinesiology 047B. These techniques will include (but are not limited to) objective tests, skills performance tests, and personal assessment inventories and assignments. Students will also keep a written journal of their activities.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: KINES 047A or equivalent skills; students should be safe in deep water and have proficiency in the front crawl elementary backstroke sidestroke and breaststroke

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 048 (GHA) Tennis I (1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of tennis.

KINES 048 Tennis I (1.5)
(GHA)

Kinesiology 048 is a course designed to introduce students to the basic skills of Tennis. The initial focus will be twofold: stroke development and acquiring an understanding of the rules, regulations, and terminology of the game. Subsequent effort will emphasize the development of movement skills and a progression from hitting to rallying. In turn, students will learn to apply the above to live-game situations (both singles and doubles). Students will emerge from this course with beginning-level tennis skills as well as an appreciation for the requirements of higher-level tennis participation.

Students will be evaluated by (but not limited to) a combination of techniques: written examinations, skills testing, performance standards, and subjective evaluation of skill level.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 048A (GHA) Tennis II (1.5) A course designed to give students an appreciation of and proficiency in the skills, rules, and regulations of tennis.

KINES 048A Tennis II (1.5)
(GHA)

Kinesiology 048A is a course designed to introduce students to the basic and advanced skills of Tennis. The initial focus will be twofold: stroke development and acquiring an understanding of the rules, regulations, and terminology of the game. Subsequent effort will emphasize the development of movement skills and a progression from hitting to rallying. In turn, students will learn to apply the above to live-game situations (both singles and doubles).

Students will emerge from this course with advanced tennis skills as well as an appreciation for the requirements of higher-level tennis participation.

Students will be evaluated by (but not limited to) a combination of techniques: written examinations, skills testing, performance standards, and subjective evaluation of skill level.

Clean, safe, well-lit course space is needed to properly deliver this course. It is anticipated that two sections will be offered every fall and spring semesters with an enrollment of 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: KINES 048 or for students who demonstrate reasonable consistency in depth and placement of ground strokes and the serve and who have not had instruction at Penn State.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 054 (GHA) Aikido (1.5) Students will gain a comprehensive understanding and basic level of proficiency in the Japanese Traditional martial art of Aikido.

KINES 054 Aikido (1.5)
(GHA)

Martial arts have been practiced for centuries as a method of integrating mind, body and spiritual well being. While improving physical fitness and emotional health, martial arts have been the cornerstone of unarmed self-defense throughout the ages. Aikido is a relatively new Japanese martial art developed by a man named Morihei Ueshiba. Ueshiba sensei studied a variety of traditional martial arts and developed the style of Aikido in the early 1900's as a combination primarily of Dyto-ryu Jujitsu and a spiritual philosophy of promoting peace and harmony amongst fellow human beings. Aikido training can be performed at any level across all ages. If done properly, Aikido training will promote comprehensive wellness while developing important life-long motor skills. In this course students will explore the historical development and significance of Aikido and other martial arts. Students will learn a wide number of Aikido techniques in addition to improving physical health and fitness. Throughout the course students will learn to apply principles of Aikdio for self-defense and in everyday life. Ultimately students will learn the benefits of Aikido as a lifetime activity for health and wellness. Students will be evaluated using a standard percentage scale. Evaluation is based on attendance and active participation (60%); demonstration of acquired skills (20%), theoretical knowledge as measured by written exam (20%). One to three sections will be offered every fall and spring semesters with an enrollment of up to 24 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 056 (GHA) Introduction to Martial Arts (1.5) A course designed to give students an introduction to martial arts, and the use of martial arts for lifelong fitness.

KINES 056 Introduction to Martial Arts (1.5)
(GHA)

Martial arts have been practiced for centuries as a method of integrating mind, body, and spiritual well-being. While improving physical fitness and emotional health, martial arts have been the cornerstone of unarmed self-defense throughout the ages. Martial arts training can be performed at any level across all ages. If done properly, martial arts training will promote comprehensive wellness while developing important lifelong motor skills. For many, the emotional and psychological benefits of martial arts training will be as rewarding as the physical improvements experienced.

Kinesiology 056 will introduce the student to the historical development and significance of the martial arts. Students will first learn supportive activities such as meditation and yoga, which will be used to optimally prepare the mind and body, respectively, for martial arts training. Once the students are mentally and physically prepared to begin training, they will begin to learn the traditional martial art Karate. After several weeks of training, the students will then begin to study the relatively newer and more passive martial art Aikido.

Ample time will be devoted to allow students to acquire an appreciation of and basic skill of both Karate and Aikido. In addition, students will learn proper "dojo" etiquette which will allow them to comfortably enter and train in any traditional martial arts dojo.

Throughout the semester, students will improve in physical fitness and learn how martial arts such as Karate and Aikido contribute to improved fitness and overall wellness. The basic principles of organizing, planning, and implementing a physical fitness program will be taught using martial arts training as a method of exercise. The fitness principles learned in class can be applied to any form of activity the student chooses. At the end of the course, the students will be invited to explore their personal health and fitness goals and how martial arts training may be incorporated into their lifelong fitness plan. Although the concept of "self-defense" will not be stressed in this class, some introduction to self-defense will be given, and it is likely that by the end of the course students will feel more physically confident in their ability to avoid and deal with conflict situations.

Various evaluation techniques will be used to assess individual progress in Kinesiology 056. These techniques will include (but are not limited to) conventional objective testing, skill testing, and writing assignments.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 055 Dance Forms (1.5) Baskic skills and methods of teaching and assessing creative movement and folk, square, social, and modern dance.

Dance Forms (1.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 057 (GHA) Personal Defense (1.5) A course designed to give students an understanding of and a proficiency in martial arts and self-defense.

KINES 057 Personal Defense (1.5) (GHA)

The term "martial art" is used in western idiom to describe a wide variety of Asian self defense systems. Some of these combat systems evolved in civil settings as methods for physical development, personal self defense, and sport. Taekwond is perhaps the best example today because of its role in the Olympic Games. This unarmed method evolved in Korea and it can be traced back to the koguryo dynasty, founded 2000 years ago through the study of the ancient Korea and its history.

While improving physical fitness and emotional health, martial arts have been the cornerstone of unarmed self defense throughout the ages. Martial arts training can be performed at any level across all ages. If done properly, martial arts training will promote comprehensive wellness while developing important life-long motor skills. For many, the emotional and psychological benefits of martial arts training will be as rewarding as the physical improvements experienced.

KINES 057 introduces the student to the historical development and significance of the marital arts. Students first learn supportive activities such as relaxation and breathing techniques, which will be used to optimally prepare the mind and body, respectively, for marital arts training. Students start applying mental discipline into the acquired techniques as soon as they learn it and practice it throughout the semester.

Throughout the semester students improve in physical fitness and learn how personal self defense, such as taekwondo and Aikijujitsu, contribute to improved fitness and overall wellness. The basic principles of organizing, planning and implementing a physical fitness program will be taught using martial arts training as a method of exercise. The fitness principles learned in class can be applied to any form of activity the students chooses. At the end of the course the student will be invited to explore their personal health and fitness goals and how martial arts training may be incorporated into their lifelong fitness plan. It is likely that by the end of the course students will feel more physically and mentally confident in their ability to avoid and deal with conflict situations.

Various evaluation techniques will be used in KINES 057. The techniques will include (but are not limited to) conventional objective testing, skill testing, journaling and other writing assignments.

The department plans to offer up to three sections of this course every fall and spring semester with a maximum enrollment of 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 059 (GHA) Introduction to Karate (1.5) A course designed to give students an understanding of and a proficiency in Karate.

KINES 059 Introduction to Karate (1.5)
(GHA)

KINES 059 will involve the training in the philosophy, principles and techniques of Karate for self-defense, improvement of overall fitness and to give a greater understanding of the art and themselves. This course will involve physical aspects of Karate including blocking, punching, striking, kicking and body shifting techniques in correct stance and the application of these techniques against an opponent. The course will also introduce the mental aspects of Karate illustrating the ideals of "the way" (including principles such as character, concentration, self control, manners and self discipline) and how they can be applied in everyday life to benefit themselves and society, this will be achieved through meditation and training. There are three primary components of Karate training; fundamentals (basics), sparring and Kata or forms. The basic techniques consist of blocks, punches, strikes, kicks and combinations of these techniques in correct stance or body position. Sparring can take one of three forms; single step, controlled multi-step sparring and free sparing. Only the second form (both controlled and non-contact) is taught in this introductory class. The third component, kata, consists of a series of predefined blocking, striking and kicking techniques performed by an individual and used to simulate defense against multiple opponents. The forms are used to perfect the fundamental techniques to teach balance and timing of techniques so that they then may be applied to sparring. Throughout the semester students will improve in physical fitness and learn how Karate contributes to improved fitness and overall wellness. The basic principles of organizing, planning and implementing a physical fitness program will be taught using martial arts training as a method of exercise. The fitness principles learned in class can be applied to any form of activity the student chooses. At the end of the course the student will be invited to explore, through a term paper, their personal health and fitness goals and how karate training may be incorporated into their lifelong fitness plan. Although some concepts of "self-defense" are discussed in this class it is not given a priority. However, it is likely that by the end of the course students will feel more physically confident in their ability to avoid and deal with conflict situations. Since Karate is one of the most widely practiced martial arts in the world, the students will also be able to continue their training in Shotokan though either the Penn State Club or at any other club around the world. They will also be given the opportunity to sit a formal grading examination (through a world class examiner), which will hold rank within Karate anywhere in the world, thus acknowledging their abilities gained in this course. This formal ranking is completely at the student's discretion and will not be required for credit toward Kinesiology 059. Frequency of enrollment: One to three sections every fall and spring semesters with a maximum of 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 058 (GHA) Judo I (1.5) Kinesiology 058 will help students develop stamina, confidence and discipline, and promote general fitness through the introduction to basic Judo.

KINES 058 Judo I (1.5)
(GHA)

Kinesiology 058 will help students develop stamina, confidence and discipline, teach self-defense, and promote general fitness through the introduction of basic Judo. Developed in Japan in 1882, Judo has quickly spread across the globe and won approval as a modern sport. Judo became the first activity of Asian origin to be accepted as an Olympic event in 1964. Women's Judo was admitted to the Games as a full medal event in 1992. Judo, "the gentle way," is the modern day form of the ancient Japanese Jujitsu. The art is based on the principle of using the opponent's own strength to put him or her off balance, using minimum effort for maximum efficiency. Judo was initially developed by Professor Jigoro Kano, whose techniques were refined to form a combative system that demonstrates the superiority of techniques over mere strength. Although Judo is a martial art, students need not fear physical injury due to enrollment at Kinesiology 058. Judo I covers fundamental falling, throwing and grappling techniques. More dangerous techniques, such as choking and arm locks, are reserved until students have demonstrated satisfactory command of more basic skills. Kinesiology 058 is not simply aimed at introducing students to basic Judo. Judo instruction at Penn State encourages fitness by incorporating a brief session of physical conditioning into each class in an effort to augment the aerobic workout and prevent injuries. Each student is also asked to learn basic terms and some general history of the sport of Judo. Facilities/Class periods - held in the IM Building Combat Room - begin with stretching and generally continue with a series of technique demonstrations, form practices and free workout. Class concludes with conditioning and cool-down exercises. Frequency of enrollment: Two sections every fall and spring semesters with a maximum of 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 060 Principles and Practices of Healthful Living (3) Facts and principles as related and applied to the science of living serve as a basis for health instruction and student guidance.

Principles and Practices of Healthful Living (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 061 (GHA) Fitness Theory and Practice (3) Students will learn about the science of fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.

KINES 061 Fitness Theory and Practice (3)
(**GHA)**

Fitness Theory and Practice is a course designed to give the Penn State student a complete understanding of the fundamental principles of physical fitness and the skills necessary to implement a personalized fitness program. This course will provide all the information and skill needed for the student to organize, plan, and implement a complete physical fitness program.

In this course the Penn State student will acquire all the knowledge and critical thinking skills that are essential to the development of a healthful and active lifestyle. Through readings, classroom discussions, personal assessment techniques, video presentation, and World Wide Web based assignments, students will build a foundation of knowledge to guide them in their pursuit of an active and healthy lifestyle.

In addition to the above mentioned knowledge base, students will be guided through laboratory activities designed to: assess personal fitness levels pre-and-post intervention strategies, educate the student about cardiovascular training techniques, flexibility training techniques, muscular strength and endurance training techniques, and implement their own personal fitness program.

Various evaluation techniques will be used to assess student progress in Kinesiology 061. These techniques shall include, but not be limited to, conventional objective testing; group and individual presentations; World Wide Web based assignments and leadership activities; personal assessment inventories; and journaling assignments. Students who have already received credit for Kinesiology 084 or Kinesiology 066 may not enroll in this class because of the duplication of material.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 061S (GHA) Fitness Theory and Practice (3) Students will learn about the science of fitness/wellness; evaluate their present fitness levels and create a personal fitness plan.

Fitness Theory and Practice (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 062 (GHA) Introduction to Cardiovascular Activities (1.5) A course designed to give students an introduction to various types of cardiovascular training.

KINES 062 Introduction to Cardiovascular Activities (1.5)
(GHA)

Kinesiology 062 has been designed to help students become acquainted with and proficient in many types of cardiovascular activities that can be used as part of a lifelong exercise program. Students should expect to participate in a variety of activities such as, but not limited to, walking/jogging, cycling, aquatics, aerobic dance, and cardiovascular exercise machine use. Additionally, students will have an opportunity to learn skills necessary to create safe cardiovascular exercise programs while considering safety and injury prevention.

Kinesiology 062 is taught in a modular format including three to five separate types of cardiovascular exercise being chosen for the course content for the semester. Students will know which courses have been selected by listings in the semester Directory of Classes. Kinesiology 062 will provide a unique balance of training guidelines that can be applied to the various activities one pursues throughout life. Fundamental guidelines for safe exercise, progression, self-monitoring, etiquette, and injury prevention will be introduced throughout the course. Cardiovascular activities serves as a stepping stone to lifetime physical fitness and disease prevention. Self-and group-paced activity will allow for each individual to maximize the benefits of exercise.

Various evaluation techniques will be used to assess progress in Kinesiology 062. These techniques will include, but are not limited to, written examinations, performance assessments, and improvement-based evaluations of cardiovascular endurance and strength.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 063 (GHA) Aerobic Dance (1.5) A course designed to involve students in daily aerobic activity while teaching the fundamentals of overall health and well-being.

KINES 063 Aerobic Dance (1.5)
(GHA)

Kinesiology 063 has been designed to give each Penn State student a basic understanding of the many different aspects of physical fitness while keeping the main focus on aerobic cardiovascular endurance.

In this course, the student will engage in daily participation in the various types of group fitness classes. This practical participation will be supplemented with lectures including, but not limited to, the principles, components, theories, and training techniques of physical fitness.

This course will provide each student with the necessary information and proper means to develop and maintain a healthy active lifestyle and achieve overall well-being.

Various evaluation techniques will be used to assess student's progress in Kinesiology 063. These techniques shall include, but not be limited to, written examinations, group and individual presentations, participation and performance, and homework assignments.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 067 (GHA) Physical Conditioning (1.5) A course designed to give students an experience with an understanding of vigorous physical training.

KINES 067 Physical Conditioning (1.5)
(GHA)

Kinesiology 067 has been designed to help students build high levels of overall physical conditioning based upon athletic endeavors such as multi-sport and adventure challenges. Students should expect to physically challenge themselves through a variety of activities focusing on aerobic, anaerobic, and resistance training. Additionally, students will have an opportunity to learn skills necessary to create safe, complete conditioning programs while considering safety and injury prevention.

Physical Conditioning will provide a unique balance of training guidelines that can be applied to the various activities one pursues throughout life. Kinesiology 067 serves as a stepping-stone to lifetime fitness, competition in organized athletic events, and personal challenge activities. Students will develop a holistic approach to training for endurance, strength, and integrated activities. Self-paced activity will allow for each individual to maximize the benefits of physical conditioning.

Through working in groups to complete athletic challenges, students in Kinesiology 067 will integrate exercise, teamwork, and problem-solving skills. Success in group activities will hinge on communication between teammates and the team's ability to work in a cohesive fashion while experiencing a movement-based activity. Students may need to rely on group members for strengths in various areas.

Various evaluation techniques will be used to assess progress in Physical Conditioning. These techniques will include, but are not limited to, written examinations, completion of special challenges integrating aerobic, anaerobic, and resistance training (i.e. obstacle course), and improvement-based evaluations of cardiovascular endurance and strength.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 065 (GHA) Jogging (1.5) A course designed to give students an understanding of and the ability to establish an exercise program involving jogging.

KINES 065 Jogging (1.5)
(GHA)

Kinesiology 065 introduces students to the performance of jogging as a lifelong activity that helps maintain and enhance physical fitness and overall wellness. This course provides the information that the student needs to understand, organize, plan and implement a physical fitness program that features jogging as a primary activity. The centerpiece of this course is a progression of individually-paced jogs of varying lengths that are conducted over various terrains. Past activities have included 1.5-mile timed runs, 2 through 6 mile runs, interval runs, hill runs, and runs to various locations of interest. Locations include Beaver Stadium, the deer research pens, Sunset Park, and various other landmarks around campus and in the community. These activities are complemented by a series of classroom lectures on such topics as the physiology of exercise, jogging safety; goal-setting for personal health; principles and concept of physical fitness; training methods to address different jogging goals; and nutrition and weight control. Students also participate in team-based projects such as group-designed scavenger hunts, "landmark jogs," and different team games and events that build group interaction skills. As a final project, each student is asked to define a measurable fitness goal and design a fitness jogging program to realize that goal. As part of this assignment, students assemble data to indicate that they have achieved their goal, and then identify and analyze the factors that contributed to their success. Students also have the opportunity to monitor their performance throughout the course using a variety of personal assessment inventories and instruments, such as logs and heart rate monitors. When a student completes Kinesiology 065, he or she will be able to identify the components of an effective physical fitness program and explain how jogging contributes to the success of this program; develop realistic fitness goals and design a jogging program to meet these goals; perform a variety of fitness jogging techniques; and understand how jogging promotes psychological well-being. Frequency of Enrollment: Ten to twelve sections every fall and spring semesters with a maximum of 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 067S (GHA) Physical Conditioning (1.5) A course designed to give students an experience with an understanding of vigorous physical training.

Physical Conditioning (1.5)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 068 (GHA) Strength Training (1.5) Designed to improve students' muscular strength/endurance, teaches students how to develop an effective personal strength/endurance training program for lifelong fitness.

KINES 068 Strength Training (1.5)
(GHA)

The purpose of this class is to learn the basic principles of strength training, the role of weight lifting in an overall program of health and wellness, and to acquire the necessary skills and experience to develop an individualized program for developing muscular strength and endurance.

Kinesiology 068 will require the student to understand the following specific objectives:
1) Become proficient in the use of various types of equipment used to improve strength and endurance.
2) Learn the essential components of a weight training program and overall fitness program.
3) Conduct specific tests to measure muscular strength and endurance.
4) Assess muscular fitness level by comparing strength testing results to national averages.
5) Improve muscular strength and endurance.

Ample time will be devoted to allow students to acquire proper techinque for a wide variety of strength training exercises and to create a personal training program. Students will have adequate time to train and should significantly improve strength and endurance throughout the semester. At regular intervals, strength and endurance will be assessed. Students will complete summary reports in which they compare their fitness levels to national standards and will chart individual progress throughout the semester. Throughout the semester, it will be emphasized to the student that strength training is one aspect of a personal health and wellness program and that the student must assume personal responsibility to develop and maintain his/her health and fitness level for life. Students will be encouraged to explore their personal health and fitness goals and how strength training may be incorporated into their lifelong fitness plan.

Various evaluation techniques will be used to assess individual progress in Kinesiology 068. These techniques will include (but are not limited to) conventional objective testing, skill and fitness testing, and writing assignments.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 070 (GHA) Swim Conditioning (1.5) A course designed to provide students an understanding of and proficiency in swimming conditioning.

KINES 070 Swim Conditioning (1.5)
(GHA)

The primary objective of Kinesiology 070 is to teach students, in both a theoretical and practical manner, the fitness benefits derived from swimming. These benefits include but are not limited to: flexibility, cardiovascular endurance, muscular strength and endurance, and weight management. Because of its non-weight-bearing nature, attention is also given to the exercise value of swimming for arthritic, injured, and overweight individuals. This course promotes swimming as a lifelong pursuit and at the same time enables a student to design an individualized fitness plan, using swimming as the primary activity.

Instruction includes a mixture of classroom and practical experiences, with an emphasis on in-water activity. Fundamentally, the water activity consists of a daily workout, 40-50 minutes in length. Workout components include: a warm-up, light stretching, a main training set, and a warm-down. The training emphasis varies depending upon the placement of the workout during the semester as well as the fitness goal (group or individual) at that particular time. Workouts conducted early in the semester, for example, focus on technical issues and general aerobic improvement as the workload is gradually increased. Subsequent workouts are geared toward improving aerobic and anaerobic conditioning while maintaining a steady but varied workload. Throughout the semester, swimming is the primary activity, but an exposure to water walking/jogging/running and dry-land training is also provided. Moreover, the importance of implementing training variety, proper technique, and appropriate safety procedures is emphasized throughout the course. Classroom sessions are reserved for understanding training principles, terms, and methods. Individual concerns (i.e. fitness goals, videotaping, training alternatives, and problems) are also addressed in this setting.

Swimming ability varies greatly from one individual to another. Because of this, and because space limitations prevent total individuality, students are taught to devise swimming fitness programs that meet both individual and group goals. These workout programs are expected to utilize competitive and noncompetitive strokes, varying degrees of aerobic and anaerobic training, as well as a balanced combination of swimming, kicking, and pulling efforts (using a variety of training equipment). Educational objectives are completed in a systematic yet flexible manner that affords students the opportunity to simultaneously learn and experiment together while developing individual fitness.

Individual progress may be assessed through any or all of the following measures: objective testing, maintenance of a training log, written assignments, and standardized swimming performances. The amount of each is left to the discretion of the instructor. Evaluation methods other than those already mentioned may certainly be used.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: KINES 047A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 071 (GHA) Triathlete Training (1.5) A course designed to give students a foundation for skills in cross-training: swimming, cycling, and running.

KINES 071 Triathlete Training (1.5) (GHA)

Kinesiology 071 introduces students to the performance of cross-training as a lifelong activity that maintains and enhances physical health and psychological well-being. This course provides the information that the student needs to understand, organize, plan and implement a cross-training program to compete in a triathlon. The students will determine their strengths and weaknesses in swimming, cycling, and running and design a training regime that will build on their weak areas and capitalize on their strengths. The centerpiece of this course is a series of small group and individual training sessions combining the three various disciplines of swimming, cycling, and running into a single sport of triathlon training. Past activities have included swimming drills and techniques, cycling around the campus and community, running, and learning pacing. In addition, cycling to such places as Whipples Dam and Stone Valley Recreation Area have also been featured. These activities are complemented by a series of classroom lectures on such topics as the physiology for triathletes, weight training and stretching, nutrition and performance. As a final project, each student will participate in a mini triathlon set up by the course instructor. Students also have the opportunity to monitor their performance throughout the course using a variety of personal assessment inventories and instruments, such as logs and heart rate monitors. Following the completion of Kinesiology 071, the student will be able to identify the components of an effective physical fitness program and explain how triathlete training contributes to the success of this program; develop realistic fitness goals and design a cross-training program to meet these goals; perform a variety of fitness techniques; and appreciate how triathlete training promotes physiological and psychological well-being. Various evaluation techniques will be used to assess individual progress in Kinesiology 071. These techniques will include (but are not limited to) conventional objective testing, performance on a nationally-normed fitness test, personal assessment inventories and assignments, and journaling assignments. Frequency of Enrollment: One to two sections every fall and spring semesters with a maximum enrollment of 30 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 072 (GHA) Fitness Walking (1-1.5) A course designed to give students an understanding of and a proficiency in fitness walking.

KINES 072 Fitness Walking (1-1.5)
(GHA)

Kinesiology 072 introduces students to the performance of fitness walking as a lifelong activity that maintains and enhances physical health and psychological well-being. This course provides the information that the student needs to understand, organize, plan, and implement a physical fitness program that features walking as a primary activity.

The centerpiece of this course is a series of small group and individual walks of varying lengths that are conducted over various terrains. Past activities have included one-mile, four-mile, and eight-mile walks to such locations as the Mushroom Research Center, Beaver Stadium, and various museums, and other landmarks around campus and the community. In addition, hikes to such places as Mt. Nittany and Stone Valley Recreation Area have also been featured. These activities are complemented by a series of classroom lectures on such topics as the philosophy of walking and walking safety; goal-setting for personal health; principles and the concept of physical fitness; the physiology of walking; and nutrition and weight control. Students also participate in team-based projects such as group-designed scavenger hunts and "landmark walks." As a final project, each student is asked to define a measurable fitness goal and design a fitness walking program to realize that goal. As part of this assignment, students assemble data to indicate that they have achieved their goal, and then identify and analyze the factors that contributed to their success. Students also have the opportunity to monitor their performance throughout the course using a variety of personal assessment inventories and instruments, such as logs and heart rate monitors.

When a student completes Kinesiology 072, he or she will be able to identify the components of an effective physical fitness program and explain how walking contributes to the success of this program; develop realistic fitness goals and design a walking program to meet these goals; perform a variety of fitness walking techniques; and understand how walking promotes psychological well-being.

Various evaluation techniques will be used to assess individual progress in Kinesiology 072. These techniques will include, but are not limited to, conventional objective testing, performance on a nationally normed fitness walking test, personal assessment inventories and assignments, and journaling assignments.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 076 (GHA) Introduction to Tai Chi Ch'uan (1.5) A course designed to introduce students to Tai Chi Ch'uan, a traditional Chinese system of personal cultivation and self-defense.

KINES 076 Introduction to Tai Chi Ch’uan (1.5)
(GHA)

This course will introduce students to Tai Chi Ch'uan a health and martial arts system originating from China, and based on more than five thousand years of observation and practice culled from the major Chinese Schools of philosophy and Chinese medical practice. It is seen as a physical embodiment of the supreme Taoist principles. Tai Chi has become very popular in the rest of the world as a means for attaining physical health and vitality and as a formidable defensive martial art. Tai chi has been the focus of research in China and the west and has been found extremely beneficial for balance, arthritis, Parkinson Disease and for general health and well being.
Students will be introduced to the principles of Tai Chi Ch'uan by learning Tai Chi relaxation techniques and warm ups to relax the joints, right body alignment and Qi Gong exercises to promote the flow of chi or life energy through the body and the internal organs. They will learn and become proficient in the performance of the first part of the Tai Chi Yang form, which is the heart of the practice. The students will also explore the martial aspects of Tai Chi Ch'uan through the practice of push hands, a two person play, and through the demonstration and introduction to the Tai Chi Sword. The martial art aspects will enrich the students experience and demonstrate the interaction of the student's chi with his or her environment.

Students are encouraged to practice daily outside of class and to record their practice and observations in a journal. At the end of the course they will be required to perform the Tai chi form and related exercises on their own.

Evaluation is based on participation, class journal and observations, and the final individual performance of the Tai Chi form and related exercises. No special facilities are required for this course. The department plans to offer one section every fall and spring semesters with an anticipated enrollment of 25 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 077 (GHA) Yoga 1 (1.5) A course designed to give students an understanding of and proficiency in yoga.

KINES 077 Yoga I (1.5)
(GHA)

(BA) This course meets the Bachelor of Arts degree requirements.

Kinesiology 077 introduces students to the performance of yoga as a lifelong activity that maintains and enhances physical health and psychological well-being. This course provides the information that the student needs to understand, organize, plan, and implement a wellness program that features yoga as a primary activity.

The centerpiece of this course is a series of activity classes that introduce students to classical yoga postures that address such needs as stress management, muscular tightness, skeletal alignment, and injury rehabilitation. In addition to posture instruction, each class begins with a period of breathing and meditation practice where students are taught to use various breathing techniques to calm the mind and focus mental energy on specific tasks. These activities are complemented by a series of classroom lectures on such topics as the historical and philosophical foundations of yoga, nutritional practices that enhance the value of a lifelong yoga program, and Eastern-based movement traditions that complement yoga practice. Students also have the opportunity to complete reflective essays on various aspects of yoga philosophy and lead a group-designed yoga class.

When a student completes Kinesiology 077, he or she will be able to identify the components of an effective lifelong wellness program and explain how yoga contributes to the success of this program; perform yoga to develop flexibility, strength, and cardiovascular endurance; select and perform yoga postures that address specific needs (e.g., stress management, muscular tightness); describe the philosophical and historical framework that supports yoga practice; and understand how effective breathing and meditation techniques promote physical and psychological well-being.

Various evaluation techniques will be used to assess students' progress in Kinesiology 077. These techniques can include (but are not limited to) conventional objective testing; skill testing that evaluates the performance of specific yoga postures; reflective essays on aspects of yoga history and philosophy; and performance in a group-designed yoga class.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 077A (GHA) Advanced Yoga (1.5) A course designed to expand on a student's fundamental understanding of and proficiency in yoga.

KINES 077A Advanced Yoga (1.5)
(GHA)

Kinesiology 077A is a course based on a system of ultimate health created in India 5,000 years ago and now practiced by all contemporary societies throughout the world. Students who enter this course are introduced to a deeper and more detailed knowledge and practice of this ancient curriculum. Students will become familiar with the research data that supports that yoga is beneficial to muscular, endocrine, cardiovascular, digestive and skeletal systems of the body. Each class period is devoted to practicing yoga postures with the knowledge of their specific benefits. For instance, when learning the bridge pose students will learn that the bridge increases flexibility in the back and shoulders, strengthens the leg muscles and stimulates thyroid function. Students learn to integrate such knowledge into their personal practice of yoga outside of class. In addition to learning more about the development of a personal practice advanced yoga also provides the students with many opportunities to also practice yoga off of the yoga mat or in their own personal student life. In both written and verbal opportunities students share how yoga and the practice of yoga is "showing up" in their lives. Sanskrit is the Indian language of yoga. There are opportunities in Advanced Yoga to understand and translate the language and to be able to express Sanskrit in relationship to meditation techniques, energy center practices, temperament determination and application of specific yogic activities. When students complete the course they will be able to perform yoga to increase flexibility, strength and cardiovascular endurance. They will have studied and performed breathing techniques, and developed a daily yoga practice. They will also be able to perform new intermediate yoga postures and to perfect the beginning postures learned previous to this classroom experience. They will also have a basic knowledge of the energy systems of the body as described in Indian Ayurvedic medicine. Various evaluation techniques will be used to assess student's progress in Kinesiology 077A. These techniques can include (lesson plan and teaching to support certain postures and posture series, journal writing with verbal and written criteria, and portfolio construction.) There are no special facilities for this course. The Department plans to offer one section each fall and spring semester with a maximum enrollment of 30 students.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: KINES 077

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 081 (GHA) Wellness Theory (3) Focused on preparing and engaging students in the attitudes and behaviors that enhance quality of life and maximize personal potential.

Wellness Theory (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 077S (GHA) Yoga 1 (1.5) A course designed to give students an understanding of and proficiency in yoga.

Yoga 1 (1.5)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 082 (GHA) Action Methods for Stress Management (3) Achieving wellness by studying the effects of stressors on systems of the body and effectiveness of activity to relieve stress.

Action Methods for Stress Management (3)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 083 (GHA) Exercise for Stress Management (1.5) A course designed to identify the factors that contribute to student stress and develop strategies that will manage these factors. Students who receive credit for KINES 083 will not receive credit for KINES 082.

KINES 083 Exercise for Stress Management (1.5)
(GHA)

Kinesiology 083 is a course designed to give the Penn State student an introductory understanding of the fundamental principles of stress management. This course will provide pertinent information the student needs to understand, organize, plan, and implement a preliminary stress management program.

In this course, the Penn State student will follow a four-part concept of stress management that encourages the student to identify the factors that contribute to their stress and to develop strategies that will allow the student to manage these factors more effectively. In the first part of the course, material is presented that relates to the importance of knowing oneself and then establishing vehicles for placing oneself in relationships, environments, and situations that consistently support that "self." In the second part of the course, the student is introduced to the elements of fitness and the research data available to date that supports the idea of fitness prescriptions to enhance the relaxation response and/or produce relevant changes in hormone levels. In conjunction with this knowledge and application of such knowledge, the students learn nutritional facts that allow them to understand the chemicals that foods possess that can produce a calming or increased energy effect. Combining this knowledge, the students develop a personal program to incorporate these fitness and nutritional goals into their own lives. In the third part of the course, students are introduced to Eastern literature that indicates that a mind needs to be trained in order to provide a calming effect, increased concentration, and efficiency.

Students practice these skills to train their mind and be able to fully depend on their mind to perform more efficiently in time of stress. In the final part of the course, the students are introduced to the most current definitions of spirituality and are able to appreciate how their own spirituality is demonstrated in their lives. The course is taught through a variety of teaching methods which include lecture, workbook activities, and the repeated use of stress techniques demonstrated by the instructor and practiced by the students in class. This learning is supplemented and reinforced by listening to stress management audio tapes. The students reflect on specific stress concepts by writing self-reflection papers that allow them to reflect on how each concept is "showing up" in their own lives at the present time.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 084 (GHA) Fitness for Life (1.5-2) A course designed to give students an understanding of the fundamental principles of physical fitness. Students who receive credit for KINES 084 shall not receive credit for either KINES 061 or 081.

KINES 084 Fitness for Life (1.5)
(GHA)

Kinesiology 084 is a course that has been designed to give the Penn State student a complete understanding of the fundamental principles of physical fitness. This course will provide all of the information the student needs to understand, organize, plan and implement a complete physical fitness program.

In this course the Penn State student will acquire the knowledge and critical thinking skills that are essential to the development of a healthful and active lifestyle. Kinesiology 084 will challenge students to be active participants in their learning process. Students will as individuals or as part of a learning team be involved in classroom discussions of various fitness/wellness related topics. Learning teams will delineate key elements of various topics for classroom presentation. Student will participate in student surveys collecting data, interpreting results and formulating theories about those results. Kinesiology 084 will be an ideal forum in which students can explore their social behaviors as they related to the ethical consumption of resources with regard to health and fitness.

Various evaluation techniques will be used to assess student's progress in Kinesiology 084. These techniques shall include but not be limited to conventional objective testing, group and individual presentations; Web based information gathering, personal assessment inventories, and journaling assignments.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 088 (GHA) Varsity Sport Experience (2) A course designed to promote an active and healthful lifestyle through participation in a varsity sport sanctioned by Penn State.

KINES 088 Varsity Sport Experience (2)
(GHA)

Kinesiology 088 introduces students to the rigors of the varsity sport experience. This course provides the information that the student needs to understand, organize, plan and thrive in the competitive environment of a collegiate sport program while integrating themselves into the university community.
The "corner stone" of this course is the varsity sport experience itself. Under the tutelage of some of the best instructors in the nation these student-athletes will learn how to prepare for and engage in physical and psychological contests of the highest order. In addition to engagement with the finest physiological training students are taught to work collaboratively in small and large groups to solve complex movement problems. Critical thinking is stressed as students negotiate the complex real world problem of being a student athlete in a collegiate athletic program. Social behavior, community and scholarly conduct are continually addressed as the student-athletes attempt to integrate themselves into the university and local community.

When a student completes Kinesiology 088, he or she will be able to identify the components of an effective physical training program and explain how that program contributes to lifelong wellness; develop training goals and design programs to meet these goals; perform a variety of physical training techniques; and understand how the acquisition of sport specific skills and knowledge promotes psychological well-being.

Members of the Department of Intercollegiate Athletics evaluate the successful completion of this program.
Sport-appropriate training and performing venues are provided by Penn State. Enrollment will be based upon seasonal varsity sports.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 089 (GHA) Student Wilderness Experience (3) Incoming student wilderness experience. Backpacking and one additional adventure: rock climbing, high ropes course/canoeing. One-day of community service.

KINES 089 Student Wilderness Experience (3)
(GHA)

KINES 089 is a 6-day wilderness experience that is offered to incoming students during the summer before the onset of the fall semester. This course includes four days of backpacking and one day of an additional adventure: rock climbing, high ropes course or canoeing. Through these activities students learn the various skills associated with backpacking and wilderness living. Students are engaged in hours of physical activity as they hike between 6 and 8 miles per day on variable, rolling terrain with 30-401b backpacks upon their backs. Students are placed into small groups of 8-10 students with Penn State students and graduate students who mentor and lead the wilderness experience. Small group discussions focus on life at Penn State, question and answer sessions for students and issues regarding outdoor leadership. KINES 089 emphasizes teamwork, group living skills, and wilderness ethics. Through the first five days of the program these various topics are addressed. Equipment for all activities is provided. Incoming students with all levels of experience may take this course. A community service project is also required. A follow-up classroom session takes place one to two months from the ending point of the program at which time students will turn in their class assignments. KINES 089 is offered in June, July and August prior to the onset of fall classes. Both sections of KINES 089 begin and end at the University Park campus. The course is offered at least twice every year, prior to the beginning of fall semester, with anticipated enrollment of 60 students each section. In 2003, a June and July section will be offered in addition to two weeks in August. Four sessions in total will be offered. KINES 089 will utilize a gymnasium in the Intramural Building for the first day of each session. The course also uses facilities at Stone Valley Recreation area on the last night of the program.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 090 (GHA) Introduction to Team Sports/Indoor (1-1.5) A course designed to introduce students to indoor team sports.

KINES 090 Introduction to Team Sports/Indoor (1-1.5)
(GHA)

Kinesiology 090 is a course that has been designed to give the Penn State student an introduction to a selected indoor team sport such as, but not limited to, basketball, volleyball and/or team handball. The fundamental skills, strategies, and rules will be covered for the selected sport. Successful completion of the course will provide a foundation for participation in intramural activities, recreational activities, and provide a gateway to life long movement.

While Kinesiology 090 will focus on the skills, strategies and rules of a selected team sport, the underlying sub-focus of this course is the development of the social skills required to be a good team member. The commitment to a team sport requires students to encounter a collaborate atmosphere. As the students seek to solve complex movement problems they learn to co-operate to achieve various team goals. The improvement of individual skills is important, however, the successful integration of these individual skills into the team is a valuable life lesson. As the student leaves the university, the lessons learned in this class will prepare him/her for "team " membership in their various areas of professional practice.

Students in Kinesiology 090 will be evaluated by a combination of evaluation techniques which may include, but not be limited to, written reports, skills testing, tournament performance and subject evaluation of "team" work ethics.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 090A (GHA) Introduction to Team Sports/Indoor - Volleyball (1.5 per semester/maximum of 99) A course designed to introduce students to the team sport of volleyball.

Introduction to Team Sports/Indoor - Volleyball (1.5 per semester/maximum of 99)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 090B (GHA) Introduction to Team Sports/Indoor - Basketball (1.5 per semester/maximum of 99) A course designed to introduce students to the team sport of basketball.

Introduction to Team Sports/Indoor - Basketball (1.5 per semester/maximum of 99)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 091A (GHA) Introduction to Team Sports/Outdoor - Soccer (1.5 per semester) A course designed to introduce students to the outdoor team sport of Soccer.

KINES 091A Introduction to Team Sports / Outdoor – Soccer (1.5 per semester) (GHA)

Kinesiology 091 is a course that has been designed to give the Penn State student an introduction to a selected outdoor team sport such as but not limited to Soccer, Ultimate Frisbee, Rugby and/or Speedball. The fundamental skills, strategies and rules will be covered for the selected sport. Successful completion of the course will provide a foundation for participation in intramural activities, recreational activities and provide a gateway to life long movement.

While Kinesiology 091 will focus on the skills, strategies and rules of a selected team sport the underlying sub-focus of this course is the development of the social skills required to be a good team member. The commitment to a team sport requires students to encounter a collaborate atmosphere. As the students seek to solve complex movement problems they learn to co-operate to achieve various team goals. The improvement of individual skills is important however the successful integration of these individual skills into the team is a valuable life lesson. As the student leaves the university the lessons learned in this class will prepare him/her for "team " membership in their various areas of professional practice.

Students in Kinesiology 091 will be evaluated by a combination of evaluation techniques which may include but not be limited to written reports, skills testing, tournament performance and subject evaluation of "team" work ethics.

Clean, safe, well-lit court/field is necessary to properly deliver this course. It is anticipated that the department will offer at least two sections every fall and spring with an expected enrollment of 45 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 090C (GHA) Introduction to Team Sports/Indoor - Team Handball (1.5 per semester/maximum of 99) A course designed to introduce students to the sport of team handball.

Introduction to Team Sports/Indoor - Team Handball (1.5 per semester/maximum of 99)

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 091B (GHA) Introduction to Team Sports/Outdoor - Speedball (1.5 per semester) A course designed to introduce students to the outdoor team sport of Speedball.

KINES 091B Introduction to Team Sports / Outdoor – Speedball (1.5 per semester) (GHA)

Kinesiology 091 is a course that has been designed to give the Penn State student an introduction to a selected outdoor team sport such as but not limited to Soccer, Ultimate Frisbee, Rugby and/or Speedball. The fundamental skills, strategies and rules will be covered for the selected sport. Successful completion of the course will provide a foundation for participation in intramural activities, recreational activities and provide a gateway to life long movement.

While Kinesiology 091 will focus on the skills, strategies and rules of a selected team sport the underlying sub-focus of this course is the development of the social skills required to be a good team member. The commitment to a team sport requires students to encounter a collaborate atmosphere. As the students seek to solve complex movement problems they learn to co-operate to achieve various team goals. The improvement of individual skills is important however the successful integration of these individual skills into the team is a valuable life lesson. As the student leaves the university the lessons learned in this class will prepare him/her for "team " membership in their various areas of professional practice.

Students in Kinesiology 091 will be evaluated by a combination of evaluation techniques which may include but not be limited to written reports, skills testing, tournament performance and subject evaluation of "team" work ethics.

Clean, safe, well-lit court/field is necessary to properly deliver this course. It is anticipated that the department will offer at least two sections every fall and spring with an expected enrollment of 45 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 091D (GHA) Introduction to Team Sports/Outdoor-Ultimate Frisbee (1.5 per semester) A course designed to introduce students to the outdoor team sport of Ultimate Frisbee.

KINES 091D Introduction to Team Sports / Outdoor –Ultimate Frisbee (1.5 per semester) (GHA)

Kinesiology 091 is a course that has been designed to give the Penn State student an introduction to a selected outdoor team sport such as but not limited to Soccer, Ultimate Frisbee, Rugby and/or Speedball. The fundamental skills, strategies and rules will be covered for the selected sport. Successful completion of the course will provide a foundation for participation in intramural activities, recreational activities and provide a gateway to life long movement.

While Kinesiology 091 will focus on the skills, strategies and rules of a selected team sport the underlying sub-focus of this course is the development of the social skills required to be a good team member. The commitment to a team sport requires students to encounter a collaborate atmosphere. As the students seek to solve complex movement problems they learn to co-operate to achieve various team goals. The improvement of individual skills is important however the successful integration of these individual skills into the team is a valuable life lesson. As the student leaves the university the lessons learned in this class will prepare him/her for "team " membership in their various areas of professional practice.

Students in Kinesiology 091 will be evaluated by a combination of evaluation techniques which may include but not be limited to written reports, skills testing, tournament performance and subject evaluation of "team" work ethics.

Clean, safe, well-lit court space is necessary to properly deliver this course. It is anticipated that the department will offer at least two sections every fall and spring with an expected enrollment of 45 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 091C (GHA) Introduction to Team Sports/Outdoor - Rugby (1.5 per semester) A course designed to introduce students to the outdoor team sport of Rugby.

Kines 091C Introduction to Team Sports / Outdoor – Rugby (1.5 per semester) (GHA)

Kinesiology 091 is a course that has been designed to give the Penn State students an introduction to a selected outdoor team sport such as but not limited to Soccer, Ultimate Frisbee, Rugby and/or Speedball. The fundamental skills, strategies and rules will be covered for the selected sport. Successful completion of the course will provide a foundation for participation in intramural activities, recreational activities and provide a gateway to life long movement.

While Kinesiology 091 will focus on the skills, strategies and rules of a selected team sport the underlying sub-focus of this course is the development of the social skills required to be a good team member. The commitment to a team sport requires students to encounter a collaborate atmosphere. As the students seek to solve complex movement problems they learn to co-operate to achieve various team goals. The improvement of individual skills is important however the successful integration of these individual skills into the team is a valuable life lesson. As the student leaves the university the lessons learned in this class will prepare him/her for "team " membership in their various areas of professional practice.

Students in Kinesiology 091 will be evaluated by a combination of evaluation techniques which may include but not be limited to written reports, skills testing, tournament performance and subject evaluation of "team" work ethics.

Clean, safe, well-lit space/field is necessary to properly deliver this course. It is anticipated that the department will offer at least two sections every fall and spring with an expected enrollment of 45 students per section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 092 (GHA) Adaptive Physical Education (1.5) A course designed to give students with medically defined disabilities an opportunity to maximize their physical potential through individualized programs.

KINES 092 Adaptive Physical Education (1.5)
(GHA)

Kinesiology 092 is a fitness activity class designed for students with medically described disabilities. The class introduces students to a program of organized activities designed to increase their overall fitness level with an emphasis on safety, enjoyment, lifetime activities and sports. Students are challenged to set their own fitness goals and to begin a program of warm up activities, stretching, strength training, and endurance activities. The individualized programs are designed and monitored by the instructor with the guidance and consent of the student's physician and or physical therapist. Students are required to keep a fitness diary or journal and to evaluate their individual progress. Evaluation of normal progress toward their goal is basic but conventional assessment techniques and performance on nationally normed fitness tests are also used. Facilities: Wheel chair accessibility, adaptive physical education room and adaptive equipment are available in Recreation Building. Offering: The Department anticipates offering one to two sections every fall and spring with enrollments up to 20 students in each section.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 093 (GHA) Masters Activity (Sport) (1.5 per semester/maximum of 12) A course that introduces students to movement subcultures by providing the knowledge, habits, and skills for activity across the lifespan.

KINES 093 Masters Activity (Sport) (1 per semester/maximum of 12) (GHA)

The Masters Curriculum provides a unique approach to movement education. Rather than focusing on regimented skill development over a period of a semester or less, KINES 093 requires students to incorporate activity into their weekly schedules for a year or longer. Because this is a self-paced and self-designed curriculum, students must also take responsibility for the kind, quality, and amount of activity they experience. By signing an activity contract with the master teacher each semester and being required to demonstrate progress made through portfolio evaluations, students are further encouraged to take responsibility for developing the habits of active living-not just fulfilling a requirement. The curriculum is designed to bring a higher percentage of students into a movement subcultures higher percentage than can be achieved in the shorter, instructor-directed, and more traditional educational setting. In order to achieve this in-depth experience, students will be required to take two masters courses (1.5 credit each) in the same activity. Sequential enrollment provisions will be needed, with a maximum of 3 credits counting toward General Education requirements. Each student will meet with the master instructor at the start of a semester to review a menu of activity opportunities (see outline above) in a specific movement domain. Students, in consultation with the instructor, will select a cluster of learning experiences to be encountered that semester. Each menu item chosen will be recorded on the contract along with the method or methods by which that item will be documented in the student's portfolio. The agreed upon documentation must be provided before credit is awarded. A completed contract will be signed by both the student and the master teacher. Regular communication between each student and instructor, consistent with the nature of the contract and the activities selected from the menu, will be assured. In addition, students will be required to become connected to a movement subculture by joining an appropriate organization and/or subscribing to relevant publications during that two-semester period of time needed for completing the requirement. When students have finished the 3 credits, they will be encouraged to continue with Masters development either as performers or as peer instructors for less experienced students. This length and intensity of involvement is designed to produce students who become bona fide members of a movement subculture by the time they leave the program. The expectation is that they will embody the habits, values, and attitudes needed for an active, healthy lifestyle.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: successful completion of relevant activity course or permission of the instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 096 (GHA) Independent Study in Physical Activity (.5-3 per semester) This course is designed to meet the needs of students to expand Kinesiology experiences beyond the designed course curriculum.

KINES 096 Independent Study in Physical Activity (1-3 per semester) (GHA)

Students enroll in KINES 096 to take advantage of a unique movement experience in which they plan to participate. They enroll in KINES 096 by an application process. Students who feel that they would like to fulfill their Health Science and Physical

Activity (GHA) requirement by pursuing a movement form outside of the normal curricular offerings apply to the department of Kinesiology. Applications will be screened to see that they fulfill the tenants of the GHA requirement.

The topics for this course vary widely from student to student. A student may be working on a personal contract that has been designed to report the progress of experiences from hiking excursions in Nepal to a mountain biking course in Crested Butte, Colorado, to walking a mile in 15 minutes after major knee surgery. Therefore, many common topics are an exception rather than a rule during any given semester. Each student completes a proposal form that requires that they describe their need for this course. They are also asked to describe the experience that they have identified in detail and also a preliminary program and implementation plan for the detailed program. This proposal is then approved or denied by the faculty member facilitating the independent study program. After the proposal has been approved or denied the student will receive a letter notifying them of their status in the course. If they have received an approval letter they are instructed in the letter to meet one-on-one with the class instructor. At the initial meeting, the proposal is discussed and when there is an agreement with the student and instructor concerning the requirements for the student to complete the course successfully a contract is written and signed by both the instructor and the student. Weekly contact, at a minimum, with the instructor is required.

Student evaluation techniques shall include but not be limited to objective testing, individual projects, presentations, journals and subjective evaluation of effort involved in meeting the stated goals and objectives for the course.

There are no special facilities for this course. The department plans to offer this course every fall and spring semesters, with an enrollment of up to 25 students each semester.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 097C Certified Lifeguard (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Certified Lifeguard (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 120 Strength Training (1.5) Strength training activities and program planning for students and athletes.

Strength Training (1.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: KINES 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 097K History, Culture and Practice of Traditional Aikido in Japan (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

History, Culture and Practice of Traditional Aikido in Japan (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 126 The Health Program for the Elementary School Child (1.5) Introduction to the Coordinated School Health Program. Overview of contemporary school-based health education theory, content, methods, and practice.

KINES 126 The Health Program for the Elementary School Child (1.5)

KINES 126 is an introductory course designed to prepare school-and community-based educators to implement health promotion and disease prevention educational programs to elementary-aged audiences. Emphasis of the course is on the coordinated school health program model, theory, content, and teaching methods. Eight specific components of a coordinated school health program serve as the foundation for the course: (1) comprehensive school health education; (2) physical education; (3) school health services; (4) school nutrition services; (5) school counseling, psychological, and social services; (6) healthy school environment; and (7) school-site health promotion for faculty and staff; and family and (8) community involvement in school health. Students will gain experience in health promotion and disease prevention concepts; lesson planning; roles and responsibilities of teachers, staff, administrators, and students; and implementing effectively the health education concepts outlined above. The Department will offer one large section each fall and spring semesters with an anticipated enrollment of 150 students per section. A technology room will be required.

Participation in this course will enable the student to:
a. Analyze the goals, roles, and responsibilities of the classroom teacher concerning the health of the school-aged child.
b. Identify appropriate educational resources related to school health.
c. Describe the components of the coordinated school health program
d. Discuss the important of learning healthy life skills for elementary-aged learners.
e. Organize and submit one modified health-based lesson plan for elementary-aged leaners.
f. Demonstrate competency in accessing health education resources from the World Wide Web.

Methods for Evaluation:
Written examinations 50%
Lesson Planning 30%
In-Class Participation 20%

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 135 Introduction to Athletic Training (3) Foundation of injury recognition and prevention; ethical, legal, and professional issues for the athletic trainer. A laboratory based course.

KINES 135 Introduction to Athletic Training (3)

Introduction to Athletic Training provides an overview of the field of athletic training exploring the breadth of athletic training terminology, issues, and injuries. After completing the course, the students will be able to describe the roles of the sports medicine team, understand the legal considerations for the athletic trainer as a health care provider, and identify the basics of physical conditioning and nutrition in reference to injury prevention. Students will be able to describe an emergency action plan for injuries, lightning safety, and provide a basic plan for dehydration and fluid replacement. Students will be able to identify basic use of therapeutic modalities and principles of therapeutic exercise programs. Students will gain an understanding of acute vs. chronic injury conditions and be able to describe the related anatomy, etiologies, pathologies, signs and symptoms, and general treatment and management for injuries of the foot, ankle, lower leg, knee, hip/groin, shoulder, elbow, wrist, hand, cervical spine, and head. A weekly taping laboratory is included and students are provided rationale and demonstrations for specific taping techniques for a variety of injuries. Students are also provided an overview of general medical conditions that may occur in the athletic arena. Students are evaluated through three (3) exams, six (6) quizzes, performance in taping lab and practical exam, development of a medical condition fact sheet and class presentation of the medical condition, in-class assignments, class participation, and class attendance. This course is offered every fall and spring semesters with a maximum enrollment of 35.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 127 The Physical Education Program for the Elementary School Child (1.5) Theoretical and practical overview of developmentally appropriate physical education for children.

KINES 127 The Physical Education Program for the Elementary School Child (1.5)

KINES 127 is an introductory course designed to introduce future classroom teachers to the conceptual framework of developmentally appropriate physical education. The class includes both theoretical and practical guidelines for analysis and implementation of children's physical education. The course focuses on applications of the Pennsylvania standards for elementary educators K-6. The components of KINES 127 include: concepts related to becoming and remaining physically active for a lifetime, physical fitness, motor development, movement and fitness concepts and fundamental motor skills, safety procedures, role and value of play, game and sports in child development. Students will gain experience teaching physical education lessons, as well as observing and participating in physical education experiences. Students will be introduced to multi-cultural dance and games. Students will understand the use of small and large equipment. Evaluation will include written examination, group peer teaching, and participation. The Department will offer 4 sections each Fall and Spring semesters with an anticipated enrollment of 30 students. The Department will offer 1 section per summer semester with an anticipated enrollment of 30 students.

Participation in this course will enable students to:
1. Define and develop a philosophy of elementary physical education.
2. Identify developmental characteristics and stages for children grades K-8.
3. Develop professional teaching techniques.
4. Apply act ivies for physical education, using proper safety procedures.
5. Discuss the importance of nutrition, personal wellness, and lifelong healthy habits.
6. Understand the human body and its systems.
7. Demonstrate competency in accessing physical education activities and resources from the World Wide Web.

Methods for Evaluation:
Writing Examination 50%
Group Peer Teaching and lesson planning 20%
Written Observation of Peer Teaching 10%
Participation 20%

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 141 (US;IL) Physical Activity: Historical and Cultural (3) Evolution of cultural values in physical activity from antiquity to the present.

Physical Activity: Historical and Cultural (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 165 Health Education Concepts (3) Principles of healthy living which are the basis for health instruction in schools and health care settings.

Health Education Concepts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 170 Introduction to Fitness Through Physical Activity (3) An exploration of the needs and scientific bases of exercise and lifetime sports for adults.

Introduction to Fitness Through Physical Activity (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 180 Introduction to Kinesiology (3) The foundation course of the Kinesiology degree, providing an interdisciplinary approach to the study of movement through problem based learning.

KINES 180 Introduction to Kinesiology (3)

Kinesiology 180 is the foundational course of the Kinesiology degree, and aims to stimulate student's interest and value in the scholarly inquiry of human movement. Students will be introduced to the problems, and methods used to solve them, that are the domain of Kinesiology. The relevance of the study of human movement to different areas of professional practice will be emphasized, along with guidance on multiple possible career paths for Kinesiology undergraduate students (e.g. athletic training, ergonomics, fitness and wellness industry, medicine, occupational therapy, physical therapy, and teaching). To begin with, students will be introduced to the Kinesiology sub-disciplines: biomechanics, motor control, physiology, and psychology. Students will gain experience in different methods of inquiry through active learning, including laboratory-based activities that stress practical application of knowledge. During the later part of the course the sub-disciplines will be integrated in an interdisciplinary approach through student collaboration in solving authentic "real world" problems. Evaluation will include laboratory activities, Readiness Assessments Tests, and/or mid-term and final examination will be administered based on instructor discretion. The Department is planning to offer two sections every fall and spring semesters with an anticipated enrollment of 75 students per section. A technology room will be required. A technology room request form is attached.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 197A Biophysical Basis of Kinesiology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Biophysical Basis of Kinesiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 197A The Biophysical Basis of Kinesiology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

The Biophysical Basis of Kinesiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 197E ROTC Lab (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

ROTC Lab (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 201 Cardiorespiratory Training for Health and Performance (3) Exploration of the principles and practical applications of cardiorespiratory training for health and performance enhancement.

KINES 201 Cardiorespiratory Training for Health and Performance (3)

KINES 201 prepares students in understanding the process of developing a cardiorespiratory exercise prescription program. Exercise programming is scripted on an individual basis according to goals, national guidelines, age, interests, available time, and commitment. The benefits of physical activity are becoming increasingly documented. However, physical activity is not without risks. The proper cardiorespiratory exercise prescription is important to the safe participation for a wide range of populations. Students will be able to determine the differences between activity, fitness, and sport performance and be cognizant of the various components and modes of cardiorespiratory activity. Students will understand the different models of cardiorespiratory exercise prescription for health, fitness, and sport performance. Applying this knowledge, students will experience practical applications of cardiorespiratory exercise prescription on various training modalities applied to a wide range of settings. Homework assessments, laboratory activities and/or mid-term and final exams based on the discretion of the course instructor will reflect the pedagogical and practical application of cardiorespiratory exercise prescription concepts.

The Department is planning to offer one section every year with an anticipated enrollment of 25 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 200 Muscle Training: Physiology, Programs, Techniques (3) Physiological basis of strength training emphasizing mechanisms of muscle contraction and growth, program and facility design, and individual exercise technique.

KINES 200 Muscle Training: Physiology, Programs, Techniques (3)

This course focuses on the concepts and applications of strength exercise science including relevant testing and evaluation of strength protocols. It explores the organization and administration of resistance training and conditioning facilities including the development of resistance training programs. The course also introduces students to exercise techniques. As a result of this course students will be able to work collaborative with others. They should be able to evaluate information for authority, relevance, currency and accuracy. They will understand the biomechanics of strength training, the physiological adaptations to muscle training and the mechanisms of change with varying populations. In addition they should be able to select and organize appropriate muscle testing protocols. They should be able to teach and demonstrate appropriate strength exercises to an individual or group as well as be able to identify and correct errors an individual might make. They should be able to prescribe the proper exercise and exercise sequence to strengthen a specific muscle or muscle group. And they should be able to design and organize a strength training facility. Knowledge and skills will be assessed by written tests, by laboratory work and by a variety of group projects and term papers. This course is linked to other courses in that it is the course in which students gain knowledge and experience in designing and prescribing resistance training exercises for individuals and groups. As such it contributes core content to the curriculum. The course requires a resistance training room with adequate equipment and computers, both available to students at both locations of the College.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 202 Functional Human Anatomy (4) In-depth examination of the, musculoskeletal, nervous, cardiovascular, and respiratory systems, and their relationship to human movement.

Functional Human Anatomy (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 203 Medical Terminology for Allied Health Professionals (3) Comprehensive review of terms related to functions, disorders, diagnosis, and treatment of body systems related to physical activity and movement.

KINES 203 Medical Terminology for Allied Health Professionals (3)

This course is designed for students who wish to enter an allied health field related to physical activity and human movement. This course will help students prepare for careers in physical therapy (PT), occupational therapy (OT), medicine (MD, DO), physician assistant (PA-C), pharmacy (R.Ph), dietary medicine (RD) and emergency care (EMT, EMT-P). Some of the allied health programs listed above requires a 3 credit course in medical terminology prior to admission into graduate school and this course fulfills that requirement.

The goal of this course is to help students develop an understanding of medical terminology related to physical activity and human movement used when dealing with the anatomy and physiology of the systems of the body, disease processes associated with each system, and pharmacology and clinical treatments associated with the pathology of the body systems. Students will appreciate the weights and measures, chemical symbols, diagnoses, procedures, and medical documentation used in allied health fields, especially in sports and human movement medicine.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 231 Athletic Training Clinical Practice I (3) Preparation in basic psychomotor skills required in the clinical practice of athletic training. This is a laboratory fee based course.

KINES 231 Athletic Training Clinical Practice I (2)

This course is designed to introduce students to basic skills required for the clinical practice of athletic training. The course will teach introductory content and skills related to injury and illness prevention and management. Specific topics include preventing environmental injuries and illnesses, taping and wrapping techniques, protective equipment, preparticipation physical examinations, preparing for emergencies in the athletic setting, and concepts of basic athletic injury management. The course will meet for one hour of lecture and two hours of lab each week. Assessments will include written and practical examinations, homework assignments, and demonstration of practical skills specific to the clinical proficiencies required to sit for the NATABOC exam (must be administered by an NATABOC approved clinical instructor per accreditation guidelines).
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: Athletic Training Application Completed
Concurrent: KINES 135 KINES 202 KINES 233

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 220 Inner Sports: Strategies for Maximizing Performance (1) Theory and research in competitive anxiety. Identification of athletic goals with training in cognitive skills and strategies to maximize performance.

Inner Sports: Strategies for Maximizing Performance (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: active participation in competitive sports

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 232 Athletic Training Clinical Practice II (3) Preparation in advanced psychomotor skills required in the clinical practice of athletic training. This is a laboratory fee based course.

KINES 232 Athletic Training Clinical Practice II (3)

Athletic Training Clinical Practice II provides instruction in supervised practice of the basic skills required in the practice of athletic training. Topics include documentation of medical records, postural screening, assessment and improvement of flexibility, assessment, and improvement of strength, use of functional rehabilitation protocols, use of common therapeutic modalities, and description of the use of medications in sports medicine. Assessments will include written and practical examinations, homework assignments, and demonstration of practical skills specific to the clinical proficiencies required to sit for the NATABOC exam (must be administered by an NATABOC approved clinical instructor per accreditation guidelines). Students will also complete four-10-hour observations with senior athletic training students. This course provides the student with the opportunity to learn and practice clinical athletic training skills before beginning practicum experiences. The course will meet for 2-hours of lecture and 2-hours of lab each week.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: admitted to the Athletic Training OptionKINES 231
Concurrent: KINES 334

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 233 Emergency Care in Athletic Training (3) Introduction into emergency medical care with emphasis on management of common emergency situations occuring during athletic participation. This is a laboratory fee based course.

KINES 233 Emergency Care in Athletic Training (3)

This course prepares students pursuing the athletic training option in the Department of Kinesiology with the knowledge and skills to respond to medical emergencies. Basic skills including rescue breathing, cardiopulmonary resuscitation, and first aid management of injury and illness emergencies are developed. These skills are supplemented with content related to blood borne pathogens and OSHA regulations needed for personal safety and effective management of athletic training services, the causes and prevention of sudden cardiac death in athletics, and training in the use of automated external defibrillators. The second part of the course focuses on the secondary survey and evaluation and management of central nervous system, musculoskeletal injuries, and shock. The final part of the course addresses conditions of the thorax, abdomen, and musculoskeletal system, environmental hazards encountered in athletics; and drug and alcohol overdoses and poisoning. The course will include the opportunity for professional certification in first aid and cardiopulmonary resuscitation. The course will meet for 2-hours of lecture and 2-hours of lab each week. Assessments will include written examinations, CPR certification (written and practical), blood borne pathogens certification (written), and demonstration of practical skills specific to the clinical proficiencies required to sit for the NATABOC exam (must be administered by an NATABOC approved clinical instructor per accreditation guidelines).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: Athletic Training Option Application Completed
Concurrent: KINES 135 KINES 231 KINES 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 260 Research Skills in Kinesiology (3) Development of research skills employed in kinesiology, including experimental design, statistical testing and information technology, through experiential learning.

KINES 260 Research Skills in Kinesiology (3)

KINES 260 prepares students to read, understand and critique scientific research. The epistemological belief that knowledge is static and science discovers truth will be challenged. Rather than research being a product achievable only by professors, research will be presented as a process that students can understand and contribute to. Therefore, this course will develop skills and knowledge in understanding and conducting scientific research through practical experience. Specifically, students will learn to search for articles and be able to evaluate different sources of knowledge. Reading strategies will be employed to develop the ability to read and produce research papers according to standard structure and formatting. Students will gain experience using a range of different measurements of human movement and behavior, and understand general measurement issues. Practical experience with different types of research in kinesiology will occur throughout the semester, aiding students to critique and design research. Students will learn when to employ different statistical tests, be able to analyze data using statistical software, and interpret the results. Experience in other computer software will occur throughout the semester to develop student's word processing, spreadsheet and graphical skills. This knowledge and skills will be integrated throughout the semester and culminate in a research project performed by teams of students. In addition to the research project, evaluation will include homework assignments, laboratory activities, and/or mid-term and final examination based on instructor discretion.

The Department is planning to offer one section every spring semester with an anticipated enrollment of 25 students per section. A technology room will be required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: KINES 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 261 Educational Gymnastics (1) This course provides an introduction to developmentally appropriate gymnastics for K-12 students.

KINES 261 Educational Gymnastics (1)

This course is designed for physical education teacher candidates as an introduction to educational gymnastics. Educational gymnastics are developmentally appropriate and recognize differences in student abilities and levels of physical fitness. The course introduces students to the educational philosophy of this approach and contrasts it with Olympic gymnastics. After a review of safety and liability issues related to gymnastics, the majority of the course is devoted to learning to teach the content of educational gymnastics organized into the skill themes of traveling, jumping and landing, balancing, transferring weight and rolling. Teacher candidates are taught to develop gymnastics sequences and to guide students in developing their own gymnastics sequences. The course concludes with techniques for developing rubrics to assess student progress in educational gymnastics.

The course will be offered fall and spring semesters with an anticipated enrollment of up to 25 students. Evaluation includes a paper and poster, quizzes, written rubrics for assessment, and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 262 Educational Dance (1) This course provides an introduction to a variety of dance forms typically taught as part of K-12 physical education curricula.

KINES 262 Educational Dance (1)

This course is designed for physical education teacher candidates as an introduction to teaching a variety of dance forms in K-12 settings. The course introduces teacher candidates to the educational philosophy and importance of including dance as part of the K-12 physical education curriculum. Dance is included in both state and national physical education standards. The majority of the course is devoted to learning how to teach a variety of dance forms to K-12 students in interesting and enjoyable ways. The dance forms that teacher candidates are introduced to in this course include creative, folk, ethnic, country, western, square, line, ballroom, break, hip-hop and other contemporary dance forms. Teacher candidates are taught to break dances into small steps to make learning to dance enjoyable. They are also taught how to effectively, and appropriately, include music in their teaching. The course concludes with techniques for developing rubrics to assess K-12 student progress in educational dance.

The course will be offered fall and spring semesters with an anticipated enrollment of up to 25 students. Evaluation includes a poster, quizzes, use of instructional techniques and participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 264 Health-Related Physical Fitness (1) Basic skills and methods of teaching, assessing, and prescribing health-related fitness and strength training activities.

KINES 264 Health-Related Physical Fitness (1)

This course will address basic skills and methods for assessing, designing, and teaching health-related fitness education in the K-12 population. It is designed to support existing curriculums and enable pre-service health and physical education teachers to help students meet NASPE's health-related fitness standards. The focus is on designing activities to convey health-related physical fitness knowledge to students in grades K-12. The course includes principles of fitness assessment using assessment software. Participants will learn how to effectively implement a health-related fitness program and assessment techniques into current physical education programs. This student-centered, process-oriented course will challenge students to actively engage in planning and teaching health-related fitness education activities. Students will actively participate in self-learning, self-assessment and peer-assessment. Upon successful completion of the course, students have the opportunity to become a Certified Physical Best Health-Fitness Specialist through the American Alliance for Health, Physical Education, Recreation, and Dance.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 266 Adventure/Outdoor Recreational Activities (1) Introduction to adventure/outdoor recreational activities teaching and assessment strategies for K-12 and community groups.

KINES 266 Adventure/Outdoor Recreational Activities (1)

This course is designed to introduce the student to adventure activities for use with diverse populations within educational settings and recreational programming. Applied psychological theory along with effective educational practices will be woven into the adventure activities, skills and risk management needed to design and deliver quality, adventure based activities. An introduction to high-level adventure activities including climbing, high ropes, canoeing, and other selected activities will be included with a critical eye towards the use of this activity to create physically and emotionally safe environments that allow for transformational growth and learning.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 268 Technology Applications in Health and Physical Education (1) Integration of technology into health and physical education curriculum.

KINES 268 Technology Applications in Health and Physical Education (1)

The use of technology in health and physical education curricula has increased. Contemporary health and physical educators need to understand and be able to use a variety of technologies in their health and physical education curricula. This course is designed to provide health and physical education teacher candidates with the knowledge and skills to use current technologies (e.g., pedometers, heart rate monitors, and personal digital assistants) within health and physical education curricula. Additionally, this course will provide teacher candidates with technological skills that will facilitate their professional development.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: Official acceptance into the Physical and Health Education Teacher Education (PHETE) option in Kinesiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 270 Folk, Square, and Ballroom Dance (1) Techniques, performance analysis, and teaching methods for folk, square, and ballroom dance.

Folk, Square, and Ballroom Dance (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 295A Observation of Health and Physical Education in the Public Schools (1) Introduction to the career of teaching including guided observation of HPE in K-12 public schools.

KINES 295A Observation of Health and Physical Education in the Public Schools (1)

Introduction to the career of teaching with guided observation of HPE in K-12 public schools. This course includes three full days of observation (one day elementary school, one day middle school, and one day high school), with four scheduled seminars.

Evaluation includes teaching logs and observation forms, reflection papers, participation, and creation of an electronic-portfolio. This course is offered spring semester with an anticipated enrollment of 50.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 295B Careers/Observations in Kinesiology (1) Introduction to career information and observational experiences in the Kinesiology field.

Careers/Observations in Kinesiology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 295C Professional Development - Field Experience (1-2 per semester/maximum of 8) Develops the necessary professional skills needed to maximize the benefits obtained from a professional conference.

KINES 295C Professional Development - Field Experience (1-2 per semester/maximum of 8)

This course is designed to provide undergraduate students the opportunities of professional development via lecture format, professional travel to a national conference, and guest round table discussions. Throughout the course, students will have exposure to professional communication with faculty through formats including, but not limited to the following: conference forums, faculty/professional/expert dinner discussions, lectures, training sessions, symposiums, break-out sessions, and a poster forum. The students will enhance skills needed to develop networking and interview skills, communicate information effectively, and build resumes to meet the needs for such endeavors as graduate school, internship acquisition, and/or employment. Other class foundational principles include but are not limited to: attending a professional conference, practicing business etiquette at professional lectures and expositions, exposure to professional networking, learning how to exchange knowledge within the professional realm, and researching professional collaborative work. Students will share the experience and knowledge gained from this professional travel through relevant exercises that may include a formal poster forum within the university setting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: completion of three credits in Kinesiology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296A Independent StudY Athletic Training (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent StudY Athletic Training (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296A Independent Study Athletic Training (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Athletic Training (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296A Independent Study Athletic Training (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Athletic Training (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296B Independent Study Biomechanics (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Biomechanics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296B Independent Study Biomechanics (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Biomechanics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296B Independent Study Biomechanics (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Biomechanics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296C Independent Study Exercise Physiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Exercise Physiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296C Independent Study Exercise Physiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Exercise Physiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296D Independent Study History and Philosophy (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study History and Philosophy (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296C Independent Study Exercise Physiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Exercise Physiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296D Independent Study History & Philosophy of Sport (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study History & Philosophy of Sport (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296E Independent Study Motor Control (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Motor Control (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296D Independent Study History and Philosophy (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study History and Philosophy (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296E Independent Study Motor Control (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Motor Control (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296E Independent Study Motor Control (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Motor Control (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296F Independent Study Psychology of Movement and Sport (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Psychology of Movement and Sport (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296F Independent Study Psychology of Movement (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Psychology of Movement (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296F Independent Study Psychology of Movement and Sport (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Psychology of Movement and Sport (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296G Independent Study Teaching Prep/Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching Prep/Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296G Independent Study Teaching/Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching/Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296G Independent Study Teaching/Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching/Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296K Independent Study Applied Kinesiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Applied Kinesiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296K Independent Study Applied Kinesiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Applied Kinesiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 296K Independent Study Applied Kinesiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Applied Kinesiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 298D Professional Development-Field Experience Pedagogy (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Professional Development-Field Experience Pedagogy (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 303 (GHA) Emergency Care - First Aid/Safety/AED (3) Develop skills for First Responder Certification in CPR/AED, First Aid and Safety by American Red Cross or National Safety Council.

KINES 303 Emergency Care - First Aid/Safety/AED (3)
(GHA)

KINES 303 is designed to provide students with the opportunity to acquire and develop the skills and competencies needed for First Responder Certification in CPR/AED, First Aid and Safety from the American Red Cross and/or National Safety Council. Students will understand the role of the Emergency Medical System (EMS) in a complex society and the importance of emergency care in our health care system. KINES 303 will foster the student's critical thinking skills and their ability to assess and evaluate life threatening and disabling injuries and illnesses and to respond with appropriate care and life saving action steps in variety of medical emergencies. Students will develop an understanding of the importance of emergency care, first aid and safety at all levels of society with emphasis on providing and improving the quality of emergency care practices in a wide variety of community organizations, occupations and professions including childcare, education, human services, geriatric care and disaster management. KINES 303 is taught through a variety of teaching methods. Students are prepared for proficiency through readings, classroom discussion, video presentation, practical skills, sudden illness and injury scenarios, group presentations and direct observation of EMS (Ride-Alongs). The course is practice-focused on developing the skills and competencies necessary for emergency scene management, CPR/AED and sudden illness and injury. Various evaluation techniques will be used to assess the students progress in KINES 303. These techniques shall include but not be limited to conventional objective testing, practical skill tests, sudden illness and injury scenarios, group presentation and written observation papers. Students who have already received credit for NURS 203 and/or KINES 233 may not enroll in this course due to duplication of material.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 304 First Aid: Instructors (1) Competencies leading to certification for teaching American Red Cross Advanced First Aid and Emergency Care and American Heart Association Cardiopulmonary Resuscitation. Laboratory.

First Aid: Instructors (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: KINES 303

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 310 Physical Growth and Motor Development (3) Study of biologically programmed growth processes and environmental influences leading to attained adult form and biomechanical function.

KINES 310 Physical Growth and Motor Development (3)

The unified study of growth and development provides a cornerstone for understanding and integrating several areas of biological and-behavioral phenomena that are central to a full and balanced education in the science of movement. In the biological realm, the course includes a review or overview of genetics at the molecular, cellular and organismic levels. Both nuclear and cytoplasmic gene systems are treated. Nuclear inheritance is discussed in terms of independent expression of individual genetic loci (e.g. human blood groups) and interactions among loci (the phenomena of multifactorial and quantitative traits, which are central to understanding the development of differences in body proportions). Further coverage is provided on organization of genetic loci into chromosomal units. This information provides a basis for treating modes of sex determination (with the human XY stem placed in a comparative context of several alternatives, making it possible to explore different degrees of genotype-environment interaction), as well as developmental syndromes (e.g. Down, Turner, Klinefelter - which influence movement and coordination) arising from variations from normative chromosome numbers. Cytoplasmic inheritance is explained in the particular context of mitochondrial genomes, which are fundamental to energy metabolism, and variations in which have important implications for basic health and athletic performance. In the behavioral domain, physical activity and nutrition are explained and elaborated as key environmental elements that interact with and shape the expression of the genetic systems that are transmitted across generations. Attention also is given to other environmental factors that influence growth, including altitude, climate, and socioeconomic status. It is noted that these factors can be studied in isolation or combination; this multidimensional interpretive framework provides a basis for illustrating and explaining not only gene-environment interactions, but also environment-environment interactions in the course of human development. Growth patterns and variations in different human populations are used as examples in this context. Throughout the course, the emphasis is on gauging and maximizing human potential, in a philosophical framework that emphasizes the importance of physical activity and other individually controllable factors that are known to have a positive influence on health through the course of the human life cycle. Evaluation is based on assignments and examinations. This course is taught every spring semester with a maximum enrollment of 35 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: KINES 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 321 Psychology of Movement Behavior (3) Basic concepts and application of psychological knowledge for organized sport, physical activity, and athletic training.

KINES 321 Psychology of Movement Behavior (3)

Psychology of Movement Behavior is designed to introduce students to the basic concepts and applications of psychological knowledge for organized sport, athletic training, and physical activity. The course content is divided into the following four categories. The first section includes an introduction to sport and exercise psychology and sport and exercise participants. The topics covered in this section are the history of sport and exercise psychology, sport and exercise psychology consultants' responsibilities (i.e., research, teaching, and service), and understanding sport and exercise participants' personality traits and motivation for participation. The second section contains topics for understanding of sport and exercise environments including an overview of competition, group dynamics, and the principles of feedback and reinforcement. The third section is dedicated to enhancing sport and exercise performance, and the topics discussed are related to psychological skills training and application (e.g., goal setting, imagery, and relaxation training). The fourth section focuses on enhancing sport and exercise participants' health and well-being. The topics covered in this portion of the class include an understanding addictive behaviors (e.g., exercise dependence, eating disorders, and substance dependence), body image, injury rehabilitation, and exercise initiation, maintenance, and adherence. The general objective of this course is to familiarize the student with the science and practice of sport and exercise psychology from both a theoretical and applied perspective. To achieve this objective, the student will: (a) develop an understanding of how various psychological factors influence athletic performance, physical activity participation, and overall health and well-being; (b) learn the methods used by athletes and exercisers of various skill levels to achieve peak performance; (c) understand the scientific and theoretical background of sport and exercise participation; and (d) comprehend how psychological skills are applied to sport and exercise environments to enhance peak performance and quality of life, and recognize the ethical principles of applying these psychological skills. Students are evaluated on class assignments, class participation and involvement, and examinations. Examinations may include information from lecture notes, reading assignments, and class assignments. The final examination includes cumulative information covered over the course of the semester. One section of this course is offered every fall and spring semesters with an anticipated enrollment of 150 students each semester. A technology room is used for instruction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: KINES 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 334 Mechanisms and Evaluation of Lower Body Athletic Injuries (3) Etiology of athletic injuries with scientific and practical rationales for evaluation of injuries to the lower extremity and lumbosacral spine.

KINES 334 Mechanisms and Evaluation of Lower Body Athletic Injuries (3)

This course will focus on: 1) the etiology of athletic injuries to the lower extremity and lumbosacral spine, and 2) evaluation techniques for assessing athletic injuries to the lower extremity and lumbosacral spine. The objectives of this course include: understanding the mechanisms of athletic injuries to the lower body; demonstrating proficiency in the objective and subjective assessment procedures of lower body athletic injuries; recognizing orthopedic, neurovascular, and medical emergencies associated with lower body athletic injuries; recognizing the normal and abnormal mechanics of the lumbosacral spine and lower extremity including the walking and running gait cycles; and integration of injury mechanisms into the treatment and rehabilitation plan of care for the injured athlete. This course includes lectures as well as hands-on laboratory sessions.

Assessment is based on student performance on written examinations, practical examinations, and written assignments. This course is required for students completing the athletic training option within the Kinesiology major. It is designed to be taken concurrently with either KINES 395F or 395G. The course is offered every spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: Admitted to the Athletic Training OptionKINES 231
Concurrent: KINES 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 336 Medical Aspects of Athletic Training (3) Pathology, assessment, and treatment (including pharmacology) of general medical conditions commonly seen in physically active populations.

KINES 336 Medical Aspects of Athletic Training (3)

This course is designed to instruct students in general medicine content and skills related to the clinical practice of athletic training. Specific topics include pathology; pharmacology; physical examination of head, ears, eyes, nose, throat, pulmonary, cardiovascular, gastrointestinal, renal, genitourinary, and dermatological conditions commonly seen in athletes; exertional heat illness; diabetes and exercise; female athlete triad; injuries in athletes with physical disabilities; and psychosocial aspects of patient-provider relationships. Several lectures will be made by physicians who specialize in sports medicine. Lab activities will include the instruction, practice, and assessment of psychomotor skills related to the course content. The course will meet for three hours per week and will include a balance of both lecture and laboratory activities. Student assessment will include written and practical examinations, homework assignments, and demonstration of practical skills specific to the clinical proficiencies required to sit for the NATABOC exam (must be administered by an NATABOC approved clinical instructor per accreditation guidelines).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 335
Concurrent: KINES 395G KINES 435 KINES 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 335 Mechanisms and Evaluation of Upper Body Athletic Injuries (3) Etiology of athletic injuries with scientific and practical rationales for evaluation of injuries to upper extremity, neck, head, and trunk.

KINES 335 Mechanisms and Evaluation of Upper Body Athletic Injuries (3)

This course will focus on: 1) the etiology of athletic injuries to the upper extremity, head, cervical spine, thorax, and abdomen, and 2) evaluation techniques for assessing athletic injuries to the upper extremity, head, cervical spine, thorax, and abdomen. The objectives of this course include: understanding the mechanisms of athletic injuries to the upper body; demonstrating proficiency in the objective and subjective assessment procedures of upper body athletic injuries; recognizing orthopedic, neurovascular, and medical emergencies associated with upper body athletic injuries; recognizing the normal and abnormal mechanics of the cervical spine and upper extremity including the overhand throwing motion; and integration of injury mechanisms into the treatment and rehabilitation plan of care for the injured athlete. This course includes lectures as well as hands-on laboratory sessions.

Assessment is based on student performance on written examinations, practical examinations, and written assignments. A literature review paper detailing the pathoetiology of a specific athletic injury is required. This course is required for students completing the athletic training option within the Kinesiology major. It is designed to be taken concurrently with either KINES 395F or 395G. The course is offered every fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 334
Concurrent: KINES 395F KINES 434

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 345 Meaning, Ethics, and Movement (3) Development of philosophic reasoning skills to better understand the values of physical activity and ethics in a variety of performance settings.

Meaning, Ethics, and Movement (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: KINES 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 350 Exercise Physiology (3) Structure and function of the human body as applied to health, wellness, exercise, and sports.

KINES 350 Exercise Physiology (3)

A major focus of exercise physiology is to understand the physiological adaptations that occur following both acute and chronic programs of endurance and resistance exercise. A major emphasis is on physiological systems as they relate to exercise and health, including cardiovascular, respiratory, musculoskeletal, neural, metabolic, and environmental aspects. In addition, the mechanisms underlying the preventive and protective effects of exercise on human health and performance are discussed. Students are required to demonstrate upon written examination, a knowledge and understanding of the physiological adaptations resulting from programs of chronic exercise as well as the ability to interpret scientific data as they pertain to exercise physiology. Background knowledge in biology, chemistry, physics, and exercise science represent the knowledge base from which class is built upon and contribute to the mastery of concepts presented during the lecture portion of the class. Exercise physiology is a core course requirement in the Kinesiology major. Evaluation is based on written examination and quizzes as well as written assignments. The course is taught every fall and spring semesters with an enrollment of approximately 100 students. A technology classroom is used for instruction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: KINES 180;KINES 202;BIOL 141 ; andCHEM 001, CHEM 003, CHEM 110 orCHEM 202 ; or permission by instructor for non-kinesiology majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 356 Activity and Disease (3) Examination of hypokinetic disease on human wellness involving identification, assessment, research, and exercise design of human activity for disease prevention.

KINES 356 Activity and Disease (3)

Content in this course defines what physical activity, fitness, and lifestyle are. It covers the methodological and measurement assessment of physical activity and disease as well as exploring the relationships between physical activity and specific physical diseases, and between physical activity and various disorders of the mind. After this course students will be able to design and implement an exercise program to prevent or combat the effects of a specific disease on an individual. They will understand and be able to persuasively inform clients to the dangers of a sedentary lifestyle. They will know the strategies necessary to motivate and modify individual behavior so that it results in a more healthy lifestyle. And they will be able to design epidemiological research protocols to study the relationship between a specific disease and activity. Knowledge will be assessed by written evaluations, through the use of case studies in the case of exercise prescription skills, and through presentation of high quality group projects. This course will complement other courses in this curriculum but will be the only course devoted to a thorough investigation of the relationship between inactivity and various disease states. No special facilities are needed for the course which is anticipated to enroll between 15 and 25 students. It will be offered annually.

Material in this course and experience in the lab cover the conceptions and applications of strength exercise science. It also addresses testing and evaluation of strength protocols including selecting appropriate tests, organizing testing procedures, and individual testing protocols and procedures. Students will be introduced to material which overviews the organization and administration of resistance training and conditioning facilities. They will also learn the design principles of resistance training programs as well as exercise techniques. After this course, students will understand the biomechanics of strength training, the physiological adaptation to muscle training, and the mechanisms of change with varying populations. They will be able to select and organize appropriate muscle testing protocol. They will be able to teach and demonstrate appropriate strength training exercises to individuals and groups, including being able to identify and correct errors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 358 Ergogenic Aids (1) Skills development including research identification and evaluation of work-enhancing methods and devices as related to human performance and wellness.

KINES 358 Ergogenic Aids (1)

In this course students will learn about the research identification and evaluation of work-enhancing methods and devices as they relate to human performance and wellness. The course will overview historical and ethical issues associated with the use of ergogenic aids, as well as the mechanisms that delineate how they affect body systems. Ergogenic aids will be classified as hormonal, pharmacological, psychological, physiological, mechanical and nutritional. In the course students will also look at various restorative and accelerate healing agents. As a consequence of this course students, will be able to identify specific ergogenic aids, their actions, their legality, advantages, disadvantages, and safety concerns. Students will also understand the research issues involved with ergogenic aids, as well as developing a philosophy for dealing with clients who approach them interested in these kinds of enhancements. Student learning will be evaluated by exams, by the preparation of a mock experiment, and by various written assignments. This course will take an in-depth look at an important area reviewed only superficially in other courses. Because of the topic's relevance to work in this field, this course gives students knowledge necessary to function effectively as a professional. No special facilities are needed to teach the course and it will be offered annually to approximately 15-25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 141, NUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 360 The Neurobiology of Motor Control and Development (3) The neurobiological foundations of human movement, with an emphasis on applications in rehabilitation and athletics.

KINES 360 The Neurobiology of Motor Control and Development (3)

This 3 credit lecture course provides a rigorous presentation of the Neuroscientific foundations for human movement control. This course will introduce students to the cellular basis of neurophysiology, while emphasis will focus on the contributions of both sensory and motor systems to motor control, motor development, and their influence on learning motor skills through the lifespan. The course provides an in-depth presentation of systems neuroscience, with a special emphasis on the spinal, brainstem, and cortical contributions to movement. The course is designed to meet the needs of students in Kinesiology, and such as, discussions include practical considerations for movement training in athletic, and rehabilitation environments. Many of the objectives for this course were developed to meet the guidelines for minimum competencies in motor development, as outlined by the National Association for Sport and Physical Education (NASPE).

Purpose of this course in the current curriculum: The objective of this course is to prepare Kinesiology students, at the Junior level, for senior courses that address control of human movement and motor development. This course forms one of four 300 level core courses that are designed to provide the basic science foundations that underlie the study of human movement, including exercise physiology (KINES 350), Biomechanics (KINES 384), and the Psychology of Movement Behavior (KINES 321). The other foundational discipline that contributes to human movement science is Neuroscience. The current format of the course has essentially evolved over the years to reflect, the neur4ophysiological principles that govern motor control, motor development, and motor learning. However, small revisions are still required to provide enough preparation in this area to optimally prepare for further coursework. This is evidenced by frequent requests by 400 level instructors to cover topics in more detail. In addition, the current course includes content that was redundant with the other courses, especially biomechanics. In addition, the course focuses on the effects of neural maturation processes on motor development throughout the lifespan, as well as, influences of neural organization on motor learning. The last section of the course integrates this material into a consideration of structuring motor training experiences to meet the needs of individuals, with and without motor disorders, at different stages of the lifespan.

BIOL 469 (Neurobiology) and 470 (Functional and Integrative Neuroscience) are offered in the Biology department. However, these courses do not provide a one semester alternative to studying both cellular and systems level neuroscience, and do not focus on motor control, motor development, or motor learning. They are not tailored to the needs of our Kinesiology students, and do not offer any discussion of motor development, motor learning, nor motor training concerns.

Evaluation methods, as detailed in the attached syllabus, will include four exams, and 2 optional papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 180, KINES 202;BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 362 Teaching Individual Activities (1.5) This course introduces teacher candidates to the spectrum of individual activities being taught in the K-12 school setting.

KINES 362 Teaching Individual Activities (1.5)

Teaching Individual Activities introduces the future physical educator to the spectrum of individual activities being taught in the school setting. As a result of taking this course, the students will be able to:
a) Find and use references and resources from the World Wide Web and other sources specific to an individual sport/activity.
b) To create a professional handbook specific to the individual activity in which they choose to become an expert.
c) To organize and conduct an introductory clinic that provides a thorough and enjoyable overview of an individual sport/physical activity that they have chosen.
d) To select, organize, and sequence skills from simple to complex for the individual sport/physical activity that they have chosen.
e) To select and create mini-games or activities that will assist K-12 students with the skills of their chosen individual sport/physical activity.
This course is taken in conjunction with Teaching Group Activities and KINES 366. The students are required to teach two 50-minute clinics of their classmates. The students will demonstrate competency in basic motor skills and physical activities, content knowledge, and disciplinary concepts during their participation in the clinics. Students will teach the clinics using appropriate instructional cues and prompts for basic motor skills and physical activity. The students will identify, select, and implement appropriate learning/practice opportunities based on expected progressions and related to ranges of individual variations and levels of readiness, while teaching their clinics. The students will demonstrate an understanding of group and individual motivation and behavior by creating a safe and positive learning environment. The clinics can be any individual activity that they choose, within established boundaries. Examples of clinics: Canoeing, Fly Fishing, Golf, Tennis, Pilates, Diving, Bowling, and Badminton. Evaluation of the course is based on: Clinic Presentation, Clinic Handbook, Participation, Final Notebook, and Electronic Portfolio. The course is offered Fall and Spring semesters with a maximum enrollment of 25.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: KINES 261, KINES 262, KINES 264, KINES 266 andKINES 268

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 364 Teaching Group Activities (1.5) This course introduces teacher candidates to the spectrum of group activities being taught in the K-12 school setting.

KINES 364 Teaching Group Activities (1.5)

Teaching Group Activities introduces the future physical educator to the spectrum of group activities being taught in the school setting. As a result of taking this course, the students will be able to:
a) Find and use references and resources from the World Wide Web and other sources specific to a group sport/activity.
b) To create a professional handbook specific to the group activity in which they choose to become an expert.
c) To organize and conduct an introductory clinic that provides a thorough and enjoyable overview of a group sport/physical activity that they have chosen.
d) To select, organize, and sequence skills from simple to complex for the group sport/physical activity that they have chosen.
e) To select and create mini-games or activities that will assist K-12 students with the skills of their chosen group sport/physical activity.

This course is taken in conjunction with Teaching Individual Activities and KINES 366. The students are required to teach two 50-minute clinics to their classmates. The students will demonstrate competency in basic motor skills and physical activities, content knowledge, and disciplinary concepts during their participation in the clinics. Students will teach the clinics using appropriate instructional cues and prompts for basic motor skills and physical activity. The students will identify, select, and implement appropriate learning/practice opportunities based on expected progressions and related to ranges of individual variations and levels of readiness, while teaching their clinics. The students will demonstrate an understanding of group motivation and behavior by creating a safe and positive learning environment. The clinics can be any group activity that they choose, within established boundaries. Examples of clinics: Water Polo, Cooperative Activities, Field Hockey, Lacrosse, Speedball, Ultimate Frisbee, Team Handball. Evaluation of the course is based on: Clinic Presentation, Clinic Handbook, Participation, Final Notebook, and Electronic Portfolio. The course is offered in the Fall and Spring semester with a maximum enrollment of 25.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: KINES 261, KINES 262, KINES 264, KINES 266 andKINES 268

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 366 The Process of Teaching Physical Education (3) Analysis of pedagogical skills and methods applied to K-12 physical education.

KINES 366 The Process of Teaching Physical Education (3)

The purpose of this course is to introduce teacher candidates to the pedagogical processes used in teaching K-12 physical education. Physical education instruction techniques related to classroom management, creating effective learning environments, analysis of motor skills, providing effective feedback, content development, creating active learning experiences and systematic analysis of effective instruction comprise the foundation of this class. These pedagogical skills will be practiced and analyzed throughout the semester. Specifically, students will be required to demonstrate the ability to use, analyze and critique these techniques in micro-teaching situations with their peers. The primary focus of the class is to develop a repertoire of effective teaching skills based upon research of teacher effectiveness that enables teacher candidates to become reflective physical educators with the ability to deliver, analyze and modify their teaching to provide developmentally appropriate instruction for elementary, middle and high school students. The content of this course also addresses the physical education teaching standards developed by the National Association for Sport and Physical Education (NASPE), the national accrediting body for physical education teacher education programs that works in conjunction with the National Council for Accreditation of Teacher Education (NCATE) to certify physical education teacher education programs throughout the United States.

Assessment of student performance in the course includes:
1. Participation in laboratory experiences (10%)
2. Performance on knowledge tests (35%)
3. The ability to correctly and effectively demonstrate a repertoire of pedagogical skills in simulated teaching situations (35%)
4. Teaching reflections based on class teaching experiences and analyses and observations of teaching (20%)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: KINES 261, KINES 262, KINES 264, KINES 266 andKINES 268

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 384 Biomechanics (3) Basic mechanical knowledge required to understand human movement.

KINES 384 Biomechanics (3)

Biomechanics examines biological phenomena from a mechanical perspective; this class examines predominantly human movement from this perspective. The class aims to introduce students to the mechanical principles that underpin biomechanics, and to the measurement procedures used in biomechanics. Students will examine these principles for a variety of activities including: walking, running, jumping, quiet standing, throwing, striking, and reaching. Laboratory activities emphasize the qualitative and quantitative analysis of human movement. These sessions require students to work effectively in groups to collect data, and then work independently to analyze and interpret their data. Students use Newton's laws, basic algebra and trigonometry in the analysis of their data, and produce reports about these laboratory activities.

The lectures provide the framework for all class activities. They aim to link the student's knowledge of anatomy with mechanics to provide an understanding of how movement is produced in health and disease. The lectures provide information about the history, scope, and impact of biomechanics. Students are introduced to the pertinent kinematic variables required for the analysis of human movement. Newton's laws are used to understand both linear and angular human motion. Approaches for the determination of the inertial properties of human body segments are examines in detail. The theory, methodology, and protocols for image-based motion analysis and force measurement are studied and used by the students. The influences of muscle fiber activation, length, and velocity on the production of force are presented. The concept of energy storage is introduced, and its application in the analysis of human movement examined. Approaches for modeling human movement are established and used to understand the coordination of human movement.

Assessment comprises tests on materials presented in lectures and laboratory sessions, a series of laboratory reports, a series of short quizzes, and a final examination. At the end of the class students have an increased understanding of how biomechanics underpins all aspects of human movement.

Five sections of the course are offered every fall and spring with an enrollment of up to 110 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 180, KINES 202, MATH 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 395A Leadership Practicum for Teachers (1) Supervised experiences in guiding individuals and in leading groups in the motor skill learning process.

KINES 395A Leadership Practicum for Teachers (1)

This is a one credit practicum designed to provide teacher candidates with the opportunity to observe, assist, and teach physical education classes in school settings. Most KINES 395A teacher candidates are in the final semester before starting their student-teaching internship and these experiences are intended to provide additional practical experiences in physical education instruction. This practicum involves a minimum of **10 consecutive weeks** during a University semester.

Teacher candidates will be graded on the quality of their observations of physical educators, their teaching, and their ability to describe and analyze pedagogical skills observed in their practicum.

This course is offered every fall and spring semesters with an anticipated enrollment of 25.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364, KINES 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 395B Leadership Practicum: KINES (1) Supervised experience in leading/assisting in tasks associated with fitness testing/prescription in a variety of settings.

Leadership Practicum: KINES (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: KINES 295B fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 395G Practicum in Athletic Training (3) Practical experience in the athletic training room and with selected sports activities under direct supervision of the medical staff.

KINES 395G Practicum in Athletic Training (3)

This course is designed to provide students didactic and practical clinical experiences in a variety of practice settings in which certified athletic trainers are commonly employed. This is the second clinical assignment after a student is admitted to the Athletic Training option within the Kinesiology major. Students will complete a minimum of 200-250 clock hours under the supervision of a certified athletic trainer in a variety of clinical settings. These settings include but are not limited to: outpatient sports medicine clinics, interscholastic athletic settings, and intercollegiate athletic settings. The objectives of this course include demonstrating proficiency in: assisting lower level students in developing athletic training skills and mastering level-appropriate competencies; demonstrate proficiency in evaluation and documentation of common athletic injuries; assist in the development and documentation of a plan of care for common athletic injuries; demonstrate proficiency in the development and documentation of clinical progression through a plan of care; participate in the application of therapeutic modalities and therapeutic exercise under the supervision of a certified athletic trainer.

In this practical experience, the student is required to demonstrate an understanding of the classroom experiences completed to date and as required by the program option up to the current semester. This practicum has a prerequisite requirement of KINES 395F and is a prerequisite for the subsequent athletic training practicum, KINES 395I. Assessment is based on student performance written examinations, practical examinations, written assignments, and performance assessments by supervising athletic trainer(s). The course is designed to be taken the second semester following admittance to the athletic training option. It is offered every fall and spring semester with an enrollment of 15-20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 395F
Concurrent: KINES 336 KINES 435 KINES 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 395F Practicum in Athletic Training (3) Practical experience in the athletic training room and with selected sports activities under direct supervision of the medical staff.

KINES 395F Practicum in Athletic Training (3)

This course is designed to give students practical experiences in a variety of clinical settings in which certified athletic trainers are commonly employed. Students will accumulate approximately 100-150 clinical hours learning under the supervision of certified athletic trainers in a variety of clinical settings. These settings include but are not limited to: intramural sports, club sports, outpatient sports medicine clinics, high schools, and intercollegiate athletic training rooms. In addition to clinical experiences there is also a didactic portion of this course which emphasizes students gaining proficiency in important clinical skills. There are also weekly written assignments. The objectives of this course include demonstrating proficiency in: the evaluation of a unconscious athlete; the recognition of cerebral concussion and closed head injury; the recognition of acute injury to the cervical spine; the recognition of fractures and dislocations; the assessment of neurovascular function; the recognition, treatment, and prevention of heat illnesses including heat cramps, heat exhaustion, and heat stroke; the use of splints, stretchers and spine boards in the management of injured athletes; the application of taping and wrapping techniques commonly used in the prevention and management of common athletic injuries; and in obtaining a medical history.

Assessment is based on student performance on written examinations, practical examinations, written assignments, and performance in students' clinical rotations. This course is required for students completing the athletic training option within the Kinesiology major. It is a prerequisite for more advanced athletic training practicums (KINES 395G, 395I, 495F) and it should be taken concurrently with KINES 334 or 335. It is designed to be taken the first semester following admittance to the athletic training option. This course is offered every fall and spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 232
Concurrent: KINES 335 KINES 434

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 395I Practicum in Athletic Training (3) Practical experience in the athletic training room and with selected sports activities under direct supervision of the medical staff.

KINES 395I Practicum in Athletic Training (3)

This course is designed to provide students didactic and practical clinical experiences in a variety of practice settings in which certified athletic trainers are commonly employed. This is the third clinical assignment after a student is admitted to the Athletic Training option within the Kinesiology major. Students will complete a minimum of 250-300 clock hours under the supervision of a certified athletic trainer in a variety of clinical settings. These settings include but are not limited to: outpatient sports medicine clinics, interscholastic athletic settings, and intercollegiate athletic settings. The objectives of this course include demonstrating proficiency in: assisting lower level students in developing athletic training skills and mastering level-appropriate competencies; demonstrate proficiency in evaluation and documentation of common athletic injuries; assist in the development and documentation of a plan of care for common athletic injuries; demonstrate proficiency in the development and documentation of clinical progression through a plan of care; participate in the application of therapeutic modalities and therapeutic exercise under the supervision of a certified athletic trainer.

In this practical experience, the student is required to demonstrate an understanding of the classroom experiences completed to date and as required by the program option up to the current semester. This pracitcum has a prerequisite requirement of KINES 395G and is a prerequisite for the subsequent athletic training practicum, KINES 495F. Assessment is based on student performance written examinations, practical examinations, written assignments, and performance assessments by supervising athletic trainer(s). The course is designed to be taken the third semester following admittance to the athletic training option. It is offered every fall and spring semester with an enrollment of 15-20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 395G
Concurrent: KINES 438W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 398 Special Topics Course (1-9) Forman courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics Course (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 400 Adapted Physical Education (3) Basic concepts of planning and conducting physical education programs for children with physical, sensory, and/or intellectual impairments.

KINES 400 Adapted Physical Education (3)

This is an undergraduate level course teaching students the basic concepts of planning and conducting physical education programs for children with physical, sensory, and/or intellectual impairments. This course will help the student to become more aware of the physical needs of children with disabilities and of the possibilities to professionally deal with these needs. The course requires the student to complete a 10-hour practicum, providing the opportunity to work with children with a disability. The practicum will be conducted in cooperation with physical education staff members working with various schools in State College. The children's difficulties may range from emotional problems to severe physical and mental handicaps. Students are free to identify alternative practicum sites (e.g., work with a friend or family member with a disability). The requirements for the practicum may include: select a child who has a physical, sensory, or intellectual disability; write an Individualized Education Program (IEP) using the guidelines presented in the textbook; implement the IEP in a two-on-one teaching situation (two students, one child); keep a log of all the practice sessions; after completing the 10-hour practicum, write a final report based on the IEP, this final report should state the definition of the problem, the etiology, the general characteristics, the teaching techniques specific to the disability, an evaluation of the actual teaching strategies and an evaluation of the outcome of the practice (did it work?); and, present the findings orally (10-15 minute talk).

The student will generally be evaluated by exam, teaching activity, an oral presentation, and a final report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: KINES 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 402 Physical Activities for Children in Special Education (3) Study of physical and intellectual disabilities peculiar to students in special education programs and activities that may benefit them.

Physical Activities for Children in Special Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: 6 credits in special education

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 403 Emergency Medical Technology (4) Theoretical and practical aspects of emergency medical techniques as applied in the pre-hospital environment.

Emergency Medical Technology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: KINES 303 and/or current advanced first aid and cardiopulmonary resuscitation certification

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 404 Emergency Medical Technology Instructor (2) Educational concepts and skills necessary to present instruction in emergency care; lesson planning, methods of instruction, and evaluation techniques.

Emergency Medical Technology Instructor (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: KINES 403 with current Pennsylvania Emergency Medical Technician certification

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 409 Inflammatory Responses to Injury and Environmental Stress (3) An examination of mechanisms involved in the inflammatory response and their relationship to general health, injury, and environmental adaptation.

Inflammatory Responses to Injury and Environmental Stress (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: B M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 421 Exercise Psychology (3) Psychological antecedents and consequences of physical activity behaviors.

KINES 421 Exercise Psychology (3)

Exercise Psychology is designed to introduce students to the psychological antecedents and consequences of exercise behaviors. The antecedents of exercise behaviors are the psychosocial and cognitive factors (e.g., beliefs, attitudes, personality traits) that facilitate and/or inhibit exercise behaviors. The consequences of exercise behavior are the physical, psychosocial, and cognitive outcomes (e.g., self-efficacy, body image, mental health) of exercise participation. The antecedents and consequences of exercise behaviors will be presented within the context of contemporary conceptual and theoretical models in exercise psychology. This course is designed to provide students with an overview and foundation of the important psychosocial phenomena related to these antecedents and consequences of exercise behaviors. Students will have the opportunity to apply their knowledge in selected areas within exercise psychology through class discussions and assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 420 Psychosocial Dimensions of Physical Activity (3) Discussion of theoretical and empirical findings, structuring a frame of reference for exploring man's involvement in physical activity.

Psychosocial Dimensions of Physical Activity (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: KINES 321 or 3 credits in psychology or sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 422 Physical Activity Interventions (3) Principles of designing, planning, and implementing theory- and evidence-based physical activity interventions.

KINES 422 Physical Activity Interventions (3)

This course is designed to acquaint undergraduate students with the application of major theories and models used to design and guide the development of contemporary physical activity interventions. Students will be familiarized with empirically-supported principles of behavior change and will gain an understanding of the basic strategies and methods used in designing, planning, implementation, and evaluation of physical activity interventions. The course will cover a variety of approaches to physical activity promotion, ranging from clinical and community-based interventions to population-based approaches, while discussing practical strategies and concrete examples of contemporary, evidence-based physical activity interventions. The goal of the course is for students to demonstrate the ability to formulate well-conceived physical activity interventions across a variety of settings and participant populations and learn how to apply theoretical principles and research findings to intervention development.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 424 (US) (WMNST 424) Women and Sport (3) An interdisciplinary approach to contemporary issues related to women and sport from historical, physiological, psychological, and sociological perspectives.

Women and Sport (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 231, PSYCH 479, SOC 001 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 423 Psychology of Sports Injuries (3) Psychological causes and consequences of sports related injuries in athletes.

KINES 423 Psychology of Sports Injuries (3)

Using lectures/whole class discussion formats, this course is intended to provide the students with the basic knowledge regarding psychological causes and consequences of sport-related injuries, including concussions. Specific course objectives include: (1) developing the proficiency in initiating interviews and observations of athletes suffering from sport-related injuries; (2) assessing psychological impact of injury on athletes; (3) developing critical-thinking skills related to the probability of developing of psychological trauma in athletes with injuries; (4) developing specific skills of psychological assessment of injured athletes; (5) stimulating thinking about temporary research questions as related to psychology of injury. Evaluation will be based on active engagement in class discussions and administration of quizzes and written examinations according to course syllabus. This class extends but does not duplicate existing courses in the Departments of Kinesiology and Psychology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: KINES 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 427 (HD FS 427) Developmental Sport & Exercise Psychology (3) Developmental changes in the antecedents and consequences of physical activity across the lifespan.

KINES (HD FS) 427 Developmental Sport & Exercise Psychology (3)

Change is constant with physical activity - our reasons for being active change across the lifespan an dour experiences with physical activity change how we view ourselves and those around us. Developmental Sport & Exercise Psychology focuses on developmental changes in the psychosocial antecedents and consequences of physical activity across the lifespan. Specific course objectives include (1) describing theoretical frameworks and methods used to study physical activity-related psychosocial development across the lifespan, (2) describing how self-perceptions develop and influence behavior in movement contexts at different points in life, (3) explaining how contextual factors influence developmental processes associated with physical activity, (4) identifying age-related differences in activity-related antecedents and consequences of physical activity, and (5) developing, reviewing, and critiquing theoretically-grounded interventions to address issues related to developmental processes associated with physical activity across the lifespan. Evaluation will be based on written examinations, submission of a series of reflection papers on reading assignments, a group presentation, and the students' engagement in the class. It extends but does not duplicate existing courses in the Department of Innersole, Human Development & Family Studies, and Psychology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: PSYCH 100 andKINES 321 orHD FS 129 orPSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 428 Motivation and Emotion in Movement (3) Theories of motivational and emotional processes and their applications in movement settings.

KINES 428 Motivation and Emotion in Movement (3)

Motivation & Emotion in Movement will focus on the psychological processes underlying human motivation and emotion in movement settings. Special attention will be directed to social manipulations that can enhance motivation and emotion, and the consequences thereof. This course will be valuable for students whose career goals relate to education, personal training, rehabilitation, coaching, or psychology. Specific course objectives include (1) distinguishing between motivation and emotion, (2) understanding psychological mechanisms underlying common motivational and emotional processes in movement settings, (3) identifying existing applications of motivation and emotion theories in movement settings, and (4) developing, reviewing, and critiquing theoretically-grounded interventions to address issues related to motivational and emotional processes in movement contexts. Evaluation will be based on written examinations, submission of a series of reflection papers on reading assignments, a group presentation, and the students' engagement in the class. It extends but does not duplicate existing courses in the Departments of Kinesiology and Psychology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 429 Psychology of Sport Performance (3) Psychological theories of talent development and performance enhancement in sport.

KINES 429 Psychology of Sport Performance (3)

Psychology of Sport Performance will provide a psychological perspective on the phenomenon of superior motor performance. The course will cover nature of superior performance, talent development processes, sources of performance crises, and self-regulation strategies used by athletes, coaches, and psychologists to enhance performance. This course will be valuable for students whose career goals involve training athletes or other performers involved in socially-evaluative performance domains. Specific objectives include (a) distinguishing the antecedents and consequences of subjective and objective performances, (b) conceptualizing motor performance and performance problems in a psychological context, and (c) matching psychologically-based performance problems with theoretically-based intervention strategies. Evaluation will be based on written examinations, submission of a series of reflection papers on reading assignments, a group presentation, and the students' engagement in the class. It extends but does not duplicate existing courses in the Departments of Kinesiology and Psychology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: KINES 321 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 434 Rehabilitation of Injuries to the Lower Extremities (3) Theoretical foundation and laboratory experience in manual therapy techniques and therapeutic exercises for the lower extremities.

KINES 434 Rehabilitation of Injuries to the Lower Extremities (3)

Rehabilitation of Injuries to the Lower Extremities is a 3-credit course offered each fall semester with an enrollment limit of 40 students. The course provides students who have been accepted into the undergraduate athletic training option in the Department of Kinesiology with the theoretical foundation for application of manual therapy techniques and therapeutic exercises in the treatment of musculoskeletal injuries sustained by physically active individuals. Laboratory instruction and guided practice in performing manual therapy techniques and therapeutic exercises will also be provided. At the end of this course students: 1) can identify five components of a comprehensive plan of care for an injured athlete; 2) have a working knowledge of the effects of therapeutic exercise on tissue repair and return to activity; 3) have a working knowledge of the impact of pain on programs and therapeutic exercise; 4) are able to perform selected manual therapy techniques and integrate them into a comprehensive plan of care; 5) understand the psychological response to injury and therapeutic exercise; 6) can develop a plan of rehabilitation utilizing principles of tissue healing, therapeutic exercise and manual therapy; and 7) instruct patients in home programs of therapeutic exercise. This course will focus on the basic principles of therapeutic exercise and rehabilitation of injuries to the lower extremities.

This course will be offered every Fall semester with an anticipated enrollment of 25. Evaluation includes quizzes, rehabilitation plan of care, proficiency notebook, mid-term and final practical exams, and written mid-term and final exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 334
Concurrent: KINES 335 KINES 395F

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 435 Rehabilitation of Injuries to the Trunk and Upper Extremitie (3) Theoretical foundation and laboratory experience in manual therapy techniques and therapeutic exercises for the trunk and upper extremities.

KINES 435 Rehabilitation of Injuries to the Trunk and Upper Extremities (3)

Rehabilitation of Injuries to the Trunk and Upper Extremities is a 3-credit course offered each fall semester with an enrollment limit of 40 students. The course provides students who have been accepted into the undergraduate athletic training option in the Department of Kinesiology with the theoretical foundation for application of manual therapy techniques and therapeutic exercises in the treatment of musculoskeletal injuries sustained by physically active individuals. Laboratory instruction and guided practice in performing manual therapy techniques and therapeutic exercises will also be provided. At the end of this course students: 1) can identify five components of a comprehensive plan of care for an injured athlete; 2) have a working knowledge of the effects of therapeutic exercise on tissue repair and return to activity; 3) have a working knowledge of the impact of pain on programs of therapeutic exercise; 4) are able to perform selected manual therapy techniques and integrate them into a comprehensive plan of care; 5) understand the psychological response to injury and therapeutic exercise; 6) can develop a plan of rehabilitation utilizing principles of tissue healing, therapeutic exercise and manual therapy; and 7) instruct patients in home programs of therapeutic exercise. This course will focus on review of the basic principles of therapeutic exercise and rehabilitation on injuries to the trunk and upper extremities.

This course is offered every spring semester with an anticipated enrollment of 25. Evaluation methods include quizzes, written and practical exams, rehabilitation plan of care and proficiency notebook.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 434
Concurrent: KINES 336 KINES 435 KINES 395G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 438W Administration and Issues in Athletic Training (3) Theoretical and practical aspects for management of an Athletic Training professional practice and identifying contemporary issues related to the profession.

KINES 438W Administration and Issues in Athletic Training (3)

This course is designed to instruct students in the concepts and skills required for successful administration of an athletic training program and to understand and discuss contemporary professional issues attendant to the Athletic Training profession. General topics to be covered include theoretical basis of management, program management, human resource management, financial resource management, facility design and planning, information management, athletic injury insurance, legal aspects of sports medicine, ethical considerations in sports medicine, preparticipation physical and drug-testing, professional preparation issues, professional practice issues, and clinical practice issues. Experts from the community are brought in to lecture on several of the topics. The course meets for three hours per week and utilizes both lecture and discussion formats. Student assessment includes written examinations, written homework assignments, class participation and debates. This is a writing intensive course. Writing will be used to facilitate critical thinking about course material. Written assignments are based on the technical writing requirements of an athletic training administrator and are graded on both their content and quality.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 436
Concurrent: KINES 395I

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 436 Therapeutic Modalities in Athletic Training (4) Lecture and laboratory course exploring physiological principles and clinical evidence to the use of therapeutic modalities in athletic training.

KINES 436 Therapeutic Modalities in Athletic Training (4)

Introduction to Therapeutic Modalities is a 4-credit course offered each spring semester with an enrollment limit of 40 students. The course provides students who have been admitted into undergraduate athletic training option in the Department of Kinesiology with the theoretical foundation for the application of contemporary therapeutic modalities in the treatment of musculoskeletal injuries sustained by athletic individuals. At the end of this course students will: 1) have a working knowledge of the inflammatory response to tissue injury, pain perception and the body's analgesic mechanisms; 2) understand the physical principles of thermal, acoustic, electrical, light and mechanical modalities; 3) understand the physiological response to thermal, acoustic, electrical, light and mechanical modalities; 4) be able to search for and appraise clinically relevant trials involving modality application and; 5) apply these understandings and thermal, acoustic, electrical, light and mechanical modalities in the safe and effective manner. Students are evaluated through written examinations, laboratory examinations and submitted written reviews.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 434
Concurrent: KINES 336 KINES 435 ; KINES 395G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 439W Ethics in Sport and Sport Management (3) Analysis of moral dilemmas in sport and sport management utilizing the tools of ethics.

Ethics in Sport and Sport Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: KINES 345 or 3 credits in humanities

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 441 (US) (AM ST 441) History of Sport in American Society (3) Background, establishment, and growth of sport in America from colonial times to the present.

KINES (AM ST) 441 History of Sport in American Society (3)

Study of the background, establishment, and growth of sport in America from colonial times to the present, and the role of American sports in American culture and society. The course will examine the ways that sports have operated in the United States as the country has developed into a modern, mass society. Issues of national identity, commercialism, race, ethnicity, class, and gender will be discussed in relation to the popularity of sports. Another set of issues will center on language and media; students will employ methods of analysis such as ethnography and rhetorical criticism that emphasize the multiple layers of meaning inherent in sports culture. The course satisfies the "area" requirement in "society" for American Studies majors. It is offered once every two years and enrolls approximately 30 students.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: KINES 141 or 3 credits of United States history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 440 Philosophy and Sport (3) An examination of human nature from the perspective of our participation in sport.

Philosophy and Sport (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: KINES 345 or 3 credits in philosophy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 442 (IL) (CAMS 442) Sport in Ancient Greece and Rome (3) An examination of the continuity of sport in ancient Greek and Roman societies.

KINES (CAMS) 442 Sport in Ancient Greece and Rome (3)
(IL)

This course examines the continuity of sport in ancient Greek and Roman societies. It investigates the role of athletic festivals in both cultures as well as the value placed on physical activity as part of the educational process.

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Kinesiology (KINES)

KINES 443 (IL) The Modern Olympic Games (3) An analysis of the modern Olympic Games from their inception through the current festival.

The Modern Olympic Games (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: KINES 141 or 3 credits of history or philosophy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 445 Alcohol and Drug Education (3) Principles of integration and coordination of alcohol and drug education programs for health education and other health related professions.

Alcohol and Drug Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: 9 credits of health science and/or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 444 (US) History of Athletics in Higher Education (3) Origin and development of athletics in American higher education from colonial times to the present.

History of Athletics in Higher Education (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: KINES 141 or 3 credits of American history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 446 (IL) History of Sport in the Modern World (3) History of sport in modern world, ca. A.D. 1500 to present; concentrates on role of sport in societies outside United States.

KINES 446 History of Sport in the Modern World (3)
(IL)

The History of Sport in the Modern World introduces students to the connections between sporting practices and the broader cultural, political, intellectual and economic patterns that shape societies during the modern period in world history (ca. A.D. 1500 to the present). The course begins with a foray into the transition from traditional to modern forms of sport and society and covers the development of a wide variety of athletic games and pastimes from the sixteenth through twentieth centuries. Students will encounter a variety of historic conceptions of sport and explore the role of sport in the development of European, North American, Latin American, Asian, African and Pacific cultures. Students will learn how sports have been shaped by and have shaped by multiple factors, including modern ideas, science, class structures, gender roles, constructions of race, urbanization, nationalism, political conflicts, international relations, and economic institutions.

This is a senior-level course that fills an important historical gap in the Kinesiology Department's sequence of offerings on the history of sport. Other courses in the sequence cover ancient sport, sport in American society, and the Olympic Games. While crucial American developments that impact sports in the modern world are incorporated into this course, this class offers students a global focus that concentrates on the role of sport in societies beyond the borders of the United States. This course also relates to the offerings in the philosophy of sport program by exploring the history of ideas about sport in modern thought. Additionally, the course connects to the science-based offerings in Kinesiology by providing students with and introduction to the history of the scientific study of human performance.

The course introduces students to basic readings and knowledge of the history of sport in the modern world. The class provides opportunities to practice the critical reading and thinking techniques that shape the historian's approach to knowledge. This course will be taught once every year with an anticipated enrollment of 50 students. Evaluation methods that test reading and critical thinking skills are employed. No special facilities are required.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: KINES 141 or 3 credits of non-United States history

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 448 Coping with Life After Sport (1) Psychosocial concerns affecting student-athletes as they enter the transition period following sport disengagement, focusing on coping interventions.

KINES 448 Coping with Life after Sport (1)

KINES 448 is designed for student athletes who have exhausted their eligibility for or will no longer be participating in their respective sport due to injury or other issues. It is also relevant for students in athletic training or those who plan to pursue a career in coaching. The focus of the course is on the identification of issues and stressors affecting the transition and the development of strategies and coping skills to deal with life after sport. This can often be a very emotional and difficult time for student athletes. Discussion is focused on intervention and coping strategies, goal setting, decision making, career planning, and transferable skills. Student athletes will be able to recognize how their athletic experience has helped them to acquire numerous skills and characteristics highly valued in the workplace. Two sections of the course will be offered each semester. Students will be required to submit a weekly reaction paper, do a review of literature, and compile a comprehensive career plan. The class will be highly interactive with regular in-class assignments and projects.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: seventh-semester standing or higher; major or minor in Kinesiology or intercollegiate sport participation

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 450 Physiological Limits in Exercise (3) This course examines physiological function during the stress of maximal or prolonged exercise in conjunction with environmental stress.

KINES 450 Physiological Limits in Exercise (3)

This course is intended for students interested in advanced topics in exercise physiology. The material to be covered will be current concepts and observations that have not yet been incorporated into textbooks. Therefore, course readings will consist of recent review articles. In addition, students will read original research articles that draw conflicting conclusions: Students will write summaries of each paper (one typewritten page each) and attempt to reconcile the conflicts (one page, for a total of three pages per assignment). Students will also be called upon to lead in-class debates of the conflicting issues. This course will build on the concepts learned in KINES 150 and KINES 350. It will represent the top-level course in a vertically-integrated program in exercise physiology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: KINES 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 451 Worksite Health Promotion (3) Nature of drug use, misuse, and abuse in the athletic setting with implications for counseling and controls.

Worksite Health Promotion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 454 Women's Health and Exercise Across the Lifespan (3) In-depth study of the physiological role of exercise in modulating the health of girls and women during different phases of the lifespan.

KINES 454 Women's Health and Exercise Across the Lifespan (3)

First, the course begins with a review of general principles of research conduct and publication, themes that will be carried throughout all material covered in this class. A review of the historical aspect of women’s health research and a review of the state of knowledge in women’s health in the wake of the contemporary scientific endeavors such as the Women’s Health Initiative will also be explored. Second, students will learn physiology of puberty, menstrual function and bone health and the impact of exercise on these processes. Third, students will learn current concepts of exercise related to the female athlete and clinical implications of alterations in normal physiology. The impact of oral contraceptives on health and exercise performance will be also discussed. Fourth, students will learn menopausal physiology, alterations in clinical status associated with this life stage, and review current research related to the Women’s Health Initiative. Finally, a discussion of the effects of gender differences on health and exercise will be discussed. At each step students will be exposed to relevant research methods issues, and introduced to seminal research papers illustrating the concept being evaluated.

This course is designed for students who wish to develop a richer understanding of the physiological role of exercise in modulating the health of girls and women during different phases of the lifespan. Particular attention will be given to the physiological role of exercise in modulating the health of girls and women during different phases of the lifespan, including but not limited to childhood, adolescence, adulthood and later adulthood.

The course will expose students to the rich research literature in women’s exercise and health across the lifespan. Students will improve their ability to read and summarize original research literature through in depth presentation and discussion of seminal studies. Moreover, students will develop an understanding of how research has informed the state of knowledge on issues covered in this class and students will develop “language understanding” appropriate for interpreting and reading research papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: KINES 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 452 Applied Cardiovascular Physiology (3) In-depth study of cardiovascular regulation during postural, environmental, and exercise stress.

KINES 452 Applied Cardiovascular Physiology (3)

First, the course begins with an intensive review of hemodynamics and basic cardiovascular control mechanisms (neural, hormonal, and local regulation).

Second, students compare and contrast these general principles in six important circulations: splanchnic, renal, cerebral, coronary, cutaneous, and muscle.

Third, they examine the three stresses which affect the circulation: posture (gravity), environment (especially heat) and exercise. For each stress, students identify the regional circulation(s) most affected and how they contribute to an integrated (systemic) cardiovascular response that is unique for each stress.

Finally, combinations of posture, heat, and exercise stress are considered to illustrate competing cardiovascular control mechanisms.

At each step students are introduced to seminal research papers illustrating the concept being studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: KINES 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 456 Physical Fitness Appraisal (4) The basic components of physical fitness, how it can be measured, and how it can be developed.

Physical Fitness Appraisal (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: or concurrent:KINES 350 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 457 Exercise Prescription and Case Studies (3) Principles of exercise prescription; application of fitness appraisal based on current practices using evaluation and discussion of case studies.

KINES 457 Exercise Prescription and Case Studies (3)

The major purpose of this course is to provide those students interested in allied medical careers (e.g., cardiac rehabilitation, hospital testing, wellness centers, corporate fitness centers, physical therapy) with skills and practical knowledge regarding exercise diagnostics and prescription. Particular emphasis is placed on clinical diagnostic procedures, interpretation and terminology and this course directly contributes to the knowledge base expected for future employment in this area. At the conclusion of KINES 457, the students will be able to demonstrate on written examinations and in discussions, a knowledge and understanding of basic exercise prescription principles for apparently healthy, at risk and diseased populations, with special- emphasis on the cardiac patient. Inherent in the course goals is an understanding of the chronic physiological adaptations that occur as a result of programs of endurance and resistance exercise in apparently healthy, at risk and diseased populations.

This course includes lectures as well as hands-on laboratory sessions. Evaluation is based on student performance on written examinations, written and oral case study presentations, and written assignments. This course will be taken after students have completed KINES 456 and will complete the learning scheme involving fitness appraisal and subsequent prescription of exercise programs.

The course is offered fall and spring semesters with an enrollment of 35 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: KINES 350, KINES 456

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 460 Movement Disorders (3) Major peripheral and central movement disorders and methods of their treatment.

Movement Disorders (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: KINES 360, KINES 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 459 Laboratory Experience in Physical Fitness Assessment (3) A hands-on experience in a fitness assessment laboratory. Prepares students for certification and employment in the fitness industry.

KINES 459 Laboratory Experience in Physical Fitness Assessment (3)

The purpose of this course is to extend the knowledge gained in KINES 456 Physical Fitness Appraisal. While students are introduced to theory and demonstration of fitness testing in KINES 456, the focus of KINES 459 will be to provide hours of hands-on testing in a fitness assessment laboratory. In addition to becoming skilled in fitness testing, students will gain insight into how to set-up and manage a fitness assessment center. Through weekly lecture and demonstration students will increase theoretical and practical knowledge of testing and developing physical fitness. Students will in addition spend approximately 6 hours per week actually fitness testing other students enrolled in activity based courses in Kinesiology. Following the fitness test, students will learn to interpret results and design appropriate exercise prescriptions.

One section of this course will be offered every fall and spring semester with an enrollment of 12 students.

Students will be evaluated using a standard percentage scale as follows:
A 93%-100%
A- 90%-92%
B+ 87%-89%
B 83%-86%
B- 80%-82%
C+ 75%-79%
C 70%-74%
D 60%-69%
F 0%-59%

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: KINES 456

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 461W Preparation for Research Project (2) Planning and preparation for research project.

KINES 461W Preparation for Research Project (2)

This course prepares students to conduct a research project in KINES 462W. Students will begin by critically examining different research approaches. They will explore the development and assessment of research topics paying special attention to both scientific and philosophical justifications. They will learn how to identify research populations and how a human subjects review protects those involved in research studies. They will identify and critique the various inventories and assessment tools available for the kind of research they propose. Students will complete a research proposal including review of literature and method section, and submit an application to the Institutional Review Board. These goals will be achieved through a series of writing assignments.

Students are expected to demonstrate the following outcomes:
1) Communicating and writing ideas relevant to the field of Kinesiology.
2) Understanding and describing the major issues in the field.
3) Understanding the principles of how to conduct research in wellness, fitness and/or associated practice.
4) Understanding and communicating the methods of scientific discovery.

Students are evaluated on their research proposal (50% of final grade) which is drafted and revised during the semester. Further writing assignments (50%) assess and enhance student's competency in research methods and statistics. The course is offered every fall semester with a total enrollment of 25 each semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 180, KINES 260, STAT 200, KINES 321, KINES 345, KINES 350, KINES 360, KINES 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 462W Research Project (2) Completion of research topic.

KINES 462W Research Project (2)

During this course students will collect and analyze data for a research project. They will trouble shoot any data collection problems and learn how to use computerized programs for statistical analysis of data. They will learn about various presentation modes relevant to the written and oral presentation of research data. Students will prepare and be evaluated on a research paper that reports on their research project. In addition, they will present their work orally in showcase sessions to which fellow students and faculty members are invited. The goal is for students to produce as close as possible to publishable papers. This course is part of a two-course sequence and can only be taken upon successful completion of KINES 461W. It, along with the internship experience, are the culminating experiences in the Exercise Science - Science Emphasis. Facilitates needed will be determined based on the individual research project. This course will be offered only in the spring semester of each year. Enrollment will vary from 1 to 25.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 461W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 463 Acquisition of Motor Skills (3) Examination of principles of motor learning; the application of strategic factors such as: practice types, schedules, augmented information, and motivation.

KINES 463 Acquisition of Motor Skills (3)

This course is intended for students interested in the principles of motor learning (learning, retention and transfer) and the application of specific learning strategies such as, practice, feedback, demonstrations, and instructions. Through lectures, discussions, and course readings in addition to writing assignments, the goal is for students to develop a unified conceptual framework for motor learning and its facilitation through intervention strategies.

The evaluation for the final grade will be based upon a synthesis of assessment in three areas: a) Term Project (30% of final grade) - a report on a learning experiment or a synthesis paper on a learning principle or a learning strategy; b) Mid-Term Exam (30% of final grade) - questions requiring short 2-3 sentence answers; and, c) Final Exam (40% of final grade) - requiring essay length answers to selected questions that integrate key issues from all the course material.

This course will build on the concepts outlined in KINES 171 and 360. It will represent the culminating upper level undergraduate course in motor learning. This course will be an elective available to students who have completed the required KINES 360 course. It can be used to fulfill requirements for the Kinesiology major and the Movement Science, Teacher Preparation, and Athletic Training Options.

This course will be available to students outside of the Kinesiology major who may, upon approval, substitute the KINES 360 prerequisite requirement. The course will be offered every spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: KINES 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 464 Children's Physical Education Curriculum and Practicum (3) Curriculum for elementary school physical education emphasizing the skill theme approach.

KINES 464 Children's Physical Education Curriculum and Practicum (3)

The purpose of this course is to introduce teacher candidates to the skill theme approach and developmentally appropriate physical education for children. Appropriate planning, instruction, and assessment make-up the foundation of this course. These techniques are then applied when they teach small groups of children from a local elementary school. Specifically, students will develop and implement developmentally appropriate lesson plans with children and then analyze and reflect on their teaching effectiveness. A primary focus of the class is using the skill theme approach to guide children to reach appropriate cognitive, affective and motor objectives as stated in state and national standards. Students also develop curricular scope and sequence overviews that are used to guide curriculum and lesson development from grades K-5.

Assessment of student performance in the course includes entrance and exit slips based on assigned readings, class lectures and discussion, and laboratory experiences. Students are also graded on their planning, analysis and reflection of their teaching in elementary schools. There is also a final exam that requires students to translate theory into practice as applied to elementary school physical education.

Assessment:
Entrance and exit slips 15%
Teaching in the schools 40%
Final exams 15%
Project 15%
Laboratories 15%

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364, KINES 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 466 Assessment and Evaluation in Physical Education and Health Education (2) Explores measurement as an important and distinct component in a variety of physical education and health education contexts.

KINES 466 Assessment and Evaluation in Physical Education and Health Education (2)

This course addresses measurement as an important and distinct component of other processes such as assessment and evaluation in a variety of physical education and health education contexts (i.e. student performance, teacher performance, program outcomes). Teacher candidates will explain the inter-relationships among objectives, learning activities, and measurement strategies. They will design performance-based and standards-based measurement plans and tools that are necessary when assessing, evaluating, researching or making decisions about performances in physical education and health education. These plans will be performance-based, include select response and constructed response measurement instruments; measure what matters most in all learning domains; and demonstrate that instruction and assessment are seamless. These performances can range from constructed-response or non-traditional performance tasks like motor skill performance, fitness assessments, oral presentations, written reports, portfolios, program evaluation, and teaching effectiveness. Teacher candidates will be expected to recognize many and develop a few authentic and traditional measurement techniques/tools (including peer and self-assessments). These techniques and tools will assess student understanding and performance, provide feedback, and communicate student progress. These tools will measure what matters most and be valid and reliable. These tools are to be embedded with instruction and used by self, peer and instructor. When available, these tools will be integrated with technology to enhance the management of data. In this course, teacher candidates will recommend strategies for implementing results of a measurement by identifying implications from findings for future curricula, instructions, and other activities. They will differentiate between formative and summative measurements and describe ways the lesson/unit/curricula can be improved based on measurement results. Teacher candidates will also demonstrate their ability to interpret results and infer implications from the findings. For example, identifying instructional gaps between learning activities and objectives and using learning and performance data to make informed curricular and/or instructional decisions. In doing so, teacher candidates will contrast the results of norm- and criterion-referenced evaluation. This course will complement existing Methods courses (field experiences) in our teacher preparation curriculum by aligning instructional planning and implementation with measurement of these learning experiences. Teacher candidates will be evaluated with quizzes, assessment plans, measurement tool development, data collection and data interpretation. One section of this course will be offered each semester with a projected enrollment of 25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: KINES 362, KINES 364, KINES 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 468 Health Instruction in the School--Content and Method (3) Methods, materials, and units of instruction.

KINES 468 Health Instruction in the School-Content and Method (3)

This course is designed to prepare future middle and secondary school health and physical education teacher candidates in teaching health by providing a framework for comprehensive school health education, up-to-date health knowledge in ten areas of health, and designing the classroom as a laboratory in which students develop and practice teaching skills for health.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364 andKINES 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 469W Curriculum Development in Health and Physical Education (3) The content and process of K-12 school health and physical education curriculum development for public school students.

KINES 469W Curriculum Development in Health and Physical Education (3)

The purpose of this course is to prepare prospective health and physical education teachers to plan and design curricular content that meets the needs of students in grades K-12 and aligns with state and national standards. The philosophical and theoretical basis for curricular decision--making will be explored.

Instructional Objectives:
1. design a physical education curriculum outline for a selected school setting (elem, middle, secondary)
2. design a health education curriculum outline for secondary or middle school health
3. assess a current HPE program and the extent to which the program is consistent with good practices, national standards, and state standards

Relationship of course to other courses:
This is the only course that addresses Health and Physical Education Curriculum Design. Students take this course after or concurrently with three-- methods--intensive courses. This course serves as the capstone course in the Teacher Preparation option. It applies pedagogical content knowledge in health and physical education to curriculum models and design. Students take this course the semester before student teaching.

Projected offering and enrollment: this course is offered every semester and has an enrollment limit of 30

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 362, KINES 364, KINES 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 481W Scientific Basis of Exercise for Older Adults (3) Study of age-associated physical changes and the effects of exercise on the aging process.

Scientific Basis of Exercise for Older Adults (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: KINES 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 484 Advanced Biomechanics (3) The use of advanced biomechanics to provide an in-depth understanding of the principles which underpin human movement.

Advanced Biomechanics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: KINES 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 483 Motor Patterns of Children (3) Development of motor patterns. Fundamentals of movement, basic motor skills, and adaptation of the body to external forces.

Motor Patterns of Children (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: KINES 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 485 Science of Training Athletes (3) Application of scientific data knowledge to analyze sport training.

Science of Training Athletes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996
Prerequisite: KINES 350, KINES 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 486 Legal Issues in Sport (3) Contemporary legal issues in sport and their implications for sport managers.

Legal Issues in Sport (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 488 Mechanics of Locomotion (3) This course examines the forces and motions characteristic of locomotion, with emphasis on walking, the most common human activity.

KINES 488 Mechanics of Locomotion (3)
(GHA)

Walking has been described as the most commonly performed human activity. Diseases or injuries that reduce the ability to walk independently and efficiently are especially likely to adversely affect quality of life. Kinesiology 488 introduces students to the elements of normal walking and how walking motions are affected by changes in age, walking speed, and pathological conditions. Advanced topics covered in this course include other forms of locomotion, including running and cycling, and the use of mathematical models to understand phenomena related to locomotion.

Students enrolled in this course learn the particulars of human locomotion, but in so doing they also gain an understanding of kinematics and kinetic analysis, joint mechanics, and the clinical treatment of movement disorders. Basic principles of mechanics are applied to establish how walking motions result from forces produced by muscles, gravity, and contact with the ground. Students planning to pursue graduate study in movement biomechanics or in clinical areas such as physical therapy are especially likely to benefit from the focus on these areas.

The requirements for Kinesiology 488 include two mid-term tests and a final examination, four laboratory reports, and a literature review. Laboratories (held during regularly scheduled class periods) introduce students to current experimental methods used to measure motions, forces, and muscle activity during locomotion. Completion of several case studies during the semester gives students practical experience with the interpretation of motion analysis data, the factors that influence clinical decisions in the treatment of movement disorders, and ethical considerations in biomechanics research.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: KINES 384 or previous coursework in biomechanics (or mechanics) and musculoskeletal anatomy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 489 Intramural Athletics (3) Programs of activities, types of competition, scoring, awards, schedules, organization, publicity, and other topics related to intramural athletics in schools and colleges.

Intramural Athletics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: 4 credits of activities or teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 492W Programming for Business and Agencies (3) Fundamentals of program development applied to corporate and private physical fitness businesses.

KINES 492W Programming for Business and Agencies (3)

This course will use an experiential approach to acquire knowledge and skills necessary to assess, plan, implement and evaluate health/wellness/fitness programs within a business/corporate setting. Students will actively participate in a process-oriented, student-centered learning environment that includes cooperative learning, critical thinking, effective communication, assessment, and problem solving. Students will assess, plan, implement and evaluate a health-related program (i.e., wellness fair, career fair, road race, fitness programs). Students will write business letters, operating plans, mini-grants, budgets, flyers, press releases, newspaper articles, surveys, and other written communication projects relevant to the fitness/wellness business. Students will access and evaluate health/wellness resources (i.e., agencies, Internet, media, speakers).

As indicated by the “W”, this is a writing intensive course and will follow university guidelines for such courses. Most of the assignments will involve group-based problem solving. This course is offered Spring Semesters with a maximum enrollment of 35.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 493 Principles and Ethics of Coaching (3) Integration of the practical and theoretical knowledge necessary for effective coaching through classroom and field experiences.

KINES 493 Principles and Ethics of Coaching (3)

The Principle and Ethics of Coaching examines the challenges of today's coaching profession through societal norms and expectations from the past and present. The course begins with a study of the coaching profession covering past and current coaches who have experienced success and failure in the profession. Students learn how the profession has developed as a result of changing values, demands, emphasis and expectations in the athletic world. Students will learn how to work with Title IX, parents, high school and collegiate regulations, season structures and the various roles and responsibilities of today's coach. The course is a senior-level course providing students in Kinesiology with an in depth study of the profession that has historically been associated with careers in Kinesiology. This course relates to other courses in sport ethics, sport philosophy and history of sport as they provide the theoretical background for coaching decisions. In addition, this course demonstrates practical implementation of theories from nutrition as well as activity courses. The course offers students an in depth study of sport and gender specific differences as they relate to the coaching profession. The students observe, question and study current coaches while examining their own backgrounds to develop set of principles to handle today's coaching issues. A coaching experience is an optional opportunity afforded to students while writing skills must be demonstrated by all students through written exams, papers and/or projects. Enrollment is optimal at 20-25 students, however, larger numbers may be accommodated. The course will be taught during Fall and Summer semesters. The emphasis on class discussion and interaction with various athletic coaches introduces students to realities of today's coaching profession and the challenges of the 21" century coach. Video and power point enhance the multi media approach to this course and further enhance the learning environment. Evaluation of the students requires an understanding of assigned readings, class discussion, and the student's ability to demonstrate critical thinking skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 180 orKINES 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 494H Senior Honors Thesis (1-6) Independent study directed by a faculty supervisor that culminates in the production of a thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: Approval of honors thesis advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 495A Practicum in Student Teaching (12) Supervised teaching of health and physical education in K-12 public schools with seminars focused on transition from student to professional.

KINES 495A Practicum in Student Teaching (12)

The teacher candidate will be placed in either an elementary or secondary school setting for the first 8 weeks of the student teaching experience, followed by placement in the level not selected first for the last 7 weeks. The teacher candidate will be teaching both health and physical education during each placement. The teacher candidate will be assigned on-site cooperating teachers will be supervised by a university faculty member who makes a minimum of four on-site visits, plus review of teaching via two videotape.

During the 15-week semester, there are four seminars of approximately 5 hours each, during which all teacher candidates meet with the coordinator of the student teaching program to discuss topics related to the multiple roles of teachers in public schools and the transition to becoming a professional teacher. In addition, some time in each seminar is devoted to experience sharing and collaborative problem solving. The following topics are covered during the seminars: legal liability and sexual harassment, electronic portfolios, resume and cover letter writing, health and physical education professionals, preparation for employment, interviewing, best teaching practices and sharing, classroom management, and technology in physical education. In addition, the student teachers are required to complete a variety of assignments including: a professional portfolio, unpaid service activity reflection, daily notebook, videotapes and reflection, and Pennsylvania teaching application and essay.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: A grade of C or higher in all required courses in the Teacher Preparation Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 495B Field and/or Research Practicum in Kinesiology (6) Participation under supervision in a field or research practicum.

KINES 495B Field and/or Research Practicum in Kinesiology (6)

This course places students in the workplaces or research settings with the expectation that these experiences will allow them the opportunity to apply and integrate content from all their courses in the program. They will be placed at a variety of sites, including but not limited to research laboratories, professional fitness centers, rehabilitation facilities, senior centers, community health and wellness programs, and hospitals. They will learn the day-to-day requirements of being "on the job" or "in the lab," including professional management practices and ethical considerations. Practicum work will be evaluated on an ongoing basis with the student intern, work place supervisor, and faculty member involved in the process. The course will take place off campus as work sites and no special on-campus facilities are required. It will be offered annually as the last course in the major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 395B seventh-semester standing 9 credits of 400-level KINES courses 2.00 cumulative GPA

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 495C Exercise Science Practicum (3 per semester/maximum of 6) Participation under supervision in a health and fitness setting.

KINES 495C Exercise Science Practicum (3 per semester/maximum of 6)

This course places students in the work place with the expectation that the experience will allow them the opportunity to apply and integrate content from all the courses in the program. They will be placed at professional fitness centers, rehab facilities, senior centers, and wellness centers. They will learn the day-to-day requirements of being "on the job" such as time management, record keeping, client interactions, feedback delivery, fitness program establishment and implementations, business and management practices as well as ethical considerations. Their field experience will be focused on four in-class days during which students will collectively explore work place issues. Practicum work will be evaluated on an ongoing basis with the student intern, work place supervisor, and faculty member involved in the process. The course will take place off campus as work sites and no special on-campus facilities are required. It will be offered annually as the last course in the major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: KINES 141, KINES 180, KINES 200, KINES 202 and fifth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 495D Expanded Field and/or Research Practicum in Kinesiology (1-6) Additional participation under supervision in a field or research practicum.

KINES 495D Expanded Field and/or Research Practicum in Kinesiology (1-6)

This course, in combination with KINES 495B, places students in the workplaces or research settings with the expectation that these experiences will allow them the opportunity to apply and integrate content from all their courses in the program. They will be placed at a variety of sites, including but not limited to research laboratories, professional fitness centers, rehabilitation facilities, senior centers, community health and wellness programs, and hospitals. They will learn the day-to-day requirements of being "on the job" or "in the lab," including professional management practices and ethical considerations. Practicum work will be evaluated on an ongoing basis with the student intern, work place supervisor, and faculty member involved in the process. The course will take place off campus at work sites and no special on-campus facilities are required. It will be offered annually as the last course in the major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Concurrent: KINES 495B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 495F Field Practicum in Athletic Training (3) Participation under supervision in a field practicum.

Field Practicum in Athletic Training (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: KINES 395I

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496A Independent Study Athletic Training (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Athletic Training (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496A Independent Study Athletic Training (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Athletic Training (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496B Independent Study Biomechanics (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Biomechanics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496A Independent Study Athletic Training (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Athletic Training (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496B Independent Study Biomechanics (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Biomechanics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496B Independent Study Biomechanics (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Biomechanics (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496C Independent Study Exercise Physiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Exercise Physiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496C Independent Study Exercise Physiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Exercise Physiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496D Independent Study History & Philosophy (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study History & Philosophy (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496C Independent Study Exercise Physiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Exercise Physiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496D Independent Study History & Philosophy of Sport (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study History & Philosophy of Sport (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496D Independent Study History and Philosophy (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study History and Philosophy (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496E Independent Study Motor Control (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Motor Control (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496E Independent Study Motor Control (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Motor Control (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496E Independent Study Motor Control (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Motor Control (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496F Independent Study Psychology of Movement (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Psychology of Movement (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496F Independent Study Psychology of Movement (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Psychology of Movement (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496F Independent Study Psychology of Movement and Sport (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Psychology of Movement and Sport (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496G Independent Study Teaching/Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching/Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496G Independent Study Teaching/Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching/Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496G Independent Study Teaching/Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching/Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496I Independent Study Teaching and Coaching (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Teaching and Coaching (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496K Independent Study Applied Kinesiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Applied Kinesiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496K Independent Study Applied Kinesiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Applied Kinesiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 496K Independent Study Applied Kinesiology (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Study Applied Kinesiology (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497A Sports Sciences for Coaches (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Sports Sciences for Coaches (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497A Genetics and Human Performance (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Genetics and Human Performance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497A Muscluloskeletal Dysfunctional for Allied Health and Fitness Professionals (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Muscluloskeletal Dysfunctional for Allied Health and Fitness Professionals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497B Environmental Physiology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Environmental Physiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497B Exercise Medicine (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Exercise Medicine (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497C Women's Health and Exercise Across the Lifespan (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Women's Health and Exercise Across the Lifespan (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: KINES 350, BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497C Special Topics in Kinesiology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics in Kinesiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497D Ergogenic Aids (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Ergogenic Aids (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: KINES 345, KINES 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497D Ergogenic Aids (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Ergogenic Aids (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497E Bone Health and Exercise (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Bone Health and Exercise (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497E Growth and Body Composition (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Growth and Body Composition (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497F Physical Activity and Public Health (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Physical Activity and Public Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497G Sporting Hollywood (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Sporting Hollywood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497F Physical Activity and Public Health (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Physical Activity and Public Health (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497G Sporting Hollywood (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Sporting Hollywood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 497K Marathon (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Marathon (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498A EMS Assistant Instructor (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

EMS Assistant Instructor (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498B EMS Teaching Practicum (1-2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

EMS Teaching Practicum (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498D EVOC (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

EVOC (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498C Introduction to Ambulance Operations (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Introduction to Ambulance Operations (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498E EMS Field Practicum (1-2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

EMS Field Practicum (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Kinesiology (KINES)

KINES 498F ALS Assistant Technology (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

ALS Assistant Technology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 001 Elementary Korean I (4) Listening, speaking, reading, writing Korean: an introduction for beginners; basic structures and vocabulary; cultural elements.

Elementary Korean I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 002 Elementary Korean II (4) Listening, speaking, reading, writing Korean: structures and vocabulary; cultural elements.

Elementary Korean II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: KOR 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 001 Level One Korean A (4) Listening, speaking, reading, writing Korean: an introduction for beginners; basic structures and vocabulary; cultural elements.

Level One Korean A (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 002 Level One Korean B (4) Listening, speaking, reading, writing Korean: structures and vocabulary; cultural elements.

Level One Korean B (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: KOR 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 003 Level Two Korean A (4) Further development of listening, speaking, reading, writing skills in Korean; cultural elements.

Level Two Korean A (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Future: Spring 2011
Prerequisite: KOR 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 003 Intermediate Korean (4) Further development of listening, speaking, reading, writing skills in Korean; cultural elements.

Intermediate Korean (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2010 Ending: Fall 2010
Prerequisite: KOR 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 051 Elementary Intensive Korean for Graduate Students I (3) Intensive introduction to Korean: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

KOR 051 Elementary Intensive Korean for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Korean. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Korean vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 053 Intermediate Intensive Korean for Graduate Students (3) Continued intensive study of Korean at the intermediate level: reading, writing, speaking, listening, cultural contexts.

KOR 053 Intermediate Intensive Korean for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Korean. Continued intensive study of Korean at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: KOR 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 052 Elementary Intensive Korean for Graduate Students II (3) Intensive introduction to Korean: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

KOR 052 Elementary Intensive Korean for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Korean. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Korean vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: KOR 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Korean (KOR)

KOR 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 083S (GS) First-Year Seminar in Labor Studies and Employment Relations (3) Critical approaches to the dimensions and direction in Labor and Employment Relations.

LER 083S First-Year Seminar in Labor Studies and Employment Relations (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of the community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests.

Students will write essay exams, and critique a published study on the relevant topic of their own choices in teams. Class participation is required.

The course will provide students with the opportunity to study Labor and Employment Relations in their first semester at the University. This experience will serve as a preparation for additional courses in Labor and Employment Relations as well as an introduction to college-level study generally. The course fulfills both a first-year seminar and a general education or Bachelor of Arts social/behavioral science requirement. Class periods stress discussion of assigned readings, debates, and collaborative research projects.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 100 (GS) Employment Relations (3) Introductory analysis of the employment relationship and of the interrelated interests of managements, workers, unions, and the public.

LER 100 Employment Relations (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to introduce students to the employment relations process in the U.S. and to the institutions that participate in this process. This will be done by examining the areas: the evolution of labor-management relations in this country, including the history of workers' attempts to organize unions, management's response, and government's role; the institutions that participate in the employment relations process--unions, management, and government; the process of employment relations, including organizing a union, negotiating a contract, and administering that contract; outcomes of collective bargaining, public sector/international employment relations, and current issues/trends in employment relations.

Employment relations is a process studied from a multi-disciplinary perspective. This course will, therefore, draw on a number of social and behavioral science disciplines including economics, history, psychology, political science, and sociology.

This course will also incorporate active and collaborative approaches to learning. Through recitation sections, students will have an opportunity to gain experience in taking responsibility for learning and in working with others in a team situation. Students will be evaluated on the basis of exams, group activities, written assignments, and class participation.

This course is the introductory course in Labor Studies and Employment Relations (LER) curriculum. It will help prepare students for all subsequent courses in the LER B.A. and B.S. majors and serve as a prerequisite for some advanced LER courses. This course is required for the LER B.A. and B.S. majors and the LER minor. It also counts toward the fulfillment of the general education or Bachelor of Arts social/behavioral science requirement.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 136 (US) (WMNST 136) Race, Gender, and Employment (3) Employment relations and legislative and policy responses to labor force issues of racial and gender inequality.

LER (WMNST) 136 Race, Gender, and Employment (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

To accomplish the goals of the course, students will participate in a variety of in-class and out-of-class exercises designed to expose them to issues of inequality generally, and more specifically, to inequalities relating to employment. Activities are designed to connect real world experiences to class readings and discussion. For example, students may be asked to conduct their own job evaluation in conjunction with a reading on gender bias in job evaluation systems. The course also relies heavily on student participation via the reporting of the results of their activities, and in discussion of assigned readings. A semester-long group project will enable students to focus their interests and become experts in one sub-area. Group projects include a collaboratively written paper as well as a class presentation designed to inform the class about a topic previously not covered through class readings, discussions, or lectures.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 201 (GS) Employment Relationship: Law and Policy (3) An examination of basic legal principles underlying the employment relationship and their social, political, and economic bases.

LER 201 Employment Relationship: Law and Policy (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

LER 201 provides students with an overview of the employment law relationship in the United States.

The course begins with a study of the legal principles which affect the creation, development, and implementation of employment law. Several of the most fundamental employment law principles, such as the Master/Servant relationship and the theory of Agency, are adopted from the English common law. Students review the United States Constitution and the constitutional principles necessary to understand employment laws are examined.

Students will study several federal and state statutes, including Worker's Compensation laws (with an emphasis on the Pennsylvania Worker's Compensation statutes), the Social Security Act, the Fair Labor Standards Act, the National Labor Relations Act, and Equal Employment Opportunity laws. As appropriate, the history, politics, and policies underlying these statutes are discussed. The necessity of understanding not only the legalities of EEO laws but also the societal need to eliminate discrimination results in a thorough study of Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, the Civil Rights Act of 1991, and the Americans with Disabilities Act. Successful completion of this course equips students with a competency in employment law, transferable to an entry-level human resources or management position.

Students write reviews of various involving different employment laws, including case law and precedents, evidence and interpretation. The course content naturally lends itself to gathering and analyzing information. Students analyze the application of law to various cases, judging the logical consistency between the principle of the law and the case to which it is applied. Library resources are an essential component; on-line resources increasingly are used. The course deals exclusively with laws regulating employment practices and relations among employees in the U.S. workplace. It concentrates on discrimination, equity, due process, social and civil conduct.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 312 Research Methods in Labor Studies and Employment Relations (4) Provides an understanding of social science research as employed in the field of Human Resources and Employment Relations.

LER 312 Research Methods in Labor Studies and Employment Relations (4)

(BA) This course meets the Bachelor of Arts degree requirements.

The general objective of this course is to understand the processes and values of social science research. This will be approached in two ways: by deciphering and evaluating research published in employment relations, human resources, and other social science literature, and in designing and completing an empirical research study. Since first-hand knowledge is essential to understanding the intricacies of the research process, students will conduct an empirical research project on a topic of their choice with guidance from the instructor. This course is tailored to meet the specific needs of Labor and employment Relations students through the use of examples and readings closely related to a broad range of employment and work issues. Attention is given to the evaluation of the kinds of studies students may find useful in their future careers, whether it be in human resources management, employment relations management, or graduate or law school.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 400 (IL) Comparative Employment Relations Systems (3) Analysis of structure and elements of employment relations systems in developed and developing areas.

LER 400 Comparative Employment Relations Systems (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores contemporary topics in employment relations in the world. The course examines seven examples of employment relations systems, each carefully chosen to illustrate important variations in employment relations practices. It also provides an overview of economic globalization and its impact on employment relations. Topics include global sweatshops, child labor, the diffusion of human resource practices, and corporate social responsibility. The first country case is Germany, which provides an example of a country with strong national unions and a highly developed system of works councils. The Swedish case exemplifies a long-tradition of centralized bargaining and tripartite relations that is now in transition. The third case, Japan, illustrates some of the initial experiences with team work, just-in-time production, and employee commitment through job security and training. China offers an example of a socialist system in transition that has become an economic powerhouse through massive export processing zones, government controlled unions, and wage competition. Brazil provides an important example of a Latin American country with a state dominated employee relations system. South Africa offers a case of highly politicized employment relations in a country in transition from extreme racial segregation to a democracy. Finally, India represents Asia's other economic powerhouse, with an English speaking workforce that is drawn to the booming call center industry and export-oriented production. The second half of the course looks at broader themes related to the topic of globalization. Sweatshops in Mexico and child labor in India examined alongside the diffusion of high-end human resource practices in Brazil. In this section, student will also study inter-governmental institutions such as the World Trade Organization, and the International Monetary Fund. The final unit of this section examines the topic of Corporate Social Responsibility (CSR), recent attempts by corporations -at times in coordination with labor unions--to establish basic sets of rules or standards for their employees wherever units of the corporation might be located in the world today.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 401 The Law of Labor-Management Relations (3) Development of Anglo-American law regulating collective bargaining, with emphasis on American labor-management relations under Wagner, Taft-Hartley, and other acts.

LER 401 The Law of Labor - Management Relations (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine the evolution of labor law in the United States. The N.L.R.A. itself, and the decisions of the National Labor Relations Board (N.L.R.B) and the courts, will be examined in order to gain an understanding of the current legal framework underpinning our system of labor-management relations. Major issues to be examined include the rights of employees to union representation; the formation of bargaining units; the conduct of organizing campaigns and elections; the duty to bargain; strikes, striker's rights, and lockouts; picketing, boycotts, and related activity; the enforcement of collective bargaining agreements and the duty to arbitrate; union members' rights and responsibilities, the duty of fair representation; and federal-state relationships in labor relations. Also covered in the course will be the legal framework for public sector labor-management relations, with specific attention paid to Pennsylvania Acts 111 and 195. The course will be taught from a liberal arts perspective, meaning that societal factors influencing the law--history, politics, and economics --will be emphasized. Student performance will be evaluated by means of tests, short papers, and such reports as may be required. This course is complementary to others in Labor Law, including LER 434, Collective Bargaining and LER 435 Labor Relations in the Public Sector. The course requires no special facilities or equipment; however, students enrolled are expected to have computer skills sufficient for communication and word processing purposes.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations or Political Science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 411 Employment Relations Organizations (3) Organizational factors in the actions of trade unions, other employee organizations, and their consequences for workers and society.

LER 411 Employment Relations Organizations (3)

The two major parties in the labor-management relationship are trade unions and employers. In order to understand this relationship, and the manner in which the parties interact through the organizing, collective bargaining, and grievance processes, it is necessary to have an in-depth understanding of the parties themselves. This course examines the goals, culture, leadership structure, and politics of unions and employer organizations from both a historical and contemporary perspective. Basic organizational theories are employed to gain insight into the parties and case studies are used to see how unions and employers react and adapt to changes in their environments. Students will be expected to complete assigned readings and be prepared to engage in class discussions. Other requirements include exams and a substantial research project.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: LER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 404 Trends in Employment Relations (3) Examines contemporary trends and developments in employment relations and collective bargaining.

LER 404 Trends in Employment Relations (3)

This course examines contemporary trends in employment relations and collective bargaining. Among the topics covered are: current structural and procedural conditions encouraging stability or conflict in collective bargaining; new forms of work organization and transformed patterns of employment relations; trends in union membership; legal developments affecting unions and collective bargaining; new issues in collective bargaining; and other contemporary developments in employment relations. Students will read a variety of authors' perspectives on different trends in employment relations.

This seminar is a seminar course requiring active participation by students in class discussions. This course builds on and is complementary with other coursework in Labor and Employment Relations in the areas of employment relations, labor law, collective bargaining and dispute resolution. It also compliments courses in other departments in the area of dispute management and resolution, including the Minor in Dispute Management and Resolution. LER 404 may also be taken as an elective by students in the MS in Human Resources and Employment Relations and compliments coursework in that graduate program.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: ECON 315 orLER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 414W Labor and Employment Relations Theory (3) Content and implications of major and minor theories of Labor and Employment Relations.

LER 414W Labor and Employment Relations Theory (3)

The purpose of this course is to introduce students to the social scientific thought related to studies of work and employment relations. Work constitutes a basic activity in all societies whereby human effort transforms raw materials into objects having accrued value as a result of the human effort. Employment relations constitute formal arrangements between an employer(s) and individuals who engage in specific work activities. Work and employment relations as such vary within and across societies as they are conditioned by population density, technologies, markets and state regulations. The specific focus of this course will be theories and theorists that have significantly impacted the current understandings of the common features of work and employment relations, as well as variations across them.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: 6 credits in Labor and Employment Relations

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 424 Employment Compensation (3) Development and management of employee compensation systems.

LER 424 Employment Compensation (3)

Employment Compensation provides an overview of compensation programs, practices, and strategies. This course examines various compensation systems, that serve as an integral component of human resource management operations. Upon completion of this course, students will have a better understanding of compensation program design and development, the criteria used to compensate employees, and challenges that compensation professionals may encounter. Requirements for this course include regular attendance and participation, completion of three case studies, three project assignments, and three examinations which will consist of short answer and multiple choice questions.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: LER 201 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 425 Employee Benefits (3) The examination of employee benefits programs used by employers to meet the welfare needs of employees and their families.

LER 425 Employee Benefits (3)

This course is a comprehensive survey of the programs, principles and trends in planning and administering employee benefit programs for private and public employers. The objectives for this course are to provide students with an understanding of employee benefit programs and their broad implications for the workplace, the role of employee benefits in motivating and retaining employees, and the recent trends in employee benefit offerings and cost containment approaches.

Topics covered include strategic and tactical planning considerations used in implementing and changing benefit programs, discretionary and mandatory benefits, Social Security, health insurance structures, disability and life insurance programs, workers' compensation, retirement programs, executive benefits, paid-time off programs and accommodation and enhancement programs.

This course builds on introductory general foundation courses in human resources and labor relations. It provides students with a working knowledge of employee benefits and its important role in human resources and labor relations careers.

Students must select and write a research paper on a benefits topic of special interest. Course grades will be determined from examinations and the research paper.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: LER 201 and 6th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 426 Staffing and Training Strategies in Organizations (3) This course focuses on the theory and practice of human resource staffing and training in organizations.

Staffing and Training Strategies in Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: LER 201, STAT 200 or any other 200 level Statistics course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 426 Staffing and Training Strategies in Organizations (3) This course focuses on the theory and practice of human resource staffing and training in organizations.

Staffing and Training Strategies in Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in Labor and Employment Relations (LER) or Human Resources and Employment Relations (HRER)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 435 Labor Relations in the Public Sector (3) Analysis of labor relations problems within different areas of public employment.

LER 435 Labor Relations in the Public Sector (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Upon completing this course, students should be able to identify the legal frameworks that govern collective bargaining between employers and unions in federal, state and local governments. Students should also be able to explain the process of collective bargaining in the government sector and the special circumstances that make public sector bargaining different from private sector bargaining. At course end, students should be able to identify the parties involved in public sector bargaining, including those involved in dispute resolution, and explain their priorities in the labor relations process. Students should come to understand and articulate the reasons why it is important to study and more fully comprehend the public sector labor relations process. Together, we will explore the distinctions between public and private sector employers that impact labor relations in the public sector, in order to better understand those distinctions. Also, we will explore the principal historical differences between negotiations in the public and private sectors, in order that students can better articulate those differences. In addition, we will work to understand the principal arguments for and against the right to strike for public sector employees, as well as other impasse resolution processes. Finally, we will work to identify and discuss the challenges facing public sector labor relations in the near term and in the intermediate terr

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: 3 credits in Labor and Employment Relations

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 434 Collective Bargaining and Contract Administration (3) Theory, practice, and economic impact of collective bargaining, including administration of the collective bargaining agreement.

LER 434 Collective Bargaining and Contract Administration (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Upon completing the course, students should be able to identify and explain the concepts, principles and practical application of various types of negotiations between labor and management, understand the basic legal framework governing collective bargaining in the U.S. and the rights of the parties under the law, explain the typical processes of collective bargaining as practiced in industrial, service and public sectors in the U.S., prepare for negotiations/collective bargaining, and negotiate issues. The course will also help students to develop concrete negotiation skills and provide them with the opportunity to apply those skills, with the benefit of observation and feedback. Lastly, the course will introduce students to the contract administration process utilized by unions and employers. Students will become familiar with grievance procedures and arbitration processes and begin to develop basic skills in resolving disputes over the application and interpretation of labor agreements.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: LER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 437 Workplace Dispute Resolution (3) Dispute resolution practices and procedures used in the workplace and employment law settings.

LER 437 Workplace Dispute Resolution (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines dispute resolution procedures in unionized and nonunion workplaces. The course begins with an examination of grievance procedures in unionized workplaces and the system of labor arbitration. Students will read labor arbitration decisions and learn how to research arbitration issues. The second major theme of the course is an examination of the design and use of nonunion workplace dispute resolution procedures. Students will read descriptions and analyses of examples of nonunion grievance procedures. Finally, the course will look at procedures for resolving employment law disputes and the major public policy debates surrounding mandatory nonunion arbitration procedures. Students will read some of the major legal cases in this area of the law and perspectives both for and against mandatory arbitration. A key objective of the course is to enable students to both understand and think critically about different alternative dispute resolution procedures and their role in employment relations. As part of achieving this objective, the course will include simulated dispute resolution exercises to provide students with experience in using techniques such as arbitration, mediation, and peer review. Additional course requirements include regular class attendance and participation, and paper assignments based on each of three main sections of the course. This course builds on and is complementary with other coursework in Labor and Employment Relations in the areas of employment relations, employment and labor law, and human resource management. It also compliments courses in other departments in the area of dispute management and resolution, including the Minor in Dispute Management and Resolution. LER 437 may also be taken as an elective by students in the MS in Human Resources and Employment Relations and compliments coursework in the graduate program.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: LER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 444 Occupational Health: Policy and Practice (3) The role of employees, unions, employers, and government in dealing with work-related health issues.

LER 444 Occupational Health: Policy and Practice (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Occupational Health: Policy and Practice focuses on the roles of employees, unions, employers, and government in addressing work-related health and safety issues. The course will introduce students to the three interrelated fields of occupational health, occupational safety, and environmental health. Students will be provided with an overview of key issues within these fields and gain an appreciation for their importance within the workplace. Students will also become familiar with the fundamental concepts involved in the management of occupational health and safety issues. Requirements for the course include regular attendance and participation, three exams (including a final exam), and completion of a group project. LER 444 satisfies requirements within the Labor Studies and Employment Relations major and may be taken as an elective. LER 444 is complementary to other courses dealing with employee relations and legal principles within the workplace.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: LER 100 or sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 437W Work Dispute Resolution (3) Dispute resolution practices and procedures used in the workplace and employment law settings.

LER 437W Work Dispute Resolution (3)

This course examines dispute resolution procedures in unionized and nonunion workplaces. The course begins with an examination of grievance procedures in unionized workplaces and the system of labor arbitration. Students will read labor arbitration decisions and learn how to research arbitration issues. The second major theme of the course is an examination of the design and use of nonunion workplace dispute resolution procedures. Students will read descriptions and analyses of examples of nonunion grievance procedures. Finally, the course will look at procedures for resolving employment law disputes and the major public policy debates surrounding mandatory nonunion arbitration procedures. Students will read some of the major legal cases in this area of the law and perspectives both for and against mandatory arbitration. A key objective of the course is to enable students to both understand and think critically about different alternative dispute resolution procedures and their role in employment relations. As part of achieving this objective, the course will include simulated dispute resolution exercises to provide students with experience in using techniques such as arbitration, mediation, and peer review. Additional course requirements include regular class attendance and participation, and paper assignments based on each of three main sections of the course. This course builds on and is complementary with other coursework in Labor and Employment Relations in the areas of employment relations, employment and labor law, and human resource management. It also compliments courses in other departments in the area of dispute management and resolution, including the Minor in Dispute Management and Resolution. LER 437 may also be taken as an elective by students in the MS in Human Resources and Employment Relations and compliments coursework in that graduate program. It requires no special facilities or technological equipment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: LER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 445Y (US) (AAA S 445Y, PL SC 445Y) Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.

LER (AAA S/PL SC) 445Y Politics of Affirmative Action (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of this course are to introduce students to the relationship between affirmative action and other policies purportedly designed to end racial inequality in the U.S. This course approaches the study of affirmative action in the context of the historic racial discrimination and inequality that Black Americans have faced since the founding of the Nation. The purpose of this course is to help students think about how contemporary and historic affirmative action policies relate to race, concepts racial inequality, the historic and continuing causes for racial inequality, public opinion, American politics and economic thought. The course materials will lead students through scholarly and popular articles, books and video presentations on the topic. It is hoped that students will become familiar with the history of affirmative action from its conception. Students will gain an intimate understanding of affirmative action economic and social outcomes on various racial groups. No prior knowledge is assumed, however a knowledge of civil rights history, quantitative methods, and constitutional law will be useful. The Politics of Affirmative Action satisfies the requirements for major and minor electives for the African American Studies, and major and minor electives for Political Science, and Labor Studies and Industrial Relations. Students are evaluated on the basis of an examination, term paper, class participation and class presentations of papers.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: AAA S 100 level course andPL SC 001 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 458Y (US) (HIST 458Y) History of Work in America (3) A study of selected problems in the history of work in the United States, especially since 1877.

LER (HIST) 458Y History of Work in America (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will address economic, technological, social, cultural and political aspects of employment and self-employment. Major topics of concern will include methods of producing goods and services, work time and working conditions, the composition of the workforce, the changing functions of managers of labor, the role of the state in shaping labor markets and regulating employment relations, the formation and operation of unions and other representative bodies, and the relation of work to the family and other social institutions. Course requirements include regular attendance and participation, three essay exams and one term paper of a minimum of 10 pages. The essay exams and term papers will serve as instruments for gaining a fuller understanding of the subject matter by directing the students to examine and discuss major substantive problems in the field. In addition, some students will undertake original research in primary sources, thereby learning something of historical research methods. Writing will be treated as a process; besides regular encouragement of students to submit a paper proposal and bibliography, a paper outline, a rough draft, and a final draft. In addition, they are advised that the instructor will read and comment on as many additional drafts as they care to submit.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: HIST 021, HIST 156 orLER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 460 Human Resources Ethics (3) Ethics of human resources management.

LER 460 Human Resource Ethics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for students who have received an introduction to human resources management and would like to spend some time thinking about the ethics of using various human resources practices. Students will devise their own personal codes of ethics, review the codes of others, and apply them to human resources situations. The course has limited enrollment to ensure participation in class discussions. Course work involves class discussion and presentations, outside reading, written in-class and out-of-class assignments, group and individual projects. All students are required to have completed a human resources or personnel management course, because the course assumes knowledge of this material for the students to be able to evaluate the ethical implications of human resources management decisions.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: ARMY 402, H P A 460, HRIM 466, MGMT 341, MANGT 341, MANGT 441, MANGT 463, NAVSC 402, NURS 432 orPSYCH 281

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 460 Human Resources Ethics (3) Ethics of human resources management.

LER 460 Human Resource Ethics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for students who have received an introduction to human resources management and would like to spend some time thinking about the ethics of using various human resources practices. Students will devise their own personal codes of ethics, review the codes of others, and apply them to human resources situations. The course has limited enrollment to ensure participation in class discussions. Course work involves class discussion and presentations, outside reading, written in-class and out-of-class assignments, group and individual projects. All students are required to have completed a human resources or personnel management course, because the course assumes knowledge of this material for the students to be able to evaluate the ethical implications of human resources management decisions.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011
Prerequisite: Take one of the following courses:ARMY 402, H P A 460, HRIM 466, MGMT 341, MGMT 441, NAVSC 402, NURS 432, PSYCH 281 3 credits in Labor and Employment Relations (LER) or Human Resources and Employment Relations (HRER)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 464 Communication Skills for Leaders in Groups and Organizations (3) Theory-and research-based communication skills for leaders dealing with work-related problems in contemporary groups and organizations.

LER 464 Communication Skills for Leaders in Groups and Organizations (3)

(BA) This course meets the Bachelor of Arts degree requirements.

LER 464 Communication Skills for Leaders in Groups and Organizations is a survey of theory, research, and practice related to the communication processes by which individuals in groups and organizations exercise influence, whether or not they occupy positions of acknowledged leadership, and may be taken as part of an Labor and Industrial Relations major or minor, or as an elective by students in other disciplines. The course is offered once each academic year and has an enrollment limit of 40 students per offering. The course requires no special facilities. It extends to other courses in the major primarily in the areas of Industrial Relations and Human Resources. It is also complementary to courses focusing on groups and organizations in Sociology, Psychology, Management, and Engineering. During the course, students are exposed to a variety of theoretical perspectives on the study of leadership, learn about research illuminating its functions, and become acquainted with communication practices derived from and/or suggested by such theories and research that contribute to the exercise of influence and, thereby, effective group and organizational performance. These terminal outcomes define the objectives of the course. Focus will be on leadership as both role-related behavior and goal-directed behavior, regardless of roles that members of groups and organizations occupy. Requirements for the course include regular attendance, a course paper dealing with research on some aspect of leadership covered in the course, and both a mid-term and final examination (of the essay, open-book variety).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 470 Employee Involvement (3) Historical, theoretical, legal, and industrial relations aspects of employee involvement in the United States and other countries.

LER 470 Employee Involvement (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will introduce you to worker participation innovations in union and nonunion settings. Important questions include: types of programs implemented, who adopts these programs, how the programs work in practice, and the outcomes for employees, employers, and unions. The course is not required for the major or the minor, but it can be used as an option. It does expand on basic materials covered in L I R 100, L I R 101, L I R 414W, and L I R 458W without duplication. The course is taught in a typical classroom environment at least once per academic year, and the evaluation procedures include written examinations and other assignments, plus class participation.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: LER 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 465 Collective Decision Making (3) Application of theories of decision making to work-related issues in groups and organizations requiring collective resolution and action.

LER 465 Collective Decision Making (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course presents a broad overview of theories, research, and practices in decision making as related to work-related choice making in groups and organizations and is open to students majoring or minoring in Labor and Industrial Relations, as well as to students who may wish to use the course as an elective. The course is offered once each academic year and has an enrollment limit of 40 students per offering. It requires no special facilities. L I R 465 extends to other courses in the major, primarily in the areas of Industrial Relations and Human Resources. It is also complementary to courses dealing with decision making in groups and organizations in sociology, psychology, and management. Of particular interest are decision making practices, as well as theories that account for them, in single-motive situations (in which participants in the process are pursuing a common goal) and mixed-motive situations (in which two or more of the participants are competitively related, but must cooperate to achieve their objectives). Hence, the course deals both with (1) conventional decision making, as in the case of boards, task forces, problem-solving groups, and quality circles or teams, appropriate to single-motive situations and (2) processes, such as bargaining, negotiation, and dispute management/resolution, appropriate to mixed-motive situations. The course also deals with the influence of organizational culture on decision-making in both types of situations. Upon completing L I R 465, students will have been exposed to a broad array of theoretical perspectives on decision making in groups and organizations, will be familiar with research testing these theories, and be aware of decision making practices suggested by theory and research that are useful in situations requiring collective choice and action. These terminal outcomes of the course reflect the objectives. Requirements for the course include regular attendance, participation in class discussion, a course paper on some aspect of decision making covered in the course, and both a mid-term and final examination (of the open-book, essay variety).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 472 (WMNST 472) Work-Life Practices and Policies (3) Explore the causes and consequences of conflicts between work, family, and other life commitments, and how these may be resolved.

LER 472 Work-Life Practices and Policies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The interdisciplinary field of work-family and work-life developed as a result of middle-class women's entry into the labor force, a movement that generated conflict between family and paid work commitments. Overall, the course addresses the reasons the field developed, relevant theoretical perspectives regarding the issues, and related problems as well as proposed solutions at both the public and private sector levels. The overarching objectives of the course are to expand students' understanding of conflicts between work and family commitments, and how these might be resolved through private and public sector initiatives. Specifically, the course concerns how individuals, families, and organizations interact to help hinder the achievement of balance between work and life commitments, and relevant effects on those involved. The changing demographics of the family, laws and trends around working time, father and mother time with children, the expanded need for elder care, work-life programs such as flextime, concierge services, paid parental leave, part-time careers, paid time-off banks, and the role of unions, corporations and government legislation are covered. The course attempts to link the likely future needs of students to broader trends in society and how balance could be achieved at the level of individuals, families, other stakeholders in the community, and for society as well. Fields of research relevant to the course include labor studies, women's studies, Industrial/Organizational psychology, the sociology of work and of family, and child development. Students will be evaluated on the basis of class participation, through two in-class examinations, and through a final written or oral project providing a chronology and analysis of an adult's work-family history. The course is offered most fall and spring semesters, and typically 30 students are enrolled.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: 3 credits of LER

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 475H (GEOG 475H) Labor in the Global Economy: U.S. and South African Perspectives (3) This course focuses on how the nature of work is changing in the global economy, and the implications for economic opportunity and inequality in both .

LER (GEOG) 475H Labor in the Global Economy: U.S. and South African Perspectives (3)

This seminar focuses on how the nature of work is changing in the "new economy", and the implications for economic opportunity and inequality in both the United States and South Africa. Sections of the course examine: theoretical approaches to understanding contemporary process of labor restructuring, including globalization, rise of an information economy, and growth in service sector employment; case studies of restructuring processes in different industrial sectors in both the U.S. and South Africa; and innovative labor organizing initiatives at a local, regional and global scale. This course aims to develop a framework for understanding the nature of contemporary processes of economic restructuring and its impact on the world of work. Drawing on research in both a South African and U.S. context, key case studies in the changing nature of work will be examined. This will provide a deeper understanding of how broad macro-level changes in the nature of contemporary capitalism are mediated by a variety of technological, political, and socio-economic factors in particular industries and geographic contexts. Finally, an in-depth look at workers' responses to these changes at different scales (local, regional, global) will help deepen our understanding of the contested nature of workplace restructuring while exploring promising strategies for improving working conditions. This is a reading-intensive course dealing with the theoretical literature on rapid economic restructuring and how this is shaping work and employment. It is run in collaboration with the Sociology of Work Program at the University of Witwatersrand in Johannesburg, South Africa, with video-conference discussions linking the two courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: A minimum of 12 GEOG or LER credits before taking the course (or the permission of the program).

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 480 Current Issues in Human Resources (3) Examines current issues in the field of human resource management, including innovative work schedules, telecommuting, non-traditional office environments, etc.

LER 480 Current Issues in Human Resources (3)

Students will study the relevant human resources and strategic issues that affect businesses across all industries and how it relates to the strategic planning of the company. The course will provide real life examples and experiences. Students will study and discuss the strategies, innovations, and successes of companies and how these issues and challenges relate to the human resources function today and in the future. Timely books which are being read in companies and presented at seminars will be the required reading. Students will interact with guest speakers who will be executives and hear these experts share their strategies and ideas regarding the issues facing not only their organization, but all organizations today. This course will require students to integrate and apply knowledge from their previous coursework in human resources and labor relations. A student must know and understand the laws that relate to the work place and have a strong knowledge of the principles of management and labor relations. This course will serve as a compliment to Mgmt 100, 341, 441 and LIR 100, 201, 401 and 434. This course is intended for seniors who are in their final two semesters of study and are serious about pursuing a job in human resources and labor relations. Evaluation will be based on participation, exams, essays, and reaction papers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits of LER

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 495 Labor Studies Internship (1-12) Supervised practicum in labor relations setting with union, management, or government agency.

Labor Studies Internship (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: prior approval by department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Labor, Emplym Relati (LER)

LER 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 003 (GA) The Natural and Historic Landscape (3) Man's changing attitudes toward urban and rural outdoor spaces and their aesthetic and cultural value.

The Natural and Historic Landscape (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 060 (GA) History of Landscape Architecture (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century.

LARCH 060 History of Landscape Architecture (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

LARCH 060 is an introductory survey course of the historical development of designed outdoor space in relationship to the allied arts from early beginnings to present day. Although the profession of architecture was not named until 1858, with the award-winning design of Central Park by Frederick Law Olmsted and Calvert Vaux, the art of design on the land has been practiced since the beginning of time. It is the creation of human environments, inevitably expressing the creator's perception of the relationship between humanity and nature.

As with all art, the design of outdoor spaces reveals a culture's beliefs, values, and aspirations. If one studies design in different cultures and time periods, one can learn a great deal about that society. One can also begin to see history holistically, to detect trends, to relate yesterday to today, and to question the present and future. In the course we explore the outdoor spatial designs of history, with emphasis upon what these designs reveal about cultural attitudes toward nature, humanity and art. While we will address middle and far-eastern landscapes, the course focuses upon western civilizations with the second half focusing on American landscapes.

The objective of this course is to present a concise analysis of the design of outdoor space with special emphasis on American design from 1800 to date. It is hoped that students will gain an increased awareness of landscape architecture as an art, and of their own built environment as a product of cultural values.

Grades are based upon three examinations: two during the course and one during final exam period. Each examination is worth 33 1/3% of your final grade. Each exam will consist mostly of multiple-choice questions some of which may be based on slides; there may also be short answer questions. The specific format will be announced prior to each exam. Both lecture content and reading packet material will be covered on the exams. Computer tutorials are available and designed to aid in your understanding of the reading packet. As well, the lectures are taped and are available for review through the University's Classroom Recording unit. To further aid you in understanding course content, a study guide will be posted every week at the web address.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2002 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 060 (GA;US;IL) History of Design on the Land (3) A survey of the historical development of outdoor space in relationship to allied arts from early beginnings to this century.

LARCH 060 History of Landscape Architecture (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

LARCH 060 is an introductory survey course of the historical development of designed outdoor space in relationship to the allied arts from early beginnings to present day. Although the profession of architecture was not named until 1858, with the award-winning design of Central Park by Frederick Law Olmsted and Calvert Vaux, the art of design on the land has been practiced since the beginning of time. It is the creation of human environments, inevitably expressing the creator's perception of the relationship between humanity and nature.

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General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 065 (GA;US;IL) Built Environment and Culture (3) Investigates the relationship between socio-cultural practices and the development and organization of contemporary built environments.

LARCH 065 Built Environment and Culture (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This interdisciplinary course is based on the premise that space is an active structuring element of human experience. Using theoretical orientations from landscape architecture, architecture, urban planning, geography, sociology, and cultural anthropology this course will investigate how social structures are spatially embedded in contemporary built environments. It will do so by examining environments at three scales (house, street, and city) in different parts of the world. It will explore both western and non-western environments with emphasis on environments that students are likely to be unfamiliar with. Within each scale and region it will focus on the spatial experience of different groups based on racial, ethnic, gender, class, and other identities.

This course will equip students with the necessary skills to understand and analyze the relationship between existing social and power structures of society and the organization of specific built environments. It will enable them to compare their experience of environments with those of other groups in society. It will also introduce students to the aesthetics of everyday environments in both national and international contexts. There are no prerequisites for this course. This course will complement LARCH 060 and other courses related to human settlements and urbanization offered by various departments/programs like Architecture, Art History, Geography, History, and Sociology.

Students will be evaluated through low stakes testing (a series of three exams), frequent quizzes, leading of discussion sessions, and a group project. Peer evaluation will also be part of the final grade.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 112 Introductory Design Studio (3) Provides students with an interdisciplinary introduction to studio work in landscape design.

LARCH 112 Introductory Design Studio (3)

This course provides an introduction to landscape design. Students will create studio work that investigates, from a variety of disciplinary understandings, basic issues and problems in the arts and design disciplines. The course is thematically linked to LARCH 121S: Landscape Architecture Orientation Seminar taken in the preceding semester and will be team-taught to provide an interdisciplinary structure. This course will foster interdisciplinary awareness and provide students with a common language (or several common languages) with which they can communicate with other students in the design disciplines. Ways of learning about design through projects and assignments that incorporate various technologies will be included in the course. The course will integrate a variety of methodologies and approaches rather than teach discipline-specific subject matter.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: admission into the Department of Landscape ArchitectureLARCH 121S, LARCH 151, LARCH 060

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 129 Landscape Ecology for Planning and Design (3) Application of ecological principles to design and management of environment, with particular emphasis on conservation and restoration of natural resources. For Landscape Architecture majors only.

Landscape Ecology for Planning and Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 121S Landscape Architecture Orientation Seminar (1) Introductory seminar involving readings on significant issues in landscape architecture. LARCH majors only.

LARCH 121S Landscape Architecture Orientation Seminar (1)

LARCH 121S is a seminar course, the first of many in an entering student's Penn State career. Seminar classes offer the opportunity to read, think, share ideas through informal discussion, and refine personal thoughts reflection. The seminar is a common and useful tool to explore important ideas and develop critical thinking skills. The design and theory sequence begins with the freshman seminar, LARCH 121S, which introduces students to landscape architecture issues.

In this seminar students read and discuss the challenges and opportunities faced by contemporary landscape architects. This is the first of a ten-seminar sequence addressing theory and issues. As an introductory course, LARCH 121S is a "stand-alone" seminar - all those in the professional core of the program are linked to design studios.

To support student explorations, the class undertakes a series of readings of seminal works in landscape architecture and allied field that students carefully consider, question, and discuss. As a major part of student evaluation, they maintain a journal of their evolving ideas about the course content.

Entering landscape architecture majors sometimes have a restricted notion of the wide variety of career directions that face them within the field of landscape architecture. This class proposes that the principal role of the landscape designer and planner is to make "place" - a combination of physical, cultural and compositional cues that imbue built and natural forms with meaning. The goal of this first-year seminar class is for students to understand the type, or types, of place that landscape can be. The course introduces students to concepts of landscape as place, and asks them to ponder, explore, and respond to ideas about various perspectives on landscape "place." This introduces them to the broad range of issues and activities that are addressed in the seemingly simple term, "landscape architecture."

Course Objectives:
a) To become familiar with important issues in contemporary landscape architecture.
b) To exercise and hone skills in critical thinking.
c) To exercise and hone skills in speaking and writing persuasively.
d) To begin to explore roles as future "place makers."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 151 Introduction to Design Visualization (3) Provides students with an introduction to visualization techniques for landscape architectural design and planning.

LARCH 151 Introduction to Design Visualization (3)

The complexity and scale of most design projects and the collaborative nature of design work necessitate the use of graphic images to develop and communicate design ideas from the very early conceptual stage to the final construction documents. These "design drawings" are an integral part of the problem solving and design process. They require a good eye, a creative imagination and a skilled hand.

Developing skill at design drawing and visualization starts with an understanding of basic concepts of seeing, perception, and principles of communication. It requires becoming familiar with and skilled at using a graphic vocabulary of drawings and symbols that are commonly used in the design disciplines to communicate with one another. And of course, although concepts and theory are important, practice is essential. As Paul Laseau says in Graphic Thinking For Architects And Designers, "The knowledge that drawing and thinking are important to [landscape] architecture is not sufficient. Natural drawing talent is not enough. To sustain the necessary lifetime effort of learning and perfecting graphic thinking, we need to find pleasure in drawing and thinking." The goal of this course is for students to begin developing their visual communication skills using a range of media and to start on a "lifetime effort" of enjoyable and productive graphic thinking and communication. Both concepts and techniques will be stressed.

Students work on exercises that develop facility with basic conventions. The tools and principles introduced in this class feed directly into the more advanced and computer-aided visualization and presentation methods emphasized in the following class, LARCH 251: Design Visualization and Graphics I.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: admission into the Department of Landscape Architecture
Concurrent: LARCH 121S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 211 Design and Theory I: Introduction to Principles of Landscape ArchitecturalDesign (4) An introduction to design theories and principles of landscape architecture. LARCH majors only.

LARCH 211 Design and Theory I: Introduction to Principles of Landscape Architectural Design (4)

LARCH 211 is the first of a four-class sequence of design studios at the core of the professional design program. The design studio is an active learning setting where principles discovered in lecture or seminar classes are subject to experiments in the form of design projects. In this setting, central class setting where solutions to complex problems are synthesized and tested, based on information gathered in earlier and concurrent classes. Whereas, the theory classes and studios of the Arts and Architecture Core Curriculum, A&A 101, 102S, 103, and 104, address broad themes and principles in the arts and design, LARCH 211 is focused on landscape architectural design.

Landscape architectural principles and issues are introduced through design explorations and projects, associated lectures and field trips, and corollary readings and reading discussions - the latter developed through the companion seminar, LARCH 221. As the curriculum progresses, the principles introduced (or expanded upon) become increasingly complex and build upon prior studio content.

The second-year design and theory studio and seminar content is introductory in nature. The fall semester (LARCH 211 and 221) covers basic spatial design concepts such as introduction to precedent, landscape design processes and elements, ordering principles, and is focused on design using the palette of landform, plants and structure. The studio project types are small in scale and relatively abstract. They introduce place-awareness design and focus upon small landscape spaces and the placement of objects in the landscape, both built and natural.

Course Objectives:
a) Achieve working knowledge of the three critical building blocks that will underpin the student's future design experiments: space, experiential function, and intent.
b) Acquire a working knowledge of spatial composition - both the vocabulary and the design impact of compositional elements and principles.
c) Develop an introductory understanding of the space making potential of vegetation, landform, and structure.
d) Gain experience in model building and understanding of its usefulness in spatial design.
e) Develop the student's skills in design criticism.
f) Introduce the iterative process of landscape architectural design, including the importance of independent design decision-making based on a variety of criticism.
g) Experience visual note taking and understand its usefulness in the design process.
h) Develop the habit of self-reflection about the individual's design process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 121S, A&A 101, A&A 102S, A&A 103, A&A 104
Concurrent: LARCH 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 212 Design and Theory II: Introduction to Issues of Place (4) Studio design addressing issues of nature and culture; application of theories, processes, and presentation methods learned in course and concurrent courses. LARCH majors only.

LARCH 212 Design and Theory II: Introduction to Issues of Place (3)

LARCH 212 is second of a four-class sequence of design studios at the core of the professional design program. The course follows LARCH 211 and continues to develop the fundamental concepts and basic skills of landscape architectural design. The particular emphasis of this class is on introduction to site analysis encompassing both natural and cultural elements of place. The studio project types are small to moderate in scale and have basic programs. In many cases, second-year site design projects include community projects (i.e. parks) with real human issues and sites. Group discussions and critiques will be important activities in the studio.

This course will build upon the ides explores in LARCH 211 of composition with the basic design elements (landform, vegetation, structures) of landscape design and the ecology of site from LARCH 241, Via a series of studio projects, charrettes (intensive applied workshops) and field trips, LARCH 212 will engage students with design challenges on real sites in the State College/University Park community. Students will be challenges to develop the comprehensive understanding of site and activities (program) required to become an effective landscape architect. Included in the most important parts of that comprehension are natural, social, historical, and aesthetic site conditions; functions, activities and program requirements; site and community context; and relevant design concepts, theories and examples.

The subsequent challenge for students will be the development of design processes necessary to integrate site and program understandings into unified, successful design.

Course objectives:
- To explore the iterative and self-critical design process essential to all design activities.
- To clearly and effectively communicate design proposals, graphically and verbally.
- To master graphic techniques and composition needed for competent presentation.
- To practice written and oral presentation skills, culminating in public presentation of student designs to audiences including community representations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 211, LARCH 221, LARCH 231, LARCH 251
Concurrent: LARCH 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 221 Design Theory Seminar (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 211.

LARCH 221 Design Theory Seminar (1)

Each of the four design studios that constitute the core of the professional curriculum has a companion seminar that provides the vehicle for structured exploration of the theoretical and philosophical framework within which we design and plan. The seminar is a small group setting where directed readings, independent research and reflection are employed to explore the context of contemporary design.

LARCH 221 is the first of a four-class sequence of design seminars. Whereas the theory classes of the Arts and Architecture Core Curriculum, A&A 101 and 103 addresses broad themes and principles in the arts and design, LARCH 221 is focused on landscape architectural design.

Landscape architectural principles and issues are introduced through studies of design precedents, corollary readings in the sociological, psychological and cultural contexts of design and small-group discussions - the latter frequently related to topics under investigation in the companion studio, LARCH 211. As the curriculum progresses, the issues explored become increasingly complex and build upon prior seminars.

The second-year theory seminar content is introductory in nature. The fall semester (LARCH 221) covers introductory writings addressing the broadset principles of landscape design processes, discussions of fundamental ordering principles, and philosophical positions on the interrelationships of landform, plants and structure. They introduce place-awareness through concepts such as genius loci, ordering principles such as the golden section, and experiential responses to landscape from phenomenological viewpoints.

Course Objectives:
- To become familiar with important issues in contemporary landscape architecture.
- To exercise and hone skills in critical thinking.
- To exercise and hone skills in speaking and writing persuasively.
- To begin to explore the issues that impinge upon and shape "place."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 121S, A&A 101, A&A 102S, A&A 103, A&A 104
Concurrent: LARCH 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 222 Design Theory Seminar (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 212.

LARCH 222 Design Theory Seminar (1)

LARCH 222 is the companion seminar to the design studio LARCH 212. The seminar is a small group setting where directed readings, independent research and reflection are employed to explore the context of contemporary design. Topics in LARCH 222 reflect the projects being explores in the companion studio but, in general, move beyond exploration of basic design concepts to include an emphasis on both natural and cultural elements of place and provides essential background to the processes and principles of site analysis in as much as those reflect the technological and cultural biases that are brought to design.

Landscape architectural principles and issues relevant to the design topics being pursued in LARCH 212 are introduced through studies of design precedents, corollary readings in the sociological, psychological, and cultural contexts of design and small-group discussions - the latter frequently related to topics under investigation in the companion studio, LARCH 212. As the curriculum progresses, the issues explores become increasingly complex and build upon prior seminars.

The seoncd-year theory seminar content is introductory in nature. The spring semester (LARCH 222) continues to cover introductory writings addressing the broadset principles of landscape design processes, discussions of fundamental ordering principles, and philosophical positions on the interrelationships of landform, plants and structure - increasingly in the context of the design types being explores in LARCH 212. They introduce place-awareness through concepts derived from sociology, social psychology and cultural anthropology.

Course Objectives:
- To increase familiarity with important issues in contemporary landscape architecture.
- To continue to develop skills in critical thinking.
- To continue to build skills in speaking and writing persuasively.
- To bring focused attention to the issues that impact the design of small, private and public spaces.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 211
Concurrent: LARCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 231 Introduction to Design Implementation (3) Introduction of basic principles and tools supporting landform data, site systems, grading, visualization representation and site circulation.

LARCH 231 Introduction to Design Implementation (2)

As an introductory design implementation course, this course provides the foundation for site design in landscape architecture. At the core of the course are four general bodies of knowledge: Geometrics, Landform Manipulation, Site Systems, and Computer Applications for Site Analysis and Design.

Geometrics: In order to perform landform manipulation, students must be able to efficiently acquire and process basic physical information about a site and are required to understand a suite of measurements. This course will first provide an overview of the digital and paper data sources available to landscape architects. Students will develop basic skills in manipulating or processing these data in order to comply with the requirements of site design. The course will also provide the basic measurements and formulae required for students to efficiently and accurately manipulate landforms.

Landform Manipulation: One of the most critical skills landscape architects must acquire as designers is the ability to design landforms to accommodate changes in use and to translate their design ideas into dimensionally precise topographic representations of their designs. This course provides the basic knowledge for students to complete this process. Beginning with a single site element, students are expected to explore the suite of opportunities to place and modify a site to fit a single site element. Increased complexity is added to the suite throughout the remaining portions of the semester, thus enabling students to balance the opportunities and constraints presented by each individual design element and the overall site design.

Site Systems: Building on ecological components of the curriculum, this course provides the first site specific and physical understanding of basic site systems critical to every landscape architect's design. Students will primarily focus on the major site features as related to site drainage, such as soil, topography, and surface geology, but will also be expected to recognize regional context in their designs.

Computer Applications for Site Analysis and Design: A central component underlying the instruction of the course is providing students with a suite of computer tools.

Course objectives:
a) To assist in initial efforts in acquiring and processing site data;
b) To perform calculations such as cut and fill, spot elevations, and slope calculations;
c) To visualize and complete basic manipulation of landforms;
d) To understand the interaction of physical site features on individual sites (e.g., soil and topography); and
e) To communicate their final site designs according to professional standards

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: LARCH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 232 Landscape Architectural Design Implementation I (3) Principles of landform design and grading, including the use of landform as a design element, visualization and representation of landforms, methods for integrating site and structure, standards for grading and drainage, and the development of detailed grading plans. LARCH majors only.

LARCH 232 Landscape Architectural Design Implementation I (3)

The purpose of LARCH 232 is to develop within each student the technical ability to effectively steward land and water resources in the context of land development.

For any design to become a reality, the specifics of the design such as the landform—structure relationships, grading and drainage, pedestrian and vehicular circulation, and other site improvements must be resolved. This resolution, which is actually a further refinement of the student’s design, must be technically functional, safe, ecologically responsible, aesthetically pleasing, and true to the design intent. Understanding design implementation standards and technology is an essential part of the design process because it allows students to assure the successful installation of their designs and provides opportunities for them to steward our land, vegetation and water. This knowledge is also critical to future success in professional practice and professional licensure.

Grading/Drainage Systems: Students will develop the technical skills for professional office level determination of grading layouts including slope, cut and fill calculations, and communication of solutions using an array of technological tools. The investigation of drainage systems introduces students to standard calculations for stormwater run-off and management and explores a wide variety of innovative means of stormwater management designed to achieve specific conservation goals.

Layout and Dimensioning / Circulation Systems: This emphasis will involve two components: i) the principles and techniques for horizontal layout and dimensioning of landscape elements from site scale to detail scale, and ii) the principles and techniques for design and layout of circulation systems. Although vehicular circulation is the primary focus, bicycles and pedestrian circulation will also be discussed. The course covers general principles for designing road systems, design principles and standards for the horizontal and vertical alignment of roadways, formulas and techniques for the precise definition and coordination of horizontal and vertical road geometry, and graphic standards and techniques for plan/profile drawings using computer-aided drafting. Studio assignments will include a series of smaller exercises as well as a more comprehensive project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 212, LARCH 222, MATH 026 or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 241 Vegetation Ecology and Landscape Design (3) Application of ecological knowledge to landscape design and management; emphasis on the use of plant communities in contemporary design. LARCH or Landscape Contracting Majors only.

LARCH 241 Vegetation Ecology and Landscape Design (3)

Landscape architecture is so thoroughly in and of the environment that ecological concerns permeate every aspect of practice. Students encounter ecological concepts throughout the curriculum, in the context of social and cultural systems and ecologies as well as the more familiar natural system ecology. The curriculum's entry-point to considering ecology as a fundamental shaper of design and planning is LARCH 241, Ecological Principles for Landscape Design, which introduces students to the basic concepts in ecology such that they will be able to apply ecological knowledge in landscape design and management.

The course focuses on basic ecological principles and concepts at all scales, with special emphasis on the small-scale site and the larger, regional-scale landscape. Key concepts explored in the class include: population, community, ecosystem and landscape. Students will learn the characteristics of healthy ecosystems and will begin to cover the adverse impacts that can result from failure to apply sound ecological principles in design and planning. The principles learned in this class provide the foundation for later explorations that include responses to overlying patterns of human land use and development.

The course achieves the above through a variety of learning activities. The core of the class comprises traditional assigned readings and lectures delivered in the classroom (copies of the readings and PowerPoint slides from lectures are available on-line on ANGEL). The class also includes numerous field experiences, both in the immediate campus area and the close-by off-campus locations. The instructor leads several different types of field experiences - some oriented to ecology and restoration, others focused on natural history and site comprehension.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 241 Ecological Principles for Landscape Design (3) The development of basic ecological knowledge that becomes the basis for sensitive ecological design.

LARCH 241 Vegetation Ecology and Landscape Design (3)

Landscape architecture is so thoroughly in and of the environment that ecological concerns permeate every aspect of practice. Students encounter ecological concepts throughout the curriculum, in the context of social and cultural systems and ecologies as well as the more familiar natural system ecology. The curriculum's entry-point to considering ecology as a fundamental shaper of design and planning is LARCH 241, Ecological Principles for Landscape Design, which introduces students to the basic concepts in ecology such that they will be able to apply ecological knowledge in landscape design and management.

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General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: LARCH majors only or permission of the program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 251 Design Visualization and Graphics I (3) Advanced visualization principles and techniques; computer=aided design, image processing, color theory and application; visual thinking and problem solving. For Landscape Architecture majors only.

LARCH 251 Design Visualization and Graphics I (2)

The products of landscape architectural design and planning are inherently visual, and our visual sense is most important in assessment and evaluation of the qualities the environment, or future environments, presents to us. Direct illustration of the world is traditionally accomplished through tools and approaches such as hand-sketching and figure drawing, and draws upon understandings of color theory and perspective.

Increasingly, those tools are being supplanted by computer-based tools, especially as the representation of future scenarios becomes a bigger part of community and professional decision-making processes. Technical drawing is increasingly supplemented by visual simulation, modeling, animation and other advanced techniques.

While visual communication is tightly woven into the heart of design and planning studios, LARCH 251 provides students with an introduction to several types of hand drawing and computer-aided drawing and animation techniques. Students work on both basic drafting conventions and more creative graphic-rendering techniques. The tools and principles introduced in this class are used extensively throughout the program. Computer-aided visualization and presentation methods are emphasized, including the fundamentals of 2-D and 3-D illustrative rendition.

Course Objectives:
- Achieve working knowledge of basic illustration principles: line, color, shading, perspective.
- Master the basics of 2-D and 3-D representation in both hand- and computer -media.
- Acquire a working knowledge of spatial composition and its expression through both traditional and computer-based media.
- Develop an introductory understanding of data formats for computer illustration and modeling, and the integration of multiple data types and formats into presentations.
- Gain experience in 3-D computer model building and understanding of its usefulness in spatial design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: LARCH 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 272 Landscape Architecture Field Trip (1) A week-long class trip to visit recent projects, offices, and outstanding historical developments.

LARCH 272 Landscape Architecture Field Trip (1)

During their first and second years in the landscape architecture program, students are introduced to ways of looking at the landscape that are quite new to them—to look at the visible landscape as representation of its past cultural, political, bio-physical, and geological influences. Through design studios and methods classes, students have been exposed to design approaches addressing aesthetic and experiential goals, and to others that employ engineering strategies for land shaping and management of water resources. They have taken general education classes that focus on soils, history, cultural geography and communications. The second year ends with a field trip that places students in settings where all of these influences are seen at work together and asks them to reflect on that integration of influences. The trip emphasizes the importance of regional context and diversity by traversing a cross-section of physiographic regions of the Mid-Atlantic States—typically from the Maryland shore to the edge of Lake Erie.

LARCH 272 is a one-credit course that serves to immerse students in an understanding of how diverse influences, some planned, others not, coalesce to form the vital changing landscapes of the Mid-Atlantic region. The course comprises a field trip to representative ecosystems across the physiographic regions of New Jersey and Pennsylvania, linking the Mid-Atlantic and Great Lake geographic regions. Through hiking, canoeing and driving, students experience selected physical, biological and spatial conditions in these landscapes in order to compare and contrast their origins, processes, structures and patterns, and potentials for landscape design and planning.

Course Objectives:
- To become familiar with notable regional ecosystems;
- To experience, record and respond to representatives sites;
- To trace the connection between physical and biological processes and plant communities
- To understand these sites as dynamic and beautiful places that are concurrently being nurtured and threatened by humans;
- To relate these experiences to landscape design, planning and management

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 311 Design and Theory III: Site Planning and Design (4) An introduction to site planning, management, and design.

LARCH 311 Design and Theory III: Site Planning and Design (4)

During the third year of this professional curriculum, design and theory references build upon the second-year experiences and expand to both broader (regional) and more detailed (site) investigations. The fall semester design studio and seminar classes (LARCH 311 and 321 respectively) cover regional context as a preamble to large-scale master planning.

LARCH 311 considers the broader landscape and systems within the landscape. There are two very good reasons to learn to work at the broader landscape scale: to make informed planning, design and management recommendations at that level, and to enlighten site-scale design with a regional perspective. Students begin exploring ways to understand and address issues of regional context before focusing on local-scale site design in the spring semester. Projects from the fall include an emphasis on regional analysis, site and program analysis, and site design in the regional context. Studio work involves research and report writing and medium- to large-scale projects where site design and program are directly influenced by regional factors. Topography, geomorphology, land use, transportation, regional ecology, demographics, landscape history, visual analysis, etc., are introduced, all bound into current technological formats using such tools as Geographic Information Systems.

Students explore ides about landscape-scale conservation, linkages and recreational programming - important types of regional-scale work with which landscape architects are involved. They apply knowledge of the landscape in considering public planning, design and management interventions, including exploration of alternatives for landscape conservation and recreation. Students become involved, through community outreach projects, with interactive and real (e.g. sometimes messy) public dialogue that may help build community-wide enthusiasm for a landscape project of regional significance.

Course Objectives:
- To further student understanding of place and landscape experience as an interaction of those features and processes at the human scale.
- To introduce students to basic approaches and techniques for analyzing landscape systems and features as a primary basis for identifying issues and discovering design and planning opportunities.
- To introduce Geographic Information Systems (GIS) as a primary tool in regional analysis and planning, and to integrate GIS into a broadly based approach to managing data, developing concepts and communicating ideas.
- To develop student ability to use landscape and spatial data as the basis from which to draw conclusions and identify opportunities and actions.
- To continue to develop skills in integrated oral, verbal and graphic communication.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 241, LARCH 212, LARCH 222
Concurrent: LARCH 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 312 Design and Theory IV: Site and Regional Planning (4) An introduction to large site and regional planning. For landscape architecture majors only.

LARCH 312 Design and Theory IV: Site and Regional Planning (4)

In the spring semester of the third year, LARCH 312 and 322 continue the students' progress in working with regional contextual factors, but with an emphasis on site design at a variety of scales. Project types include a progression from small- through large-scale design with increasingly complex programs, human issues, and ecological parameters. Implementation is strongly integrated into this site-design context. This class constitutes a capstone to the professional core of the curriculum and accomplishes the first comprehensive integration of the student's technical and communication skills, their ecological and socio-cultural knowledge, and their developing skills as designers.

LARCH 312 directly references the understanding of the regional context from the preceding LARCH 311 to take students into community master planning issues. An introduction to those issues and the issues of sprawl and landscape history then allows a transition to community form and housing-type topics. In this class, students gain an understanding of designing communities and everyday human habitat - at several scales, including the interrelationships of natural, cultural and economic factors on the past, present and future development of communities. They develop awareness that even small, individual site design requires an understanding of larger environmental and cultural contexts. To this end, they learn to assess physical and cultural geographies at regional and local scales and their implications for community design at the site scale.

Course Objectives:
- To further develop expertise in the analysis and assessment of the natural, cultural, social and experiential facets of sites and their surroundings.
- To refine understanding of the role of data gathering, research, and analysis in design.
- To explore issues of land use planning and develop an understanding of logical interrelationships among different land uses.
- To develop skills in meshing the attributes of a site with the expectations of a program and the feature of actual buildings.
- To practice and refine site design skills, from functional/technical aspects (building location, circulation, orientation, drainage, grading, planting, materials) to experiential facts (spaces, sequences, view, character).
- To practice and refine skills in place making, drawing upon local context, site, and program to crate a responsive and memorial design.
- To enhance confidence and skill in developing a design vision through independent design decision-making.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 311, LARCH 321
Concurrent: LARCH 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 321 Design Theory Seminar (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 311.

LARCH 321 Design Theory Seminar (1)

LARCH 321 is the companion seminar to the design studio LARCH 311. The seminar is a small group setting where directed readings, independent research and reflection are employed to explore the context of contemporary design.

Topics in LARCH 321 reflect the projects being explored in the companion studio. During the third year, theory references build upon the second-year experiences and expand to broader regional investigations. The fall semester (LARCH 311 and 321) covers regional context as a preamble to large-scale master planning in land-use issues. In the seminar, students read broadly about the genesis of regional context as a construct of cultural, as well as biophysical influences. The concept of "reading" the landscape is fully explored, introducing students to the clues and cues by which the origins of the existing landscape can be discerned.

Themes in the third-year theory seminars become increasingly sophisticated. The regional landscape is the setting for some of our most pressing public debates - landscape restoration vs. agro-industry; landscape as economic resource vs. spiritual renewal; landscape as repository of cultural history vs dynamic reflection of current values. These themes are explored through readings that include the fundamental influences of topography; geology; regional ecology and hydrology; the human overlays of land use; transportation; demographics; and the cultural influences and responses seen in landscape history, cultural and visual analysis, etc., are introduced.

Course Objectives:
- To explore the political and philosophical influences that shape the regional landscape.
- To expose students to important debates on the future of the regional landscape.
- To continue to develop the ability to engage in public debate of these issues.
- To continue to build skills in speaking and writing persuasively.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 241, LARCH 212, LARCH 222
Concurrent: LARCH 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 331 (IL) Landscape Architectural Design Implementation III (3) Introduction to landscape construction materials and their use in design; includes principles and techniques for detailed design of site elements. For Landscape Architecture majors only.

LARCH 331 Landscape Architectural Design Implementation III (3)

The landscape architect calls upon a rich array of materials to construct the built elements of landscape—walls, ground surfaces, overhead structures and furniture systems. The functional success and durability of many historical and traditional construction methods is based on a learned appreciation of the qualities and behaviors of materials in use in the landscape. Students develop understanding of the fundamental structural qualities of materials and use that knowledge to devise and illustrate their own design details. The same understanding of material behaviors will be used to investigate the qualities of novel construction materials, and will guide the development of construction details that respond to new constraints and opportunities.

The main focus of 331 will be on materials and construction detailing, with emphasis on techniques appropriate for an array of design situations. Representation of design ideas using computer-aided-drafting is expected in this class.

Lecture topics:
- Material qualities; physical, chemical, structural
- Construction details and specifications
- Control of moisture penetration
- Issues of health, safety and welfare (danger, security, observation)
- Design behavior / people spaces
- Site furniture—selection, layout etc.
- Site layout/staking plan
- Paving—patterns and materials
- Fountains and water features
- ADA and Universal Design
- Trees in Urban Design
- Material selection in the urban environment
- Outdoor lighting
- Public art and sculpture
- Stairs, walls and elevation changes
- Sustainable design and construction
- Site utilities

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 322 Design Theory Seminar (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of LARCH 312.

LARCH 322 Design Theory Seminar (1)

LARCH 322 is the companion seminar to the design studio LARCH 312. The seminar is a small group setting where directed readings, independent research and reflection are employed to explore the context of contemporary design.

Topics in LARCH 322 reflect the projects being explored in the companion studio. During the third year, theory references build upon the seond-year experiences and expand to broader regional investigations. The spring semester (LARCH 312 and 322) covers site design issues within a regional context. In the seminar, students gain an understanding of communities and the complex of values that shape them, including the interrelationships of natural, cultural and economic factors on the future development of communities. Habitat management, watershed management, real-estate values, zoning and planning ordinances, individual and community rights are topics of discussions in this seminar.

Students develop awareness that even small, individual site design requires an understanding of larger environmental and cultural contexts, and that success in planning at that large scale depends on implementation of wise planning at the site scale. Readings and discussion are supplemented by research and report writing that address contemporary debates on policy and planning.

LARCH 322 also provides a setting for joining ideas presented in the context of both small-scale and large-scale design to engender in students a comprehensive view of the world of landscape design as an integrated whole where concepts developed at small scale become the framework and guiding principles for larger scale, vice versa.

Course Objectives:
- To explore students' values as they shape the designed landscape.
- To expose students to important debates on the future shape of the inhabited landscape.
- To continue to develop the ability to engage in public debate of these issues.
- To continue to build skills in speaking and writing persuasively.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 311, LARCH 321
Concurrent: LARCH 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 332 Landscape Architectural Design Implementation II (3) Introduces the principles and techniques of road alignment, including horizontal curves, vertical curves, and superelevation; principles and techniques of site scale layout and dimensioning. For Landscape Architecture majors only.

LARCH 332 Landscape Architectural Design Implementation II (3)

Plants and planting design are critical elements of the education of a landscape architect. LARCH 322 is designed to develop students' appreciation of plants in the landscape while advancing knowledge and skills in planting design, techniques, and documentation as a distinct-but-integral part of the landscape development and stewardship process. The focus of the course on both plant association and individual species will continue to consider the landscape architect's palette, as well as the realities that sustain life on and around a landscape site. The class constitutes the third part of a sequence of LARCH 241, 341 and 332 that provides a comprehensive introduction to plants in their role within the ecosystem, as naturally occurring and interdependent plant communities, and in this third class as the representation of deliberate design decisions that seek to achieve the integrity of the natural systems that inspire them.

This practical step-by-step studio-format course will enable students to see plants less as simplistic design objects and more as complex living elements that grow, die and regenerate, that are inherently part of larger biophysical and aesthetic landscape systems, and that ultimately contribute to the quality of human life.

Course Objectives:
- Confirmation of planting objectives within the context of the given overall project goals.
- Analysis of the site and its context from the interrelated perspectives of general planting design principles and site-specific planting design objectives.
- Application of the given planting program that reflects project goals and site analysis.
- Research and development of a planting palette and demonstrated implementation of approaches to sustainable plant communities, with emphasis on soil-plant relationships, microclimatic and vegetation management considerations.
- Conceptualization, studio critique, and refinement of a planting design through the application of planting design principles: spatial, visual/sensory, ecological, horticultural, functional, and educational.
- Preparation of a refined and realistic working drawing package using computer-aided- drafting that includes planting plans, installation details, plant establishment notes, and other directions to the contractor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 361W Historic Issues in Landscape Architecture (3) A review of design history (precedent studies), an introduction to historic method, history as an informant to design, reading the historic landscape, and issues of preservation and restoration. Landscape Architecture majors only.

LARCH 361W Historic Issues in Landscape Architecture (3)

LARCH 361W, Historical Issues in Landscape Architecture, is a writing-intensive course that enables a more thorough investigation of historic issues as they relate to design. The dual goal of this course is to introduce students to a variety of ways that landscape architects address and use history in their work, and to develop their skills in verbally communicating ideas on this subject through presentations, reports, and proposals.

The course is devoted to a wide range of relevant issues and topics confronting the profession and discipline of landscape architecture in the 21st century. It investigates the modern designed landscape as a distinct mode of cultural production—with its own materials, medium, codes, ethics, and concerns—in the context of landscape architectural theory's interconnection to evolving societal constructions of nature, social issues, environmentalism, and the city. It begins with the emergency of a modern sensibility about landscape in the late 13th century and trade developments through modernism postmodernism, and into post modernism. Information dissemination will be by lectures and student explorations through short papers.

This writing-intensive course provides third-year landscape architecture students a grounding in contemporary theoretical issues that impact landscape architecture, from social to environmental theories, both by landscape architects and by other theoreticians. The goal is to provide students an understanding of contemporary ideas that influence the work of landscape architects.

Course Objectives:
- To expand the student's knowledge of contemporary landscape architectural practice.
- To enable the student to gain a better understanding of the conceptual frameworks within which exemplary work has been and is currently being produced.
- To identify and describe the interactions between social formations, landscape theory, and built work.
- To introduce landscape architectural theory as a practice which occupies the space between the binary opposites of cultural/nature, architecture/landscape, and art/science.
- To illustrate the means by which theory can explain, frame, and situate design work in the past, present, and future.
- To allow the student to refine his or her critical abilities relative to built works and writings in contemporary landscape architecture.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 060
Concurrent: LARCH 445 LARCH 445A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 341 Plants, People and Place: Plants in Landscape Architectural Design (3) The ecological, historic, and aesthetic values of native and ornamental herbaceous and woody plants and their use in landscape design.

LARCH 341 Plants, People and Place: Plants in Landscape Architectural Design (3)

LARCH 341 is concerned with the key roles of plants and plant communities in the design, planning and management of the land. Students study the ecology and dynamics of native communities including plant geography, plant/soil/water relationships, plant community succession, forest ecosystem dynamics, plant/wildlife relationships, invasive non-native plants, and landscape restoration. Another focus of the course, bearing upon the role of plants in creating place, will be to study the cultural history and human ecology of the use of native and non-native plants. The course will also address the management and protection of sensitive native plant communities, the value of plants in the management of storm-water and the protection of soil resources, and the critical role of plants in sustainable design.

The design suitability of native and non-native ornamental woody and herbaceous plants will be studied through fieldwork, case studies, hand and computer rendering, and digital and photographic resources. Students will study plant taxonomy and the use of identification keys. Using these tools, they will be expected to develop a personal handbook of planting design resources, including an illustrated collection of plant species characteristics, based on their field work experiences, for use in later courses and professional practice. They will record their observations on the cultural values and meaning of plants, as well as their uses in design. This course is part of the preparation for later courses in planting design in the landscape architecture professional curriculum.

Planting design is shaped by the availability and distribution of woody and herbaceous plants and seeds. Students will be provided an overview of the processes of production, installation and management of plants in the landscape, with special reference to regionally native materials, and including visits to nurseries, greenhouses, and seed production farms as well as guest speakers from horticulture and agronomy. Methods of plant and seed installation will be reviewed and field trips to landscapes under construction will be arranged in order to observe those processes directly. The use of mulches, geo-textiles, mycorrhizal inoculation, soil management and amendment, site protection, and arboricultural protection in the establishment and management of contemporary landscapes systems will be studied.

Course Objectives:
a) To develop an understanding of the functional and ecological contribution of native and non-native plants and plant communities to the contemporary landscape.
b) To explore such areas as bioremediation and hydrology
c) To expose students to the therapeutic values of plants and plant communities
d) To investigate the use of vegetation in noise and pollution control

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: LARCH 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 382 Professional Practice (3) An investigation of current professional and business practices in the field of landscape architecture. For Landscape Architecture majors only.

LARCH 382 Professional Practice (3)

LARCH 382 has a three-part role. It comprises an introduction to the variety of practice opportunities in landscape architecture, their opportunities and drawbacks; it provides an introduction to critical office management practices; and it assists students in the employment application process through coaching on interview technique and guidance on the preparation of supporting material.

It is the overarching intent of this course to help students understand what it will mean to be a professional practicing in the new millennium and in a constantly changing marketplace of ideas. Topics covered include ethics, public relations, office and project-related practices, personal and professional development, and legal aspects of practice: contracts, specifications, liability insurance. Through active participation in the course, students will come to realize the diversity inherent in the profession.

Course objectives:
- To introduce a range of practice types—small, private practice, large-scale corporate practice, federal and state agencies, not-for-profit organizations, and other non-governmental organizations;
- To discuss relations with other professionals, including the formation of teams and other strategic alliances, and negotiation of professional fees;
- To outline and illustrate the various roles and responsibilities individuals might have both in and outside of an office, including situations of personal vs corporate responsibility; and
- To investigate the inherent values or point of view of principals and others that effect how decisions are made and change occurs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 400 Introduction to Design and Theory (IUG) (5) Introductory landscape architectural design and applied theory for IUG students.

Introduction to Design and Theory (IUG) (5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: admission to the IUG program
Concurrent: LARCH 400A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 400A Introduction to Design Theory Seminar (IUG) (1) Introductory landscape architectural design theory seminar for IUG students.

Introduction to Design Theory Seminar (IUG) (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: admission to the IUG program
Concurrent: LARCH 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 414 Design and Theory V: Advanced Landscape Architectural Design (5 per semester/maximum of 15) Review of landscape architectural theories and issues; supports development of comprehensive design study and/or independent honors (Thesis-Based) design projects. LARCH Majors only.

LARCH 414 Design and Theory V: Advanced Landscape Architectural Design (5-15)

Fourth- and fifth-year design studios are designated "depth" studios. Each studio is aligned with one of the department’s associated research centers or pursues special topical content and continues the development of site-scale planning and design skills for landscape architecture students with larger and more complex sites and programs Students select a topic from the range of options. Students may choose to take a given topic on a maximum of two occasions.

Topics are related to issues that have been introduced in previous studios and are as varied as possible from studio to studio. This allows students to select a topic of interest to explore with great intensity and detail. The studio alternatives offered each year are based on faculty expertise and student interest, and are chosen by the department head’s review of faculty proposals. To date, studio topics have ranged from historic preservation to recreational landscapes, urban ecology to community planning. The type of project is determined on an individual basis, and will be rigorous and require a high level of depth of thought and a sophisticated product.

Project types include regional master planning, large-scale site planning and medium-scale community/housing design. The design issues emphasize urban form, community identity and open-space systems in the United States as a follow-up to urban patterns experienced during the student’s previous study abroad. The project types may include such topics as inner-city locations with mixed-use and complex programs that progress from research and planning to site-scale design. Often, students work with an actual client, such as an urban planning commission or a city economic development entity, etc. Issues of urban form as a setting for significant practice opportunities are emphasized. Locations such as brown fields, urban entertainment districts, waterfronts, housing infill, etc., form the basis for design response in context.

Course Objectives:
- To develop an in-depth understanding of one or another aspect of landscape architecture.
- To be exposed to the rigor and challenges of developing and implementing one’s own design expertise in the context of a specific environmental concern.
- To exercise the design principles, technological tools and communication strategies developed during the course of the specific design studios.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 312, LARCH 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 450 Interactive Digital Design: Information Technology for Designers (3) A student centered paperless interactive digital design studio.

LARCH 450 Interactive Digital Design: Information Technology for Designers (3)

The Digital Office is not a new idea. Yet few landscape architects have fully embraced the idea that design computing can replace or at least seriously challenge the drafting table as the workplace in the design studio.

This interactive digital design class will be taught via a "hands on" approach. Talking about design computing may be like talking about riding a bicycle. Until you actually get on the bicycle and try to move through the world on two wheels you do not understand how to ride a bicycle. Likewise the design computing software must be used to be fully understood. It is the act of using the software that actually develops the knowledge and skill base for using the software.

Lectures will introduce new subject areas and provide a venue for multi-media presentations. The goal is to introduce the computer as a powerful design tool in a broad and integrated manner for all the activities of the landscape architect, designer, planner and architect. The course will be flexible to fulfill the needs of the computer newcomer and the computer veteran.

The design computing technology allows a certain customization, so the student can customize his/her own learning experiences within the solid structure of the course. The course may also act as a capstone experience for the digital minor students.

The design computing technology allows a student centered learning/teaching model. The course structure is a series of student selected content streams. Students select a semester long project which will be reviewed three times. Presentations will be digital, generally without paper copy, and archived to CDR or DVD-R. This course aims to develop digital literacy and mastery.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 424 Design Theory Seminar (1-3 per semester/maximum of 3) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of the associated design studio course, LARCH 414.

LARCH 424 Design Theory Seminar (1-3)

LARCH 424, Design Theory Seminar, is a companion to the depth studios, LARCH 414. However, unlike the seminars offered during second and third years, LARCH 424 is not tied topically to any particular depth studio. Instead, this seminar provides a vehicle for rigorous and structured exploration of the theoretical and philosophical issues that face landscape architectural designers and planners. The seminar is a small group setting where directed readings, independent research and reflection are employed to explore the context of contemporary design.

These seminars, offered to fourth- and fifth-year students, enable professors and students to take their investigations to greater depth. Seminars are offered by different professors each semester and the content is expected to be somewhat aligned with the faculty member’s research and scholarship or pursues special landscape architectural topical content of the faculty’s choosing. Students select seminars from the range of options offered. This allows students to select a topic of interest to explore with great intensity and detail. Students are required to take up to three seminars to achieve a minimum of three credits.

Topics are related to issues that have been introduced in previous studios and seminars and the department ensures that students have access to the widest range of topics. The seminar alternatives offered each year are based on faculty expertise and student interest, and are chosen by the department head’s review of faculty proposals. Seminar topics related to our research centers include historic preservation, urban ecology, community planning and watershed stewardship. From time to time topics independent of our research centers, such as the impact of technology on design or the impact of public policy on design and planning, will be addressed. The type of seminar outcome is determined by instructors on an individual basis, and will be rigorous and require a high level of depth of thought and a sophisticated product.

Course Objectives:
- To further develop an in-depth understanding of the theoretical or socio-political context for one or another aspect of landscape architecture.
- To challenge students to articulate their own values in the context of a specific environmental concern.
- To examine the means by which designers reconcile their own, their clients’, and society’s values in the pursuit of particular design or planning goals.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 312, LARCH 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 455 Design and Theory IX (IUG) (6) Integrated urban design and implementation studio for IUG students.

Design and Theory IX (IUG) (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: admission to the BLA/MLA program;LARCH 332, LARCH 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 495 Internship (1-13) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.

Internship (1-13)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1981
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 472 Planning and Public Policy (3) A review of design and planning movements of this century, with emphasis on the contemporary planning techniques and future trends.

Planning and Public Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499A (IL) Design Theory Seminar (1) Inquiry-based reading and discussion of design theory literature relevant to the focus and content of the associated design studio course, LARCH 499B. LARCH majors only.

Design Theory Seminar (1)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 361W
Concurrent: LARCH 499B LARCH 499C LARCH 499D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499B (IL) Design and Theory VI: Contemporary/International Landscape Architectural Design Issues (4) Study of and design for sites, programs, and social groups associated with ongoing contemporary landscape architectural concerns. LARCH majors only.

Design and Theory VI: Contemporary/International Landscape Architectural Design Issues (4)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 361W
Concurrent: LARCH 499A LARCH 499C LARCH 499D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499D (IL) Contemporary/International Special Topics (4) Special topics related to, and study in conjunction with, LARCH 499A, 499B, and 499C. Landscape Architecture majors only.

Contemporary/International Special Topics (4)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LARCH 361W
Concurrent: LARCH 499A LARCH 499B LARCH 499C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499E (IL) Seminar: People and Protected Areas (3) Courses offered in foreign countries by individual or group instruction.

Seminar: People and Protected Areas (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499F (IL) Studio: Community Design in the Vicinity of Udzungwa Mountains National Park (5) Courses offered in foreign countries by individual or group instruction.

Studio: Community Design in the Vicinity of Udzungwa Mountains National Park (5)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Landscape Architecture (LARCH)

LARCH 499G (IL) Colloquium: Student-directed Readings and Discussion: The Contribution of Service-learning to Students and Community (1) Courses offered in foreign countries by individual or group instruction.

Colloquium: Student-directed Readings and Discussion: The Contribution of Service-learning to Students and Community (1)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 005 College Reading Improvement I (3) Improvement of basic reading skills: vocabulary development; literal and interpretive comprehension; application of these skills more efficiently into college work.

College Reading Improvement I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: limited to students whose academic profile sheets indicate help in reading is needed

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 010 College Reading Improvement II (3) Development of higher level comprehension, vocabulary, and study skills incorporated into content area reading.

College Reading Improvement II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: LL ED 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 123 Critical Reading (3) Critical analysis of nonfiction prose, with practice in using analytical reading skills in comprehending texts of various content areas.

Critical Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: ENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 297A Language and Composition (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Language and Composition (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 400 Teaching Reading in the Elementary School (3) Introduction to the reading program; acquaintance with materials and techniques; observations of reading instruction; correlation with human growth and development.

Teaching Reading in the Elementary School (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: C I 295 for EK ED majors;EDPSY 014, PSYCH 212;EDTHP 115 or EDTHP selection
Concurrent: LL ED 401 LL ED 402 for EK ED majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 401 Teaching Language arts in Elementary School (3) Principles, problems, materials, and techniques involved in teaching speaking, listening, writing, and reading in the elementary school.

Teaching Language arts in Elementary School (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: C I 295 for EK ED majors;EDPSY 014, PSYCH 212;EDTHP 115 or EDTHP selection
Concurrent: LL ED 400 LL ED 402 for EK ED majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 402 Teaching Children's Literature (3) Survey of children's literature with an emphasis on the importance of literature in the development of the elementary school curriculum.

Teaching Children's Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: C I 295 for EK ED majors;EDPSY 014, PSYCH 212;EDTHP 115 or EDTHP selection.
Concurrent: LL ED 400 LL ED 401 for EK ED majors.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 411 Teaching Language Arts in Secondary Schools I (3) Exploration of language, literacy, and culture and development of curricular designs for teaching language arts in secondary schools.

Teaching Language Arts in Secondary Schools I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: ENGL 200 or 200-level literature courseENGL 444
Concurrent: LL ED 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 412W Teaching Language Arts in Secondary Schools II (3) Exploration of language, literacy, and culture and development of curricular designs for teaching language arts in secondary schools.

LL ED 412W Teaching Language Arts in Secondary Schools II (3)

This three-credit course addresses the theory, practice, and implications of teaching the English language arts at the secondary level. The course is the discipline-specific component of the Secondary Education block taken by majors in Secondary Education prior to student teaching. In this course, students explore issues in language, literacy, and culture and development of curricular designs for teaching language arts in secondary schools. Through in-class and out-of-class activities completed both independently and in collaboration, students read about, talk about, and practice teaching all of the language arts—reading, writing, speaking, listening, and thinking. Activities highlight ways of planning for instruction and ways of assessing student learning as teachers implement those plans. In addition, students will take up the professional issues facing beginning teachers of the English language arts—issues of professionalism and the teaching role, relationships with students, and how teaching can fit into a life. The course builds upon content developed in other courses in the major, including theories of reading, composition, media literacy, and pedagogy. Students engage in a variety of writing tasks both in support of developing course content and as a means of making their work public. This writing includes (but is not limited to) lesson planning, reflective writing on experiences both in the course and in related field experience, and the development of a professional portfolio. During class sessions, informal writing is used for a variety of purposes such as brainstorming, facilitating collaborative work, or framing discussion. Throughout the semester, students draft and receive feedback on a variety of portfolio components, which are revised and incorporated into a final version of the portfolio due at the end of the course. Portfolio contents vary according to instructor, but examples might include statements of educational philosophy, analysis of student writing from field experience, commentary on unit and lesson materials, reflective writing on reading and writing processes, and professional documents such as lesson plans and letters to mentors and potential employers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: LL ED 411
Concurrent: C I 412W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 420 Adolescent Literature and Literacy (3) Exploration of adolescent literacy and curricular designs for using the diversity of cultural voices in adolescent literature in secondary schools.

Adolescent Literature and Literacy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Concurrent: LL ED 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 446 Remedial Reading in the Classroom (3) Exploration of reading difficulties in the regular classroom; use of assessment information in the design and delivery of appropriate instruction.

Remedial Reading in the Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: LL ED 440 orLL ED 500

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 445 Teaching English in Bilingual/Dialectal Education (3) Theories, techniques, materials for teaching English speaking, reading, and writing to bilingual and nonnative speakers in elementary and secondary schools.

Teaching English in Bilingual/Dialectal Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: WL ED 422 orWL ED 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 450 Content Area Reading (3) Study of reading skills and materials for specific content areas; diagnostic and instructional procedures for classroom teachers.

Content Area Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EDPSY 014 orPSYCH 212 or teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 465 Fantasy Literature for Children (3) A study of fantasy literature for children looking at a variety of fantasy stories and examining them from different perspectives.

LL ED 465 Fantasy Literature for Children (3)

Fantasy Literature for Children explores a range of fantasy literature including literary fairy tales, toy fantasies, ghosts/horror/suspense, science fiction, reworked fairy tales, low fantasy, and high fantasy. This course will consider different rationalizations for fantasy literature and will examine some of the key stories that illustrate fantasy from different perspectives, such as literary, social, and psychological angles.

This course will look at, first, the beginnings of modern fantasy with the fairy tales of Hans Christian Andersen and Carlo Collodi's classic, Pinocchio. Then the course reading will include ghosts and other supernatural fantasy stories, and "reworked" fairy tales, a current trend in fantasy literature. Despite of some scholarly debates on science fiction, that is, whether it should be categorized into fantasy or not, this course will consider science fiction as being similar enough to fantasy for it to be included. The course will also include a study of fantasy books currently popular with school-age readers.

Fantasy can be divided into two main groups: low fantasy and high fantasy. Several of the stories to be read in the course are perhaps best categorized as low fantasies, not because of what they are, but because they are not high fantasy, which has a mythic quality to it. High fantasy seems to go beyond the particulars of its story to explore the nature of good and of evil. Though high fantasies can be humorous at times, the overall tone is serious. Often characters are on quests and the stakes of success or failure usually involve saving the world from some great evil or preventing the tyranny of some powerful and evil ruler.

Reading the different types of fantasy literature and the literary critiques and analyses of those works, this course will be wrestling with the overall importance of those books in the lives of children by pondering imagination and its role in the lives of children throughout the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGL 015 and 5th semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 462 The Art of the Picturebook 3 An in-depth study of picturebooks as art objects providing aesthetic experiences and contributing to our aesthetic development in literacy education.

LL ED 462 The Art of the Picturebook (3)

The Art of the Picturebook explores a wide range of picturebooks with the idea that illustrations are visual art evoking thoughts and feelings. Because picturebooks provide aesthetic experiences and contribute to aesthetic development, they are rich and important sources for literacy education. This course provides opportunities to extend students' repertoire of strategies for making sense of picturebooks, to deepen knowledge about picturebooks and the artists who create them, and to consider ways to help children become more sophisticated readers of picturebooks.

While picturebooks are often emphasized as integral to the literacy development of young children, they can be engaging and desirable for older children as well. Course topics include picturebooks for the very young, as well as picturebooks that could appeal to elementary and middle school children. Whether picturebooks appear relatively simple and straightforward or contain innovatively complex or metafictive design elements, close readings of them with an understanding of terminology offer opportunities to express and discuss reactions and interpretations. The Art of the Picturebook provides students a forum for exploring preferences, ideas, insights, and questions about selected picturebooks, along with curricular and pedagogical considerations. Course readings include interviews with illustrators, selections about creating picture compositions, and scholarly essays presenting theoretical perspectives and ideas about picturebooks as literature and art for children's literacy development.

This course emphasizes that reading and interpreting picturebooks is an active, creative process that is socially, culturally, and historically situated. Authors and illustrators are influenced by culture, so their art reflects values of that culture, consciously or unconsciously. A reader's experience with a picturebook is also influenced by cultural and social contexts in a given moment. Because engaging in aesthetic experiences is an active, creative process, reading picturebooks is, as Jane Doonan (1993), author of Looking at Pictures in Picture Books, asserts, a form of play. The Art of the Picturebook approaches picturebooks as sources of deep play.

The course also provides opportunities to research selected illustrators, both for class discussions and an illustrator study project (e.g., a Wiki page). The culminating illustrator study project involves an in-depth investigation of a key children's book illustrator and a process of sharing works-in-progress with classmates for collaborative editing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: ENGL 015 and 5th semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 467 Children's Literature in the Classroom (3) Study of the theory and practice of using children's literature in the elementary school classroom.

Children's Literature in the Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: LL ED 400 orLL ED 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 480 Media Literacy in the Classroom (3) Exploration of media languages and literacy in classrooms, learning in an electronic age; issues, ideas, and teaching strategies.

Media Literacy in the Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Concurrent: LL ED 411 LL ED 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 495 School Practicum in Reading (1-18) Supervised practicum providing field experiences at any grade level, with opportunities to assume various teaching roles.

School Practicum in Reading (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: LL ED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497A Art and Literacy Block (15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Art and Literacy Block (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497A Elementary Education Literacy Block (15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Elementary Education Literacy Block (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497A Elementary Education Literacy Block (15) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Elementary Education Literacy Block (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497D Formative Literacy Assessments (3) Emphasis is on literacy assessments (reading, writing, spelling) and follow- up instruction in primary grades at Easterly Parkway School.

Formative Literacy Assessments (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497B Children's/Young Adult Africana Literature and Literacy (3) Students will read and respond to a selection of children's/adolescent texts from/about Africa and the Africa diaspora to gain an understanding of how authors contruct Black identities.

Children's/Young Adult Africana Literature and Literacy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497K Fantasy Literature for Children (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Fantasy Literature for Children (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 497K Fantasy Literature for Children (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Fantasy Literature for Children (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 498A AP English Literature and Composition (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

AP English Literature and Composition (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 498B AP Spanish Language (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

AP Spanish Language (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Language and Literacy Education (LL ED)

LL ED 498C Summer Invitational Writing Institute (3-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Summer Invitational Writing Institute (3-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 051 Elementary Intensive Less Commonly Taught Language for Graduate Students I (3) Intensive introduction to a less commonly taught language: first half of elementary sequence in reading, writing, speaking, listening, cultural contexts.

Elementary Intensive Less Commonly Taught Language for Graduate Students I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 052 Elementary Intensive Less Commonly Taught Language for Graduate Students II (3) Intensive introduction to a less commonly taught language: second half of elementary sequence in reading, writing, speaking, listening, cultural contexts.

Elementary Intensive Less Commonly Taught Language for Graduate Students II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: LANG 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 053 Intermediate Intensive Less Commonly Taught Language for Graduate Students (3) Continued intensive study of a less commonly taught language at the intermediate level: reading, writing, speaking, listening, cultural contexts.

Intermediate Intensive Less Commonly Taught Language for Graduate Students (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: LANG 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 196 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 196A Elementary Hindi Language Course (4) Introduction to listening, speaking, reading, and writing of the Hindi Language, with emphasis on the first two skills.

Elementary Hindi Language Course (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 296A Intermediate Hindi Language Course (4) Continuing study of listening, speaking, reading, and writing of the Hindi Language.

Intermediate Hindi Language Course (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Languages (LANG)

LANG 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 002 Elementary Latin (4) Advanced syntax and sentence structure.

Elementary Latin (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: LATIN 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 001 Elementary Latin (4) Pronunciation; inflections; simple rules of syntax.

Elementary Latin (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 003 Intermediate Latin (4) Selected readings from representative authors.

Intermediate Latin (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: LATIN 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 051 Elementary Intensive Latin for Graduate Students I (3) Intensive introduction to Latin: first half of graduate intensive sequence in elementary reading, writing, syntax, and cultural contexts.

LATIN 051 Elementary Intensive Latin for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Latin. This is the first half of elementary sequence in reading, writing, syntax, and cultural contexts. Students will learn the Latin alphabet, vocabulary, and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 052 Elementary Intensive Latin for Graduate Students II (3) Intensive introduction to Latin: second half of graduate intensive sequence in elementary reading, writing, syntax, and cultural contexts.

LATIN 052 Elementary Intensive Latin for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Latin. This is the second half of elementary sequence in reading, writing, syntax, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: LATIN 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 053 Intermediate Intensive Latin for Graduate Students (3) Continued intensive study of Latin at the intermediate level: reading, writing, syntax, and cultural contexts.

LATIN 053 Intermediate Intensive Latin for Graduate Students (3)

This is the third in a series of three courses designed to give students an intensive intermediate knowledge of Latin. This is an intensive sequence in reading, writing, syntax, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: LATIN 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 102 Advanced Latin (4) Advanced study of Latin grammar, syntax, and vocabulary.

LATIN 102 Advanced Latin (4)

LATIN 102 continues from LATIN 101, which is a prerequisite for enrollment. Students who have taken at least three years of high school Latin may qualify to enroll in the course if they have performed well on either a Latin A.P. exam (minimum grade of 3) or a placement exam set by the instructor. LATIN 102 pursues the advanced study of the forms of syntax of classical Latin, the literary dialect spoken and written by Romans from the first century BCE to the second century CE. This is the language that the classical Roman authors wrote, poets such as Catullus, Virgil, Horace, Ovid, Lucan, and Seneca and prose writers such as Caesar, Sallust, Cicero, Livy, Petronius, Tacitus, and Suetonius. The purpose of the course is to equip students with the grammatical rules to read and write complex sentences in Latin. The course consists of short weekly presentations of new grammatical and lexical content, vocabulary to be memorized, drills to practice forms and concepts, exercises in reading sentences, homework assignments translating sentences from Latin into English and English into Latin, and regular quizzes and tests to ensure retention and comprehension of material. The goal of the course in the second semester is for students to be able to read longer passages of continuous Latin prose that has not been adapted. The course focuses on reading, translating, and writing rather than speaking, although students will be expected to be able to read Latin aloud with correct pronunciation. LATIN 102 will also continue to introduce students to Roman civilization and prepares students to take a 400-level course in Latin.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: LATIN 101 or evidence of advanced placement through a Latin A.P. exam (minimum grade of 3) or a placement exam set by the instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 101 Introductory Latin (4) Introduction to Latin forms, syntax, and vocabulary.

LATIN 101 Introductory Latin (4)

The aim of LATIN 101 is to introduce students to the fundamentals of classical Latin as soon as possible. Classical Latin is the literary dialect spoken and written by Romans from the first century BCE to the second century CE. This is the language that the classical Roman authors wrote, poets such as Catullus, Virgil, Horace, Ovid, Lucan, and Seneca and prose writers such as Caesar, Sallust, Cicero, Livy, Petronius, Tacitus, and Suetonius. The purpose of the course is to teach students the morphology, syntax, and vocabulary of classical Latin and train them to read and translate simple and complex sentences. The course consists of short weekly presentations of new grammatical and lexical content, vocabulary to be memorized, drills to practice forms and concepts, exercises in reading sentences, homework assignments translating sentences from Latin into English and English into Latin, and regular quizzes and tests to ensure retention and comprehension of material. The goal of the course in the first semester is for students to be able to read short passages of continuous prose based on classical Latin models. The course focuses on reading, translating, and writing rather than speaking, although students will be expected to be able to read Latin aloud with correct pronunciation. LATIN 101 prepares students for Latin 102, the second semester of Introductory Latin, which in turn prepares students to take a 400-level course in Latin.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 203 Latin Reading and Composition (4) The course reviews Latin grammar, syntax, and vocabulary and introduces students to classical Latin poetry and prose.

LATIN 203 Latin Reading and Composition (4)

This four-credit course is at the intermediate-level and follows LATIN 003 or LATIN 102. It satisfies the 12th-credit foreign language requirement and prepares students to take 400-level Latin courses. The course is concerned with perfecting the knowledge of Latin grammar, which in the Middle Ages was considered to be the mother of the other Liberal Arts. This is accomplished by the review of grammatical rules and by the reading and explanation of Latin authors. The course reviews the forms, syntax, and vocabulary of Latin, and gives students practice exercises that improve translation skills. Equally important, students are introduced to the principles of Latin style by learning how to translate English into Latin. The review of Latin grammar and the introduction to Latin prose composition provide students with the competence to read representative Roman authors in poetry and prose. Rudimentary Latin readings, supported by school commentaries, are intended to familiarize students with famous examples of classical Roman literature while exemplifying the principles of classical Latin style. For the Republican period, students read selections of Caesar's Gallic Wars or a speech by Cicero and selections of Catullus's love poetry. For the Imperial period, one investigates different accounts of the rape of Lucretia by Livy and Ovid, in poetry and prose, respectively. These readings not only show how exemplary authors write in different styles, but how Latin language and literature lay the linguistic and cultural foundations of western civilization. Evaluation methods include assessment of students through in-class oral and written drills, in-class translation of Latin into English and English into Latin, weekly translation assignments, biweekly quizzes, two tests, and a final exam. These methods are intended to promote the learning of Latin vocabulary and grammar, to increase the comprehension of the assigned readings, and to foster an appreciation of the stylistic virtuosity of Rome 's greatest writers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: LATIN 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 400 Latin Syntax and Stylistics (3) Latin style and stylistics as examined and appreciated through standard exercises in composition and parallel selected prose readings.

LATIN 400 Latin Syntax and Stylistics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

LATIN 400 will assist and enable majors and other interested students to acquire competence and an appreciation of stylistic excellence in classical Latin through supervised, regular composition assignments and directed readings. Learning to compose Latin prose requires first a mastery of the inflections, grammar, and syntax of the language. LATIN 400 begins with a review that serves as the foundation for the course. By reading and comparing the prose style of selected ancient Latin writers, students learn to appreciate how writing styles differ and how different styles are appropriate for different rhetorical purposes. By completing progressively more difficult and varied writing assignments in Latin, students may gain mastery of Latin style.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Fall 2005
Prerequisite: LATIN 003 or 12th-credit level of proficiency

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 402 Republican Literature (3-12) Selected works by Plautus, Lucretius, Catullus, Cicero (content varies).

Republican Literature (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1995
Prerequisite: LATIN 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 404 Silver Age Literature (3-12) Selected works by Petronius, Seneca, Tacitus, Juvenal, Martial, Pliny the Younger (content varies).

Silver Age Literature (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1995
Prerequisite: LATIN 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 403 Augustan Age Literature (3-12) Selected works by Virgil, Horace, Propertius, Tibullus, Ovid, Livy (content varies).

Augustan Age Literature (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1995
Prerequisite: LATIN 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 420 Medieval Latin Literature (3-6) Survey of Medieval Latin literature.

Medieval Latin Literature (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 1995
Prerequisite: LATIN 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 450W History of Latin (3) History of the Latin language and its speakers, from their origins to the 2nd century C.E.

History of Latin (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994
Prerequisite: LING 102;LATIN 401, LATIN 402 orLATIN 403

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin (LATIN)

LATIN 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latin American Studies (LATAM)

LATAM 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 127 (US) (HIST 127) Introduction to U.S. Latina/o History (3) This course introduces students to the history of U.S. Latina/os, including Puerto Ricans, Dominicans, Chicanos, Cubans, and Central Americans.

LTNST (HIST) 127 Introduction to U.S. Latina/o History (3)
(US)

This course introduces students to the history of U.S. Latina/os, drawing on the multiple experiences of Puerto Ricans, Dominicans, Chicanos/Mexicanos, Cubans, and Central Americans. Course content features the divergent development of U.S. Latina/o cultural and political identities rooted in the Caribbean, Mexico, Central American, and the United States. Students will understand the formation of racial and class hierarchies within U.S. Latina/o communities; the processes of (international) migration; gendered hierarchies and responses to sexism; and the complexities of U.S. Latina/o identity. Lectures are supplemented with discussion days in which students respond to readings under the guidance of a graduate teaching assistant. Grading stresses proficiency in analytical, historical writing.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 100 (GH;US) Introduction to Latina/s Studies (3) This course provides an interdisciplinary introduction to the study of Latinas/os in the U.S.

LTNST 100 Introduction to Latina/o Studies (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an interdisciplinary introduction to the study of Latinas/os in the U.S. It begins with a historical overview of the major events in the U.S. southwest, Mexico, and the Caribbean that led to the creation of Latina/o communities in this country; we explore in this historical context the reasons for migration and the effects on identity of movement between countries and within the U.S. The course then moves to a consideration of the social protest movements of the 1960s, including Chicano and Puerto Rican nationalism, the farmworker movement, and Latina feminism. It then proceeds to present-day issues as they affect the major Latina/o groups in the U.S., attending to both similarities and differences within and between the major groups. The goal is to show that “Latino” is not a monolithic category but that it does unite various populations (Chicano, Dominican, Cuban, Puerto Rican, etc.) for strategic purposes. The class addresses Latina/o participation/incorporation in the economy, the political system and public education, with attention to how public sphere participation is shaped by language, legal status, and connection to countries of origin. The class analyzes how Latina/o families are shaped by these social issues, with particular emphasis to how generation shapes life experiences. Finally, the course considers Latina/o cultural production, analyzing how artists across genres such as literature, film, performance, and music represent their cultures and respond creatively to the issues discussed throughout the semester.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 197 Special Topics (1-9) Formal courses given infrequently to eplore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 226 (GH;US;IL) (ENGL 226) Latina and Latino Border Theories (3) English 226 will constitute a wide-ranging examination of contemporary texts (1960-present) central to the construction of contemporary Latino/a culture.

Latina and Latino Border Theories (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 300 (US) (WMNST 300) Latina Feminisms (3) This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States.

LTNST (WMNST) 300 Latina Feminisms (3) (US)

This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States. It shows the connections to as well as the divergences from Latin American feminism by beginning with an analysis of how the Spanish conquest, the imposition of Catholicism, and subsequent years of colonialism shaped gender and sexual identities. It examines the contemporary effects of these historical issues and inquires into the common concerns of Latin American feminists and Latina feminists. It asks how theories and practices have diverged given different geographies, both between the U.S. and Latin America and within the U.S. The course then moves to the 1960s and 1970s in the U.S., when Chicano and Puerto Rican nationalist movements also gave rise to a feminist consciousness amongst Latinas; the conjuncture of race, ethnicity, gender, and sexuality is considered, with attention to how Latinas critiqued Anglo feminism’s narrow focus on gender. The next unit focuses on family formations, considering social science and feminist discourse on the issues of patriarchy. How have Latina feminists valued yet also rearticulated the traditional family? What critiques have made been against heterosexism? How have lesbians and gays formulated new kinds of families? How does migration shape family relations? The final section of the course explores how Latina artists in different genres have responded to and resisted traditional gendered and sexual roles. Literature, film, performance art, and hip hop are all examined for their diverse representations of sexual desire.

General Education: None
Diversity: US
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Summer 2006
Prerequisite: LTNST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 315 (GH;US) (SPAN 315) Spanish and Spanish-speakers in the U.S. (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.

LTNST (SPAN) 315 Spanish and Spanish-speakers in the U.S. (3) (GH;US)

The course is premised on the idea that language is a crucial component in the formation of identity. To understand Latina/o identity formation in the U.S., then, one must analyze what role languages--Spanish and English--have played in identity formation. The class commences with a brief historical assessment of the various U.S. Latino communities, including Mexican-American, Cuban-American, and Puerto Rican communities. Such a historical purview proves significant in the study of the cultural traditions that persist in these communities, chief among these, the Spanish language. In exploring the Spanish language in U.S. Latino communities, we consider several major sets of questions, among them the following: In what ways do the languages of U.S. Latino communities differ from those of monolingual Spanish- (and English-) speaking communities? What factors contribute to the maintenance and loss of Spanish in these communities? How does language contribute to the creation of individual and societal identity? How is language exploited in the representation of other U.S. Latino cultural traditions? We consider these questions across a variety of genres: poetry, prose (autobiography in particular), film, art, television, and music. These texts reveal how social environments determine language use as well as how artists have used language to reshape social environments, through, for example, the development of new language practices such as Spanish-English code switching. The course also connects these cultural practices to debates on Spanish in public life and policy.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 326 (GH;US) (SPAN 326) Reading the Border/Lands (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.

LTNST (SPAN) 326 Reading the Border/Lands (3)
(GH;US)

This class will center on discussions of the U.S.-Mexico borderlands in cultural theory and practice. “Borderlands” is understood as a transcultural space filled with physical, cultural, economic, political, and mythical elements. The aim is to view how different artists from the Borderlands, both northern Mexican and Chicano, mediate their borderlands reality. That is to say, the goal of the class is to examine the different “imaginative geographies” in the borderlands. We examine a wide-ranging mix of cultural texts that includes prose, poetry, essays, and performance art, as well as film and video art. We explore how writers have historically rethought notions of citizenship, identity, and culture to create more fluid spaces of representation in cultural contact zones. We will in particular, pay close attention to the relationship between national geography and the shaping of regional identities and popular cultures —between the maps that nations draw and the cultural forms that cut across them.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 403 (US) (CMLIT 403) Varieties of Latina/o Cultural Expression (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.

LTNST (CMLIT) 403 Varieties of Latina/o Cultural Expression (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides students with a multi-faceted comparative view of Latina/o literature in relation to other forms of cultural expression. First, the course presents a variety of cultural expressions to students in an effort to teach them the different ways that form affects content. Each text will be studied in its historical context as well, thereby providing students with a sense of Latina/o cultural history. Second, this course compares works from within the same genre, allowing students to recognize the ways that Latina/o culture has worked to build identity, to deconstruct identity, and to challenge cultural stereotypes. Such comparison further facilitates comparison of the ways that different cultural forms have been used by diverse Latina/o communities. Third, this course compares cultural forms, allowing students to see how Latina/o poetry affects music or how Latina/o theater affects novels Fourth, this course will include texts that represent a variety of linguistic and national contexts, including many countries in Latin America, thereby allowing students to see the relationship between history, culture, language, geography, and identity. These are all themes that are at the center of both Latina/o Studies and Comparative Literature. A comparative perspective facilitates appreciation of the vast and varied ways that Latina/o communities have used cultural expression. A particular point of contact between Latina/o Studies and Comparative Literature is the influence of hybridity. A central issue explored in this course concerns the intricate connections between multiple ways of expressing identity, in the arts, literature, music, etc., in diverse circumstances, such as locations where Latina/o cultures may be in the mainstream (such as in Latin America) and in the minority (in the U.S.). Drawing upon approaches offered by comparative literature and theories such as post-structuralism, feminism, and post-colonialism, we will examine the complex process through which Latina/o culture has been defined, disseminated, contested, and commercialized. Of particular interest from a comparative perspective are the ways that Latina/o cultures are created through hybridization, processes of mutual borrowing and differentiation, as well as through transnational processes of migration, urbanization, and cultural contact. The course's objective is to show not only how complex societies consolidate a shared culture but also how diverse Latina/o communities have produced a multiplicity of cultures that have been expressed via a broad range of cultural registers. These communities often span vast geographical areas, not only in the U.S. but across the Americas as people continue to look to their countries of origin for artistic inspiration.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 403 (US) (CMLIT 403) Latina/o Literature and Culture (3) Literary and other forms of cultural expression (film, music, art, and theater) are compared across different Latina/o communities.

LTNST (CMLIT) 403 Varieties of Latina/o Cultural Expression (3) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides students with a multi-faceted comparative view of Latina/o literature in relation to other forms of cultural expression. First, the course presents a variety of cultural expressions to students in an effort to teach them the different ways that form affects content. Each text will be studied in its historical context as well, thereby providing students with a sense of Latina/o cultural history. Second, this course compares works from within the same genre, allowing students to recognize the ways that Latina/o culture has worked to build identity, to deconstruct identity, and to challenge cultural stereotypes. Such comparison further facilitates comparison of the ways that different cultural forms have been used by diverse Latina/o communities. Third, this course compares cultural forms, allowing students to see how Latina/o poetry affects music or how Latina/o theater affects novels Fourth, this course will include texts that represent a variety of linguistic and national contexts, including many countries in Latin America, thereby allowing students to see the relationship between history, culture, language, geography, and identity. These are all themes that are at the center of both Latina/o Studies and Comparative Literature. A comparative perspective facilitates appreciation of the vast and varied ways that Latina/o communities have used cultural expression. A particular point of contact between Latina/o Studies and Comparative Literature is the influence of hybridity. A central issue explored in this course concerns the intricate connections between multiple ways of expressing identity, in the arts, literature, music, etc., in diverse circumstances, such as locations where Latina/o cultures may be in the mainstream (such as in Latin America) and in the minority (in the U.S.). Drawing upon approaches offered by comparative literature and theories such as post-structuralism, feminism, and post-colonialism, we will examine the complex process through which Latina/o culture has been defined, disseminated, contested, and commercialized. Of particular interest from a comparative perspective are the ways that Latina/o cultures are created through hybridization, processes of mutual borrowing and differentiation, as well as through transnational processes of migration, urbanization, and cultural contact. The course's objective is to show not only how complex societies consolidate a shared culture but also how diverse Latina/o communities have produced a multiplicity of cultures that have been expressed via a broad range of cultural registers. These communities often span vast geographical areas, not only in the U.S. but across the Americas as people continue to look to their countries of origin for artistic inspiration.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011
Prerequisite: 3 credits in the humanities or in any LTNST course or 4th-semester proficiency in Spanish

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 426 (US) (ENGL 426) Chicana and Chicano Cultural Production: Literature, Film, Music (3) An in-depth study of Chicana/Chicano literature, film, and music from the inception of the Chicano Movement (1965-1975) to the present.

Chicana and Chicano Cultural Production: Literature, Film, Music (3)

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2007
Prerequisite: 3 credits in English

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 467 (US;IL) (HIST 467) Latin America and the United States (3) Historical development of policies of the United States with regard to Latin- American affairs from colonial times to the present.

Latin America and the United States (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Latina/O Studies (LTNST)

LTNST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 101H (GWS) Honors Rhetoric and Civic Life (4) Within a liberal arts framework and with attention to public discourse--speaking, writing, online communication, and visual presentation--this course instructs students in the arts, practices, and principles of rhetoric.

L A 101H Honors Rhetoric and Civic Life (4)
(GWS)

This course offers students comprehensive training in oral, written, visual, and digital communication for the twenty-first century. It unites these various modes under the flexible art of rhetoric and uses the pedagogies associated with the rhetorical tradition both to strengthen communication skills and to sharpen critical awareness of the challenges and advantages presented by oral, written, visual, and digital modes. Students will read about and discuss rhetorical concepts and situations and put their knowledge immediately to use by analyzing civic rhetoric on campus and in their communities (including their networked communities), by researching current issues, and by developing and presenting arguments in oral, written, visual, and digital form.

The course is designed (although not required) for first-year Schreyer Honors College students and Paterno Fellows aspirants in the College of the Liberal Arts. In other words, it appeals to students with well developed communication abilities who might otherwise take English 30 and/or CAS 100H. It is aimed at developing students' skills in composing and delivering purposeful and effective texts. Whether or not those discourses are delivered verbally or visually (on paper, electronically, or orally), students will draw on established rhetorical canons of invention, arrangement, style, memory (tapping the resources of stored knowledge, such as the library), and delivery. Students will also become fluent in the rhetorical appeals of ethos, logos, and pathos in order to shape texts that are ethical yet purposeful. To meet these goals, students will meet in small classes (of no more than twenty students), where they will receive guided instruction in writing, public speaking, and the use of technology in order to learn the distinctive features of oral, written, visual, and electronic rhetoric. Staff for the course will be experienced full time faculty and advanced doctoral candidates in rhetoric drawn from English and CAS.

This course will satisfy the Gen Ed Writing/Speaking (GWS) requirement for Schreyer Honors College students and aspiring Paterno Liberal Arts Fellows. Because this four-credit course will substitute for the six-credit ENGL 015/030 plus CAS 100 requirement, students who complete LA 101 will need to take an additional two credits somewhere in order to complete graduation requirements.

General Education: GWS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 199 (IL) Foreign Study--Liberal Arts (1-9) Study in selected foreign countries of the cultural, institutional, and/or social development of the host country.

Foreign Study--Liberal Arts (1-9)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 200 Business and the Liberal Arts (1) Introduction to business careers and concepts for students enrolling in the Business and the Liberal Arts minor.

L A 200 Business and the Liberal Arts (1)

The Business and the Liberal Arts course, designed to introduce students to the possibilities of the Business and the Liberal Arts Minor, is organized around a set of topics and modules. Each module introduces students to specific topics related to the minor and to the business world, with an emphasis on how the Liberal Arts can be used to understand business, and how a liberal arts degree can be used in business careers. While the course will of course be faculty-led, we expect that many modules will be enhanced by the participation of prominent alumni in business careers who hold degrees in the Liberal Arts. Each module will include readings and discussion; when possible, these will be supplemented by these alumni classroom visits.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 295 Undergraduate Field Experience or Practicum (1-18) Approved experience, related to student career objectives, in agencies external to the University.

Undergraduate Field Experience or Practicum (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis. (No course under L A 294/494 may be offered without approval of the associate dean of liberal arts. All courses must have a specific title and letter suffix.)

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical of of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 400 Changing Life-Styles (1) Guest lecturers address the subject of futurism and impact of changes on individuals and society from different academic perspectives.

Changing Life-Styles (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1979

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 401 Professional Development for the Liberal Arts Student (1) Provides Liberal Arts students with the techniques and information necessary to specify and implement postgraduation educational and career plans.

Professional Development for the Liberal Arts Student (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis. (No course under L A 294/494 may be offered without approval of the associate dean of liberal arts. All courses must have a specific title and letter suffix.)

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 495 Undergraduate Field Experience or Practicum (1-12) Approved experience, related to student career objectives, in agencies external to University.

Undergraduate Field Experience or Practicum (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis. (No course under L A 294/494 may be offered without approval of the associate dean of liberal arts. All courses must have a specific title and letter suffix.)

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 497A Children's Theatre (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Children's Theatre (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 499 (IL) Foreign Study--Liberal Arts (1-9) Study in selected foreign countries of the cultural, institutional, and/or social development of the host country.

Foreign Study--Liberal Arts (1-9)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Liberal Arts (L A)

L A 498H Honors Leadership Mentor (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Honors Leadership Mentor (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 083S The Twenty-First Century Researcher (1) Students learn to use technology and Libraries resources to access and cite relevant information into academic research projects.

L ST 083S The Twenty-First Century Researcher (1)

This course will equip students with research skills for academic success at Penn State. The class will investigate the Libraries' physical facility and scholarly, academic online resources as a single, holistic learning lab, and engage students by providing hands-on experience in how to conduct research across the disciplines and in all formats. Students will develop and use several cutting-edge communications tools, including blogs, podcasts, and personal portals. By the end of the course, students will be able to create and conduct research projects, and integrate their findings into outstanding papers and presentations in a variety of media.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 100 Information Search Strategy (1) Concepts and methodology for determining informational needs and planning efficient strategies to locate information in a library.

Information Search Strategy (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1985
Prerequisite: or concurrent:ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 100H Information Search Strategy (1) Concepts and methodology for determining informational needs and planning efficient strategies to locate information in a library.

Information Search Strategy (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 101T Stories and Storytelling: How Humans Become People (3) This First-year seminar uses story and collaborative storytelling to examine how knowledge is organized, found, evaluated, used, and communicated.

Stories and Storytelling: How Humans Become People (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 101S Stories and Storytelling: How Humans Become People (3) This First-year seminar uses story and collaborative storytelling to examine how knowledge is organized, found, evaluated, used, and communicated.

Stories and Storytelling: How Humans Become People (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 110 Information Organization and Retrieval (3) Information structure and resource related to search and problem-solving procedures to identify, organize, and locate print and nonprint materials.

Information Organization and Retrieval (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 301H Information Research Methods and Systems (1) Survey of information theories, structures and resources as related to library research methods for social, behavioral sciences and the humanities.

Information Research Methods and Systems (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 370 Research Methods for Law and Government Information Resources (3) Evaluating, retrieving and integrating Federal and Legal Information Resources into scholarly research.

L ST 370 Research Methods for Law and Government Information Resources (3)

This course covers basic legal research and government information skills: (1) the structure and types of federal primary and secondary legal sources; (2) the structure and types of federal government information; and (3) electronic and print databases and indices to locate legal and government information. Students will develop research methods for locating and using judicial, executive, and legislative branch information sources in scholarly and disciplinary research.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: 3 credits in Administration of Justice Political Science Communication History or Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 490 (HIST 490) Archival Management (1-3) Introduction to the principles and procedures in the management of archives and historical manuscripts.

Archival Management (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses. Students may not register for these courses without prior written approval of a faculty member in the department in which the courses are listed.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 495 Internship (1-9) Directed internship in library studies, archival administration, rare books curation and/or preservation.

Internship (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: L ST 490 orL ST 496

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Library Studies (L ST)

L ST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 001 (GS;US;IL) The Study of Language (3) A non-technical introduction to the study of human language, and its role in human interaction. Students who have successfully completed LING 100 may not enroll in LING 001.

LING 001 The Study of Language (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

LING 001 examines the nature of human language and its links to human culture. A major focus of this course is on examining how languages are structured, how all languages are similare, how they differ, and how a language affects and is affected by the culture of its speakers and the sociopolitical context in which it is situated. The course begins by discussing the essential characteristics of every human language. It ends by examining the factors that have put languages at risk throughout history and what is causing them to become increasingly endangered. The course examines such issues as: speakers attitudes toward language through an examination of phenemonena close to home, like African American Vernacular English and various regional accents, how shared Linguistic practices create unity (South Africa, The Americas, Asia), what role languages play in maintaining difference and, indeed signaling socio-political diversity (Serbian versus Croatian, Hebrew, Yiddish, Afrikaans, Taiwanese, The Linguistic Geography of Africa), and how language reflects human origins, migrations, and history.

LING 001 is a core course for the minor in Linguistics and it may also be used for the General Education requirement in Social/Behavioral Science, for a B.A. Social/Behavioral Science requirement, for the General Education Intercultural/International Competence requirement.

The course is offered two times a year. It meets three hours per week and the total enrollment each semester is limited to 75 students. Assessment is based on two examinations, five problem assignments that require short essays (around 2 pages), one problem assignment that requires a more extended analytical essay (around 4-5 pages), and participation in class and group discussions.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 083S (GS;US;IL) 1st Year Seminar in Linguistics (3) Non-technical exploration of aspects of human language.

LING 083S 1st Year Seminar in Linguistics (3)
(GS;FYS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This freshman seminar is a non-technical exploration of human language and how it functions in society. The course will be divided thematically into three units. First, we shall explore the biology of language. In this context, the class will discuss distinctions between human language, animal language, and computer language as well as the connection between language and thought. The class will also compare first language acquisition and second language acquisition, consider whether sign language constitutes a "real" language, and discuss whether all languages have "grammar".

Following discussion of the biology of language will be an examination of the role of language in society and culture. Topics to be discussed under this rubric include regional differences in American English, controversies surrounding bilingual education in American public schools, language and the media, and differences (real and perceived) in the language usage of men and women. We will discuss why certain cultures are bilingual and others are not.

The final theme for discussion in the seminar is language change. We will look at theories about the possible origin of human language. We will also read about possible causes for the declining number of languages spoken in the world and possible repercussions, positive and negative. In addition, we will look at changes in English and whether they are indicative of language decay.

Course evaluation will consist of one mid-term (20%), a final examination (20%), a paper on a language myth (15%), problem assignments (35%), and class participation (10%). The course will be offered once every fall semester and have an enrollment of up to 20 students.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 100 Foundations of Linguistics (3) Systematic study of linguistic structures in a variety of the world's languages; an overview of language, and its organization.

LING 100 Foundations of Linguistics (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Linguistics is, broadly, the scientific study of language. At the heart of linguistics is the search for the unconscious knowledge that humans have about language(s), an understanding of the structure of language, and knowledge about how languages differ from each other. Speakers of all languages know a great deal about their language, usually without knowing that they possess such knowledge. For example, a speaker of American English possesses knowledge about word order: s/he understands that "Sarah admires the teacher" is grammatical, while "Admires Sarah teacher" the is not, and also that "The teacher admires Sarah" means something entirely different. A speaker knows that when someone asks a "yes-no question", s/he typically reverses the order of words at the beginning of the sentence and that the voice goes up at the end of the sentence, as, for example, in "Are you going"?. Speakers also possess knowledge about the sounds of their language, e.g. which consonants can go together in a word. For example, speakers know that "slint" could be an English word, while "sbint" or "srint" could not. In addition, speakers know the rules of language use, such as when to issue a command ("Get me a glass of water") and when to ask a question ("Could I have a glass of water, please"? Furthermore, they recognize dialects which are different from their own, and they can recognize earlier stages of their own language, as in a Shakesperian quotation, or a liturgical formula.
This course equips students with the tools to investigate these aspects of language and language use. As a scientific discipline, linguistics employs strict methodologies to approach issues like the ones above. Students learn to transcribe speech phonetically, then to analyze the raw data into phonological statements about the sound system of languages. Likewise in word structure, students are equipped with the tools to segment words into their significant parts (called morphemes), which reveals interesting facts about how words are stored in memory. Through the study of syntax students learn about the unimaginable complexity of syntactic rules, and are taught the basics of how to unravel the mysteries of sentence structure. And when the whole complex of sounds, words and sentences is put together, rules of meaning are brought to bear, and the sentence is assigned a semantic reading. How this happens is discussed in the section on semantics.

Linguistics 100 introduces these topics and provides enough information for students to understand the basics of the discipline.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1987 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 100 (GS) Foundations of Linguistics (3) Systematic study of linguistic structures in a variety of the world's languages; an overview of language, and its organization.

LING 100 Foundations of Linguistics (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Linguistics is, broadly, the scientific study of language. At the heart of linguistics is the search for the unconscious knowledge that humans have about language(s), an understanding of the structure of language, and knowledge about how languages differ from each other. Speakers of all languages know a great deal about their language, usually without knowing that they possess such knowledge. For example, a speaker of American English possesses knowledge about word order: s/he understands that "Sarah admires the teacher" is grammatical, while "Admires Sarah teacher" the is not, and also that "The teacher admires Sarah" means something entirely different. A speaker knows that when someone asks a "yes-no question", s/he typically reverses the order of words at the beginning of the sentence and that the voice goes up at the end of the sentence, as, for example, in "Are you going"?. Speakers also possess knowledge about the sounds of their language, e.g. which consonants can go together in a word. For example, speakers know that "slint" could be an English word, while "sbint" or "srint" could not. In addition, speakers know the rules of language use, such as when to issue a command ("Get me a glass of water") and when to ask a question ("Could I have a glass of water, please"? Furthermore, they recognize dialects which are different from their own, and they can recognize earlier stages of their own language, as in a Shakesperian quotation, or a liturgical formula.
This course equips students with the tools to investigate these aspects of language and language use. As a scientific discipline, linguistics employs strict methodologies to approach issues like the ones above. Students learn to transcribe speech phonetically, then to analyze the raw data into phonological statements about the sound system of languages. Likewise in word structure, students are equipped with the tools to segment words into their significant parts (called morphemes), which reveals interesting facts about how words are stored in memory. Through the study of syntax students learn about the unimaginable complexity of syntactic rules, and are taught the basics of how to unravel the mysteries of sentence structure. And when the whole complex of sounds, words and sentences is put together, rules of meaning are brought to bear, and the sentence is assigned a semantic reading. How this happens is discussed in the section on semantics.

Linguistics 100 introduces these topics and provides enough information for students to understand the basics of the discipline.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 102 (GH) Introduction to Historical Linguistics (3) How languages change and evolve over time; language families; effects of borrowing and language contact.

LING 102 Introduction to Historical Linguistics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to Historical Linguistics is designed to introduce the basic theories, methods, and data linguists used to study ancient languages and the connections between seemingly diverse peoples and cultures. The diversity of human language has been a topic of speculation since ancient times, popularly accounted for by similar stories and legends across cultures and religions. The course will survey these ideas and combine them with the major trends of philological thinking from antiquity to the present day. An important aspect of this course is in reviewing the philological record to examine the importance, and at times even sacredness, of the written word to various cultures. The course reviews in particular the works of the Greek, Latin and Sanskrit scholars, the anonymous Icelandic grammarian, and the influential work of the 19th century European philologists. It also examines how spoken language, in particular, leads us to an understanding of how different societies can be linked a common source for their language.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002
Prerequisite: LING 010 orLING 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 294 Research Project A1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project A1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 401 Introduction to Linguistic Theory (3) A survey of the principles of modern linguistic analysis; current approaches to phonological, morphological, and syntactic methods and analyses.

LING 401 Introduction to Linguistic Theory (3)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, students are presented with an introduction to the methods and principles of contemporary linguistic theories and the external evidence that supports it. Students pursue the implication of a formal or autonomous system of grammar that is independent from social or psychological variables. The claims and methods of generative grammar are introduced and the implications of the theory are pursued throughout the semester.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 402 Syntax I (3) Principles of grammatical analysis in the generative framework; an overview of syntactic structures across languages.

LING 402 Syntax I (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The aim of this course is to provide students with the background needed to understand advances in modern generative syntactic theory and to encourage them to do creative and informed research in this area on English or other languages that they might know. The course provides a historical overview of the development of generative syntax. We explore in depth a number of topics that challenge any syntactic theory and we attempt to propose testable hypotheses concerning language structure.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 404 Phonology I (3) The analysis of the sound systems of human languages; focus on common phonological processes across languages and on phonetics-phonology interface.

LING 404 Phonology I (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is about sound patterning in language. In particular, we will learn how human speech sounds are produced and how they function together as a system. We will learn the International Phonetic Alphabet applied to English. We will discuss phonological data from many different languages to seek common phonological processes that occur despite the apparent surface diversity of languages. We will do extensive work on phonological problems in order to master basic phonological analysis.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 429 (PSYCH 426) Language and Thought (3) Relations between language and cognition; cognitive implications of normal and impaired language development; cognition and bilingualism.

LING (PSYCH 426) 429 Language and Thought (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Is language a special and uniquely human ability that develops and functions independently of other cognitive processes? Do individuals who speak different languages also have different concepts about the meaning of objects and ideas? Does language development depend on exposure to spoken language? In this course we will examine the relation between language and thought by considering evidence on language and cognition in both children and adults. Topics to be covered include the typical development and use of language as well as language and cognition in individuals whose language and/or cognition is impaired in some form. The latter include individuals with aphasia who have sustained brain damage following stroke or head injury, schizophrenics whose language reflects aspects of their disorder, children diagnosed with Williams Syndrome who appear to have good or even precocious language abilities in the face of severe cognitive impairment, and Alzheimer's patients in whom semantic memory has begun to deteriorate. The course will also discuss the acquisition of sign language among deaf individuals and the consequences of bilingualism for children raised with two languages and for adults with proficiency in more than a single language.

The purpose of this course is to provide a survey of current scholarship on the relation of language and thought, including a review of recent developments in the primary literature. The necessary background is covered in introductory Psychology and Linguistics courses, which serve as alternative prerequisites. Students will learn about the consequences of typical and impaired development for relations between cognition and language ability. It is distinguished from PSYCH 457, Psychology of Language, by a focus on the implications of language, language development, and language impairment, for cognitive processes. It covers some topics also addressed by current courses in Linguistics and in Communications Sciences and Disorders, but is distinguished from those courses by its focus on perspectives and theories from cognitive psychology. This course may be used toward the 400-level PSY requirements of the PSYBA and PSYBS majors, and toward the PSY minor. Students typically will be assessed on the basis of class participation and discussion (20%), four papers (total 60%), and an in-class presentation based on reading original research literature (20%). The course typically will be offered once each year at the University Park campus with an enrollment limit of 50.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, LING 001 orLING 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 446 (PSYCH 427) L1 Acquisition (3) How children learn their first language; psycholinguistic aspects of lexical, syntactic, semantic, and phonological development.

LING 446 (PSYCH 427) L1 Acquisition (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on how children learn their first language from the theoretical perspectives of imitation theories, social construction theories, and innateness theories. In addition, the course covers the various stages of language acquisition including phonological (sound system), morphological (word meaning), syntactical (grammar) and semantic (meaning) development from birth to adulthood. Other related subfields covered in the course include the acquisition of Pidgin and Creole languages, bilingual and multilingual acquisition, and language acquisition and linguistic change.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2010
Prerequisite: LING 100 orPSYCH 002 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 447 Bilingualism (3) Explores the social and psychological aspects of bilingualism; topics include languages in contact, transference, maintenance, and loss.

LING 447 Bilingualism (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course presents a panoramic view of the major questions, research methods and results in bilingualism research. We will cover the following topics, in addition to those topics that emerge from students' research: bilingualism in society; political and social results of language contact; effects of social attitudes on bilinguals; how bilingualism affect language: transfer, code-switch, language contact and language change; the bilingual brain, psycholinguistic effects of having two grammars in sentence production, phonological perception and lexical storage; childhood bilingualism; developmental and educational consequences of bilingualism.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 449 Semantics I (3) The study of meaning in human language; methods of analysis; study of sense, reference, compositionality, quantification, presupposition, and sentence- level meaning.

LING 449 Semantics I (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines our best understanding of how humans produce and understand utterances to have particular meanings. This course examines lexical semantics, which is concerned with word meaning, phrasal semantics, which examines phrase meanings and with pragmatics, the study of meaning in contexts. Because meanings cannot always be built up or deduced from the combined meaning of smaller elements, students will attempt to divulge the semantic principles at work in human language through a wide variety of problems and activities.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 448 Sociolinguistics (3) Issues in the study of language in its sociocultural context; analysis of social dialects and speech styles.

LING 448 Sociolinguistics (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course investigates sociolinguistics variation and linguistic change. We will be concerned with identifying the mechanisms by which changes come about and are transmitted within a linguistic system. The course contrasts traditional studies of change and variation which concentrate on linguistic internal factors to those that are based on sociolinguistic factors. Research from a wide variety of languages and cultures will be examined.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 493 Field Methods (3) Primary linguistic investigation of a language different from English; field work with a native speaker; data gathering; linguistic analysis.

LING 493 Field Methods (3)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, students work directly (in groups) with a native speaker of a foreign language with which no one in the class has any prior familiarity. The students will work to uncover the set of sounds relevant to the language in question by winnowing down possible sound contrasts made in human languages. They will begin to construct a lexicon (vocabulary) built with a phonetic alphabet to discover how words are formed in the language. They will refine their techniques of questioning their research participant based on principles of linguistic field work. Finally, groups will present their findings for discussion and revision.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Linguistics (LING)

LING 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Literature (LIT)

LIT 440 Literary Genres (3) The study of one of the major literary genres. (May be repeated for credit.)

Literary Genres (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 001S Business Leadership (3) The aim of this course is to introduce fundamental concepts of business management and leadership.

MGMT 001S Business Leadership (3)
(FYS)

MGMT 001S aims to introduce students to the academic discipline of management through the study of leadership and management principles and practices. The course is intended for First Year students enrolled in the Smeal College of Business Administration and other First Year students as recommended by their advisor.

The course will cover a variety of concepts pertinent to leadership and management. We will begin by focusing on Leadership Theory and the practical manifestation of leadership in business and society. We will discuss how different leadership styles have appropriate application, and attempt to identify current leadership practices. We will also trace the evolution of management theory in this century, and distinguish between facts and fads in management. The class will then investigate the current business/industrial trend toward "Teams" and group problem solving, and will participate in experiential team-building exercises.

The course format will consist of lectures, outside reading, small-group discussion, class discussion and projects, and experiential exercises. Students will be, required to use multiple University resources, including the libraries, the computer center, class list-serve and e-mail, the internet, and the CDPC. Projects will include investigation of various disciplines within the broad area of business as exemplified by the variety of majors and options in the Smeal College of Business Administration.

The term grade for this course will be determined by a weighted average of essay exams, written assignments, and class participation. The weights are as follows: mid-term 35%, writing assignments 15%, participation 15%, and final exam 35%.

This course is also intended to fulfill the First Year Seminar requirement for students in the Smeal College of Business Administration. The course will accomplish this goal by conforming to the Criteria for First Year Seminars as spelled out in the Faculty Senate Legislation of 1998.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 100 Survey of Management (3) Introduction to organizational factors relevant to management processes, including leadership, motivation, job design, technology, organizational design and environments, systems, change. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 304 or MGMT 301.

Survey of Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 150 Supervisory Management (3) Preparation for supervisory positions in formal organizations. Emphasis placed on the motivational aspects of the supervisor's job.

Supervisory Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: MGMT 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 100W Survey of Management (3) Introduction to organizational factors relevant to management processes, including leadership, motivation, job design, technology, organizational design and environments, systems, change. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 304 or MGMT 301.

Survey of Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 197 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 301 Basic Management Concepts (3) Study of fundamental principles and processes applicable to the understanding of management. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 304.

MGMT 301 Basic Management Concepts (3)

MGMT 301, Basic Management Concepts, is a three credit course offered each semester across Penn State. MGMT 301 exposes undergraduate students to the fundamental principles and basic concepts of management, with emphasis on organizational design, management processes, leadership, motivation, and managing teams and individuals in a global business environment. Understanding these principles and concepts is extremely important for students preparing for and entering the business profession.

Managers plan, organize, lead, and control. These functions provide a foundation for MGMT 301 and are included in all course topics and modules. Typical modules include: An Overview of Management; Strategy and Structure; Organizational Behavior; and Group/Organizational Dynamics. The overview of management focuses on the manager’s role and function, decision making, ethics, and managerial oversight. Topics covered in a strategy and structure module will include culture, environmental influences, strategy, organizational structure, globalization, and innovation. Organizational Behavior focuses on how decision making is influenced by various stakeholders who have formal and informal authority and control in a business. What motivates individuals and who are leaders in an organization is discussed along with group dynamics. Understanding team processes, conflict, adaptation to change, and various levels of group and one-on-one communication is important and will be covered by reviewing traditional management strategies and structures along with discussions on current and evolving management issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: ENGL 015, MATH 021;ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 301 Basic Management Concepts (3) Study of fundamental principles and processes available to the understanding of managmenet. Not available to students who have taken B A 304.

MGMT 301 Basic Management Concepts (3)

MGMT 301, Basic Management Concepts, is a three credit course offered each semester across Penn State. MGMT 301 exposes undergraduate students to the fundamental principles and basic concepts of management, with emphasis on organizational design, management processes, leadership, motivation, and managing teams and individuals in a global business environment. Understanding these principles and concepts is extremely important for students preparing for and entering the business profession.

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General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 301W Basic Management Concepts (3) Examination of fundamental principles and processes applicable to the study of managment. May not be used to satisfy Smeal College baccalaureate degree requirements. Not available to students who have taken B A 304.

MGMT 301W Basic Management Concepts (3)

MGMT 301W, Basic Management Concepts, is a three credit course offered each semester across Penn State. MGMT 301W exposes undergraduate students to the fundamental principles and basic concepts of management, with emphasis on organizational design, management processes, leadership, motivation, and managing teams and individuals in a global business environment. Understanding these principles and concepts is extremely important for students preparing for and entering the business profession.

Managers plan, organize, lead, and control. These functions provide a foundation for MGMT 301W and are included in all course topics and modules. Typical modules include: An Overview of Management; Strategy and Structure; Organizational Behavior; and Group/Organizational Dynamics. The overview of management focuses on the manager's role and function, decision making, ethics, and managerial oversight. Topics covered in a strategy and structure module will include culture, environmental influences, strategy, organizational structure, globalization, and innovation. Organizational Behavior focuses on how decision making is influenced by various stakeholders who have formal and informal authority and control in a business. What motivates individuals and who are leaders in an organization is discussed along with group dynamics. Understanding team processes, conflict, adaptation to change, and various levels of group and one-on-one communication is important and will be covered by reviewing traditional management strategies and structures along with discussions on current and evolving management issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003 Ending: Summer 2010
Prerequisite: ENGL 015;MATH 021;ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 301H Basic Management Concepts (3) Study of fundamental principles and processes available to the understanding of managmenet. Not available to students who have taken B A 304.

Basic Management Concepts (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 301W Basic Management Concepts (3) Examination of fundamental principles and processes applicable to the study of management. Not availabe to students who have taken B A 304.

MGMT 301W Basic Management Concepts (3)

MGMT 301W, Basic Management Concepts, is a three credit course offered each semester across Penn State. MGMT 301W exposes undergraduate students to the fundamental principles and basic concepts of management, with emphasis on organizational design, management processes, leadership, motivation, and managing teams and individuals in a global business environment. Understanding these principles and concepts is extremely important for students preparing for and entering the business profession.

Managers plan, organize, lead, and control. These functions provide a foundation for MGMT 301W and are included in all course topics and modules. Typical modules include: An Overview of Management; Strategy and Structure; Organizational Behavior; and Group/Organizational Dynamics. The overview of management focuses on the manager’s role and function, decision making, ethics, and managerial oversight. Topics covered in a strategy and structure module will include culture, environmental influences, strategy, organizational structure, globalization, and innovation. Organizational Behavior focuses on how decision making is influenced by various stakeholders who have formal and informal authority and control in a business. What motivates individuals and who are leaders in an organization is discussed along with group dynamics. Understanding team processes, conflict, adaptation to change, and various levels of group and one-on-one communication is important and will be covered by reviewing traditional management strategies and structures along with discussions on current and evolving management issues.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 321 Leadership and Motivation (3) Applies organizational behavior theories, concepts, and skills to leading and motivating individuals and groups.

Leadership and Motivation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B A 304, MGMT 301 or 3 credits of psychology sociology or cultural anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 331 Management and Organization (3) Designing organizations to effectively manage new technologies, structures, and people in changing global contexts.

Management and Organization (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B A 304, MGMT 100 orMGMT 301 ; or 3 credits of psychology sociology or cultural anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 326 Organizational Behavior and Design (3) Concepts, theories, and methods of managing people and designing organizations.

MGMT 326 Organizational Behavior and Design (3)

This introductory course covers the concepts, theories, and methods of managing people and designing organizations. Issues and challenges of managing at different organizational levels (individual, group, project, and total organization) are discussed and illustrated with real-world examples. Students learn about the latest means of designing high-performing organizations, including how to change an organization. This course will serve as a foundation for taking advanced management courses. The primary method of evaluation is an examination after each of the four major parts of the course, but class participation and short papers may also be used for evaluation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 304 orMGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 341 Human Resource Management (3) Introduction to the strategic planning and implementation of human resource management, including staffing, development, appraisal, and rewards.

Human Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B A 304 orMGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 350 Problem Solving and Models for Management (3) A hands-on introduction to modeling and solving typical business problems using commonly used techniques and software tools.

Problem Solving and Models for Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SCM 200 orSTAT 200 ; fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 400 Organization Development (3) A study of organizational change and methodologies related with change and improvement. Examination of planned change on processes, strategies, people and culture in organizations.

Organization Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 401 Contemporary Issues in Management (3) Advanced treatment of topics of current managerial significance. Issues examined will differ by instructor, section, and semester. Consult departmental office.

Contemporary Issues in Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 321, MGMT 331 ; orMGMT 326

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 409 Project Management for Engineers (3) The course provides a real-time experience to students in engineering and engineering technology in project management with a focus on leadership behavior and decision making.

Project Management for Engineers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 7th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 402 Experiences in Organizational Relations (3) An experiential approach to study of behavior in organizations, applying concepts and theories of management to interpersonal situations.

Experiences in Organizational Relations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 410 Project Management (3) A problem-based, interdisciplinary course in project management skills and techniques needed to manage projects in a modern business environment.

MGMT 410 Project Management (3)

Project Management has been labeled by Fortune magazine as the number one career choice for the coming decade. Increasingly, organizations are adopting project management techniques and structures within their business framework. Project management offers the twin advantages of allowing organizations to create products and processes efficiently, through optimal use of resources, and rapidly, in order to respond to rapid time-to-market demands. This course would greatly aid business majors, as companies are in great need of a trained cadre of qualified project managers who can allow the business firm to operate to its highest potential.

The role of the instructor in this course is to train students in the wide variety of demands and skills for which they must be qualified: the ability to exert leadership in managing project teams, an understanding of people and behavioral skills, and the ability to effectively use computer-based scheduling and tracking software to keep timetables and schedules.

The course itself would be set up around semester-long projects, either developed by the instructor, or developed (in collaboration with the instructor) by students involved in business enterprises. As a result, students would have real-time experience in the challenges of creating a unified team, solving problems, tracking their projects, and presenting a final paper and presentation on the process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301, SCM 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 420 Negotiation and Conflict Management (3) An exploration of the sources of interpersonal conflict and strategies of resolution in the managerial context.

Negotiation and Conflict Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MGMT 301 orB A 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 420 Conflict Management (3) An exploration of the sources of interpersonal conflict and strategies of resolution in the managerial context.

Conflict Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010 Ending: Summer 2010
Prerequisite: MGMT 301 orB A 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 424 Interpersonal Relationships in Organizations (3) Developing individual skills in interpersonal and group settings and experience-based and conceptual training in relating effectively to other people.

Interpersonal Relationships in Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 321 orMGMT 326

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 425 (IST 425, ENGR 425) New Venture Creation (3) Via problem-based learning, teams define new business ventures to meet current market needs, develop business plans, and present to investors.

MGMT (IST/ENGR) 425 Introduction to Entrepreneurship (3)

The goal of MGMT (IST/ENGR/ENTR) 425 is to better prepare undergraduate students to be business leaders in adaptive, globally-minded, technology-savvy companies. The course is structured so students develop skills that are of high value in any workplace: they develop improved leadership skills, higher self-efficacy, creativity and the ability to deal with ambiguity. On course completion, students will have a working knowledge of traditional and non-traditional ways for identifying a new product or business opportunity, quantifying the potential, understanding the key competitive factors, researching the audience and producing a convincing executive summary for internal or external financing and launch. Students who want to augment the skills and knowledge from their major with the ability to refine a new product/service process in an interdisciplinary team will find MGMT (IST/ENGR/ENTR) 425 a valuable course.

This is a novel problem-based learning (PBL) course, where the learning is student-centered, with faculty acting primarily in the role of facilitators. Active learning happens in this course because students develop ownership in their new business venture concept and are fully responsible for the genesis of the idea. The course leverages the on-line course management system (ANGEL) to define weekly learning objectives, support electronic delivery of assignments, robust video content with entrepreneurs is provided on CD-ROM or via ANGEL, providing additional insights into entrepreneurship. The technology or business segment focus of the class is easily adapted by using different case studies and course mentors.

This will be one of two courses in the new two-course sequence for business students in entrepreneurship. This course will be accepted as a supporting course in the Engineering Entrepreneurship Minor (E-SHIP) and in the Engineering Leadership Development Minor (ELDM). MGMT (IST/ENGR/ENTR) 425 can be used as a technical elective in many of the engineering departments. It will be accepted as a Support of Option course for the Information Sciences and Technology (IST) major.

This course will be offered each Fall and Spring semester with two sections each semester. Class enrollment per section will be set at 60 total.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 426 (ENGR 426, IST 426) Invention Commercialization (3) Working with Penn State inventions selected by the Intellectual Property Office, student teams define an optimum commercialization path each technology.

MGMT (IST/ENGR) 426 Invention Commercialization (3)

The goal of MGMT (IST/ENGR/ENTR) 426 is to have students understand why invention commercialization is complicated and difficult by participating in the process. For example, the inventor rarely has insights into the markets for his/her invention, is often not interested in the details of commercialization, and can be secretive. In addition, the business and financial communities often do not take the time, or have the resources, to understand new technologies and perform complex due diligence. Thus lack of due diligence often leads to rejection of innovation because existing companies often discount new technologies from outside the company as NIH - "not invented here".

Effective transfer of new invention or innovation to a commercial product requires at least three different functional communities to interface: technical, legal and business. Each uses a different language, comes from different educational and cultural backgrounds, and may have an inherent distrust of the others. These functional barriers are difficult to overcome.

This course teaches how these barriers can be broken down as student teams help bridge the perceived chasm between key players in the invention commercialization process. In these teams, students bring the skills and knowledge from their major to develop an invention commercialization recommendation for the Technology Transfer Office and the inventor. For example, business students focus on finance and market opportunity assessment; engineering and IST students focus on design refinements, prototyping support, and (if appropriate) making technology suggestions to the inventor.

Upon completing the course, the students will have a working knowledge of different university and corporate technology or invention commercialization processes, important intellectual property management tools for inventions (patents, license agreements, option agreements) source of funding to move inventions toward product development, and delivering top quality presentations which outline the recommended commercialization path. Students who enjoy open-ended projects which involve the interplay of business and invention of who wants to work on interdisciplinary teams with the newest inventions will find this course a valuable course. NOTE: Because the inventions/products are based on Penn State faculty intellectual property, students must sign the Penn State Special Intellectual Property Agreement For Students - For Use When Assigning Intellectual Property to The Pennsylvania State University. The form can be viewed at http://guru.psu.edu/policies/RAG13.html

The course will be offered both Spring and Fall semesters with an enrollment of 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 427 Managing an Entrepreneurial Start-Up Company (3) Exploration of the tensions and experiences of starting and growing a new company.

MGMT 427 Managing an Entrepreneurial Start-Up Company (3)

Start-up companies have a high failure rate. Acquiring and balancing limited resources, changing direction quickly, building a coherent team, managing intellectual property, and creating new markets all test a wide range of managerial skills not usually demanded in one person within a larger organization. Whereas a large company has a strong and well-defined structure and ample resources to deal with unexpected challenges, a start-up usually has insufficient resources, or management experience and yet must deal with daily important and often unpredictable forces. It is the tenacity of an entrepreneur that can take a company through the valleys of despair to eventually succeed.

Students will be exposed to these tensions and experience through problem-based learning methods what it is like to start and grow a new company. The course will provide students with knowledge and experience to increase the likelihood of success whether as a principal in a small company or an investor representative.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: ECON 002 orECON 004 orECON 014;CAS 100 ; 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 431 Entrepreneurship and Small Business Management (3) Entrepreneurship, new ventures, and management of small firms.

Entrepreneurship and Small Business Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: ACCTG 211, MGMT 301, MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 433 Leadership and Team Building (3) Team-based learning approach to developing conceptual knowledge, skills sets, and personal competencies needed for leading and managing organizations.

MGMT 433 Leadership and Team Building (3)

To lead effectively and to manage others in contemporary work contexts requires mastery not only of conceptual knowledge, but also of the intra- and inter-personal competencies and skills sets that are vital to successful performance in a work environment. This course emphasizes an experiential-based learning approach that is designed to impart skill sets and competencies in areas such as leadership, teambuilding, negotiating, communicating, valuing diversity, managing conflict, and more. The course thus uses assessment exercises, role playing techniques, group problem solving exercises, and other experiential-based learning techniques in order to provide students with a framework for better understanding their own strengths and weaknesses, to enable them to practice, enhance, and to gain confidence in their competencies in these various areas, as well as to enable students to better appreciate when and how to effectively apply these skills sets and competencies in the workplace.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 432 Small Business Field Study (3) Supervised field study with a small firm.

Small Business Field Study (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 440 Advanced Human Resource Management (3) In depth study of human resource management and personnel administration functions and processes.

Advanced Human Resource Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 441 HRM Professional Seminar (Part 1): Staffing and Development (3) This course focuses on the skills and methods managers need to manage staffing and development activities in organizations.

MGMT 441 HRM Professional Seminar (Part 1): Staffing and Development (3)

The purpose of this course is to give students the skills and knowledge they need to contribute to organizational staffing and development activities. Students will learn technical and organizational aspects of making hiring decisions, designing and implementing training programs, and developing career management initiatives. Topics include strategic human resource management, HR planning, the contingency workforce, HR information systems and technologies, job design, recruitment, selection, employment legislation, diversity, training, management development, career planning, and the like. This course is normally taken in the first semester of the senior year. It builds on information introduced in MGMT 341 (Human Resources Management) and moves beyond survey-level material to more specialized knowledge and skill. The course is taken concurrently with MGMT 442 (HRM Part One) and is typically taken as a precursor to MGMT 443 (HRM Proseminar, Part Two) and 444 (HRM Practicum, Part Two). These courses together constitute the core of the HRM Option for Management majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2001 Ending: Fall 2010
Prerequisite: MGMT 341
Concurrent: MGMT 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 441 Organizational Staffing and Development (3) This course focuses on the skills and methods managers need to manage staffing and development activities in organizations.

MGMT 441 HRM Professional Seminar (Part 1): Staffing and Development (3)

The purpose of this course is to give students the skills and knowledge they need to contribute to organizational staffing and development activities. Students will learn technical and organizational aspects of making hiring decisions, designing and implementing training programs, and developing career management initiatives. Topics include strategic human resource management, HR planning, the contingency workforce, HR information systems and technologies, job design, recruitment, selection, employment legislation, diversity, training, management development, career planning, and the like. This course is normally taken in the first semester of the senior year. It builds on information introduced in MGMT 341 (Human Resources Management) and moves beyond survey-level material to more specialized knowledge and skill. The course is taken concurrently with MGMT 442 (HRM Part One) and is typically taken as a precursor to MGMT 443 (HRM Proseminar, Part Two) and 444 (HRM Practicum, Part Two). These courses together constitute the core of the HRM Option for Management majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MGMT 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 443 HRM Professional Seminar (Part 2): Performance Management (3) This course focuses on skills and methods managers need to enhance the contribution of employees to organizational performance and effectiveness.

MGMT 443 HRM Professional Seminar Part Two: Performance Management (3)

The purpose of this course is to give students the skills and knowledge they need to enhance the contribution of employees to the performance and effectiveness of the organization. Students will learn technical and organizational aspects of performance planning, goal setting, performance and feedback, compensation and reward systems, incentive systems, high performance work organizational change, and the like. This course is normally taken in the second semester of the senior year. It builds on information introduced in MGMT 341 (Human Resources Management) and moves beyond survey-level material to more specialized knowledge and skill. The course is taken concurrently with MGMT 444 (HRM Practicum, Part Two) and is typically taken after students have completed MGMT 441 (HRM Proseminar, Part One) and MGMT 442 (HRM Practicum, Part One). These courses together constitute the core of the HRM Option for Management majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001 Ending: Fall 2010
Prerequisite: MGMT 341
Concurrent: MGMT 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 443 Performance Management (3) This course focuses on skills and methods managers need to enhance the contribution of employees to organizational performance and effectiveness.

MGMT 443 HRM Professional Seminar Part Two: Performance Management (3)

The purpose of this course is to give students the skills and knowledge they need to enhance the contribution of employees to the performance and effectiveness of the organization. Students will learn technical and organizational aspects of performance planning, goal setting, performance and feedback, compensation and reward systems, incentive systems, high performance work organizational change, and the like. This course is normally taken in the second semester of the senior year. It builds on information introduced in MGMT 341 (Human Resources Management) and moves beyond survey-level material to more specialized knowledge and skill. The course is taken concurrently with MGMT 444 (HRM Practicum, Part Two) and is typically taken after students have completed MGMT 441 (HRM Proseminar, Part One) and MGMT 442 (HRM Practicum, Part One). These courses together constitute the core of the HRM Option for Management majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MGMT 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 450 Labor Management Relations (3) Study of the key concepts and processes involved in current American labor/management relations.

Labor Management Relations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 445 (US) Managing Differences in Organizations (3) This course focuses on developing knowledge and skills for dealing with demographic, functional, occupational and identity-based differences within and among organizations.

MGMT 445 Managing Differences in Organizations (3)
(US)

This course focuses on developing knowledge and skills for dealing with differences within and among organizations. It provides an in-depth look at the sources of diversity-related conflicts in organizations, constructive approaches for dealing with these conflicts, and how corporations can leverage diversity for competitive advantage. The overall objective is to provide students with an understanding of the business case for diversity, the legal requirements surrounding the management of diversity in organizations, the structural dimensions of implementing diversity programs, skills for dealing with diversity in teams, as well as a general sensitivity to the kinds of issues that create conflicts within and between firms. Students will explore legal requirements including: EEOC, affirmative action, and the Americans with Disabilities Act and the implications of these for selection, compensation, promotion and dismissal. Examples of specific steps corporations have taken to address demographic, functional, occupational, and identity-based differences will be provided. Through the use of interactive case studies and experiential exercises, students will be given opportunities to learn about and appreciate their own and others' cultural heritages, reflect on constructive approaches for handling diversity-related conflicts (including those stemming from functional, occupational and identity-based differences as well as demographic ones) and for designing human resource management systems that capitalize on diversity. Evaluation of students will be done using several possible methods including: exams, case analyses, reflection papers and class participation. B A 304 and MGMT 341 are prerequisites for the course. The course is offered for Management majors who are taking the Human Resources Option. It may be made available to other Smeal students if space permits.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 304 orMGMT 301;MGMT 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 451W Business, Ethics, and Society (3) Advanced examination of social, ethical, legal, economic, equity, environmental, public policy, and political influences on managerial decisions and strategies.

MGMT 451W Business, Ethics, and Society (3)

Focuses on the knowledge, skills, and perspectives that a manager must have in order to deal with the social, legal, ethical, and political demands in society. Ecological, ethical, and public policy dimensions of various managerial decisions are examined.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: B A 241 andB A 242 orB A 243

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 453 Creativity and Innovation (3) Analysis of the process of innovation in organzations and of how creativity and other variables influence the process.

MGMT 453 Creativity and Innovation (3)

Creativity and Innovation analyzes the process of innovation in modern business organizations and the variables that influence the process. The relationship between creativity and innovation is investigated and individual, organizational and environmental influences on both the creative and innovation processes are examined. Special attention is given to organizational architectures that are conducive to innovation. A major objective of the course is to help students develop the competencies necessary for managing innovative organizations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 461 (IL) International Management (3) Examines issues of nations and cultures including motivation, communication, negotiation, leadership, ethics and social responsibility, and women in management.

International Management (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 304 orMGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 466 Organizational Learning and Knowledge Management (3) Examination of the social processes through which organizations continuously develop, acquire, interpret, and apply information and knowledge for performance enhancement and continuous improvement.

MGMT 466 Organizational Learning and Knowledge Management (3)

The primary focus of this course is to examine critically the social structures and processes through which organizations continuously acquire, develop, organize interpret, distribute and apply information and knowledge for performance enhancement and continuous improvement. Topics such as single-loop learning, double loop learning, and deuterolearning (i.e., learning how to learn) are considered, particularly as they apply to self managed work teams, process-based and network structural design, employee involvement approaches, impact of organizational culture and leadership practices. A second focus of the course is to examine the social processes and structures through which the key outcome of the learning process -- organizational knowledge -- usually expressed in terms of improved core competencies, and intellectual capital, can be leveraged across products, functions, business units, geographical regions, and competitive environments to improve organizational performance and competitive advantage and provide added value for customers. Particular emphasis is placed on knowledge management in support of the organization's competitive strategy, with a focus on the exchange of tacit, person-to-person knowledge that is difficult to codify and store. Additional emphasis is placed on the mechanisms available for organizational members to gain access to needed knowledge.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 471W Strategic Management and Business Policy (3) Study of strategic management and business policy formulation and implementation processes.

Strategic Management and Business Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301, MKTG 301, FIN 301, SCM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 471 Strategic Management (3) Issues that influence the competitive performance of the firm are identified and examined.

MGMT 471 Strategic Management (3)

This course focuses on the management of the firm using a strategic perspective. The strategic perspective emphasizes the firm as the unit of analysis (e.g., analyzing how a firm competes in its industry), and it addresses key decisions that have a long-term impact on the structure and performance of the organization (e.g., diversifying into a new business or changing the company's strategy). The course draws heavily on prior business courses in accounting, marketing, finance, and international management. Key topics include industry analysis, competitor analysis, company analysis, corporate-level strategy, business-level strategy, strategy implementation, and firm performance. The course is normally taught using the case methods, but the course may include a computer simulation and/or oral group presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: MGMT 326, B A 411 or taken concurrently

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 475W Strategic Product Development (3) Study of an organization, industry, and evaluation of the introduction to a new product. Preparation of proposal for industry product.

MGMT 475W Strategic Product Development (3)

This course is the first of a two course sequence that will provide a capstone experience for the Interdisciplinary Business and Engineering BS degree. The tools of strategic management and cross-functional collaboration will be introduced and serve as a background for the design, development, and implementation of a new product within an existing corporation. Student teams will be provided with an industry concept and work toward the objectives of a firm sponsoring the product concept. During the first semester, the evaluation of the product including feasibility of the product, design, manufacture, and intellectual property will be evaluated by student teams and presented to the firm. The final document will include a complete written assessment of each of the components of feasibility.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 7th semester standing;MGMT 300;FIN 301;SCM 310;MKTG 301;M E 300 orMET 330;MCH T 213 orE MCH 213;EET 101 orE E 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 476 Product Realization Capstone (3) Study of an organization, industry, and evaluation of the introduction of a new product. Preparation of proposal for industry product.

MGMT 476 Product Realization Capstone (3)

This course is the second of a two course sequence that will provide a capstone experience for the Interdisciplinary Business & Engineering BD degree. The tools of strategic management and cross-functional collaboration will be used to design, develop, and implement a new product within an existing corporation. Student teams will be provided with an industry concept and work toward the objectives of a firm sponsoring the product concept. During the second semester, the evaluation of the product including feasibility of the product, design, manufacture, and intellectual property will be used by student teams and a final presentation and written assessment will be prepared for the firm.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: MGMT 475W ; 8th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 489 Seminar in Management (3) A capstone course in management for students of high academic achievement. Emphasis on in-depth research of current interest.

Seminar in Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MGMT 301 and at least senior status

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 483 Compliance and Fairness in Organizations (3) Compliance with employment laws with respect to managing human resources and fair treatment in employer-employee relationships.

MGMT 483 Compliance and Fairness in Organizations (3)

This course is intended for undergraduate students who want to learn more about the laws governing the employment practices introduced in the survey course in human resource management. This course will clarify the legal context within which businesses in general, and managers in particular, manage their employees. Students will learn about the legal rights and responsibilities of both employers and employees. Objectives of the course include learning how to comply with workplace laws and regulations, learning how to legally and effectively implement these requirements in an organization, and, as managers of human resources, knowing how to run a safe and fair workplace. To accomplish these objectives, students will evaluate and analyze federal employment laws and regulations, state employment laws (where applicable), and U.S. Supreme Court rulings. The emphasis will be on providing an informed legal context for managerial behavior. Student achievement of these learning objectives will be evaluated using several methods: students will summarize, interpret, and analyze employment law cases, write and develop a portfolio of critical essays of corporate employment practices, research and present (with team members) a project analyzing a current legal challenge to a specific company employment practice, and prepare a comprehensive written examination of material covered in the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MGMT 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Management (MGMT)

MGMT 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 103 Microcomputer Applications in Business (3) Introduction to current business uses of the microcomputer, including spreadsheets, database management, word processing, and decision-making models.

Microcomputer Applications in Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 120 Microcomputer Operating Systems and User Interfaces (3) Management of microcomputer hardware and software, including systems software, user interfaces, file management, security features, and applica- tions software installation.

Microcomputer Operating Systems and User Interfaces (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 103

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 130 Advanced Database Management Systems for Microcomputers (3) Advanced relational database design, data integrity, data security, operational procedures, business applications using microcomputer database software.

Advanced Database Management Systems for Microcomputers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 103

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 190 Microcomputer Accounting and Transaction Processing (3) Use of accounting software to manage small to medium sized businesses, transaction processing, general ledger, payables, receivables, inventory management, payroll.

Microcomputer Accounting and Transaction Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CMPSC 203 orMIS 103 . Prerequisite or concurrent: 2 credits in Financial Accounting

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 197 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 204 Introduction to Business Information Systems (3) Introduction to the use of information systems in business organizations.

MIS 204 Introduction to Business Information Systems (3)

Introduction to Business Information Systems is an applications-oriented course that provides an overview of (1) the role of information systems in business process design, (2) the current technologies used for obtaining, storing, and communicating information in support of operations and decision-making within a business organization, and (3) the concepts and principles for programming, developing, and using popular spreadsheet and database tools. Applications focus on important problems and issues found in business disciplines, including accounting, finance, marketing, supply chain operations, and general management.

The evaluation of students will be based on tests, programming projects, and hands-on exercises. This course is a prescribed course for Smeal Business students. M I S 204 will be offered in the fall, spring and summer semesters, and enrollment per annum of approximately 1, 200 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 204H Honors Introduction to Management Information Systems (3) Introduction to the use of information systems in business organizations.

MIS 204H Introduction to Management Information Systems Honors (3)

This honors section of MIS 204, will provide enhanced, in depth learning for Schreyer Honor students. MIS 204 is an applications-oriented course that provides an overview of (1) the role of information systems in business process design, (2) the current technologies used for obtaining, storing, and communicating information in support of operations and decision-making within a business organizations, and (3) the concepts and principles for programming, developing, and using popular spreadsheet and database tools. Applications focus on important problems and issues found in business disciplines, including accounting, finance, marketing, supply chain operations, and general management.

The responsibility to understand and recognize opportunities to use information systems belongs to all managers in an organization, not just the information technology managers. As future business managers in diverse functional areas, our students begin their journey to understand the foundations of information systems and how managers are using these systems to increase the competitiveness of their organizations.

As an introductory course, students should be able to come into the class without any prior experience. However, even students with experience will hopefully learn something new. Students will develop a general understanding of how a business functions, understand how information and technology is used within a business and develop new student IT skill sets. In summary, we aim to provide an opportunity for all undergraduate business majors to use IT in their current or future jobs in such a way to ensure the success of their organization.

In addition, the Schreyer Honor students will also be exposed to business data mining, a highly intelligent application of information technology in a variety of business contexts that often lead to core competitive advantages.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 301 Introduction to Business Applications Development (3) Event-driven programming in a visual environment in which students will learn how to build business applications using current, state of the art technology.

MIS 301 Introduction to Business Applications Development (3)

This course will introduce concepts of visual programming languages with graphical user interfaces and event-driven methodologies for business application development. It will cover programming fundamentals, including variables, decision structures, loops, and functions. Students will also learn how to use event-driven programming methodology and discuss different types of events as they relate to graphical controls. It will also discuss more specific issues such as sound programming techniques and debugging. Finally, students will also learn about important data structures. After completing this course, students will have the knowledge, skills, and abilities to :
explain basic programming concepts, including data structures, events, and graphical controls
apply principles of visual programming
build several business applications and simple web-services
debug programs
use object-oriented programming techniques
articulate a web-based framework for application development

The evaluation of students will be based on tests, lab work, homework, and projects. This is a prescribed course for the major in Management Information Systems and will be offered in the fall and spring semesters in sections with target enrollment limits of 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 204 andSCM 200
Concurrent: SCM 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 305 Microcomputers in Business (3) Introduces microcomputer applications in business. Provides hands-on experience in using major applications software relevant to various concepts and functions.

Microcomputers in Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 307 Algorithmic Concepts (3) Using state-of-art programming language; concepts, program structure and design, documentation, file handling, and elementary data structures are introduced.

MIS 307 Algorithmic Concepts (3)

INFSY 307, Algorithmic Concepts , is a required course for information systems majors in the business program. The objective of the course is to present students with the principles of object oriented design and programming using a state-of-the-art programming language such as C++ or Java. Concepts include algorithm development, programming structure, documentation, UML modeling, file management, and elementary data structures such as arrays. The course prerequisites are CMPBD 204 or CMPSC 101 or CSE 103 .

This course requires the students to demonstrate their mastery of object oriented design and programming through a series of individual programming assignments. In addition, students are assigned a team project to foster problem solving, communication, and team skills required in the Information Technology work force. Individual assessment is also evaluated through exams.

INFSY 307 will be offered once per semester with multiple sections based on student enrollment and demand.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 101 orCMPSC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 336 Database Management Systems (3) Theory and utilization of database management systems in organizations, including data modeling and applications development.

Database Management Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MIS 204 orMIS 321 orMIS 110 orCMPSC 121 orCMPSC 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 321 Introduction to Management Information Systems (3) An introduction to management information systems in organizations.

Introduction to Management Information Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 100 orCMPSC 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 387 Website Design and Administration (3) Applied, hands-on, interdisciplinary website design/administration course. Acquired concepts, techniques and tools are exercised in individual and team projects.

MIS 387 Website Design and Administration (3)

This course is designed to teach students how to design, create, deploy, and administer websites. The students will have the opportunity to obtain a solid understanding of some of the tools and techniques, beyond basic HTML, used to publish on the Internet via the World Wide Web. Additionally, the students will learn how to present themselves professionally on the web to a specific target audience. The students' experiences will not be limited to the design and implementation of a website, but will include the opportunity to work within a team, to understand the benefits of working with client organizations to develop a website, and a web implementation plan.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: MIS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 390 Information Systems Management and Applications (3) Specification, design and implementation of information systems directed at aiding decision making in organizations.

MIS 390 Information System Management and Applications (3)

INFSY 390, Information Systems Management & Applications, is a required course for Information Systems and Business students. The course covers topics and concepts in Management Information Systems (MIS) and information technology management. Upon successful completion of this course, students will have a broad knowledge of contemporary issues and applications of MIS in business.

In addition to exams, students use hands-on case studies and popular information technology applications in the class room. Students in the course also learn how to develop modern computer-based information systems through a business application project that helps them understand the role of MIS in business organizations.

Topics covered in the course include information systems in the enterprise, e-business and e-commerce, telecommunications and networking, database management, knowledge management, decision support systems, business value of information systems, and social and ethical issues of information systems.

The course prerequisites are IST 110 or MIS 204 & MIS103 or CMPSC203.

INFSY 390 will be offered once per semester with multiple sections based on student enrollment and demand.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MIS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 391 E-Commerce Strategies (3) Introduction to the fundamental Principles of Electronic Commerce (E-Commerce) technologies, applications, and management of E-Commerce in modern organizations.

MIS 391 Principles of E-Commerce (3)

INFSY 391 provides an introduction to the fundamental concepts of e-commerce and serves as a foundation for business undergraduate students to understand e-commerce application and management in modern organizations. The course is designed to appeal to all business undergraduate students. Upon successful completion of this course, the student will have an understanding of the various types of e-commerce utilization and management in organizations throughout the world.

INFSY 391 is an elective in the Business program. INFSY 390, Information Systems Management & Applications, is a required course for Information Systems and Business students and is a prerequisite for INFSY 391. In INFSY 391, Business students will continue to explore the inter-relationship between information technology and organizational functions and management.

In addition to examinations, students will be assigned to project- and team-based assignments where students will actively examine e-commerce applications as well as management cases and the impact of e-commerce on the modern organization. Student performance will be evaluated using both examinations and team project assignments.

INFSY 391 will be offered once per semester with multiple sections based on student enrollment and demand.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 404 Introduction to ERP and Business Processes (3) A problem-based, interdisciplinary course on Enterprise Resource Planning (ERP) concepts and business processes.

MIS 404 Introduction to ERP and Business Processes (3)

Enterprise Resource Planning (ERP) a group of integrated software modules used to run virtually all business processes in an organization. The course explains and demonstrates how business processes such as sales logistics, production/material management, procurement, and human resources are supported in an ERP software package.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MIS 204 or 1st Level Programming Course or with the permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 405 Supply Chain Information Systmes with Oracle (3) Strategic design and implementation of Oracle supply chain management information systems in an ERP environment.

MIS 405 Supply Chain Information Systems with Oracle (3)

This course involves extensive discussion and study in the design and understanding of supply chain information systems. The vast majority of business data is generated through the use of supply chain information systems. Successful program mangers and business analysts must understand how the data is generated, and how this strategic data is used to integrate various business functions. This course will focus on the implementation and management of supply chain information systems, and will include topics in the following areas:

- Inventory Management
- Purchasing and Materials Management
- Bills of Material and Engineering
- Master Scheduling and Material Requirements Planning

This course will include a special focus on Oracle eBusiness suite applications and numerous hands-on exercises that will ensure participants understand implementation strategies, supply chain information system processes, and data analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: SCM 301, MIS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 406 Customer Information Systems with Oracle (3) A technology-based exploration of the various Oracle Order Management and Customer Relationship Management tools.

MIS 406 Customer Information Systems with Oracle (3)

This course provides a detailed explanation of customer relationship and order management within the organizational supply chain. The course demonstrates how Order Management process flows, application functionality, and organizational requirements are utilized to manage and control sales order fulfillment. Additionally the course will demonstrate how Oracle's integrated Customer Relationship Management (CRM) solution provides information-driven sales, service, and marketing support to the organization. Extensive use of state-of-the-art Oracle business software technology is employed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MIS 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 407 Enterprise Integration with Oracle (3) This is a technology course focusing on software development in an Oracle eBusiness ERP Environment.

MIS 407 Enterprise Integration with Oracle (3)

The Oracle Enterprise Integration course will cover the primary functionality of core business application modules and the flow of data through the major database tables. Students will perform SQL queries of critical Oracle ERP tables. Students will develop PL SQL program units which are the foundation of Oracle business modules. The open interfaces for Oracle Inventory and Oracle Purchasing will be demonstrated via programming sessions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MIS 336 andMIS 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 413 Interface design for Information Systems Applications (3) The study of interface design emphasizing application and user requirements, development and testing techniques, and information processing issues.

MIS 413 Interface Design for Information Systems Applications (3)

In order to design an information system, the designer must undertake a thorough task analysis to determine the proper functionality of the system. The designer must give attention to system reliability, security, standardization, portability, integration, and many other issues. While these issues are important, they do not directly address the needs of the system's users. The system's interface is the vehicle with which users interact with the system. It is, in essence, the system from the users' standpoint. A poorly-designed interface will deter people from using the system, while a well-designed interface will encourage system usage.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 307, MIS 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 430 Systems Analysis (3) Information analysis and the logical specification of the system.

Systems Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Prerequisite or concurrent:MIS 336

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 432 Business Information System Analysis (3) The analysis of business information systems and the requirements specifications of redesigned systems.

MIS 432 Business Information System Analysis (3)

Business Information Systems Analysis introduces concepts underlying computer based information systems development. The course focuses on object-oriented concepts, project management and principles of systems development using standard UML diagram methodologies. The course develops a solid understanding of information systems development through the analysis of current information systems and the requirement specifications of a redesigned system, and also provides significant hands on experience using current technologies.

After completing this course, the student should have the knowledge, skills, and abilities to be able to:
- define and document an existing information system;
- analyze an existing information system and specify the requirements for a replacement system;
- use a specific Computer-Aided Software Engineering (CASE) tool to assist in Systems Analysis;
- understand alternative approaches to systems development;
- understand the purpose, context and commonly expected “deliverables” of systems analysis and
- create a substantial project and prepare a professional report

The evaluation of students will be based on tests, lab work, and homework. This is a prescribed course for the M I S major and a support-of-major course for Smeal students M I S 432 will be offered in the fall and spring semesters in sections ranging from 25 to 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 431 Business Data Management (3) The architecture of business information processing systems and technical aspects of database management.

MIS 431 Business Data Management (3)

Business Data Management introduces concepts underlying database systems and demonstrates their use in business applications. The course discusses principles of database systems, database design, and database manipulation using SQL and survey advanced database management topics such as transaction control, and distributed databases. The course develops a solid understanding of database design and applications, and also provides significant hands on experience using current database technologies. After completing this course, the student should have the knowledge, skills, and abilities to be able to:
explain and apply fundamental principles of database systems and the relational database model
effectively use design concepts of database systems including ER modeling, normalization, and physical design of database systems
apply data manipulation techniques using Structured Query Language (SQL)
describe basic elements of advanced topics such as transaction management, distributed databases, data warehouse, database e-commerce applications, and object oriented databases

The evaluation of students will be based on tests, lab work, and homework. This is a prescribed course for the Management Information Systems major and a support-of-major course for Smeal students. M I S 431 will be offered in the fall and spring semesters in sections ranging from 50 to 200 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 204
Concurrent: SCM 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 434 Internet Technologies (3) Technical foundations of the eBusiness environment and web applications development to support internet-based commerce.

MIS 434 Internet Technologies (3)

Electronic Commerce is transforming the nature of business information system applications. The course examines important issues faced by businesses resulting from technological advances. After a detailed look at the technological foundations of the e-business environment, we will focus on web application development in the business setting. Several hands-on lab sessions develop expertise in building the applications. After completing this course, the student should have the knowledge, skills, and abilities to be able to:
develop a clear understanding of the technology behind internet and the web
learn the details of web applications and technology choices
gain hands-on skills to develop applications for the web
explain the framework for analyzing the ebusiness environment
gain the vocabulary and key concepts behind modern technology trends
Explain and apply fundamental principles of database systems and the relational database model
Effectively use design concepts of database systems including ER modeling, normalization, and physical design of database systems
Apply data manipulation techniques using Structured Query Language (SQL)
Describe basic elements of advanced topics such as transaction management, distributed databases, data warehouse, database e-commerce applications, and object oriented databases

The evaluation of students will be based on tests, class participation, and both individual and team assignments, which include lab work, homework, and projects. All required software can be accessed from the university computer labs. You are expected to acquire the necessary skills independently to do hands-on computer work. The is a prescribed course for Management Information Systems majors and will be offered in the fall and spring terms in sections with target enrollment limits of 50.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 431
Concurrent: M I S 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 436 Business Data Communications (3) Introduction to the principles and techniques of business data communication encompassing transmission concepts, network analysis, design, implementation, and administration.

MIS 436 Business Data Communications (3)

This course will provide a comprehensive introduction to the principles and techniques of business data communications. The content is directed towards the business student who desires a technical overview of the concepts of data transmission and methodologies employed in designing and managing communication networks. Five specific goals are to provide:
1) basic understanding of fundamental transmission concepts underlying current data communication practices used in business;
2) an introduction to techniques employed in the design and analysis of communication networks;
3) a survey of management issues concerning network planning implementation and administration;
4) a cursory overview of commercial networking hardware and software products and methodologies used in their evaluation;
5) a framework for assessing the strategic uses of communication networks in business.

Students are expected to prepare the end-of-chapter exercises as well as any additional questions based upon other assigned readings. There are four major examinations in this course. Questions will be drawn from the list of expectations concerning the readings and from lecture material. There will be a major student team project associated with this course. The project "deliverables" will be due in phases, and progress will be closely monitored. Students are expected to demonstrate consistent progress and project management skills. The final grade will be based upon the exam average, the team project, and other "subjective" assessments of student performance, such as class attendance, preparedness, and participation.

Students should have completed M I S 431 prior to scheduling this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 435 Systems Design and Implementation (3) Logical and physical design of information systems and implementation.

MIS 435 Systems Design and Implementation (3)

Current systems development methods involve a use-case based, and iterative and incremental approach. This is the approach generally used on object-oriented systems development projects and is the approach taught in this course.

Design aspects of the course will emphasize design patterns and their application to systems design using the standard software design notation—The Unified Modeling Language. An Agile (light-weight) approach to systems design will be emphasized. Implementation aspects of the course will focus on object-oriented programming using a modern object-oriented programming language.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MIS 430 and a second-level programming course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 440 Expert Systems (3) Introduction to expert systems technology; course covers expert system concepts, techniques, development, and management.

Expert Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: 3 credits of programming

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 445 Management Reporting Systems (4) Develops insights and skills required to analyze current management reporting systems, propose improvements, and develop reports using a report generator.

MIS 445 Management Reporting Systems (4)

This course develops insights and skills required to analyze management reporting systems, propose improvements, create reports, extract and package data using various software tools, and design data warehouses. It prepares students for the position of a Business Intelligence Specialist who can apply insight and technical competence to the challenges of leveraging Reporting, OLAP, Data Mining, Business Intelligence (BI), and Data Warehouse technologies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MIS 336

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 442 Business Information Systems Design (3) Object-oriented concepts such as: object, instance, class, inheritance, polymorphism; application of these methodologies and design patterns to business system analysis.

MIS 442 Object Oriented Business Systems (3)

Business Information System Design provides an introduction to the logical and physical design of computer based business information systems. The course represents a natural progression from the Business Information Systems Analysis course (M I S 432). Emphasis is placed on object-oriented development paradigms for translating the system analysis results into detailed design specifications for the follow-up system implementation. The course develops a comprehensive understanding of different aspects of business information systems development, including project management, design specification, human interface design, new development methodologies, as well as the practical issues regarding system implementation, operation, and maintenance. The course also provides significant hands-on experience using current software development technologies in team-based real system development projects.

After completing this course, the student should have the knowledge, skills, and abilities to be able to:
- Explain and apply fundamental principles of systems design, implementation, operation, and maintenance in the business context.
- Effectively use system design languages and concepts to produce detailed design specifications based on system analysis outputs.
- Understand the entire life cycle of business information systems and perform effective management throughout the cycle.
- Describe basic elements of advanced topics such as outsourcing, rapid development, extreme programming, and major system development environments.

The evaluation of students will be based on tests, lab work, homework, and course project. This is a prescribed course for the M I S major. M I S 442 will be offered in the fall and spring semesters in sections ranging from 25 to 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MIS 432

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 446 Information Technology and Business Strategy (3) Strategic use and management of information technology in digital global economy.

MIS 446 Information Technology and Business Strategy (3)

This course introduces the basics on the interplay between information technology and business strategies. The course starts with the general topic of strategic use of information technology in business (as enabler, differentiator, and disruptor) using examples from a variety of industries, followed by detailed coverage of the information technology strategy in individual industries including e-logistics, e-tailing, e-marketing, e-finance. The course also covers basics on the business information technology infrastructure and environments (Internet, Web, service-oriented computing, and security and risks). Towards the end, the course discusses the role of information technology in the global economy, business value of the explosively growing digital social networks, and other emerging trends and new technology opportunities.

Topics include:

- Information technology strategy. IT-business strategy alignment; IT as enabler, differentiator, and disruptor.
- Internet and Web infrastructure; extranet, intranet, hosting strategies; platform independence; eBusiness technology standards; open versus proprietary technologies; interoperability.
- Web Services for implementing business applications; software as a service; Services science and services oriented architectures.
- Overview of E-Business models, B2B, B2C, (x2y).
- E-logistics and supply chain: Analysis of Dell model; Internet auctions, eBay; e-hubs; i-mode, GPS, RFID.
- E-tailing: Amazon, eBay, Walmart, recommendation systems, reputation systems.
- E-marketing: search engine advertising (Google AdWords/AdSense, Yahoo Search Marketing); database marketing (precision targeting).
- E-finance: online brokerage (Schwab, E*Trade), wealth management (e-strategy, technology for churn prediction and customer acquisition/retention), payment technologies (paypal), computational trading strategies.
- Collaboration/Community technologies: Blogs, MySpace, Facebook, YouTube, Voice over IP, videoconferencing, RSS, etc.; Impact on business communication and media industry.
- Need for security in ecommerce – threats and solutions.
- Globalization and IT. Offshoring and outsourcing.
- Emerging trends and technology opportunities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MIS 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 448 Business Telecommunications (3) Introduces telecommunication concepts, its evolution, and present applications in business. Discusses the software and hardware components of telecommunication networks.

Business Telecommunications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 460 Object Oriented Design in Business (3) Object oriented programming concepts and analysis and design methodologies with an emphasis on business applications.

Object Oriented Design in Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 307

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 450 System Design Project (3) A project in the design, specification, and programming of a system in an application area.

MIS 450 System Design Project (3)

MIS 450, Systems Design Project, is a required course for information systems majors in the business program. MIS 450 is the capstone course. The primary objective of this course is for students to develop Information Systems (IS) solutions to real-life problems by following the entire systems development lifecycle (SDLC). The course allows students to demonstrate their mastery of the SDLC methodologies and analytical skills. Students develop a team project to foster problem solving, communication, and team skills. Individual assessment is evaluated through demonstration of the understanding of IS skills (i.e. application development, oral presentations, and written communication). Individuals are required to prepare professional written documents (i.e. definition document, the solution proposal, and the design document). Then students develop a solution prototype matching the criteria outlined in their requirement documents.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MIS 307, MIS 465;MIS 448 ; 3 additional credits of MIS at the 300- or 400-level; seventh or eighth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 461 Web Technologies (3) Fundamentals of Web development for e-business and related project management.

MIS 461 Web Technologies (3)

The objectives of this course are to enable students to fully understand the purpose, structure, and components of technologies utilized for e-business applications; to gain substantial hands-on experience, creating applications for e-business; understand how XML and other technologies are revolutionizing the Web and what it will do for complex real-world applications; to make students aware of research issues that apply to Web development; and to strengthen collaborative skills related to project development and management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 307 andMIS 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 466 Business Programming for the WEB (3) Advanced programming for WEB-based applications.

MIS 466 Business Programming for the Web (3)

The objective of this course is to teach students how to create and maintain business applications on the WEB. Students will learn how to use tags, scripting, and a low-level programming language to support business applications.

Students will be encouraged to use the afore mentioned tools to provide useful and well-designed content to the WEB community. The course assumes knowledge of an object-oriented programming language and some introduction to HTML. A state-of-the-art programming language will be used to facilitate learning for project development. Team skills and problem solving, as an important part of the development process, will be emphasized and integrated into project development activities. To be successful in such a work environment, students need to learn how to work together to design, implement and test projects. Electronic commerce, employee training and development, accounting, and finance applications are typical of application areas that will be emphasized.

Specific goals of the course are to:
1) expose students to concepts and principles necessary to provide well-designed and useful content on the WEB
2) teach students how to apply programming in a WEB-based environment
3) show students how these techniques increase productivity of complex systems, and
4) further student development of team skills when programming complex systems

INFSY 435 is an elective in the Information Systems program. INFSY 307 or the equivalent, required of all Information System majors.

Student performance will be evaluated by means of assignments, examinations, and team-based projects.

It is expected that this changed course will be offered two times during each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 307

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 465 DataBase Management (3) Provides a comparison of techniques, methodology of systems, limitatins, and applications of various data base management systems.

MIS 465 Database Management (3)

INFSY 445, Database Management, is a required course for information systems majors in the business program. The objective of the course is to present database design and development, specifically relational database management systems (RDBMS), along with project work on developing database systems. The course coverage includes conceptual data modeling, relational data model, structured query language (SQL), data normalization, database integrity, and database administration. Advanced topics such as distributed databases and data warehousing are also discussed briefly. The course prerequisite is CMPBD 204 or CMPSC 101 or CSE 103 and INFSY390.

This course is centered on a group project involving the design and development of a relational DBMS. Student groups also work on case and homework problems related to database design. A suitable relational database package, like ORACLE, is used by students in the group project. Database design and development involving the creation of tables, queries, forms, and reports are the center piece of the group project.

INFSY 445 will be offered once per semester with multiple sections based on student enrollment and demand.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 102 orCMPSC 101 orCMPSC 121 andMIS 390

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 470 Advanced Applications Development (4) Focus on concepts and practice of advanced tools and techniques such as application generators, object-oriented methods, and client/server development.

MIS 470 Advanced Applications Development (4)

Develop concepts and skills of advanced tools and techniques for web application development. Design and implement a web user interface that is attractive and intuitive using such tools as ASP.Net. Become familiar with IDEs such as Microsoft Visual Studio and develop skills to access data from popular relational databases in the context of modern web technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: MIS 435 orCMPSC 122 orCMPSC 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 479W Management of Operations Information/ERP (3) Management and implementation of enterprise information systems for business integration and supply chain management.

MIS 479W Management of Operations Information/ERP (3)

This course examines enterprise-wide information systems architecture for the business setting and examines current commercial systems, with a special focus on SAP R/3 development tools and techniques.

Topics include:

- The acquisition, installation and operation of integrated Enterprise Information Systems [EIS], formerly referred to as Enterprise Resource Management [ERP] systems
- The strategic decisions regarding approaches business organizations select for the acquisition and integration of EIS components and how executive level support for such endeavors is obtained
- The overall management and coordination techniques used in the design, development and implementation of an organization's EIS, including the role that software vendors and other third party's play in the acquisition and implementation of enterprise systems
- The coordination and control of multi-party relationships. Specific analysis and design techniques are taught, including tools and methodologies for analyzing business processes in preparation for implementation of EIS, as well as database and data warehousing requirements.
- The methods of determining data communication network requirements
- The practical implementation concerns are addressed, such as preparing internal organizational units for migration to a new EIS architecture and to the maintenance and operation of EIS including concerns involving security and control.
- The managerial and technical issues involved in the developing and testing of applications and user interfaces and customization of commercial packages.
- The career planning issues and ways of obtaining training for specialization and advancement in careers involving EIS.

This course will be writing intensive. As such, student evaluations will consist of, at a minimum: examinations, position papers, case studies (written and oral), and homework assignments. Both individual and group assignments will be used. The objective is to enhance writing ability relevant to students preparing for careers in business. Group report writing, brief technical writing, technical documentation, end-user documentation, and memo writing will be covered. The major group writing assignments will be required throughout the semester, as well as individual assignments that will be prepared in preparation for the group. Peer assessments and instructor feedback and evaluation will be provided on a regular basis. This is a prescribed course for the M I S major and will be provided in fall and spring semester in sections of nor more than 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MIS 390 orMIS 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 479 Management of Operations Information/ERP (3) Management and implementation of enterprise information systems for business integration and supply chain management.

MIS 479 Management of Operations Information/ERP (3)

This course examines enterprise-wide information systems architecture for the business setting and examines current commercial systems, with a special focus on SAP R/3 development tools and techniques. Topics include:

- The acquisition, installation and operation of integrated Enterprise Information Systems [EIS], formerly referred to as Enterprise Resource Management [ERP] systems
- The strategic decisions regarding approaches business organizations select for the acquisition and integration of EIS components and how executive level support for such endeavors is obtained
- The overall management and coordination techniques used in the design, development and implementation of an organization's EIS, including the role that software vendors and other third party's play in the acquisition and implementation of enterprise systems
- The coordination and control of multi-party relationships. Specific analysis and design techniques are taught, including tools and methodologies for analyzing business processes in preparation for implementation of EIS, as well as database and data warehousing requirements.
- The methods of determining data communication network requirements
- The practical implementation concerns are addressed, such as preparing internal organizational units for migration to a new EIS architecture and to the maintenance and operation of EIS including concerns involving security and control.
- The managerial and technical issues involved in the developing and testing of applications and user interfaces and customization of commercial packages.
- The career planning issues and ways of obtaining training for specialization and advancement in careers involving EIS.

This course will be writing intensive. As such, student evaluations will consist of, at a minimum: examinations, position papers, case studies (written and oral), and homework assignments. Both individual and group assignments will be used. The objective is to enhance writing ability relevant to students preparing for careers in business. Group report writing, brief technical writing, technical documentation, end-user documentation, and memo writing will be covered. The major group writing assignments will be required throughout the semester, as well as individual assignments that will be prepared in preparation for the group. Peer assessments and instructor feedback and evaluation will be provided on a regular basis. This is a prescribed course for the M I S major and will be provided in fall and spring semester in sections of nor more than 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MIS 390 orMIS 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 489 Seminar in Information Systems (3) Covers new trends and concepts in information/processing technology and their applications and impact on computer information systems.

MIS 489 Seminar in Information Systems (3)

INFSY 489, Seminar in Information Systems , is an elective course for information systems majors in the business program. Information Systems is a rapidly changing discipline and students must be aware of these changes. This course covers new trends and concepts in information/processing technology and their applications and impact on computer information systems. In this course, students are introduced to new methods, tools, applications and terminology. The students develop key skills in the ability to assess new technologies, and the ability to incorporate these technologies into complex information systems.

Students learn how to work with business applications in the latest prevalent technology. They work both individually and in groups on problems related to the topic addressed in the seminar. Topics for the seminar can differ with each offering of the course. This course is designed to provide the flexibility to coverage current issues and trend in the Information Technology world. Such topics could be (but not limited to) : advanced networking, mobile computing, wireless infrastructure, security, ERP, SAP, and others...

The course prerequisites are INFSY 307 & INFSY 445

INFSY 489 will be offered once per semester based on student enrollment and demand. The topics will vary upon it offering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MIS 307 andMIS 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 497A Enterprise Integration with Oracle (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Enterprise Integration with Oracle (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 497B Supply Chain Information System with Oracle (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Supply Chain Information System with Oracle (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mangt Info Systems (MIS)

MIS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 060 Introduction to Plastics Technology (3) Introduction to the nature of plastics and polymers, concepts of molecules, molecular weight, molecular shape and stoichiometry, transitions and viscosity.

Introduction to Plastics Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Concurrent: MATH 021 or MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 061 Plastics Processing Equipment and Operation (4) Mechanical, hydraulic/pneumatic, and electrical aspects of plastic processing equipment are discussed.

Plastics Processing Equipment and Operation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MFTBD 060

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 062 Tooling and part Design Principles (3) Introduction to the relationship between part design and processing techniques.

Tooling and part Design Principles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: or concurrent:MFTBD 061

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 061W Plastics Processing Equipment and Operation (4) Mechanical, hydraulic/pneumatic, and electrical aspects of plastic processing equipment are discussed.

Plastics Processing Equipment and Operation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: MFTBD 060

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 161 Injection Molding Processing (3) Fundamentals of the injection molding process and the complex interaction of the components on the product produced.

Injection Molding Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: IET 109, MFTBD 061, MFTBD 062

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 162 Injection Molding Process Optimization (3) Advanced issues in injection molding processing, such as use of design of experiments and SPC/SQC to monitor production.

Injection Molding Process Optimization (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MFTBD 161

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 167 Extrusion Processes (3) The mechanical aspects of the extruder, melt processing, and process optimization.

Extrusion Processes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MFTBD 061

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing Technology (MFTBD)

MFTBD 168 Alternate Plastic Processes (3) Special processes to manufacture plastic products.

Alternate Plastic Processes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MFTBD 061

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing/Engineering Technology (MFET)

MFET 202 Hydraulics and Pneumatics (3) Introduction to principles of hydraulic and pneumatic systems as applied to practical problems with emphasis on operation, assembly, and checking.

MFET 202 Hydraulics and Pneumatics (3)

MFET 202 is designed to provide students with background in hydraulics and pneumatics as applied to practical problems with emphasis on operation, assembly, and checking. The course material and the accompanying lab provide the student with the general preparatory background for technical applications and development work in hydraulic and pneumatic systems used in manufacturing. Students will learn fundamentals of energy and power in hydraulic systems, properties of hydraulic fluids, and basics of hydraulic flow in pipes. They will explore types of pumps, actuators, motors, and valves. Design and analysis of hydraulic and pneumatic systems and applications of logic control systems will be discussed.

This course is offered as a technical elective in the manufacturing option in the Associate in Mechanical Engineering Technology program.

Students' academic achievement will be evaluated using formal written exams, classroom assignments, and laboratory work and reports.

The course will be offered once each year at any campus offering the manufacturing option in the Associate in Mechanical Engineering Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MCH T 111, PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing/Engineering Technology (MFET)

MFET 205 Geometric Dimensioning and Tolerances (3) Introduction to principles of methods of geometric dimensioning and tolerances used in technical graphics.

MFET 205 Geometric Dimensioning and Tolerance (3)

MFET 205 is designed to provide students with an understanding of geometric dimensioning and tolerances used in technical graphics and to strengthen proficiency in CAD drawing applications. The course material and the hands-on experience with the accompanying lab provide the student with the general preparatory background for technical applications and development work in the field of tool and die design and manufacture. Students will learn fundamental GD&T rules and procedures for form, orientation, location, and runout. Application of GD&T in design and inspecting for GD&T will be discussed. Students will understand the importance of GD&T to guarantee fit and interchangeability of matings and assemblies and to allow for maximum production tolerances.

This course is offered as a technical elective in the manufacturing option of the Associate in Mechanical Engineering Technology program.

Students' academic achievement will be evaluated using formal written exams, classroom assignments, and laboratory work and reports.

The course will be offered once each year at any campus offering the manufacturing option to the Associate in Mechanical Engineering Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: EG T 114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing/Engineering Technology (MFET)

MFET 206 Tooling and Part Design Principles (3) Introduction to relationship between tooling and part design and processing techniques.

MFET 206 Tooling and Part Design Principles (3)

MFET 206 is designed to provide students with an overview of the tool and die industry. The course material and the hands-on experience with the accompanying lab provide the student with the general preparatory background for technical applications and development work in the field of tool and die. Students will learn the terminology and function of die components. Tool materials and heat treating, design and construction principles, and tool design classifications will be discussed. Design procedures will emphasize appropriate tolerances for economical, functional designs. Laboratory experience will accompany the didactic portion. Students will practice the operation and safety procedures for common machine tools and work under the guidance of their instructor to design, manufacture, and assemble simple components. This practical experience will enable students to develop an understanding of the processes involved in producing a die, as well as the operation and capabilities of the various machines used in the process.

This course is offered as a technical elective in the manufacturing option of the Associate in Mechanical Engineering Technology program.

Students' academic achievement will be evaluated using formal written exams, classroom assignments, and laboratory work and reports.

The course will be offered once each year at any campus offering the manufacuring option to the Associate in Mechanical Engineering Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: EG T 101, EG T 102, MCH T 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Manufacturing/Engineering Technology (MFET)

MFET 210W Product Design for Manufacturing (3) Design of mechanical parts and assemblies for manufacturing with writing skills.

MFET 210W Product Design for Manufacturing (3)

MFET 210W is designed to provide each student with the necessary concepts and procedures to understand the integration of manufacturing criteria into the product design process. Students will explore Design for Manufacture and Assembly (DFMA) principles for design of reliable and easy-to-produce components having minimal cost and/or weight. Design of formed, cast, and machined parts will be considered, along with design of assemblies. Materials selection and economic use of raw materials will be discussed. Students will understand the benefits of DFMA in reduction in part and assembly costs. Students will apply the course materials to problems, case studies, and design projects using short in-class papers, small working groups, and classroom discussions. CADD skills learned in earlier courses will be applied in design projects. In addition, each student will be required to write a report on a design project related to manufacturing. This course is offered as a prescribed course in the manufacturing option of the Associate in Mechanical Engineering Technology program. Students' academic achievement will be evaluated using formal written exams, classroom assignments, and writing projects and reports. The course will be offered once each year at any campus offering the manufacturing option to the Associate in Mechanical Engineering Technology program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MCH T 213, IET 101, EG T 114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 220 Introduction to Selling Techniques (3) Principles underlying the sales process and practical application of these principles to selling situations. Studies role of selling in total marketing process.

Introduction to Selling Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 221 Contemporary American Marketing (3) Social and economic aspects, movement of goods and services from producers to consumers; analysis of marketing functions, systems, and institutions. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 303 or MKTG 301.

Contemporary American Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: 3 credits in economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 221W Contemporary American Marketing (3) Social and economic aspects; movement of goods and services from producers to consumers; analysis of marketing functions, systems, and institutions. May not be used to satisfy Penn State Business baccalaureate degree requirements. Not available to students who have taken B A 303 or MKTG 301.

Contemporary American Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: 3 credits in economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 301 Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.

MKTG 301 Principles of Marketing (3)

MKTG 301, Principles of Marketing is a three credit course offered each semester across Penn State and covers terminology and important concepts related to marketing in the business environment. Domestic and international environments that impact marketing are included, with particular emphasis on the marketing environment, segmentation, positioning and targeting. MKTG 301 course objectives include providing an overview and introduction to marketing; demonstrating the relationship of marketing to other functions and processes in a business organization on an integrated basis; providing real world examples of challenges and issues related to marketing; and explaining and discussing important concepts and analytical tools in marketing.

Major themes embedded in the foundation of MKTG 301 include domestic and global economic factors influencing current marketing environments; how consumer, business and organizational customers are segmented and targeted; how marketing research and information systems are used to create and guide marketing strategies; how products are developed to serve customers, businesses and organizations; how service products are developed and managed to meet customer needs; how customers are reached through various conventional and technological channels and how these sales management processes are managed; how people in the United States and other nations are influenced by marketing in the non-profit sector; how products and services are marketed to other businesses and organizational customers; how marketing communications programs, which include advertising, publicity, sales promotion and web sites, are designed to reach domestic and international customers; how pricing strategies support corporate objectives in various economic climates; and how marketing programs adapt to shifts towards global markets.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 301 Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.

MKTG 301 Principles of Marketing (3)

MKTG 301, Principles of Marketing is a three credit course offered each semester across Penn State and covers terminology and important concepts related to marketing in the business environment. Domestic and international environments that impact marketing are included, with particular emphasis on the marketing environment, segmentation, positioning and targeting. MKTG 301 course objectives include providing an overview and introduction to marketing; demonstrating the relationship of marketing to other functions and processes in a business organization on an integrated basis; providing real world examples of challenges and issues related to marketing; and explaining and discussing important concepts and analytical tools in marketing.

Major themes embedded in the foundation of MKTG 301 include domestic and global economic factors influencing current marketing environments; how consumer, business and organizational customers are segmented and targeted; how marketing research and information systems are used to create and guide marketing strategies; how products are developed to serve customers, businesses and organizations; how service products are developed and managed to meet customer needs; how customers are reached through various conventional and technological channels and how these sales management processes are managed; how people in the United States and other nations are influenced by marketing in the non-profit sector; how products and services are marketed to other businesses and organizational customers; how marketing communications programs, which include advertising, publicity, sales promotion and web sites, are designed to reach domestic and international customers; how pricing strategies support corporate objectives in various economic climates; and how marketing programs adapt to shifts towards global markets.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Summer 2010
Prerequisite: ENGL 015, MATH 021;ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 301H Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.

Principles of Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 301H Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken B A 303.

Principles of Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 301W Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken BA 303.

MKTG 301W Principles of Marketing (3)

MKTG 301W, Principles of Marketing is a three credit course offered each semester across Penn State and covers terminology and important concepts related to marketing in the business environment. Domestic and international environments that impact marketing are included, with particular emphasis on the marketing environment, segmentation, positioning and targeting. MKTG 301W course objectives include providing an overview and introduction to marketing; demonstrating the relationship of marketing to other functions and processes in a business organization on an integrated basis; providing real world examples of challenges and issues related to marketing; and explaining and discussing important concepts and analytical tools in marketing.

Major themes embedded in the foundation of MKTG 301W include domestic and global economic factors influencing current marketing environments; how consumer, business and organizational customers are segmented and targeted; how marketing research and information systems are used to create and guide marketing strategies; how products are developed to serve customers, businesses and organizations; how service products are developed and managed to meet customer needs; how customers are reached through various conventional and technological channels and how these sales management processes are managed; how people in the United States and other nations are influenced by marketing in the non-profit sector; how products and services are marketed to other businesses and organizational customers; how marketing communications programs, which include advertising, publicity, sales promotion and web sites, are designed to reach domestic and international customers; how pricing strategies support corporate objectives in various economic climates; and how marketing programs adapt to shifts towards global markets.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: ENGL 015, MATH 021;ECON 002 orECON 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 301W Principles of Marketing (3) Focuses on customer behavior, product, channels of distribution, promotion, and pricing with emphasis on a culturally diverse environment. Not available to students who have taken BA 303.

MKTG 301W Principles of Marketing (3)

MKTG 301W, Principles of Marketing is a three credit course offered each semester across Penn State and covers terminology and important concepts related to marketing in the business environment. Domestic and international environments that impact marketing are included, with particular emphasis on the marketing environment, segmentation, positioning and targeting. MKTG 301W course objectives include providing an overview and introduction to marketing; demonstrating the relationship of marketing to other functions and processes in a business organization on an integrated basis; providing real world examples of challenges and issues related to marketing; and explaining and discussing important concepts and analytical tools in marketing.

Major themes embedded in the foundation of MKTG 301W include domestic and global economic factors influencing current marketing environments; how consumer, business and organizational customers are segmented and targeted; how marketing research and information systems are used to create and guide marketing strategies; how products are developed to serve customers, businesses and organizations; how service products are developed and managed to meet customer needs; how customers are reached through various conventional and technological channels and how these sales management processes are managed; how people in the United States and other nations are influenced by marketing in the non-profit sector; how products and services are marketed to other businesses and organizational customers; how marketing communications programs, which include advertising, publicity, sales promotion and web sites, are designed to reach domestic and international customers; how pricing strategies support corporate objectives in various economic climates; and how marketing programs adapt to shifts towards global markets.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 015 orENGL 030;ECON 002 orECON 004;MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 302 Marketing Techniques for Electronic Commerce (3) Explores methods to implement/adapt marketing methods to the Internet; builds upon introductory marketing classes to examine what does/doesn't work.

MKTG 302 Marketing Techniques for Electronic Commerce (3)

This course examines the role of commerce and marketing with special focus on Internet commerce topics including: the commerce value chain, business strategies and business strategies for the global marketplace. Several Internet business models are examined. These include: business-to-business (B2B); business-to-consumer (B2C); consumer-to-consumer (C2C); and government-to-consumer (G2C); and other permutations of these models. Marketing fundamentals include market segmentation and product life cycle, and similar topics are reviewed with the emphasis on Internet implementation. Specific methods for conducting market research using the Internet as well as methods to determine who is the "average" Internet user are examined. Advertising methods for the Internet vs. the traditional advertising mediums of TV, radio, and print, and methods to measure advertising success on the Internet are discussed. The Internet removes existing roadblocks and adds new roadblocks for businesses, thus requiring different pricing strategies. Distribution channels and methods of supply--chain management are studied. How marketers utilize e-mail, site commissions, cookies, filters, and databases is examined. Security, privacy, and ethical issues, e.g., consumers' rights to privacy and sale of consumer information, are reviewed. Finally, a market plan to migrate business functions to the Internet is developed.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 310 Public Relations and Marketing (3) Examination of the role of public relations in a company's efforts to manufacture and market its products and services.

Public Relations and Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 327 Retailing (3) Management of marketing institutions in distribution channels from producers to consumers. Emphasis on retail institutions: location, personnel, merchandising, control, promotion.

Retailing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 330 Consumer Behavior (3) Application of behavioral science concepts to the understanding of buyer behavior as a basis for marketing management decision making.

Consumer Behavior (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 342 Marketing Research (3) Research approaches, methods, and applications studied as a formal approach to problem solving for marketing decisions.

Marketing Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301;SCM 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 410 Personal Selling (3) Principles underlying the selling process and practical application of these principles to selling situations.

Personal Selling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 420 Direct Marketing (3) Applies principles of marketing management to the direct marketing of products by mail, telephone, print, and broadcast media.

Direct Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 422 Advertising and Sales Promotion Management (3) Perspectives and models of the key decisions involved in managing advertising and sales promotion campaigns.

Advertising and Sales Promotion Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 330 orMKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 426 Business Marketing (3) Developing marketing strategies and programs. The course emphasizes the special nature of the business and organizational markets.

Business Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 428 Advanced Sales Management (3) Approaches to planning, organizing, staffing, training, directing, and controlling the sales force in support of marketing objectives.

Advanced Sales Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 435 Marketing and Society (3) Analysis of marketing's impact on and obligation to social and environmental issues, marketing and ethics, and the regulation of marketing.

Marketing and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 437 Advanced Retailing and Merchandise Management (3) Analyzing planning and controlling the retail merchandising effort, including procurement, resource selection, vendor relations, product presentation, inventory control.

Advanced Retailing and Merchandise Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 440 Services Marketing (3) Marketing theory and methods applied to profit and nonprofit service industries such as health care, finance, transportation, tourism, arts and consulting.

Services Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 443 Sports Marketing (3) This course will focus on how companies develop, execute and measure marketing strategies and tactics to use sports teams, famililties, leagues and other organizations to market their products and services domestically and internationally to consumers and business partners. The course will examine the marketing strategies employed by sports teams and leagues.

MKTG 443 Sports Marketing (3)

“Sports Marketing” is designed to explore how various types of businesses and other organizations market products and/or service related to sports as well as how sports are used as marketing platforms for non-sports products. Unique aspects of the sports business will be explored including how strategies and tactics related to marketing in this sector differs from other industries. The purpose of this course is to provide an overview of various aspects of sports marketing. This will include the use of sports as a marketing tool for other products, the marketing of sports products and emerging considerations that are relevant for both marketing through and the marketing of sports. Since sports involves consumers, businesses and other organizations, this courses will cover B2C as well as B2B marketing.
How product, distribution, pricing and promotional programs are developed particular to this industry will be one of the primary focuses. Relationship marketing, the role of technology, sponsorships, ambush marketing, partnership leveraging, endorsements, venue naming rights, licensing and emerging legal and ethical issues will also be important focuses.
A guest speaker series will provide additional professional perspectives on a variety of unique aspects of marketing particular to sports. Reading Sports Business Journal, the most highly regarded source of news by sports industry employees, will further expand this knowledge base as will current news events related to the industry. Students will be provided an opportunity to network with guest speakers and those interested in considering sports among their job search, will also be able to receive internship and career counseling from the instructional team. Students enrolled in this class will also be able to submit resumes and requests to be interviewed for internships with various sports organizations being arranged in cooperation with the Smeal Collage Corporate and Career Services Office.
Students will apply what is being learned in the class to the development of a project related to sports marketing, with the added benefit of having a deliverable which can be used to further the search for jobs and/or internships in the sports business.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: B A 303 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 450W Marketing Strategy (3) Market-oriented problems of the firm; identification and selection of market opportunities; formulation of competitive strategies; marketing policies and programs.

Marketing Strategy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 330, MKTG 342

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 445 (IL) Global Marketing (3) Role of international marketing in the global environment; political, economic, geographic, historical, cultural conditions; developing and implementing international marketing strategies.

MKTG (I B) 445 Global Marketing (3)
(IL)

MKTG/I B 445 focuses on the wide range of issues, which face enterprises as they develop and execute marketing strategies and tactics, designed to support business activities in markets outside their home country. This course deals directly with these issues as they apply to firms, which concentrate on a few markets closer to home, or on many markets throughout the world, including via the Internet. This course also deals with the important role played by governments in shaping the global marketing environment, including through trade policies, treaties and marketing supports. Students successfully completing this course also gain a greater understanding of the cultural, technological, economic, political and social environments which international businesses and global marketers face as they seek to expand their product and/or service offerings into other nations. Understanding this important part of the challenge facing international businesses and global marketers is achieved through the text, lectures, and student group projects and presentations including some focused on specific countries, including both major trading partners of the United States and select emerging new markets. This course is designed for students who have an interest in these topics and/or who plan to enter fields such as international business or global marketing and/or who expect to work for businesses, which are active internationally. Class discussions and projects are designed to help students explore these topics in greater depth. A series of small group assignments and presentations will further help students apply what is being learned via problem-based learning. This is an interactive class. Therefore, a portion of the grade each student achieves will be based on class attendance and participation. Students are also expected to pay attention to examples of the issues discussed in class that they encounter during the semester in prim broadcast, and online communications. Along with material from lectures and the text, issues discussed in class will be included in the exam.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 476 Sales Management (3) Application of modern management principles to field sales force planning, organization, and administration; selection, training, and compensation plans.

Sales Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 301 andMGMT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 478 Services Marketing Management (3) Conceptual understanding of services and the analytical tools that are used in solving strategic services marketing problems.

Services Marketing Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 485 Business-to-Business Marketing (3) Application of marketing principles to commercial enterprises, industrial firms, government, and other non-profit institutions.

Business-to-Business Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 495 Internship (1-18) Supervised off campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B A 303 ORMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 497A Sports Marketing (3) MKTG 497A focuses on how companies develop, execute and measure marketing strategies and tactics to use sports teams, facilities, leagues and other organizations to market their products and services domestically and internationally to consumers and business partners. Case studies would be developed and guest speakers and a seminar would be included, along with internship opportunities. The Penn State Athletic Department has committed to interview and place some of the internships to students who complete this course as interns in their extensive sports operation.

Sports Marketing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: B A 303

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Marketing (MKTG)

MKTG 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 201 Introduction to Materials Engineering Technology (3) An introduction to Materials Engineering Technology emphasizing relationships between structure and properties of engineering materials.

Introduction to Materials Engineering Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 082

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 203 Introduction to Powder Metallurgy (3) A comprehensive study of powdered metal technology including production, characterization, compaction, sintering, and finishing operations.

Introduction to Powder Metallurgy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 082

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 202 Materials Testing (3) A review of industrial methods and testing standards used for mechanical property testing and evaluation of engineering materials.

Materials Testing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: MATH 082, PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 205 Powder Metallurgy Laboratory (4) A capstone course emphasizing hands-on laboratory experience in powder metallurgy and semester project; field trips to nearby P/M industries.

Powder Metallurgy Laboratory (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MAE T 201, MAE T 202, MAE T 203, CHEM 111, MATH 083

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 204W Structure Characterization Laboratory (3) A hands-on experience course with emphasis on equipment and lab techniques used for microstructural evaluation of metals.

Structure Characterization Laboratory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MAE T 201, CHEM 111, PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 294 Research Topics (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Topics (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: third semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Engineering Technology (MAE T)

MAE T 296 Independent Study (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Study (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: prior written approval of MAE T faculty member

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 081 (GN;IL) Materials in Today's World (3) A survey of the properties, manufacture, and uses of polymers, ceramics and metals in today's world with emphasis on modern developments and new materials.

MATSE 081 Materials in Today's World (3)
(GN;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

MATSE 081 presents the basic science and technology of materials to non-science students. The course concentrates on "Materials in Today's World" but frames the discussion in a relevant historical framework. The lectures are built around "The Central Paradigm of Materials Science and Engineering" which links processing to structures to properties to performance.

The fundamental basis of the science of materials, structure, is addressed first. Beginning at the sub-atomic level, the students are introduced to the intrinsically simple concept of metals and non-metals, and to a fundamental understanding of The Periodic Table. From these conceptual ideas, ceramics and electronic materials are rationalized or the basis of their electronic structures.

The properties of materials, e.g., mechanical, thermal, electronic and photonic are developed directly from a knowledge of the structures discussed in earlier lectures. The concept of materials' design is introduced with respect to the properties of density, melting point and hardness. "Young's modulus design" is also described.

There are as many processing routes as there are materials. Hence, the slate of lectures on processing, investigates prototypical examples of: metals - steel; ceramics - vitreous ceramics; and polymers-polyethylene. Current practices for e.g., the processing of steel and vitreous ceramics are compared with those, which were employed in antiquity.

The performance of materials is a constant theme that permeates all the lectures. For example, during the "firing of clay ceramics", the question "how does the temperature of firing affect both performance and utility?" is addressed.

The great thinkers of the physical sciences are introduced via vignettes that are presented, often at the beginning of class. Giants such as Aristotle and Newton are described, warts and all, in an effort to make science a broader part of the human experience. The professor also uses many examples from his own scientific experiences, and his interaction with some of the more (in) famous of the modern scientists.

General Education: GN
Diversity: IL
Bachelor of Arts: Natural Sciences
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 090H High-Tech Materials (1) A series of introductory seminars concerning the most important aspects of modern materials technology; some laboratory visits will be included.

High-Tech Materials (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 101 (GN) (EGEE 101) Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.

Energy and the Environment (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 091 (GN) Polymers, Life and Society (3) An exploration of the science and use of polymer materials and their impact on society using a case study approach.

MATSE 091 Polymers, Life and Society (3) (GN)

Over the course of the last 100 years, polymeric materials have transformed the way we live. Modern transportation systems, much of contemporary medicine and the entire electronics and computer industry would not be possible without polymers. In order to understand the nature of these materials and why they are ubiquitous in modern society, this course will provide students with a basic knowledge of the structure, synthesis and properties of these materials, starting with atoms and molecules and proceeding through basic elements of the chemistry and physics of these materials. Students will discover the commonalities and differences between synthetic polymers, such as polyesters and nylons, and natural or biological polymers, such as cotton and silk. In order to provide a narrative thread, the course will be structured in terms of "case studies" in the history of the development of specific materials (e.g., nylon) and ideas about their structure, starting from a consideration of the fundamental nature of matter. This approach will not only give students an overview of the nature and properties of polymer materials, but also show them how the discipline fits into the larger context of the nature of scientific discovery and the interplay of innovation, vision, luck, perseverance, and personalities involved in this development. Last but not least, the course will make students aware of a number of contemporary global concerns about the use of polymers in general and some polymers (and additives) in particular, again through the medium of specific case studies.

The intended audiences include undergraduates at Penn State, as well as adult learners who need to have a broader knowledge of polymer materials. Learning and discovery will be facilitat3ed by a broad range of interactive programs and animations developed over the last five years by faculty in the Department of Material Science and Engineering. A self-contained CD incorporating this material and structured as a complete self-learning tool will be used in instruction. The course material is being constructed using the Macromedia program Director, which allows versions of the CD that run on Windows and the Mac platform to be made available. Students will also need access to the internet, as they will also use on-line resources to discover and analyze material. Interactive on-line quizzes will provide instantaneous feedback and allow students to assess their progress. Overall student assessment will be based on a combination of quizzes of this type, term projects and an "open-book" final exam.

MATSE 091 will be offered three times each year, in the Fall, Spring, and the first-six week summer session, commencing Fall 2005.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 101A (GN;IL) (EGEE 101A) Energy and the Environment (3) Energy utilization and technological development, energy resources, conversion and consequences on the local and global environment, and future energy alternatives.

Energy and the Environment (3)

General Education: GN
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 112 (GN) Applied Materials Chemistry for Engineers (3) Chemistry of materials with emphasis on intermolecular forces between atoms, molecules, ions, and dense materials and inorganic and organic physical chemistry. In most majors, this course is not a substitute for CHEM 013 or CHEM 112.

Applied Materials Chemistry for Engineers (3)

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 201 Introduction to Materials Science (3) Concepts of relationships between structure and thermal, optical, magnetic, electrical, and mechanical properties of metals, ceramics, glasses, and polymers.

Introduction to Materials Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112;MATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 259 Properties and Processing of Engineering Materials (3) Relationship of structure and processing variables to the properties and service behavior of metals, polymers, and ceramics.

Properties and Processing of Engineering Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213 orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 400 Crystal Chemistry (3) Principles of crystal chemistry applied to structures, structural defects and properties of organic, inorganic, intermetallic, and metallic crystals.

Crystal Chemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, CHEM 113, MATH 231, MATH 251, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 401 Thermodynamics of Materials (3) Review of equilibrium thermodynamics and applications to metallurgical and material systems.

Thermodynamics of Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 402 Materials Process Kinetics (3) A treatment of process kinetics including chemical reaction kinetics and momentum, energy and mass transport.

Materials Process Kinetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 251, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 403 (BIOE 443) Biomedical Materials (3) Describe properties of materials and composites and their in vivo interactions.

MATSE 403 (BIOE 443) Biomedical Materials (3)

Metals, polymers, and ceramics, and their composites, which are capable of emulating the functions of hard and soft tissues, are the subjects of this course.‘The subject matter shall be confined to implanted materials; external appliances, such as casts, braces, etc are not considered The topical content of this course will be grouped into four areas. A general introduction to selected aspects of physiology will be presented. This will provide the background necessary to appreciate the factors which govern the selection of biomedical materials. Specific emphases will be placed on polymerization of biopolymers (polypeptides and polysaccharides) and the general relationships between conformation and biological function, the biochemistry of blood and blood surface interactions, the formation of teeth and bone and the relationships between microstructure, composition and function, the immune responses to implanted materials, the resorption of bone (osteoporosis) and the development of caries. The perspective placed on these topics will be that of materials science. ‘The selection of ceramics for hard tissue prosthesis will be discussed. Orthopaedic and dental applications for ceramics will be discussed. Specific ceramic materials to be treated include dental porcelain, alumina- and zirconia-based ceramics, and bioglasses and pyrolytic carbons. Various classes of inorganic cements, gypsum, zinc phosphates, zinc carboxylates, silicates, and glassionomer cements will also be considered as ceramics. Hydroxyapatite, Hap-based composites and Hap-metal interactions will be discussed in particular Relationships among physical properties, mechanical properties, and chemical interactions with biological fluids will be described. Dental and orthopedic applications of metals will be described. The fracture toughness of metals, their electrochemical responses in vivo, and the nature of the interfacial interactions with hard tissues will be treated Dental amalgams and the noble metals for dental applications will be considered. Metals and alloys, such as Ti, Co-Cr, and vitallium, used in prosthetic applications, will be described and their properties and limitations discussed The phenomenon of stress shielding and the immune responses associated with the accumulation of metallic and polymeric particular debris in the vicinity of an implant will be discussed in particular Polymeric materials are important in a broad range of biomedical applications. Among these are soft tissue prostheses, hemostatic agents, dental restoratives, bone replacement materials, and surgical adhesives. In some applications it is desirable that a polymeric material biodegrade while in others property retention is desirable.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATSE 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 404 (IL) (BIOE 444) Surfaces and the Biological Response to Materials (3) Focus is on the special properties of surfaces as an important causative and mediating agent in the biological response to materials.

MATSE 404 (BIOE 444) Surfaces and the Biological Response to Materials (3)

This course factors the classical picture of the biological response to materials into spatial and temporal components, identifying the special properties of surfaces as an important causative and mediating agent. Biophysical mechanisms are emphasized that lead to formulation of structure property relationships and the biological response to materials. Contact activation of the blood plasma coagulation cascade, bioadhesion, and protein adsorption are used as example biological responses to material surfaces to illustrate concepts and principles. Leading theories attempting to correlate both kind and intensity of biological responses to surface and interfacial energetics will be compared and contrasted through a process that will quantify important surface thermodynamic properties of materials. The hydrophobic effect and related phenomena, especially as this pertains to water solvent effects in biology, receives special emphasis. Course materials are drawn from a selection of relevant library reserve texts.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 111, CHEM 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 409 (NUC E 409) Nuclear Materials (3) Nuclear reactor materials: relationship between changes in material properties and microstructural evolution of nuclear cladding and fuel under irradiation.

MATSE (NUC E) 409 Nuclear Materials (3)

MATSE/NUC E 409 provides a background on the types of materials used in nuclear reactors and their response to neutron irradiation. Most of the materials problems encountered in the operation of nuclear power reactors for energy production are discussed here. The objective of the course is to give nuclear engineering students a background in materials so they understand the limitations put on reactor operations and reactor design by materials performance. In the first part of the course, we review basic concepts of physical metallurgy, to develop a mechanistic and microstructurally based view of material properties. In the second part of the course, we present the methods to calculate displacement damage to the material produced by exposure to neutron irradiation. The microstructural evolution that results from the reactor exposure (including radiation damage and defect cluster evolution, and changes) is described. The aim is to create a linkage between these changes at the atomistic level and the changes in macroscopic behavior of the material. Special attention is given to property changes that affect fuel performance and operational safety. Both mathematical methods and experimental techniques are emphasized so that theoretical modeling is instructed by experimental data. Students use the TRIM and SPECTER codes to quantitatively evaluate neutron damage, as well as learn simple analytical models that describe microstructural evolution and property changes under irradiation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 410 Phase Relations in Materials Systems (3) Phase rule; construction and interpretations of equilibrium diagrams; importance of nonequilibrium in materials.

MATSE 410 Phase Relations in Materials Systems (3)

This course integrates three core components of materials science and engineering: thermodynamics, kinetics, and interface crystallography in understanding processing and development of inorganic materials. It is the key course bridging the fundamentals to practical materials processing. Phase equilibria, phase diagrams, phase transformations and heat treatments are addressed in great details through nucleation, transformation kinetics, crystal interface and diffusion. The complexity of materials is discussed in hierarchy from pure elements, binaries, ternaries to multicomponents.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: MATSE 201, MATSE 401
Concurrent: MATSE 201 MATSE 400 MATSE 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 411 Processing of Ceramics (3) Principles of ceramic processing, including powder preparation and characterization, forming operations, and the basic phenomena underlying these operations.

MATSE 411 Processing of Ceramics (3)

This course covers the scientific and engineering principles of manufacturing of ceramic products. The course covers powder synthesis and characterization; surface and colloid chemistry; fabrication; and densification by sintering. There is an emphasis on the physical chemistry of particulate systems as relates to the various stages processing. The course is offered every fall semester and is required for BS graduates of the Ceramic Science and Engineering option in Materials Science and Engineering.

The course objectives are for the student to (1) become knowledgeable of all steps involved in ceramic manufacture from powder synthesis through final densification by sintering, (2) understand the rationale and compromises for selecting a given processing route, (3) understand and be able to apply the parametric relations for manufacture of a ceramic with a specified microstructure, and (4) understand the physical chemistry fundamentals responsible for the unique properties of fine powders.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATSE 400, MATSE 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 412 Thermal Properties of Materials (3) Generation of high temperatures, measurement of temperature, heat transfer and furnace design, thermal stability of ceramic materials, applied thermodynamics.

MATSE 412 Thermal Properties of Materials (3)

The fundamentals of achieving, measuring, and controlling high temperature for materials processing are addressed. The crystal physics underlying heat capacity, internal energy, phonon and photon conduction, and thermal expansion is used to rationalize the behavior of a wide variety of ceramic and metallic materials in severe thermal environments. Micro- and macroscopic thermal transport, thermal shock and fatigue behavior, and thermochemical durability are addressed insofar as their impact on the design of, and with, high performance materials in thermostructural applications.

Case studies on materials selection and design using the fundamentals of inorganic crystal chemistry, physics, thermodynamics, kinetics, elastic, and mechanical properties are widely employed. Students interested in disciplines such as metallurgy, ceramic science, electronic and photonic materials, mechanical engineering, aerospace engineering, industrial engineering, engineering science, and chemical engineering will benefit significantly from this course.

The course is offered annually, in the spring semester, in the Department of Materials Science and Engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATSE 259 orMATSE 201
Concurrent: MATSE 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 413 Solid-State Materials (3) Structures of metallic, ionic, and covalent solids, amorphous materials, and surfaces; electronic structure; electronic properties of solids and their manipulation.

Solid-State Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent:MATSE 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 415 Introduction to Glass Science (3) Composition, melting, fabrication, properties, and uses of glass; combinations of glass with metals and other materials.

MATSE 415 Introduction to Glass Science (3)

This course aims to explain the unique characteristics of the glassy state, and to describe their role in the processing, application, and engineering performance of amorphous materials and glass products. The course teaches fundamental concepts of amorphous structure, and then utilizes them to establish structure-property relations in various glass systems. The viscosity, thermal expansion, chemical durability, strength behavior, and optical properties of silicate-based glasses are emphasized, although the important properties of phosphate, halide, and chalcogenide glasses are not overlooked. Also included are phenomenological descriptions of glass formation, liquid-liquid immiscibility, viscous flow, structural relaxation, stress relaxation, and crystallization in glass. Various methods for the synthesis of glass are reviewed (melting, CVD, and sol/gel), along with important manufacturing processes for commercial glass products. Throughout the course, the applications of glass and glass components in electronics, photonics, biomedicine, transportation, and energy are described to rationalize the use of glass (i.e., the materials selection), the specific glass composition, and the associated processing method.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MATSE 400, MATSE 401, MATSE 402, MATSE 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 414 Mechanical Properties of Ceramics (3) This course will give students a fundamental understanding and appreciation for the relationship between the structure and mechanical behavior of ceramic materials.

MATSE 414 Mechanical Properties of Ceramics (3)

The course teaches the students the fundamental relationships between the structure and mechanical behavior of ceramic and glassy materials. The critical concept is that the mechanical properties of ceramics can be controlled by careful design of the structure of the material, and this idea is the basic foundation of the course. The structural effects that can influence mechanical behavior can range in scale from the sub-atomic level, through the nano- and microstructural levels to the macroscopic. For example, the students learn that properties can be controlled by changing grain size and shape, the addition of other phases to produce composites, etc. The course incorporates the most recent ideas in materials engineering as examples of this design philosophy. In order to accomplish the above goals, a comprehensive understanding of the mechanics concepts needed for the processing, utilization and design of ceramics must be developed. The students must understand the design process for selecting materials for engineering applications. Within this design process, the key mechanical properties of ceramics and the techniques for their measurement must be appreciated. Once the critical properties are identified, the combination of parameters that describe the performance within engineering applications must be grasped. Ceramics can exhibit a wide range of deformation types: elastic, plastic, viscous, etc., thus, the mechanics associated with all these processes must be understood. Ceramic materials usually exhibit brittle failure, so it is particularly critical to understand the techniques that are used to improve fracture resistance and the statistical description of strength behavior. The overall goal is to provide the students with the skills that are needed by material engineers to design and utilize ceramics with high mechanical reliability.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: E MCH 210, MATH 220, MATSE 201, MATSE 400, MATSE 430
Concurrent: MATSE 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 417 (E SC 417) Electrical and Magnetic Properties (3) Electrical conductivity, dielectric properties, piezoelectric and ferroelectric phenomena; magnetic properties of ceramics.

MATSE (E SC) 417 Electrical and Magnetic Properties (3)

E SC 417 is designed to provide students with a fundamental understanding of the different responses a material can have to applied electrical or magnetic fields. Important properties are introduced and correlated with knowledge of material chemistry, crystal structure, and microstructure to provide an understanding of the mechanisms responsible for controlling the observed properties, as well as the ways in which properties can be engineered. Electronic and magnetic properties encompass dielectric, ferroelectric, conductor, superconductor, and ferromagnetic materials. Material properties and structures are related to sensors, energy storage and conversion devices, biomedical devices and electronic components in telecommunications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATSE 400, MATSE 402, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 420 Corrosion and Degradation of Engineering Materials (3) General principles and forms of corrosion/degradation, preventative measures and designs which avoid corrosion and environmental degradation, failure analysis.

Corrosion and Degradation of Engineering Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 421 Corrosion Engineering (3) Industrial forms of corrosion and preventive methods, and their description in terms of basic thermodynamic and kinetic considerations.

MATSE 421 Corrosion Engineering (3)

This variable 2 or 3-credit course is an introduction to the corrosion field and more broadly to the principles of electrochemistry and to the electrode reactions that occur during the undesirable corrosive degradation of metal, and also in various important commercial processes such as electroplating, electroless plating, battery and fuel cell operation, aqueous extraction metallurgy and corrosion prevention techniques. The objectives of this course are to introduce the student to the (1) principles of electrode reactions, (2) nature of commercial corrosion resistant alloys and their compositions, (3) various forms of corrosion and preventative measures, and (4) design of electrochemical laboratory and field procedures for detecting corrosion processes and determining their rates. Thermodynamic and rate data are used to make engineering decisions relative to the occurrence of corrosion, to the effectiveness of the various preventative measures, and to electrochemical design. Corrosion processes and electrode reactions more generally are primarily concerned with the surface properties of materials, but the bulk properties, such as microstructure, grain size, hardness, and composition, are discussed in terms of their impact on materials degradation. In-class closed-book exams and problem sets, and homework that allow student collaboration, are used for evaluation. Computer access to the course is available and includes all lecture material, old exams with answers, home works, and syllabus on the Web. This course is offered every year with typical class size of less than 20 students. The 2-credit version is required in the Metals Science and Engineering curriculum. The 3-credit version includes additional lecture material and some laboratory demonstrations; evaluation included a lab report.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 422 Thermochemical Processing (3) Physico-chemical aspects of high temperature extraction and processing of metals and alloys. Design and evaluation of processes and process options.

MATSE 422 Thermochemical Processing (3)

An important goal of materials engineering is to efficiently produce metals and alloys of specific composition. Familiar examples include the tonnage production of metals and alloys, the production of ultra high purity electronic materials such as silicon and germanium, and the deposition of thin films for various applications. In this course the students get an understanding of the physical and chemical principles underlying these operations and how these principles are applied in industrial practice. The students get ample opportunities to apply thermodynamics, kinetics, and transport phenomena to understand why the processes currently in use work. Furthermore, they learn how to marshal information for the design of projected new processes and process options.

Broadly stated, the topics include solid-state reactions, production of liquid metals, and processing, all carried out at high temperatures. The topics are covered in a set of lecture notes available from the instructor. The lectures are accompanied by about fifteen problems sets in the form of home work and class work so that the students experience first-hand how the principles of thermodynamics and rate processes are applied in solving important problems in thermochemical processing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MATSE 401, MATSE 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 424 Materials Selection and Design (1) Introduction to the selection and design of materials for structural applications.

Materials Selection and Design (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MATSE 201 orMATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 425 Processing of Metals (3) Modern methods of shaping metals in liquid and solid states: casting, joining, powder and deformation processing. Design of new technology.

MATSE 425 Processing of Metals (3)

This course focuses on how metals and alloys may be processed into different shapes and how those processing procedures affect the metallurgical microstructure and properties. Consideration of shape, the alloy composition, and property goals are all factors in selecting an optimum processing "window". Such carefully selected processing conditions not only produce the desired component shape in a cost-efficient manner but also ensure acceptable properties and safe in-service performance. This course surveys the following metal processing procedures: (a) solidification processing, (b) heat treatment processing, (c) welding, (d) deformation processing, and (e) powder metallurgy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: MATSE 402, MATSE 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 426 (MN PR 426) Aqueous Processing (3) A study of the chemical and engineering principles pertinent to metal processing in aqueous systems: hydrometallurgical extraction, plating, materials preparation.

MATSE (MN PR) 426 Aqueous Processing (3)

This 3-credit course deals with the chemical and engineering principles underlying the aqueous processing of metals: metal extraction from primary and secondary sources, electroplating, and metal finishing, powder synthesis, energy storage and conversion, and treatment of recycling of metal-containing toxic wastes.

1. Physico-Chemical Principles - Thermodynamic, chemical kinetic and transport factors which control hydrochemical processes (leaching; precipitation; adsorption; solvent extraction; ion exchange; electrowinning, electrorefining and electroplating; membrane processes; energy storage and conversion); graphical representation of homogeneous and solid/solution equilibria; chemical reagents.

2. Engineering Principles - Reactor design and staged operations; ideal batch, continuous stirred-tank and plug-flow reactors; fluidized bed reactors; electrochemical reactors; multistage separation processes (solid-liquid, liquid-liquid, and gas-liquid systems).

3. Process Synthesis - Design of metal separation (extraction, refining, waste treatment) materials synthesis, metal finishing, and energy storage/conversion processes and system-integration of unit operations, industrial practice. Emphasis on closing circuits to minimize or eliminate waste effluents.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301 orMATSE 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 427 Ferrous Physical Metallurgy (3) Phase transformations in, and mechanical properties of ferrous systems; heat treatment principles.

MATSE 427 Ferrous Physical Metallurgy Laboratory (3)

This course presents the basic science and engineering of steel to senior-level undergraduates and to first-year postgraduates.

The course begins with a fundamental description of the phases and structure that are found in ferrous systems, and "critical temperative" and phase diagrams are covered in detail. The decomposition of austenite to various phases and microconstraints are dealt with, both from an historical standpoint and using current thought.

The class then focuses on "transformation kinetics" which is of critical importance, not only in ferrous metallurgy, but also in all materials disciplines. Indeed, the entire course may be divided to one particular category of materials--steels-- but the science is common to a plethora of other inorganic materials.

The heat treatment of steels is dealt with in some depth. Such treatments as normalizing, annealing and homogenization are described interim of changes to both structures and properties. The physical metallurgy of welding is also considered, with particular reference to the phase transformation, both liquid-solid, and solid-solid that occur in the weld and in the heat affected zone.

The lecture course finishes with a description of various "specialty shells" including dual-phase steels, austenitic and ferritic standard steels, and interstitial-free steels.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: MATSE 410, MATSE 424

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 430 Materials Characterization (3) Elements of crystallography and the characterization of crystalline and non-crystalline materials using x-ray diffraction, electron microscopic, and other instrumental techniques.

Materials Characterization (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 428 (E SC 455) Electrochemical Methods in Corrosion Science and Engineering (3) The objective of the course is to give students hands-on experience in assessing environmental degradation of engineering materials.

Electrochemical Methods in Corrosion Science and Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: E SC 414M orMATSE 259;MATSE 420 orMATSE 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 435 Optical Properties of Materials (3) Electromagnetic spectrum, interaction of light with materials, color, thin film optical coatings, electro-, integrated and nonlinear optics.

Optical Properties of Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: MATSE 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 440 (E MCH 440) Nondestructive Evaluation of Flaws (3) Methods and limitations of nondestructive evaluation of mechanical flaws; optical, acoustical, electromagnetic, x-ray, radiography, thermography, and dye techniques.

Nondestructive Evaluation of Flaws (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213 orE MCH 210H orE MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 436 Mechanical Properties of Materials (3) Fundamental relationships between structure and mechanical behavior of materials.

MATSE 436 Mechanical Properties of Materials (3)

The topics covered in this course are essential to students in the Materials Science and Engineering options, and these are also required for materials engineering courses nationally accredited by the professional societies. The course is taught at the 400 level because it requires the fundamental courses in mathematics and physics to be completed. The course also requires completion of an introductory course in materials science. This new course typically fits into the junior or senior year, when students in the major are understanding how the properties of materials can be changed by controlling the structure of materials. The course has also been designed such that students in other engineering majors can take this course as a technical elective. Some of the information in this course is used in laboratory courses for the major. The course is not required as a prerequisite for other courses.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: MATH 231, MATH 250 orMATH 251, PHYS 214, MATSE 201 orMATSE 259 orE SC 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 441 Polymeric Materials I (3) Manufacture of industrially significant polymers together with discussion of their major chemical, physical, and mechanical properties.

MATSE 441 Polymeric Materials I (3)

This 3-credit course focuses on about 40 commercially most important polymers together with the discussion of synthesis routes, industrial production processes, processing methods, physical and chemical properties, and applications.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210, MATH 231, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 443 Introduction to the Materials Science of Polymers (3) Introduction to the nature and structure of high polymers. Characteristics of polymers and polymer systems.

MATSE 443 Introduction to the Materials Science of Polymers (3)

This course is an introduction to the field of polymer science and engineering, providing an overview of the synthesis and structure of these materials; the crystalline and glassy states; solution properties and phase behavior; and mechanical and rheological properties.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 210, MATH 231, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 442 Polymer Synthesis (3) Preparation of commercially useful polymers and their molecular structure characterization.

MATSE 442 Polymer Synthesis (3)

This 3-credit course is concerned with the physical and organic chemistry of the reactions by which polymer molecules are synthesized. The discussion focuses on three types of polymerization reactions--step, chain, and ring--opening with their kinetic and thermodynamic features, their scope and limitations for the synthesis of different types of polymer structures, and the process conditions which can be used to carry them out in small- and large-scale productions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 443H Introduction to the Materials Science of Polymers (3) Introduction to the nature and structure of high polymers. Characteristics of polymers and polymer systems.

Introduction to the Materials Science of Polymers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: CHEM 210, MATH 231, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 444 Solid State Properties of Polymeric Materials (3) Structure/property relationships in the bulk solid state of polymers. Characterization of bulk properties and structure.

MATSE 444 Solid State Properties of Polymeric Materials (3)

Prerequisite is PLMSE 406. Understanding relationships between structure and properties in the bulk solid state of polymers is important in designing and utilizing polymers in many applications. In trying to understand 'structure' we also need to define what is meant by and important in 'structure' and review tools used to measure desired structural features. Two-thirds of the course addresses accepted general features of the polymeric solid state, with particular emphasis on characterization of semicrystalline polymers since semicrystalline polymers represent approximately 75% of industrially important polymers. In this portion of the course, we will be particularly concerned with defining and measuring percentage crystallinity and with defining and measuring orientation in polymers. Both of these parameters play important roles in establishing physical characteristics of polymers, in particular in mechanical properties. Mechanical properties continues to be an important feature for polymers since polymers posses the widest available range of mechanical properties of any material. The remainder of the course covers new and/or continuing topics selected from composition-branching distribution; barrier properties of thin films and recycle-degradation of polymers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: MATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 445 Thermodynamics, Microstructure, and Characterization of Polymers (3) The properties of individual polymer chains. Theoretical and experimental techniques pertaining to the characterization of polymeric microstructure.

Thermodynamics, Microstructure, and Characterization of Polymers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: MATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 446 Mechanical and Electrical Properties of Polymers and Composities (3) The mechanical (viscoelastic) and electric properties of polymers and poly-based composites.

MATSE 446 Mechanical and Electrical Properties of Polymers and Composites (3)

This course is an introduction to the mechanical and electrical properties of polymers and polymer-based composites: focusing on the importance of molecular structure, rubber elasticity, mechanisms of yielding, viscoelasticity and manifestation thereof, static and ac dielectric properties, and conduction.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: MATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 447 Rheology and Processing of Polymers (3) This course deals with the fluid mechanics, rheology, and processing of polymeric materials.

Rheology and Processing of Polymers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: MATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 448 (CH E 442) Polymer Processing Technology (3) Basic principles of polymer melt processing are reviewed and subsequently applied to the most important industrial processing operations.

MATSE 448 (CH E 442) Polymer Processing Technology (3)

MATSE 448 involves both lectures and laboratory experiments illustrating the interrelations between structure, processing conditions, and physical properties of industrial polymer products. Students apply engineering fundamentals and principles of polymer melt rheology to analyze industrial processing operations. Unlike typical polymer processing courses offered at most U.S. universities, MATSE 448 covers detailed analyses of individual processing operations, rather than dwelling on underlying polymer science fundamentals that are covered elsewhere in our curriculum. Students learn to optimize processing variables, given a particular set of materials and conditions, establishing how processing conditions impact the physical properties of finished polymer products. We explore the physics governing processing operations including extrusion, mixing, calendering, blow molding, thermoforming fiber spinning compression molding, injection molding, and nanolithography.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MATSE 447 orCH E 302A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 450 (E SC 450) Synthesis and Processing of Electronic and Photonic Materials (3) The materials science of applying thin film coatings, etching, and bulk crystal growth; includes materials transport, accumulation, epitaxy, and defects.

Synthesis and Processing of Electronic and Photonic Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATSE 201 orE SC 414H sixth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 455 Properties and Characterization of Electronic and Photonic Materials (3) Materials characterization in general; electrical properties of crystals, contacts, films; optical properties of single phase materials, waveguide, and multilayer stacks.

Properties and Characterization of Electronic and Photonic Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATSE 201 orE SC 414M, E SC 314

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 460 Introductory Laboratory in Materials (1) An introduction to comparative physical properties and characteristics of various materials including mechanical, electrical thermal, and structure/ morphology.

MATSE 460 Introductory Laboratory in Materials (1)

This is a lab course whose goal is to provide an integrated approach to materials science and engineering. Any individual lab will consist of a number of elements, initially students will be provided with a presentation summary of the proposed lab. This could be film, video, web delivery, hard copy or live presentation. Presentation time will be limited but should be reviewed before students attempt the hands-on lab. All labs will examine a variety of different materials including metal, ceramics and polymers. Labs will be integrative in the sense that they will include use of spreadsheets, data plotting, and presentation of results as written reports and/or as a "PowerPoint" presentation. The labs selected have been chosen specifically because they cut across all current basic materials disciplines. These labs are intended to provide students with a broad appreciation of the range and contrast of material structures and properties, in order that students more fully appreciate the breadth of material science and engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent:MATSE 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 461 Introduction to Electronic and Photonic Materials Laboratory (1) An introductory lab course to demonstrate important physical, thermal, and electronic properties of materials, as well as, methods of materials characterization.

Introduction to Electronic and Photonic Materials Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, PHYS 214
Concurrent: MATSE 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 462 General Properties Laboratory in Materials (1) An introduction to comparative physical properties of various materials including mechanical, thermal electrical properties and the measurement of said properties.

MATSE 462 General Properties Laboratory in Materials (1)

This is a lab course whose goal is to provide an integrated approach to physical property measurements in materials science and engineering. Any individual lab will consist of a number of elements, initially students will be provided with a presentation summary of the proposed lab. This could be film, video, web delivery, hard copy or live presentation. Presentation time will be limited but should be reviewed before students attempt the hands-on lab. All labs will examine a variety of different materials including metal, ceramics, polymers and composites. Labs will be integrative in the sense that they will include use of spreadsheets, data plotting, and presentation of results as written reports and/or as a "PowerPoint" presentation. The labs selected have been chosen specifically because they cut across all current basic materials disciplines. These labs are intended to provide students with a broad appreciation of the range and contrast of material properties and the measurement of such properties, in order that students more fully appreciate the breadth of material science and engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: MATSE 460

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 463 Characterization and Processing of Electronic and Photonic Materials Laboratory (1) Provides experience with key processing methods for EPM materials and advanced characterization methods for EPM materials and simple device structures.

Characterization and Processing of Electronic and Photonic Materials Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MATSE 400, MATSE 430, MATSE 450, MATSE 455, MATSE 460
Concurrent: MATSE 450 MATSE 455

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 468 Ceramics Laboratory III (1) Cermaic processing and powder characteristics.

MATSE 468 Ceramics Laboratory III (1)

This course will demonstrate to students the experimental techniques by which the key powder characteristics and powder processes are determined, how to analyze the data from the measurements, and to reveal the interaction between properties, processing and structure. The course concentrates on the importance of powder characterization, forming techniques, sintering and microstructure characterization in the processing of ceramics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MATSE 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 471 Metallurgy Laboratory I (1) A laboratory integrating experimental aspects of material contained in MATSE 402, 413, and 410, e.g. phase diagram determination, solidification micro- structures, etc.

MATSE 471 Metallurgy Laboratory I (1)

This course is largely an introduction to basic laboratory characterization techniques (optical microscopy, scanning electron microscopy, image analysis, hardness testing, thermal analysis). However, it also applies those characterization techniques in the context of Design of Experiments. This laboratory class also contains significant drills in technical writing.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: MATSE 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 472 Metallurgy Laboratory II (1) Application of principles of mechanical metallurgy, pyroprocessing, corrosion and metal processing.

MATSE 472 Metallurgy Laboratory II (1)

This course provides a range on laboratory experiences ranging from metals processing to alloy properties. A primary course objective is to demonstrate important relationships between the processing, microstructure, and properties of metals. The individual laboratory practices include the following: powder metallurgy, metal casting, mechanical property testing and analysis, welding and weldment characterization, non-destructive testing, failure analysis and fractography, computational processing design, corrosion, and aqueous processing. The course requires hands-on involvement by the students in the design and planning of experiments as well as data acquisition and analysis of results. Students work in groups, and written reports are the primary basis for grading.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: MATSE 410, MATSE 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 474 Polymeric Materials Laboratory--Characterization (1) Principles and practices involved in determination of properties, structure and morphology, employing thermal, mechanical, spectroscopic, viscometric and computer techniques.

MATSE 474 Polymeric Materials Laboratory--Characterization (1)

Prerequisite for the course is MATSE 443. This course introduces the student to a series of simple physical and physical-chemistry tests on polymers that are the basis for a wide range of more complex tests routinely carried out in industry. In addition to the tests listed below students are also instructed in preparation of lab reports and in some of the typical problems associated with presenting data. A final report utilizes data collected by a number of different student teams throughout the course of the lab. Finally, students are demonstrated a number of state-of-the-art characterization tools used specifically to determine properties of interest in the polymer area. Grading is based on written lab reports (10% for each of 8 separate reports and 20%) for a final comprehensive report using data from other groups as well as the student's own group.

Course content

Injection Molding - students work with a simple injection molder to find optimum molding conditions to prepare sample bars for mechanical testing.

Static Mechanical Testing - an Instron is used to determine modulus, yield, and elongation to break for samples prepared above and for other materials.

Izod Impact Test - injection molded samples are used to measure notched impact tests on what are typically tough materials.

Dilute Solution Viscometer - standard solution viscosity tests are used to measure intrinsic viscosity of polymer solutions and (viscosity average) molecular weight.

Melt Viscometer - melt index and 'die swell' are easily measured with a simple ram and die 'melt indexer' as a measure of processibility.

Optical Microscopy - some semi-crystallizable polymers produce large enough spherulities that rate of crystallization can be followed optically.

Elasticity - a simple experiment measuring the retractive force of an elastic band as a function of temperature shows the entropic origin of elasticity.

Copolymerization Computer

A computer program (VI) allows students to try a wide variety of 'what if' experiments to measure the effects of a range of copolymerization parameters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: MATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 473 Polymeric Materials Laboratory--Synthesis (1) Principles and practices of polymerization, including condensation, free radical (bulk, solution, suspension, emulsion), ionic, and Zeigler-Natta procedures.

MATSE 473 Polymeric Materials Laboratory--Synthesis (1)

This laboratory course provides students exposure to a variety of synthetic techniques basic to Polymer Science. From the polymerization of styrene to the preparation of urethane foams, students will see the role varied synthetic methods and chemistries play in determining the final form and properties of a given polymer. Students also learn the polymer structure characterization by examining the produced polymers with proper tools and instruments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: MATSE 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 475 (E SC 475) Particulate Materials Processing (3) Fundamentals of processing particulate materials including production, characterization, handling, compaction, and sintering of metal, carbide, intermetallic, and composite powders.

Particulate Materials Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 315, E SC 414 orMATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 484W (IL) International Internship in Materials: Research Definition and Methodology (3) A course focused on international research, specific design and methodology, facilitated through the International Internship in Materials and Program.

MATSE 484W International Internship in Materials: Research Definition and Methodology (3) (IL)

The objective of this course is to enrich our students' preparation for careers in materials science and engineering in a global environment. The course will emphasize the development of international communication skills as well as an appreciation of cultural and technical issues associated with conducting research in overseas laboratories. Students will select a research topic in collaboration with a Materials Science and Engineering faculty mentor and a mentor from an overseas laboratory or University. Students will perform and document a literature review encompassing the technical, economic, manufacturability, sustainability, environmental, safety/health, social and political issues of relevance to the topic, with emphasis on the cultural, social, and scientific differences and similarities in performing the research in an international venue. Students will articulate and document a research hypothesis, experimental approach and methodology necessary to comprehensively evaluate the topic, and commence laboratory research under the supervision of the mentor at the host institution.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: Sixth-semester standing in Materials Science and Engineering;MATSE 201, MATSE 460, MATSE 492W satisfactory completion of cultural class from Office of Education Abroad

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 483 (E SC 483) Simulation and Design of Nanostructures (3) Introduction to computer simulation techniques and their applications at the physical/life sciences interface.

MATSE (E SC) 483 Simulation and Design of Nanostructures (3)

Students will learn the simulation techniques and the design rules of nanostructures. Basic concepts of computer modeling will be introduced using quantum and classical approaches. Fundamental physical phenomena encountered in the molecular fields of computational physics, chemistry, and biology will be studied. Applications are drawn from a broad range of fields including soft and condensed matter to build an understanding of nanostructures.

The course will assume knowledge and skill developed in the prerequisite courses of PHYS 214 and MATH 230. Students are expected to combine knowledge from other courses with information presented here to develop sophisticated interpretations and understanding of physical and chemical principles of nanostructures and their design rules.

Evaluation methods to be used in this course will be two in-class examinations and one final period examination. The course contains a computer code generation and implementation component. Students will use commercial or educational computer codes (e.g. Matlab, Mathematica, AMBER, CHARMM, VASP, etc.) which are available at our high performance computing clusters (http://gears.aset.psu.edu/hpc/)/ Students will use the computing clusters to perform simulations which are accessible from any classroom or laboratory at Penn State.

The principal objectives of the course is to learn the fundamental physics of nanostructures and to design them with computer simulations. This approach starts from classical molecular dynamics that apply on the large scale biological and synthetic assemblies and encompasses quantum mechanics for the molecular and atomic sizes. This course will give a broad scientific picture of simulation techniques in the area of nano-science and technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: PHYS 214 orE SC 312, MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 485W (IL) International Internship in Materials: Experimentation and Documentation (3) A course focused on international research, specifically experimentation and documentation, facilitated through the International Internship in Materials Program.

International Internship in Materials: Experimentation and Documentation (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: Seventh-semester standing in Materials Science and Engineering;MATSE 484W ; satisfactory completion of cultural class from Office of Education Abroad

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 492W Materials Engineering Methodology and Design (3) Designed to familiarize students with the literature and technology developments in the use of, and design with, materials in industrial applications.

MATSE 492W Materials Engineering Methodology and Design (3)

The objective of this course is to teach students the skills to solve realistic problems related to the use of materials in industrial practice. This will be accomplished by considering alternatives for materials design or selection and proposing the most effective scientific or engineering solutions. The methodology will take into account other forces acting on the design process, such as economic, environmental, sustainability, manufacturability, ethical, health and safety, social and political concerns. Students will develop these design skills by working in teams on projects defined by industry, and will learn to communicate their solutions in verbal and written form. Students will also learn the key features needed in developing a team approach to solving problems.

Each team will visit the company at the beginning of the semester to become familiar with its problem. Tours of processing and other facilities associated with the problem will be conducted. Data and appropriate information will be gathered during the visit and, after returning to campus, via telecom and through reviews of the available literature on an as needed basis. During the first half of the semester, students will focus on understanding the nature of the problem, the current state of the art, and nomenclature and the materials engineering concepts appropriate to solving the problem. Each team will meet weekly to organize the investigation, share resources, and discuss results; a faculty mentor will help guide the team's deliberations.

Weekly in-class activities consist of team-building exercises, and unscheduled individual oral presentations in which students present the progress of their work. This progress is also presented in written form in several short papers. The instructor presents "mini-lectures" on materials engineering concepts, nomenclature, equipment, etc., as needed. During a second industry visit at mid-semester, the teams make formal oral presentations to the industrial representatives on their progress. An extensive written report is also required. Interspersed through this process, class discussions will be held on 1) the use of the library system to find technical information, 2) the role of intellectual property in industry, and 3) factors that influence the design process.

During the second half of the semester, the emphasis is on the development of proposed solutions to the problems. During a final industry visit at the end of the semester, each team will make a formal oral presentation of their proposed solution to the problem. Each student also presents a final written proposal to the instructor.

Evaluation is based on written reports, performance in presentations, and instructors's assessment of the student's participation in design team activities. This course will be offered once per year, in the spring semester. At the conclusion of the course, each student will select a design or independent research topic for their capstone senior-year design project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: sixth semester standing in Materials Science and Engineering

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 494W Research and Design Senior Project (1-3) Continuation of a research problem in materials culminating in a bound thesis describing the work.

MATSE 494W Research and Design Senior Project (2)

This course continues the senior thesis research topic addressed by the student in MATSE 493W. This is a capstone research/design project which integrates: a) background literature search with articulation of a research hypothesis, b) design and implementation of an experimental plan to test the hypothesis, and c) conclusions regarding the validity of the hypothesis based on the experimental data obtained in the course of the research.

The main characteristic of this course is the performance of the research plan articulated in MATSE 493W, followed by interpretation of the data in the context of the original hypothesis(es). Laboratory research is generally performed in collaboration with faculty and graduate research assistants, using equipment and facilities in a wide range of laboratories throughout campus. Occasionally, the nature of the research may require the student to collaborate with researchers outside of Penn State, perhaps even spending some time in residence at other facilities.

The course culminates in the preparation of a bound thesis detailing the relevance and findings of the research. Assessment of the student's progress is via grading of all components of the thesis (literature review/background, statement of the problem, design of the experimental plan, results and discussion, conclusions, recommendations for future work, and references/appendices), as well as the diligence of the student in performing the experimental research in a professional and timely fashion. The course is offered each semester to allow for differing schedules for students following the conventional MATSE curriculum versus those who have elected to participate in the Cooperative Education program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 494M Research and Design Senior Project (1-3) Continuation of a research problem in materials culminating in a bound thesis describing the work.

Research and Design Senior Project (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 497A Physical Metallurgy of Structural Metals (3) Understanding the physical metallurgy principles of steel, titanium, and aluminum, and using this knowledge for alloy selection and design.

Physical Metallurgy of Structural Metals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Materials Science and Engineering (MATSE)

MATSE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 001 Developmental Mathematics (6) Arithmetic operations, ratios, proportions, percents; measurement; polynomial and rational expressions; exponents, radicals; equations, inequalities, systems of equations; graphing; applications. Students who have passed MATH 003 may not schedule this course for credit. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

Developmental Mathematics (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 002 Elementary Geometry With Problem Solving (4) Geometric congruence, similarity, area, surface area, volume, introductory trigonometry; emphasis on logical reasoning skills and the solution of applied problems. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

Elementary Geometry With Problem Solving (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: MATH 001 2 units of high school algebra or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 003 Basic Skills (3) Natural numbers; integers; rational numbers; decimals; ratio, proportion; percent; graphs; applications. Students who have passed MATH 001 may not schedule this course for credit. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

Basic Skills (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 004 Intermediate Algebra (3) Algebraic expressions; linear, absolute value equations and inequalities; lines; systems of linear equations; integral exponents; polynomials; factoring. This course may not be used to satisfy the basic minimum requirements for graduation in any baccalaureate degree program.

Intermediate Algebra (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: basic arithmetic skills or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 017 (GQ) Finite Mathematics (3) Introduction to logic, sets, probability.

Finite Mathematics (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1988
Prerequisite: 2 units of high school mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 021 (GQ) College Algebra I (3) Quadratic equations; equations in quadratic form; word problems; graphing; algebraic fractions; negative and rational exponents; radicals.

College Algebra I (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 004 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 018 (GQ) Elementary Linear Algebra (3) Linear functions; systems of equations; matrices; linear programming.

Elementary Linear Algebra (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1999
Prerequisite: 2 units of high school mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 022 (GQ) College Algebra II and Analytic Geometry (3) Relations, functions, graphs; polynomial, rational functions, graphs; word problems; nonlinear inequalities; inverse functions; exponential, logarithmic functions; conic sections; simultaneous equations.

College Algebra II and Analytic Geometry (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 026 (GQ) Plane Trigonometry (3) Trigonometric functions; solutions of triangles; trigonometric equations; identities.

Plane Trigonometry (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination; l unit of geometry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 030 (GQ) Problem Solving (3) Concepts in problem solving; reducing new problems to old ones; techniques for attacking problems; building mathematical models.

Problem Solving (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 034 (GQ) The Mathematics of Money (3) Simple interest, simple discount, compound interest, annuities, investments, retirement plans, taxes, credit cards, and mortgages.

MATH 034 The Mathematics of Money (3)
(GQ)

This course is intended to be one of several offered by the mathematics department with the goal of helping students from non-technical majors partially satisfy their general education quantification. It is designed to provide a sound introduction to the uses of college level mathematics in personal finance applications. Topics include: simple interest, simple discount, compound interest, annuities, investments, retirement plans, taxes, credit cards, and mortgages.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: one unit of algebra orMATH 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 035 (GQ) General View of Mathematics (3) Survey of mathematical thought in logic, geometry, combinatorics, and chance.

General View of Mathematics (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 036 (GQ) Insights Into Mathematics (3) Examples of mathematical applications in many areas including voting theory, fair division, apportionment, and Euler and Hamilton circuits.

MATH 036 Insights Into Mathematics (3)
(GQ)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is one of several offered by the Mathematics Department with the goal of helping students from non-technical majors partially satisfy their General Education Quantification (GQ) requirement. In this course, we hope to demonstrate to the students that mathematics is very useful in contemporary problems in our society - from voting theory issues to apportionment of the seats in the U.S. House of Representatives to optimizing the route taken by a delivery person and a variety of other issues. We focus on historical issues related to such contemporary problems and also discuss the merits of various problem--solving techniques throughout the course.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2008
Prerequisite: one unit of algebra orMATH 004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 037 Diverse Cultural Aspects of Mathematics (3) The mathematics of the following civilizations and individuals: Egyptian, Babylonian, Islamic, Hypatia, deBreteuil, German, Agnesi, and Noether.

Diverse Cultural Aspects of Mathematics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 040 (GQ) Algebra, Trigonometry, and Analytic Geometry (5) Concepts of algebra; equations; inequalities; functions; graphs; polynomial and rational functions; exponential and logarithmic functions; trigonometry; analytic geometry; complex numbers.

Algebra, Trigonometry, and Analytic Geometry (5)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 041 (GQ) Trigonometry and Analytic Geometry (3) Straight lines; circles; functions and graphs; graphs of polynomial and rational functions; exponential and logarithmic functions; trigonometry; conic sections.

Trigonometry and Analytic Geometry (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 021 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 082 (GQ) Technical Mathematics II (3) Exponents, radicals, complex numbers, theory of equations, inequalities, half angle and double angle formulas, inverse trigonometric functions, exponential, logarithm, conic sections.

Technical Mathematics II (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1995
Prerequisite: MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 081 (GQ) Technical Mathematics I (3) Algebraic expressions, equations, systems of equations, trigonometric functions, graphs, solution of triangles, vectors.

Technical Mathematics I (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 004 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 083 (GQ) Technical Calculus (4) Limits, derivatives of algebraic functions, implicit differentiation, related rates, applied extrema problems, curve sketching, integration, numerical integration, applications of integration, integration techniques, differential equations.

Technical Calculus (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1995
Prerequisite: MATH 082

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 097C Introduction Algebra Problem Solving (4) Problem solving: Math 021 (3) Math 097C is a college level introduction to algebra combined with individualized review of basic algebra.

Introduction Algebra Problem Solving (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 110 (GQ) Techniques of Calculus I (4) Functions, graphs, derivatives, integrals, techniques of differentiation and integration, exponentials, improper integrals, applications. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.

Techniques of Calculus I (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140 (GQ) Calculus With Analytic Geometry I (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, 140B, and 140H.

Calculus With Analytic Geometry I (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 111 (GQ) Techniques of Calculus II (2) Analytic geometry, partial differentiation, maxima and minima, differential equations.

Techniques of Calculus II (2)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1988
Prerequisite: MATH 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140A (GQ) Calculus, Analytic Geometry, Algebra, and Trigonometry (6) Review of algebra and trigonometry; analytic geometry; functions; limits; derivatives, differentials, applications; integrals, applications. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.

Calculus, Analytic Geometry, Algebra, and Trigonometry (6)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140B (GQ) Calculus and Biology I (4) Functions, limits, analytic geometry; derivatives, differentials, applications from biology; integrals, applications from biology. Students may take only one course for credit from MATH 110, 140, 140A, and 140B.

Calculus and Biology I (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140E (GQ) Calculus with Engineering Applications I (4) Functions; limits; analytic geometry; derivatives; differentials, applications; integrals, applications.

MATH 140E Calculus with Engineering Applications I (4) (GQ)

MATH 140E enriches the regular MATH 140 syllabus by adding weekly applied problems, a small number of laboratory sessions, and a major group project for which both written and oral presentation is required. It is a rigorous calculus course with additional motivation and applications in the engineering sciences. The core material is the same as MATH 140.

MATH 140E provides an alternative to the regular MATH 140 for engineering majors. This course addresses the additional needs of engineering majors with regard to problem formulation and the interpretation of their mathematical solutions.

The prerequisite for the course is MATH 022, 026; or MATH 040, 041; or satisfactory performance in the mathematics proficiency examination. Six sections of this course are offered every Fall semester.

Course evaluation is based on quizzes, weekly applied problems, two midterms, a group project, and a final examination.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance in the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140G (GQ) Calculus with Earth and Mineral Sciences Applications I (4) Functions, limits, analytic geometry; derivatives, differentials, applications from the earth and mineral sciences; integrals, applications from the earth and mineral sciences. Students may only take one course for credit from MATH 110, 140, 140A, 140B, 140E, and 140G.

MATH 140G Calculus with Earth and Mineral Sciences Applications I (4) (GQ)

This course is the first in a sequence of three calculus courses designed for students in the earth and mineral sciences and related fields. Topics include limits of functions, continuity; the definition of the derivative, various rules for computing derivatives (such as the product rule, quotient rule, and chain rule), implicit differentiation, higher-order derivatives, solving related rate problems, and applications of differentiation such as curve sketching, optimization problems, and Newton's method; the definition of the definite integral, computation of areas, the Fundamental Theorem of Calculus, integration by substitution, and various applications of integration such as computation of areas between two curves, volumes of solids, and work. The typical delivery format for the course is four 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140H (GQ) Honors Calculus with Analytic Geometry I (4) Honors course in functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, 140B, and 140H.

MATH 140H Honors Calculus with Analytic Geometry I (4)
(GQ)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is the first in a sequence of three calculus courses designed for students in engineering, science, and related fields. Topics include limits of functions, continuity; the definition of the derivative, various rules for computer derivatives (such as the product rule, quotient rule, and chain rule), implicit differentiation, higher-order derivatives, solving related rate problems, and applications of differentiation such as curve sketching, optimization problems, and Newton's method; the definition of the definite integral, computation of areas, the Fundamental Theorem of Calculus, integration by substitution, and various applications of integration such as computation of areas between two curves, volumes of solids, and work.

The typical delivery format for the course is four 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

In contrast to the non-honors version of this course, the honors version is typically more theoretical and will often include more sophisticated problems. Moreover, certain topics are often discussed in more depth and are sometimes expanded to include applications which are not visited in the non-honors version of the course.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 141 (GQ) Calculus with Analytic Geometry II (4) Derivatives, integrals, applications; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, and 141H.

Calculus with Analytic Geometry II (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 140, MATH 140A, MATH 140B orMATH 140H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 140S (GQ) Calculus With Analytic Geometry I (4) Functions, limits; analytic geometry; derivatives, differentials, applications; integrals, applications. Students may only take one course for credit from MATH 110, 140, 140A, and 140B.

Calculus With Analytic Geometry I (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041 or satisfactory performance on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 141B (GQ) Calculus and Biology II (4) Derivatives, integrals, applications from biology; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141 and 141B.

Calculus and Biology II (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 140B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 141G (GQ) Calculus with Earth and Mineral Sciences Applications II (4) Derivatives, integrals, applications from the earth and mineral sciences; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, 141E, and 141G.

MATH 141G Calculus with Earth and Mineral Sciences Applications II (4) (GQ)

This course is the second in a sequence of three calculus courses designed for students in the earth and mineral sciences and related fields. Topics include inverse functions of exponential, logarithmic, and trigonometric functions; indeterminate forms and L'Hopital's rule; various techniques of integration, including integration by parts, trigonometric integrals, trigonometric substitution, and partial fractions; improper integration; infinite sequences and series, tests for convergence and divergence of infinite series, including the integral test, comparison tests, ratio test, root test; power series, Taylor and Maclaurin Series; parametric equations and polar coordinates.

The typical delivery format of the course is four 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2005
Prerequisite: MATH 140, MATH 140A, MATH 140B, MATH 140E orMATH 140G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 141E (GQ) Calculus with Engineering Applications II (4) Integration, applications; sequences and series; parametric equations, application.

MATH 141E Calculus with Engineering Applications II (4) (GQ)

MATH 141E enriches the regular MATH 141 syllabus by adding weekly applied problems, a small number of laboratory sessions, and a major group project for which both written and oral presentations are required. It is a rigorous calculus course with additional motivation and applications in the engineering sciences, designed to enhance the student's problem solving skills and their understanding of how calculus is applied to real world problems. The core material is the same as MATH 141.

MATH 141E provides an alternative to the regular MATH 141 for engineering majors. This course addresses the additional needs of engineering majors with regard to problem formulation and the interpretation of their mathematical solutions.

The prerequisite of the course is MATH 140, 140A, 140B, or 140E; or the consent of the instructor. Six sections of this course are offered every Spring semester.

Course evaluation is based on quizzes, weekly applied problems, two midterms, a group project, and a final examination.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2001
Prerequisite: MATH 140, MATH 140A, MATH 140B orMATH 140E

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 141H (GQ) Honors Calculus with Analytic Geometry II (4) Honors course in derivatives, integrals, applications; sequences and series; analytic geometry; polar coordinates. Students may take only one course for credit from MATH 141, 141B, and 141H.

MATH 141H Honors Calculus with Analytic Geometry II (4)
(GQ)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is the second in a sequence of three calculus courses designed for students in engineering, science, and related fields. Topics include inverse functions of exponential, logarithmic, and trigonometric functions; indeterminate forms and L'Hopital's rule; various techniques of integration, including integration by parts, trigonometric integrals, trigonometric substitution, and partial fractions; improper integration; infinite sequences and series, tests for convergence and divergence of infinite series, including the integral test, comparison tests, ratio test, root test; power series, Taylor and Maclaurin Series; parametric equations and polar coordinates.

The typical delivery format for the course is four 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

In contrast to the non-honors version of this course, the honors version is typically more theoretical and will often include more sophisticated problems. Moreover, certain topics are often discussed in more depth and are sometimes expanded to include applications which are not visited in the non-honors version of the course.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2006
Prerequisite: MATH 140, MATH 140A, MATH 140B orMATH 140H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 142 Mathematica for Calculus I (1) Problem solving using Mathematica in a UNIX environment.

MATH 142 Mathematica for Calculus I (1)

The purpose of MATH 142 is to teach students how to use Mathematica on their own to explore ideas from the MATH 140 curriculum. The first half of the course will focus on the syntax of Mathematica and the UNIX operating system. The second half will focus on the exploration of ideas from the MATH 140 curriculum. The course includes topics such as the operating system, built in objects, scientific functions, basic plotting, fundamentals of arithmetic, square roots, exponents, symbols, strings, sets, lists, equality, logical operations, decisions, creating functions, precision calculation, advanced plotting, basic programming, recursive programs, procedures and loops, arrays and lists, discrete logistics model, solving equations, substitution rules, rates of change, limits, derivatives, critical points, and applications.

Ideally students will be concurrently enrolled in one of the variations of MATH 140, although this is not necessary. The course is open to all majors. The only prerequisite is an interest in computer algebra systems and calculus. It is hoped that the students will use their knowledge from this course to study any mathematical problems that arise in their course of study. This course is offered every year. The class will meet in a technology classroom with sufficiently many computers running Mathematica to accommodate 20 to 30 students.

Course evaluation is based on class participation and weekly worksheets.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2001
Prerequisite: MATH 022, MATH 026 ; orMATH 040 orMATH 041
Concurrent: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 143 Mathematica II (1) Problem solving using Mathematica in a UNIX environment.

MATH 143 Mathematica for Calculus II (1)

The purpose of MATH 143 is to teach students how to use Mathematica on their own to explore ideas from the MATH 141 curriculum. The course includes topics such as hyperbolic functions, techniques of integration, parametrized curves and surfaces, sequence and series, and Fourier series. Ideally students will be concurrently enrolled in one of the variations of MATH 141, although this is not necessary. The course is open to all majors. The prerequisite for the course is MATH 142 or consent of the instructor. It is hoped that the students will use their knowledge from this course to study any mathematical problems that arise in their course of study. This course is offered every year. The class will meet in a technology classroom with sufficiently many computers running Mathematica to accommodate 20 to 30 students.

Course evaluation is based on class participation and weekly worksheets.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2001
Prerequisite: MATH 140D

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Quantification
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 200 (GQ) Problem Solving in Mathematics (3) Fundamental concepts of arithmetic and geometry, including problem solving, number systems, and elementary number theory. For elementary and special education teacher certification candidates only. A student who has passed EDMTH 444 may not take MATH 200 for credit.

MATH 200 Problem Solving in Mathematics (3) (GQ)

This is a course in mathematics content for prospective elementary school teachers. Students are assumed to have successfully completed two years of high school algebra and one year of high school geometry. Students are expected to have reasonable arithmetic skills. The content and processes of mathematics are presented in this course to develop mathematical knowledge and skills and to develop positive attitudes toward mathematics. Problem solving is incorporated throughout the topics of number systems, number theory, probability, and geometry, giving future elementary school teachers tools to further explore mathematical content required to convey the usefulness, beauty and power of mathematics to their own students.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 210 Calculus with Engineering Technology Applications (3) Topics in calculus with an emphasis on applications in engineering technology.

MATH 210 Calculus with Engineering Technology Applications (3)

MATH 210 is a three-credit course to be taken either after the MATH 081, 082, 083 sequence or after a semester of college-level calculus. The content of the course is geared toward the needs of engineering technology majors and places a large emphasis on technology and applications. The course provides mathematical tools required in the upper division engineering technology courses. A primary goal is to have students use technology to solve more realistic problems than the standard simplistic ones that can be solved by "pencil and paper." Student evaluation will be performed through exams, quizzes, graded assignments, and a cumulative final exam. It is expected that MTHBD 210 will be offered every semester with an enrollment of 44-80 students.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: trigonometry and an introductory course in calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 211 Intermediate Calculus and Differential Equations with Applications (3) Topics in ordinary differential equations, linear algebra, complex numbers, Eigenvalue solutions and Laplace transform methods.

MATH 211 Intermediate Calculus and Differential Equations with Applications (4)

MATH 211 is a three-credit course to be taken after MATH 210. The content of the course is geared toward the needs of engineering technology majors and places a large emphasis on technology and applications. The course provides mathematical tools required in the engineering technology courses at the sixth semester and above. A primary goal is to have students use technology to solve more realistic problems than the standard simplistic ones that can be solved by "pencil and paper." Student evaluation will be performed through exams, quizzes, graded assignments, and a cumulative final exam. It is expected that MATH 211 will be offered every semester with an enrollment of 44-80 students.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 220 (GQ) Matrices (2-3) Systems of linear equations; matrix algebra; eigenvalues and eigenvectors; linear systems of differential equations.

MATH 220 Matrices (2-3)
(GQ)

(BA) This course meets the Bachelor of Arts degree requirements.

Systems of linear equations appear everywhere in mathematics and its applications. MATH 220 will give students the basic tools necessary to analyze and understand such systems.

The initial portion of the course teaches the fundamentals of solving linear systems. This requires the language and notation of matrices and fundamental techniques for working with matrices such as row and column operations, echelon form, and invertibility. The determinant of a matrix is also introduced; it gives a test for invertibility.

In the second part of the course the key ideas of eigenvector and eigenvalue are developed. These allow one to analyze a complicated matrix problem into simpler components and appear in many disguises in physical problems. The course also introduces the concept of a vector space, a crucial element in future linear algebra courses.

This course is completed by a wide variety of students across the university, including students majoring in engineering programs, the sciences, and mathematics. (In case of many of these students, MATH 220 is a required course in their degree program.)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2009
Prerequisite: MATH 110, MATH 140 orMATH 140H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 220H (GQ) Honors Matrices (2-3) Honors course in systems of linear equations; matrix algebra; eigenvalues and eigenvectors; linear systems of differential equations.

MATH 220H Honors Matrices (2)
(GQ)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is intended as an introduction to linear algebra with a focus on solving systems for linear equations. Topics include systems of linear equations, row reduction and echelon forms, linear independence, introduction to linear transformations, matrix operations, inverse matrices, dimension and rank, determinants, eigenvalues, eigenvectors, diagonalization, and orthogonality.

The typical delivery format for the course is two 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

In contrast to the non-honors version of this course, the honors version is typically more theoretical and will often include more sophisticated problems. Moreover, certain topics are often discussed in more depth and are sometimes expanded to include applications which are not visited in the non-honors version of the course.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2009
Prerequisite: MATH 110, MATH 140 orMATH 140H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 230 Calculus and Vector Analysis (4) Three-dimensional analytic geometry; vectors in space; partial differentiation; double and triple integrals; integral vector calculus. Students who have passed either Math 231 or 232 may not schedule Math 230 or 230H for credit.

Calculus and Vector Analysis (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 141 orMATH 141H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 230H Honors Calculus and Vector Analysis (4) Honors course in three-dimensional analytic geometry; vectors in space; partial differentiation; double and triple integrals; integral vector calculus. Students who have passed either MATH 231 or 232 may not schedule MATH 230 or 230H for credit.

MATH 230H Honors Calculus and Vector Analysis (4)

This course is the third in a sequence of three calculus courses designed for students in engineering, science, and related fields. Topics include vectors in space, dot products, cross products; vector-valued functions, modeling motion, arc length, curvature; functions of several variables, limits, continuity, partial derivatives, directional derivatives, gradient vectors, Lagrange multipliers; double integrals, triple integrals; line integrals, Green's Theorem, Stokes' Theorem, the Divergence Theorem.

The typical delivery format for the course is four 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

In contrast to the non-honors version of this course, the honors version is typically more theoretical and will often include more sophisticated problems. Moreover, certain topics are often discussed in more depth and are sometimes expanded to include applications which are not visited in the non-honors version of the course.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2006
Prerequisite: MATH 141 orMATH 141H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 231 Calculus of Several Variables (2) Analytic geometry in space; partial differentiation and applications. Students who have passed MATH 230 or MATH 230H may not schedule this course.

Calculus of Several Variables (2)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 141 orMATH 141H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 231H Honors Calculus of Several Variables (2) Honors course in analytic geometry in space; partial differentiation and applications. Students who have passed MATH 230 or MATH 230H may not schedule this course.

MATH 231H Honors Calculus of Several Variables (2)

This course covers a subset of the material found in MATH 230. Topics include vectors in space, dot products, cross products; vector-valued functions, modeling motion, arc length, curvature; functions of several variables, limits, continuity, partial derivatives, directional derivatives, gradient vectors, Lagrange multipliers.

The typical delivery format for the course is two 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

In contrast to the non-honors version of this course, the honors version is typically more theoretical and will often include more sophisticated problems. Moreover, certain topics are often discussed in more depth and are sometimes expanded to include applications which are not visited in the non-honors version of the course.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2006
Prerequisite: MATH 141 orMATH 141H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 232 Integral Vector Calculus (2) Multidimensional analytic geometry, double and triple integrals; potential fields; flux; Green's, divergence and Stokes' theorems. Students who have passed MATH 230 may not schedule this course for credit.

Integral Vector Calculus (2)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 251 Ordinary and Partial Differential Equations (4) First- and second-order equations; special functions; Laplace transform solutions; higher order equations; Fourier series; partial differential equations.

Ordinary and Partial Differential Equations (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1988
Prerequisite: MATH 141 orMATH 141H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 250 Ordinary Differential Equations (3) First- and second-order equations; special functions; Laplace transform solutions; higher order equations. Students who have passed MATH 251 may not schedule this course for credit.

Ordinary Differential Equations (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1988
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 251H Honors Ordinary and Partial Differential Equations (4) Honors course in first- and second-order equations; special functions; Laplace transform solutions; higher order equations; Fourier series; partial differential equations.

MATH 251H Honors Ordinary and Partial Differential Equations (4)

This course serves as an introduction to ordinary and partial differential equations. Topics include various techniques for solving first and second order ordinary differential equations, an introduction to numerical methods, solving systems of two ordinary differential equations, nonlinear differential equations and stability, Laplace transforms, Fourier series, and partial differential equations.

The typical delivery format for the course is four 50-minute lectures per week, with typical assessment tools including examinations, quizzes, homework, and writing assignments.

In contrast to the non-honors version of this course, the honors version is typically more theoretical and will often include more sophisticated problems. Moreover, certain topics are often discussed in more depth and are sometimes expanded to include applications which are not visited in the non-honors version of the course.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2006
Prerequisite: MATH 141 orMATH 141H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 277 An Introduction to Mathematical Modeling (3) In-depth treatment of case studies in application of mathematics to real world problems. Emphasis is on developing modeling skills.

MATH 277 An Introduction to Mathematical Modeling (3)

Mathematical modelling is a subject without boundaries. It is the means by which mathematics becomes useful to virtually any subject. Moreover, modelling has been and continues to be a driving force for the development of mathematics itself. This course explains the process of modelling real situations to obtain mathematical problems that can be analyzed, thus solving the original problem.

The presentation is in the form of case studies, which are developed much as they would be in true applications. Topics include: Crystallization Dynamics (Avrami models, alternative models for incomplete crystallizations); a singular differential equation arising in the generation of hydroelectric energy; financial mathematics and computing present values of annuities; dimensional analysis with applications; the Lotka-Volterra model, its properties and its use; optimal control of renewable resource management (fisheries); functional equations and their use in sociology; traffic dynamics - microscopic and macroscopic models. Additional projects (presented by students) and an introduction to Matlab.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2005
Prerequisite: MATH 141, MATH 220
Concurrent: MATH 250 MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 296 Independent Studies (1-18) Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 310 Elementary Combinatorics (3) Fundamental techniques of enumeration and construction of combinatorial structures, permutations, recurrences, inclusion-exclusion, permanents, 0, 1- matrices, Latin squares, combinatorial designs.

Elementary Combinatorics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1985
Prerequisite: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 311M Honors Concepts of Discrete Mathematics (3) Basic methods of mathematical thinking and fundamental mathematical structures, primarily in the context of numbers, groups, and symmetries.

Honors Concepts of Discrete Mathematics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2006
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 311W Concepts of Discrete Mathematics (3-4) Introduction to mathematical proofs; elementary number theory and group theory. Students who have passed CMPSC 360 may not schedule this course for credit.

Concepts of Discrete Mathematics (3-4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 312 Concepts of Real Analysis (3) An introduction to rigorous analytic proofs involving properties of real numbers, continuity, differentiation, integration, and infinite sequences and series.

Concepts of Real Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 312H Honors Concepts of Real Analysis (3) Basic methods of mathematical thinking and fundamental structures, primarily in the context of infinite sets, real numbers, and metric spaces.

Honors Concepts of Real Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2006
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 315 Foundations of Mathematics (3) A consideration of selected topics in the foundations of mathematics, with emphasis on development of basic meaning and concepts.

Foundations of Mathematics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 318 (STAT 318) Elementary Probability (3) Combinatorial analysis, axioms of probability, conditional probability and independence, discrete and continuous random variables, expectation, limit theorems, additional topics. Students who have passed either MATH(STAT) 414 or 418 may not schedule this course for credit.

Elementary Probability (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1989
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 319 (STAT 319) Applied Statistics in Science (3) Statistical inference: principles and methods, estimation and testing hypotheses, regression and correlation analysis, analysis of variance, computer analysis. Students who have passed MATH(STAT) 415 may not schedule this course for credit.

Applied Statistics in Science (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1989
Prerequisite: MATH 318 or knowledge of basic probability

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Quantification
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 401 Introduction to Analysis I (3) Review of calculus, properties of real numbers, infinite series, uniform convergence, power series. Students who have passed Math. 403 may not schedule this course.

Introduction to Analysis I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 403 Classical Analysis I (3) Topology of Rn, compactness, continuity of functions, uniform convergence, Arzela-Ascoli theorem in the plane, Stone-Wierstrass theorem.

Classical Analysis I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 312

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 403H Honors Classical Analysis I (3) Development of a thorough understanding and technical mastery of foundations of classical analysis in the framework of metric spaces.

MATH 403H Honors Classical Analysis I (3)

The central aim of this course is to develop thorough understanding and technical mastery of foundations of classical analysis in the framework of metric spaces rather than multidimensional Euclidean spaces. This level of abstraction is essential since it is in the background of functional analysis, a fundamental tool for modern mathematics and physics. Another motivation for studying analysis in this wider context is that many general results about functions of one or several real variables are more easily grasped at this more abstract level, and, besides, the same methods and techniques are applicable to a wider class of problems, e.g. to the study of function spaces. This approach also brings to high relief some of the fundamental connections between analysis on one hand and (higher) algebra and geometry on the other.

This course is a sequel to Math 312H; it is highly recommended to all mathematics, physics and natural sciences majors who are graduate school bound, and is a great opportunity for all Schreyer Scholars.

The following topics will be covered: Metric spaces (topology, convergence, Cauchy sequences and completeness); Maps between metric spaces (continuous maps and homeomorphisms, stronger continuity properties:
uniform continuity, Hoelder and Lipschitz continuity, contraction mapping principle, points of discontinuity and the Baire Category Theorem); Compact metric spaces (continuity and compactness, connectedness, total boundedness, coverings and Lebesgue number, perfect metric spaces, characterization of Cantor sets, fractals); Function spaces (spaces of continuous maps, uniform continuity and equicontinuity,
Arzela-Ascoli Theorem, uniform approximation by polynomials. Stone-Weierstrass Theorem).

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2010
Prerequisite: MATH 311M, MATH 312H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 405 Advanced Calculus for Engineers and Scientists I (3) Vector calculus, linear algebra, ordinary and partial differential equatinos. Students who have passed MATH 411 or 412 may not take this course for credit.

Advanced Calculus for Engineers and Scientists I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994
Prerequisite: MATH 231;MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 404 Classical Analysis II (3) Differentiation of functions from Rn to Rm, implicit function theorem, Riemann integration, Fubini's theorem, Fourier analysis.

Classical Analysis II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1985
Prerequisite: MATH 403

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 406 Advanced Calculus for Engineers and Scientists II (3) Complex analytic functions, sequences and series, residues, Fourier and Laplace transforms. Students who have passed MATH 421 may not take this course for credit.

Advanced Calculus for Engineers and Scientists II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994
Prerequisite: MATH 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 408 Advanced Calculus (3) Differential and integral calculus of functions of several variables, line and surface integrals, infinite series, series of functions, power series.

Advanced Calculus (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 411 Ordinary Differential Equations (3) Linear ordinary differential equations; existence and uniqueness questions; series solutions; special functions; eigenvalue problems; Laplace transforms; additional topics and applications.

Ordinary Differential Equations (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 412 Fourier Series and Partial Differential Equations (3) Orthogonal systems and Fourier series; derivation and classification of partial differential equations; eigenvalue function method and its applications; additional topics.

MATH 412 Fourier Series and Partial Differential Equations (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of MATH 412 is to introduce students to the origins, theory, and applications of partial differential equations. Several basic physical phenomena are considered - including flows, vibrations, and diffusions - and used to derive the relevant equations. The fundamentals of the mathematical theory of partial differential equations are motivated and developed for the students through the systematic exploration of these classic physical systems and their corresponding equations: the Laplace, wave, and heat equations.

In addition to treating the physical origins of the equations, this course focuses on solving evolution equations as initial value problems on unbounded domains (the Cauchy problem), and also on solving partial differential equations on bounded domains (boundary value problems). There is not one but many techniques for solving these equations, and the course presents some aspect of the expansion in orthogonal functions (including Fourier series), eigenvalue theory, functional analysis, and the use of separation of variables, Fourier transforms, and Laplace transforms to solve PDEs by converting them to ordinary differential equations.

This course currently serves a cross-section of students at the university with interests or the need for this advanced subject mathematics, including students majoring in the engineering program, meteorology, physics, and mathematics. This typically includes the most advanced physics, engineering, and meteorology students, as well as mathematics majors with interests in applied mathematics.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2009
Prerequisite: MATH 230;MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 414 (STAT 414) Introduction to Probability Theory (3) Probability spaces, discrete and continuous random variables, transformations, expectations, generating functions, conditional distributions, law of large numbers, central limit theorems. Students may take only one course from MATH(STAT) 414 and 418 for credit.

Introduction to Probability Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 415 (STAT 415) Introduction to Mathematical Statistics (3) A theoretical treatment of statistical inference, including sufficiency, estimation, testing, regression, analysis of variance, and chi-square tests.

Introduction to Mathematical Statistics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1989
Prerequisite: MATH 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 416 (STAT 416) Stochastic Modeling (3) Review of distribution models, probability generating functions, transforms, convolutions, Markov chains, equilibrium distributions, Poisson process, birth and death processes, estimation.

Stochastic Modeling (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1984
Prerequisite: MATH 318 orMATH 414;MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 417 Qualitative Theory of Differential Equations (3) Linear differential equations, stability of stationary solutions, ordinary bifurcation, exchange of stability, Hopf bifurcation, stability of periodic solutions, applications.

MATH 417 Qualitative Theory of Differential Equations (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The main objective of the course is the qualitative theory of ordinary differential equations such as existence and uniqueness of solutions, dependence on initial data and parameters, and basic stability of solutions for both linear and nonlinear equations. It is designed to introduce students to modern concepts including the bifurcation theory, intermittent (transitional) and chaotic behavior of solutions and dynamical system approach to differential equations. Along the way, a number of applications are discussed and students get familiar with some basic examples illustrating main principles of the theory, such as Lorenz attractor, predator-prey models, etc.

The course is completed by students majoring in engineering programs, the sciences, and mathematics.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2009
Prerequisite: MATH 220;MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 418 (STAT 418) Probability (3) Fundamentals and axioms, combinatorial probability, conditional probability and independence, probability laws, random variables, expectation; Chebyshev's inequality. Students may take only one course from MATH(STAT) 414 and 418 for credit.

Probability (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 419 (PHYS 419) Theoretical Mechanics (3) Principles of Newtonian, Lagrangian, and Hamiltonian mechanics of particles with applications to vibrations, rotations, orbital motion, and collisions.

Theoretical Mechanics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251;PHYS 212, PHYS 213 andPHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 420 Elementary Introduction to Chaotic Dynamics and Fractal Geometry (3) An introduction to the theory of fractals for undergraduates in mathematics, science, engineering, economics, and computer science.

MATH 420 Elementary Introduction to Chaotic Dynamics and Fractal Geometry (3)

This course is an invitation to the theory of dynamical systems. It is open to a wide range of undergraduate students with majors in mathematics, science, engineering, economics, computer science, etc. (graduate students are also welcome). Dynamical systems have much to offer to both mathematicians and non-mathematicians and can help students to come closer to contemporary ideas in mathematical research. Therefore, the focus of the course is on ideas rather than complicated mathematical techniques and the goal is to make these ideas accessible to a wide range of students.

For this reason the prerequisites for the course are modest. Students need to have studied two semesters of calculus and one semester of linear algebra. Although differential equations will be used and discussed no previous course on differential equations is necessary.

Main Topics Include:
1) the concept of dynamical systems;
2) the chaotic behavior of dynamical systems;
3) fractals and their relation to dynamical systems.

Numerous examples of "real" dynamical systems in physics, engineering, economics, biology, mathematics, etc. will be given to illustrate all major concepts and will be discussed throughout the course.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2000
Prerequisite: MATH 140, MATH 141, MATH 220 orMATH 110, MATH 111, MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 421 Complex Analysis (3) Infinite sequences and series; algebra and geometry of complex numbers; analytic functions; integration; power series; residue calculus; conformal mapping, applications.

Complex Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1993
Prerequisite: MATH 230, MATH 232 orMATH 405;MATH 401 orMATH 403

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 422 Wavelets and Fourier Analysis: Theory and Applications (3) Fundamental mathematical issues of the theory of wavelets for senior undergraduate and graduate students in mathematics, engineering, physics, and computer science.

MATH 422 Wavelets and Fourier Analysis: Theory and Application (3)

Numerous problems arising in science and engineering find a common mathematical language in the theory of wavelets. Wavelet analysis can be viewed as an alternative as well as a generalization of classical Fourier analysis. In the latter case, the goal is to measure the local frequency content of a signal, while in the case of wavelets one is comparing several magnifications of this sequence with distinct resolutions. The goal of wavelets in mathematics engineering and science may be illustrated with the following archetypical problem. Suppose that we are given a real valued function of one variable representing some real-life phenomenon. For instance the function may represent a voice signal that we wish to transmit over the telephone lines or store in a compact disk. The whole function is given by the totality of its values and this makes it a continuum set of points. Both Fourier and wavelet analyses deal with discretizing the information and possibly extracting from it an appropriate finite sample. The difference between both types of approaches can be illustrated by the method of construction of the corresponding building blocks. In Fourier analysis, this process involves multiplications of a fixed "window function" by sines and cosines. In the case of wavelets, the window function is no longer multiplied by trigonometric functions, but instead it is translated and dilated by arbitrary translations and dilations.

The subject of wavelets appeared in the mid 1980's influenced by ideas from both pure mathematics (harmonic analysis, functional analysis, approximation theory, fractal sets) and applied mathematics (signal and image processing, mathematical physics, numerical analysis).

The purpose of the course is to show how wavelets can be constructed, illustrate why they provide us with a particularly powerful tool in mathematical analysis, and indicate how they can be used in applications.

The course is open to a wide range of undergraduate as well as graduate students with majors in mathematics, science, engineering and computer science. The course is accessible to students with some basic knowledge of the Fourier transform and its applications.

Main topics include:
1) the wavelet transform;
2) orthogonal wavelet decomposition;
3) applications to data compression, numerical analysis, image processing.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 2000
Prerequisite: complete one of the following:MATH 312, MATH 401, MATH 403, MATH 405 orMATH 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 425 Introduction to Operations Research (3) Nature of operations research, problem formulation, model construction, deriving solution from models, allocation problems, general linear allocation problem, inventory problems.

Introduction to Operations Research (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 426 Introduction to Modern Geometry (3) Plane and space curves; space surfaces; curvature; intrinsic geometry of surfaces; Gauss-Bonnet theorem; covariant differentiation; tensor analysis.

Introduction to Modern Geometry (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994
Prerequisite: MATH 401 orMATH 403

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 428 Geometry for Teachers (1) Research in mathematics education using ideas from Euclidean and non-Euclidean geometry. Students who have passed MATH 471 may not schedule MTHBD 478.

MATH 428 Geometry for Teachers (1)

MTHBD 478 is designed to introduce students to mathematics education and research in education. The student will present topics in written and verbal classroom reports. Students will be evaluated on research papers and classroom presentations of those papers, classroom technology demonstration of geometry topics, and classroom demonstration of teaching geometry.

This course supplements MTHBD 477 by providing the education component that is required by the state of Pennsylvania for obtaining certification in teaching mathematics. This course is offered only at Penn State Erie, The Behrend College.

MTHBD 478 is a suggested core course for some of the students in the Behrend Mathematics major. It may serve the Mathematics minor as an elective at the 400-level. It is not applicable to the General Education course offerings.

This course will be offered every other year and enrollment is generally between 10 to 15 students.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 311W . Prerequisite or concurrent:MATH 427

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 427 Foundations of Geometry (3) Euclidean and various non-Euclidean geometries and their development from postulate systems. Students who have passed MATH 427 may not schedule MATH 471.

Foundations of Geometry (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994
Prerequisite: MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 429 Introduction to Topology (3) Metric spaces, topological spaces, separation axioms, product spaces, identificaiton spaces, compactness, connectedness, fundamental group.

Introduction to Topology (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1994
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 430 Linear Algebra and Discrete Models I (3) Vector spaces, linear transformations, matrices determinants, characteristic values and vectors, systems of linear equations, applications to discrete models.

Linear Algebra and Discrete Models I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2010
Prerequisite: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 431 Linear Algebra and Discrete Models II (3) Vector spaces and linear transformations, matrices, determinants, characteristics values and vectors, systems of linear equations, applications to discrete models.

Linear Algebra and Discrete Models II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 435 Basic Abstract Algebra (3) Elementary theory of groups, rings, and fields. Students who have passed MATH 435 may not schedule MATH 470.

Basic Abstract Algebra (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 435 Basic Abstract Algebra (3) Elementary theory of groups, rings, and fields. Students who have passed MATH 435 may not schedule MATH 470.

Basic Abstract Algebra (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2010
Prerequisite: MATH 311W orMATH 315

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 436 Linear Algebra (3) Vector spaces and linear transformations, canonical forms of matrices, elementary divisors, invariant factors; applications. Students who have passed MATH 436 may not schedule MATH 441.

Linear Algebra (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 437 Algebraic Geometry (3) Study of curves in the plane defined by polynomial equations p(x,y)= 0. Projective equivalence, singular points, classification of cubics.

MATH 437 Algebraic Geometry (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The geometric study of algebraic equations is one of the oldest and deepest parts of mathematics, and it lies at the heart of modern developments in geometry, algebra, number theory and physics. Students completing MATH 437 will understand many new algebraic and geometric ideas by studying examples of curves defined by equations of degrees 2 and 3 in the plane.

Fist come conics (given by equations of degree 2 in two variables). Rigid motions, similarities, and affine transformations give different classifications of them. New ideas then show how to get a conic through any five points and prove Pascal's theorem about six points on a conic. Special cases suggest extension of the usual plane to the projective plane, with "points at infinity," homogeneous coordinates, and projective transformations.

The main part of the course turns to equations of degree 3 and their singularities, flex points, tangents, and degeneracies. Several new ideas, both algebraic and analytic, are brought in to prove the existence of complex flex points on singular cubics and then real flex points on nonsingular real cubics. There is then a classification on complex projective cubics by a single parameter and finally a full classification of all real projective cubics.

As time permits, relations to further topics are sketched: addition of points on a nonsingular cubic, Mordell's theorem, doubly periodic functions, and Fermat's last theorem.

The course is typically taken by mathematics majors.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2009
Prerequisite: MATH 230 orMATH 231;MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 441 Matrix Algebra (3) Determinants, matrices, linear equations, characteristic roots, quadratic forms, vector spaces. Students who have passed Math 436 may not schedule this course.

Matrix Algebra (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1985
Prerequisite: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 445 Mathematical Statistics and Applications II (3) Further topics in point estimation, statistical hypotheses, other statistical tests, nonparametric methods.

Mathematical Statistics and Applications II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 444 Mathematical Statistics and Applications I (3) Distributions of random variables, special distributions, limiting distributions, sampling, statistical inference, point and interval estimation, orthogonal polynomials, and least squares.

Mathematical Statistics and Applications I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 446 Introduction to Applied Statistics I (3) Descriptive statistics, probability theory, discrete and continuous probability distributions, statistical inferences for means and proportions.

Introduction to Applied Statistics I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 022 orMATH 040

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 448 Sampling Methods and Practice and Experimental Design (3) An introduction to the procedures and techniques of statistical sampling methods and experimental design.

Sampling Methods and Practice and Experimental Design (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 444, MATH 445

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 447 Introduction to Applied Statistics II (3) Regression, correlation, analysis of variance, contingency tables, nonparametric methods, time series, index numbers.

Introduction to Applied Statistics II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 449 Applied Ordinary Differential Equations (3) Differential and difference equations and their application to biology, chemistry, and physics; techniques in dynamical systems theory.

MATH 449 Mathematical Modeling (3)

Many phenomena that arise in the natural sciences, such as the motion of pendulum or signal conduction in neurons or oscillations in certain chemical reactions, can be modeled using nonlinear differential equations. This course will develop the mathematical techniques needed to investigate such differential equations. These techniques include the study of equilibria, stability, phase plane analysis, bifurcation analysis and chaos. The course will assume prior knowledge of ordinary differential equations at the MATH 250/251 level; this is the only prerequisite for the course. We will focus on understanding and interpreting the behavior of the solutions to the differential equation models rather than on deriving the model equations themselves. Evaluation will be based on midterm exams, a final exam, graded homework, and graded longer projects which may involve computer work. The course should be of interest to any science or engineering major and some models will be chosen to reflect the fields of interest of the class. The goal is for the students to be able to apply the techniques learned in the course to mathematical models that they will encounter in other classes or situations. The class will be offered every other year with an expected enrollment of 10-15 students.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 450 Mathematical Modeling (3) Constructing mathematical models of physical phenomena; topics include pendulum motion, polymer fluids, chemical reactions, waves, flight, and chaos.

MATH 450 Mathematical Modeling (3)

The purpose of the course is to introduce mathematical modeling, i.e., the construction of mathematical structures which capture relevant physical phenomena. The course will systematically explore mathematical ideas and tools used to study the natural world. Particular emphasis will be placed on the process of creating a mathematical model starting from a physical scenario. Typically this process will begin with an experiment either demonstrated in the W. G. Pritchard Lab or performed by the students in class.

Once a particular model has been developed, students will use mathematical analysis and experimentation to determine the properties and relevance of the model, and to make predictions. Often the model can be satisfactory; however, many times one also finds new features of the system that are not adequately accounted for in the model, and the process begins again. It is this cycle the course will focus on. For a given phenomenon (e.g., flow of viscous fluid, pendulum motion) several models may be compared and contrasted, and possible simplifications will be discussed.

A significant aspect of the course is its laboratory component, in which the students will perform experiments or observe demonstrations. However, the main emphasis will be placed on creating and rigorously analyzing the mathematical aspects of the models. Instead of presenting a finely tuned model for a given phenomenon, this course will try to convey some of the heuristic, intuitive, and mathematical ideas employed in modeling.

Examples of physical systems to be considered include: simple and compound pendulum motion, chemical oscillations, water waves, and elastic behavior of polymer solutions.

The course is open to a wide range of undergraduate as well as graduate students with majors in mathematics, biology, chemistry, engineering, and physics. The course should be accessible to students with some basic knowledge of mathematical analysis and differential equations. Main topics include: modeling with ordinary differential equations; bifurcation theory and stability; traveling waves in epidemics, chemical reactions, free fluid surfaces, and polymer solutions; fluctuations in nature, stochastic differential equations and chaos.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 315 andMATH 430 orMATH 405 orMATH 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 451 (CMPSC 451) Numerical Computations (3) Algorithms for interpolation, approximation, integration, nonlinear equations, linear systems, fast FOURIER transform, and differential equations emphasizing computational properties and implementation. Students may take only one course for credit from MATH 451 and 455.

Numerical Computations (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: 3 credits of programming;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 455 (CMPSC 455) Introduction to Numerical Analysis I (3) Floating point computation, numerical rootfinding, interpolation, numerical quadrature, direct methods for linear systems. Students may take only one course for credit from MATH 451 and MATH 455.

Introduction to Numerical Analysis I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: CMPSC 201, CMPSC 202 orCMPSC 121;MATH 220;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 456 (CMPSC 456) Introduction to Numerical Analysis II (3) Polynomial and piecewise polynomial approximation, matrix least squares problems, numerical solution of eigenvalue problems, numerical solution of ordinary differential equations.

Introduction to Numerical Analysis II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2008
Prerequisite: MATH 455

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 459 Computability and Unsolvability (3) An introduction to the theory of recursive functions; solvable and unsolvable decision problems; applications.

Computability and Unsolvability (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 457 Introduction to Mathematical Logic (3) Propositional logic, first-order predicate logic, axioms and rules of inference, structures, models, definability, completeness, compactness.

Introduction to Mathematical Logic (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 311W orPHIL 212 ; 3 additional credits in philosophy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 461 (PHYS 461) Theoretical Mechanics (3) Continuation of Math.(Phys.) 419. Theoretical treatment of dynamics of a rigid body, theory of elasticity, aggregates of particles, wave motion, mechanics of fluids.

Theoretical Mechanics (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1986
Prerequisite: MATH 419

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 465 Number Theory (3) Elements, divisibility of numbers, congruences, residues, and forms.

MATH 465 Number Theory (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course serves as an upper-level introduction to the fundamentals of elementary number theory. A major emphasis in the course is placed on the role that the prime numbers play in the study of properties of the integers along with the related topics of divisibility and factorization of integers. Additional topics covered in the course include congruences (and the theorems of Euler and Fermat which are classics in this area), properties of arithmetic functions including those which are multiplicative, and other topics such as Pythagorean triples and representations of numbers as sums of squares.

This course is completed by a wide variety of students across the university, especially those majoring in mathematics. (In many of the options in the MTHBS degree, MATH 465 can be used to satisfy one of the major requirements.) The course is also taken quite frequently by non-mathematics majors who wish to use the course to satisfy an upper-level requirement for the mathematics minor.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2009
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 467 (CMPSC 467) Factorization and Primality Testing (3) Prime sieves, factoring, computer numeration systems, congruences, multiplicative functions, primitive roots, cryptography, quadratic residues. Students who have passed MATH 465 may not schedule this course.

Factorization and Primality Testing (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1995
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 468 Mathematical Coding Theory (3) Shannon's theorem, block codes, linear codes, Hamming codes, Hadamard codes, Golay codes, Reed-Muller codes, bounds on codes, cyclic codes.

Mathematical Coding Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: MATH 311W ; advanced calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 469 Mathematics of Algorithms (3) Binomial identities; recurrence relations, operator methods; asymptotic methods.

Mathematics of Algorithms (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: advanced calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 471 Geometry for Teachers (4) Problem solving oriented introduction to Euclidean and non-Euclidean geometries; construction problems and geometrical transformations via "Geometer's Sketchpad" software. Intended primarily for those seeking teacher certification in secondary mathematics. Students who have passed MATH 427 may not schedule this course.

Geometry for Teachers (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1996
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 470 Algebra for Teachers (3) An introduction to algebraic structures and to the axiomatic approach, including the elements of linear algebra. Designed for teachers and prospective teachers. Students who have passed Math 435 may not schedule this course.

Algebra for Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1988
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 475 (US;IL) Introduction to the History of Mathematics (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.

MATH 475 Introduction to the History of Mathematics (3)
(DF)

The primary goal of this course is to explore where mathematics comes from, how it was labored on, how ideas were preceived, and how theories developed. Development in algebra, geometry, arthimetic and calculus will be discussed.

A second goal is to help students understand the importanct of written communication in mathematics and to provide opportunities for students to improve the quality of their writing. The primary means for accomplishing this goal will be four papers, 4-8 pages in length. These will be written for an audience of mathematically-knowledgeable readers. In addition, each quiz will contain at least one essay question.

Students will be evaluated on quizzes, homework, papers, and a final exam. Quizzes will total 250 points, the papers 200 points, and the final exam 150 points.

This course is a required course in the Mathematical Science (MA SC) BS curriculum. This course is also available as an elective for students in the Computer Science (COMP) program.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 25-40 students.

General Education: None
Diversity: US;IL
Bachelor of Arts: Quantification
Effective: Spring 2010
Prerequisite: CMATH 221 orMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 475W (US;IL) History of Mathematics (3) A global survey of the history of mathematics as viewed as a human response to cultural, political, economic, and societal pressures.

MATH 475W Introduction to the History of Mathematics (3)
(DF)

The primary goal of this course is to explore where mathematics comes from, how it was labored on, how ideas were preceived, and how theories developed. Development in algebra, geometry, arthimetic and calculus will be discussed.

A second goal is to help students understand the importanct of written communication in mathematics and to provide opportunities for students to improve the quality of their writing. The primary means for accomplishing this goal will be four papers, 4-8 pages in length. These will be written for an audience of mathematically-knowledgeable readers. In addition, each quiz will contain at least one essay question.

Students will be evaluated on quizzes, homework, papers, and a final exam. Quizzes will total 250 points, the papers 200 points, and the final exam 150 points.

This course is a required course in the Mathematical Science (MA SC) BS curriculum. This course is also available as an elective for students in the Computer Science (COMP) program.

No special facilities are required for this course. This course will be offered once per year, with an expected enrollment of 25-40 students.

General Education: None
Diversity: US;IL
Bachelor of Arts: Quantification
Effective: Spring 2010
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 479 (PHYS 479) Special and General Relativity (3) Mathematical description, physical concepts, and experimental tests of special and general relativity.

MATH (PHYS) 479 Special and General Relativity (3)

This course is intended as an elective course (within the undergraduate Physics program) for Physics majors to be taken in their senior year. Intended to be cross-listed with MATH, it can also be used in support of a Mathematics minor and, in some options, within the Math program as a program elective as well. The course significantly expands upon the introduction to Special Relativity (SR) seen in PHYS 237, including discussions of experimental tests of SR and applications to relativistic mechanics. It then introduces students to the mathematical machinery required to understand General Relativity (GR), starting with the description of curved spacetimes and geodesics. It discusses solutions to the Einstein equations and surveys the classic tests which established the validity of General Relativity. It concludes with applications of GR in such areas as black hold physics, the generation and detection of gravitational waves, other topics (such as cosmology, relativistic astrophysics, etc.).

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: PHYS 237, PHYS 400, PHYS 419;MATH 250 orMATH 251;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 481 Life Contingencies I (3) A study of the mathematical theory of life contingencies; single-life functions and their applications.

Life Contingencies I (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 444, MATH 445, MATH 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 483 Applied Modern Algebra II (3) Semigroups, groups, permutation groups, machines, Polya enumeration theory, switching functions, de Bruijn's theorem, fast adders.

Applied Modern Algebra II (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1986
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 482 Mathematical Methods of Operations Research (3) Survey of linear and nonlinear programming; mathematics of optimization; queues; simulation.

Mathematical Methods of Operations Research (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: MATH 220, MATH 230, STAT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 484 Linear Programs and Related Problems (3) Introduction to theory and applications of linear programming; the simplex algorithm and newer methods of solution; duality theory.

Linear Programs and Related Problems (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1987
Prerequisite: MATH 220;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 485 Graph Theory (3) Introduction to the theory and applications of graphs and directed graphs. Emphasis on the fundamental theorems and their proofs.

Graph Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1987
Prerequisite: MATH 311W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 493 Mathematics Recitation Instructor Training (1 per semester/maximum of 3) Instruction and practice in the role of recitation instructor.

Mathematics Recitation Instructor Training (1 per semester/maximum of 3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983
Prerequisite: 18 credits in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 486 Mathematical Theory of Games (3) Basic theorems, concepts, and methods in the mathematical study of games of strategy; determination of optimal play when possible.

MATH 486 Mathematical Theory of Games (3)

This course covers several major classes of models and methods for analyzing multi-party strategic interactions, i.e. games. Specific topics include extensive and strategic form games, continuous games, cooperative games, strictly competitive games, repeated games and adaptive learning, and evolutionary models. The effects on outcomes of information, communication, and other modeling assumptions are discussed. Real-world examples drawn from economics, biology, anthropology, management and everyday life are discussed in detail. When appropriate, computer algebra systems are incorporated in the course. The course typically meets during either two 75-minute periods each week or three 50-minute periods each week. Evaluation methods may vary by instructor, but will typically include a combination of examinations, quizzes, homework, and projects.

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2006
Prerequisite: MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497A Function Field Arithmetic (4) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.

Function Field Arithmetic (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497B Differential Equations from an Algebraic Perspective (4) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.

Differential Equations from an Algebraic Perspective (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497C Dynamics, Mechanics and Geometry (4) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.

Dynamics, Mechanics and Geometry (4)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497E MASS Colloquium (1) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.

MASS Colloquium (1)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497D MASS Interdisciplinary Seminar (3) Formal courses given infrequently to explore, in depth, a comparatively narow subject which may be topical or of special interest.

MASS Interdisciplinary Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 497F Complex Analysis for Mathematics and Engineering (3) Complex analysis with applications to science and engineering, complex algebra, analytic functions, complex contour integrals, series representations, residue theory.

Complex Analysis for Mathematics and Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics (MATH)

MATH 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Quantification
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 411 Teaching Secondary Mathematics I (3) Conditions for learning mathematics; problem solving; subject matter types; curriculum; learning goals; nature and history of mathematics at secondary level

MTHED 411 Teaching Secondary Mathematics I (3)

This is the first of two secondary mathematics methods courses. In this course, participants look at mathematics teaching and learning from a teacher's perspective as well as from a student's perspective. Course participants engage in mathematical problem solving and in the study of the history and nature of mathematics as the foundation for understanding current curriculum and standards. Lesson planning follows from the consideration of different types of mathematical content, including skills and concepts. Looking specifically at the learning of mathematics and questioning to promote higher-level thinking prepares students for field experiences in subsequent semesters.

The goals for the course are:
- To improve understanding of some of the mathematical concepts which are important in secondary school mathematics.
- To improve understanding of the nature of mathematics: what is important, how it is practiced, how mathematical validity is determined.
- To improve understanding of the historical development of selected topics from secondary school mathematics.
- To develop a vision of good school mathematics.
- To see mathematics, mathematics learning, and mathematics teaching as problematic and to develop an inquiry approach to and an ability to reflect on these domains.
- To increase understanding of secondary school students' mathematical thinking and understanding.
- To increase ability to specify subject matter involved in a specific mathematics topic and make distinctions among them.
- To improve understanding of various teaching strategies and their strengths and weaknesses.
- To increase ability to choose among lessons and curriculum materials based on the intended mathematical subject matter and the current understandings of the students.
- To increase insight into creating a thriving, supportive mathematics classroom culture.

Students are evaluated through written assignments, examinations, classroom performance, presentations, and lesson plans.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: acceptance into Secondary Education/Mathematics Option certification program;C I 295 ; a grade of C or better inCMPSC 101, MATH 140, MATH 141, MATH 220, MATH 230, MATH 311W
Concurrent: MTHED 427

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 412W Teaching Secondary Mathematics II (3) Assessing learning and instruction; methods of evaluation and grading; long- term planning; accommodating needs of diverse learners; connecting theory and practice.

MTHED 412W Teaching Secondary Mathematics II (3)

MTHED 412 is an inherently cumulative experience. This course builds upon ideas developed in MTHED 411 and MTHED 427. In particular, students continue to consider types of subject matter, problem solving, lesson planning, technology use, questioning, history and nature of mathematics, and curriculum and standards. MTHED 412 then links understanding of mathematics education with other education courses and with field experiences as well as with understanding of K-16 mathematics. Students focus on lesson and unit development and implementation, assessment and evaluation, classroom management and organization within school communities, and continued professional growth as reflective practitioners. Students are encouraged to draw whenever possible on education psychology, adolescent psychology, educational theory and policy, mathematics, and other bodies of knowledge. In other words, course participants live as teachers with a wealth of knowledge and responsibility to draw on that knowledge in the service of their students.

Student goals are to:
- Develop an expanded view of the process of teaching mathematics;
- Develop a deeper understanding of what it means to learn mathematics and the processes by which mathematics is learned;
- Be able to reflect on the instruction and one's learning in MTHED 412 and to relate it to students' learning of secondary mathematics;
- Be able to plan and teach appropriate mathematics lessons and reflect on one's teaching;
- Be familiar with and be able to draw on a variety of teaching resources;
- Investigate current issues influencing evaluation in the secondary mathematics curriculum;
- Choose goals and content for middle school and high school mathematics courses;
- Develop strategies for assessing and evaluating what students have learned
- Create and implement assessment instruments for middle school and high school mathematics courses;
- Develop insights into student understanding, especially in relationship to exceptional students as well as to mathematically talented and challenged students;
- Identify the needs of diverse learners and to develop strategies to address these needs;
- Create classroom environments that are conducive to learning; and
- Incorporate appropriate technology in the teaching and learning of mathematics.

Students are evaluated through written assignments, examinations, classroom performance, unit lesson and evaluation plans. Throughout the course writing is a process to help students learn course content as well as to help students learn ways of writing needed in the work of the secondary mathematics teacher.

The course is offered each Fall and Spring semester with typical enrollment of 20-25 students in each of 1 or 2 sections. Through co-requisite course, CI 495C, students spend approximately five full weeks in secondary school classrooms.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: a grade of C or better inMTHED 411
Concurrent: C I 412W C I 495C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 420 Teaching Mathematics in the Elementary Schools (3) Strategies for teaching mathematics at the elementary school level; analysis of the philosophy and content of contemporary programs of instruction.

Teaching Mathematics in the Elementary Schools (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LL ED 400, LL ED 401, LL ED 402 ; a grade of C or better required inMATH 200;PSYCH 212
Concurrent: C I 495A or C I 495B ; SCIED 458 SS ED 430W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 424 Contemporary School Mathematics Programs (3) In-depth analysis of school mathematics programs and the factors and forces influencing them; contemporary curriculum developments.

Contemporary School Mathematics Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MTHED 412W orMTHED 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 427 Teaching Mathematics in Technology-Intensive Environments (3) Interaction among pedagogy, content, and technology in mathematics teaching and learning in technology-intensive environments; secondary, early college curricula; laboratory experience.

MTHED 427 Teaching Mathematics in Technology-Intensive Environments (3)

Students should expect to learn something about each of several common types of mathematics software, new things about secondary school mathematics, and a lot about how to make decisions about how to use technology as an effective mathematics teacher. Students will also use communication software (e.g., word processors, e-mail, PowerPoint) not as objects of our discussion but in simple ways to generate and share products, assignments, and ideas.

The course has a significant lab component. Students will be assessed based on written assignments, lesson plans, oral presentations, class participation, and examinations. The course is offered each fall and spring semester with an approximate enrollment of 20 students per semester. Students must enroll concurrently in MTHED 411.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: acceptance into Secondary Education/Mathematics Option certification program;C I 295 ; a grade of C or better inCMPSC 101, MATH 140, MATH 141, MATH 220, MATH 230, MATH 311W
Concurrent: MTHED 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 430 Students' Mathematical Thinking (3 per semester, maximum of 6) Develop abilities in planning, conducting, and interpreting mathematics interviews to gain an understanding of students' thinking processes and current knowledge.

Students' Mathematical Thinking (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: C I 495D, C I 495E or experience teachnig mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 431 Data Analysis in Secondary School Mathematics (3) Intense development of foundations of data analysis for secondary mathematics as a process using statistical concepts for predictions and inferences.

MTHED 431 Data Analysis in Secondary School Mathematics (3)

As prospective secondary mathematics teachers, students will develop broad and deep understanding of measures of and representations for center, measures of spread, distribution, and correlation. They will become fluent in using dynamic statistics programs, various physical models, and representations to convey the essence of these statistical concepts to secondary school students. They will compare various statistical methods and measures and make and defend claims both in terms of the discipline and in terms of how these ideas unfold for learners in school mathematics. They will connect these statistical concepts to the broader study of secondary school mathematics.

In particular, students will see data analysis as a process. It involves the systematic application of statistical techniques, as well as logical techniques, to summarize, interpret, and compare data. Although the emphasis of the course will be on statistical concepts, one of the main themes of the course will involve understandings the mathematical structure of these statistical concepts. For example, students should be able to answer, from a mathematical perspective, why some data analysis techniques are more useful than other techniques.

Intended as an elective for students in Secondary Education/Mathematics Education, the course helps students both to enrich and apply the pedagogical ideas and technology uses from their methods courses and to connect their collegiate mathematics experiences to school curricula. In particular, it helps to build prospective teachers' understanding of statistics as a vital part of secondary mathematics. Class activities involve use of physical manipulatives and mathematics technology (e.g., spreadsheets, dynamic statistics environments, and graphing calculators), as appropriate.

Students in this course would be expected to complete weekly assignments and exams and to participate in classroom investigations of statistical concepts. Course grades depend on students' performance on all of these measures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: CMPSC 101 or equivalent; at least 18 credits of mathematics at or above the calculus level; acceptance into secondary mathematics certification program or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 432 Mathematical Modeling in Secondary School Mathematics (3) Students work from teaching and curricular perspective to explore and apply school and undergraduate mathematics to model real-world phenomena.

MTHED 432 Mathematical Modeling in Secondary School Mathematics (3)

Given the attention to mathematical modeling and applications in secondary school mathematics, prospective teachers need to be able to recognize situations that allow secondary school students to use relevant mathematics to apply mathematics and to model real-world phenomena as a means to learn about various mathematical topics. This course provides experiences in generating, interpreting, and evaluating geometric, discrete, stochastic, and function models. The course also helps prospective teachers develop an understanding of how mathematical modeling arises in school mathematics and how students learn mathematics through modeling.

Intended as an elective for students in Secondary Education/Mathematics Education, the course helps students both to enrich and apply the pedagogical ideas and technology uses from their methods courses and to connect their collegiate mathematics experiences to school curricula. Class activities involve use of physical manipulatives and mathematics technology (e.g., spreadsheets, geometry construction environments, and graphing calculators), as appropriate.

Students in this course would be expected to complete a major modeling project and paper in addition to weekly assignments, exams, quizzes, and written reflections of classroom participation. Course grades depend on students' performance on all of these measures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: CMPSC 101 or equivalent; at least 18 creidts of mathematics at or above the calculus level; acceptance into secondary mathematics certification program or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 433 Function Concept in Secondary School Mathematics (3) This course develops the concept of function as an essential topic that underlies and connects school and collegiate mathematics.

MTHED 433 Function Concept in Secondary School Mathematics (3)

Prospective teachers as students need to understand the concept of function deeply as an essential topic of school and collegiate mathematics. In this course, they develop greater facility in using multiple representations and encounter function ideas as they unfold in multiple areas of mathematics, thus extending their understanding of collegiate mathematics and its connection to school mathematics. The students become conversant in current state and national expectations about functions as a mathematical entity. They plan appropriate instruction to develop secondary school student's understanding of function.

Intended as an elective for students in Secondary Education/Mathematics Education, the course helps students both to enrich and apply the pedagogical ideas and technology uses from their methods courses and to connect their collegiate mathematics experiences to school curricula. In particular, it helps to build prospective teacher's conceptual understanding of function so that they may draw more strongly on this understanding to engage secondary students in mathematics. Class activities involve use of physical manipulatives and mathematics technology (e.g., spreadsheets, geometry construction environments, and graphing calculators), as appropriate.

Students in this course would be expected to complete a major project and paper in addition to weekly assignments, exams, quizzes, and written reflections of classroom participation. Course grades depend on students' performance on all of these measures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: CMPSC 101 or equivalent; at least 18 credits of mathematics at or above the calculus level; acceptance into secondary mathematics certification program or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 497A Inquiry Into Big Ideas (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Inquiry Into Big Ideas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 498A AP Statistics (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

AP Statistics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mathematics Education (MTHED)

MTHED 498B AP Calculus AB (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

AP Calculus AB (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 105 Mechanical Systems (3) Mechanical Systems with Laboratory is an introductory course for Engineering Technology major students to broadly introduce Mechanical Engineering Technology.

MET 105 Mechanical Systems (3)

MET105 includes mechanical engineering technology profession, United States Customary System and Metric System, communication skills; structures and mechanics including the resultant of a system of forces, moment of a force, and the requirements for equilibrium; Materials and Stress including a stress-strain curve, the material properties for metals and their alloys, ceramics, polymers, and composite materials, a factor of safety; Fluids Engineering including the application of fluids engineering, a fluid’s density and viscosity properties, laminar and turbulent fluid flows, buoyancy, drag, and lift, the volumetric flow rate and pressure drop of fluids through pipes. Thermal and Energy system including various energy, heat, work, and power quantities in the SI and USCS, the principle of energy conversion, the basic operating principles of various engines; Motion and Power Transmission including the design and operation of power-transmission equipment, rotational velocity, work, power, belts, and gears.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 107 Computer Applications for Technologists (3) Programming spreadsheets, data bases and presentation software for solutions of technical problems; introduction to languages allowing creation of program macros.

Computer Applications for Technologists (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MATH 081 orMATH 022 orMATH 026
Concurrent: MATH 081 or MATH 022 or MATH 026

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 108 Microcomputer Applications (3) Microcomputer methods for analysis and design of engineering systems.

Microcomputer Applications (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 206 Dynamics (3) Kinematics (particles and rigid bodies), kinetics, work-energy, impulse- momentum; select mechanisms associated with local industries.

MET 206 Dynamics (3)

- Instructional, Educational, and Course Objectives – To introduce students to the basic principles of dynamics as applied to practical problems which include such topics as friction, kinetics of particles and rigid bodies, laws of force and motion, work, energy and power. Further, to consider mechanisms which are typical in local manufacturing industries via field trips, research project w/oral presentation. These goals serve to satisfy the following course objectives:

- Students should be able to demonstrate proficiency in applied design, manufacturing processes, and mechanics.
- Students should be able to apply concepts of applied mathematics and science in solving technical problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: MCH T 111
Concurrent: MATH 083 or MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 210W Machine Design (3) Design machine elements including bearings, springs, levers, shafts, gears, belts, and small mechanical devices; writing skills and computer applications.

MET 210W Machine Design (3)

ME T 210W is designed to provide students with the necessary concepts and procedures to properly design machine elements in mechanical systems. The course starts with the study of the properties of various engineering materials, including various types of steel, aluminum, and plastics. Heat treating of steels is also covered. Machine design criteria are presented along with discussions of various types of stresses, concepts of principle stress, combined stresses, and methods of stress analysis. Failure theories and their application to brittle and ductile materials are covered along with the relationship of these concepts to design factors. The influence of dynamic loads on design and design margins is also covered. Welded and bolted connections and their design requirements are also studied, along with the application of buckling and beam deflection analysis to the design of support colunms and beams. The course also examines the design of various types of springs and gears, the calculation of shaft stresses, and the design of clutches, brakes, belts, and chains.

The writing component of the ME T 210W course is satisfied by having students choose a design project which is completed over the course of the semester. Instructors introduce the design project early in the semester and discuss how writing exercises will be used to complete the project. Students write an initial proposal that is graded and returned. Subsequently, students prepare and present progress reports at various times through the semester. These are also graded. The project ends with students preparing a draft final project report, which is critiqued and returned. Based on the critique, a final design report is prepared and is a significant component of the final course grade. Both the progress reports and the final design report activities involve both written and oral exercises.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MET 206 orE MCH 212;MCH T 213 orE MCH 213 orET 322 orEMET 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 281 Elementary Thermo- and Fluid Dynamics (4) Basic problems in compressible fluid flow. Laws of dynamics and thermodynamics, mechanical properties of fluids, elementary heat transfer.

Elementary Thermo- and Fluid Dynamics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: or concurrent:MATH 083, PHYS 150 orPHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 303 Computer-Aided Design (3) Study of the fundamentals of computer-aided design and manufacturing systems; hands-on exercises utilizing a microcomputer-based CAD/CAM system.

Computer-Aided Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: junior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 306 Computer-Aided Design (3) Computer-aided drafting and design; computer software solutions to mechanical engineering technology design problems.

MET 306 Computer-Aided Design (3)

This course is designed to be the third CAD course in a Mechanical Engineering Technology program. Students will be exposed to modeling industry specific geometry using solid and surface modeling techniques. Sheet metal modeling, tool path generation and material removal simulation for CNC operations as well as mechanism analysis are taught, Automation and optimization techniques using CAD packages are also covered in lab assignments. Students are expected to document their designs by producing industrial quality working drawings. Lecture material is directly related to the laboratory assignments and topics in understanding hardware and CAD software bench marking as well as associated costs and their relationship to the engineering design process are also covered. Experience in basic CAD modeling is required as well as a working knowledge of Statics, Dynamics and Strength of Materials. Evaluation is based on laboratory assignments, homework assignments, quizzes and a final project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MET 107;EG T 121 orEG T 201 andEG T 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 308 Computer Aided Solid Modeling and Analysis (3) Basic techniques necessary to perform Computer Aided Design and Analysis in three dimensions for machine components.

MET 308 Computer Aided Solid Modeling and Analysis (3)

To introduce students to the theory and practice of creating computer aided design files for mechanical components, drawings, layout of multiview drawings, detailing design projects, assemble parts, and create assembly drawings and sections. Although it is highly recommended that the students have basic knowledge of finite element analysis FEA theory, the very user friendly interfaces and CAD interactive modes available in the market together with appropriate introductory training will enable students to perform reasonable and reliable structural, thermal, and motion analysis. This analysis is at the core of every day assignments for design engineers working in modern industrial firms with concurrent engineering culture. With the advent of very powerful desktop workstations, FEA is now available at a practical cost to virtually all engineers and designers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 320 Strength of Materials (3) Principles of stress and strain in 3D, indeterminate structures, failure theory, fatigue and fracture mechanics.

Strength of Materials (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 213 orMCH T 213;MCH T 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 321 Analytical Techniques (2) A study of engineering methods of problem formulation and solution; includes differential methods, dimensional analysis, and graphical analysis.

Analytical Techniques (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212 orET 321, MATH 140
Concurrent: integral calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 330 Thermodynamics (3) Introduction for technologists to the basic concepts and applications of thermodynamics.

MET 330 Thermodynamics (3)

This course is designed as the first thermal sciences course in a series of three. Students are introduced to the basic thermodynamic units and concepts, the properties of pure substances, first law of thermodynamics for open and closed systems, second law of thermodynamics, ideal cycles, performance and efficiency, entropy, power and refrigeration cycles. Evaluation is based on homework assignments, quizzes and examinations. Students need a background that includes inorganic chemistry and calculus to succeed in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007 Ending: Summer 2010
Prerequisite: PHYS 151, PHYS 212 orPHYS 251 . Prerequisite or concurrent:CHEM 110, CHEM 111;MATH 141 orMATH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 330 Thermodynamics (3) Introduction for technologists to the basic concepts and applications of thermodynamics.

MET 330 Thermodynamics (3)

This course is designed as the first thermal sciences course in a series of three. Students are introduced to the basic thermodynamic units and concepts, the properties of pure substances, first law of thermodynamics for open and closed systems, second law of thermodynamics, ideal cycles, performance and efficiency, entropy, power and refrigeration cycles. Evaluation is based on homework assignments, quizzes and examinations. Students need a background that includes inorganic chemistry and calculus to succeed in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250, PHYS 211 orPHYS 150 . Prerequisite or concurrent:CHEM 110, CHEM 111;MATH 141 orMATH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 332 Thermal Engineering A (3) Basic thermodynamic units, concepts, properties of ideal gases and vapors, first and second laws, gaseous mixtures, one-dimensional compressible flow.

Thermal Engineering A (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 331W Heat Transfer (4) Introduction for technologists to the basic concepts and applications of heat transfer. Includes a thermodynamics and heat transfer laboratory.

Heat Transfer (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 300 orMET 330 . Prerequisite or concurrent:MET 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 334 Engineering Thermodynamics and Heat Transfer (3) Basic thermodynamic concepts and definitions, first and second laws; properties of pure substances; cycle analysis; power generation; heat transfer.

Engineering Thermodynamics and Heat Transfer (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 336 Engineering Fluid Mechanics (3) Thermal and dynamic principles applied to fluid behavior, ideal, viscous, and compressible fluids under internal and external flow conditions.

Engineering Fluid Mechanics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211
Concurrent: Chemistry Physics Calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 341 Mechanical Measurements and Instrumentation (3) Measurement concepts, transducers, electronic-aided measurement, mechanical and electrical measurements. Intended for mechanical engineering technologists.

Mechanical Measurements and Instrumentation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MCH T 214;EET 105 orEET 100 orE E 211;PHYS 151, PHYS 212 orPHYS 251
Concurrent: PHYS 151 PHYS 212 or PHYS 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 342 Instrumentation (2) Measuring system responses of first and second order instruments; fundamentals of mechanical measurements, including pressure, temperature, fluid flow, etc.

Instrumentation (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 358 Process Design Engineering (3) Introduction to process design for production applications from job shop to world-class manufacturing environments.

MET 358 Process Design Engineering (3)

Process design engineering includes the theory and application of principles and practices for economical tool design. Students will learn and demonstrate the use of basic engineering metrology tools. Students will learn and apply the principles of geometric dimensioning and tolerancing to datum systems. Students will learn the elements of process design for a variety of manufacturing processes currently used in industry with a focus on material removal methods including computer numerical control machining. Students will learn the fundamentals of process specification, planning, and fixture design for high-volume material removal operations. Students will participate in a team project to design and build a production machining fixture. The project teams will document and present their designs.

This course is the second of a three-course sequence with a focus on manufacturing. The first two courses, Introduction to Manufacturing Processes and Process Design Engineering, are required in the Mechanical Engineering Technology program at Penn State Capital College. The third course, Manufacturing Engineering, is a senior-level technical elective. The course in this proposal will be offered every spring semester with a projected enrollment of 30. All lab work will be done in the Engineering Lab Building.

Students are evaluated based on their individual performance as well as their participation as a team member. Evaluation opportunities are both lecture and lab-related. There are two exams and a couple of short projects that each student will complete. Student teams will conduct a machining experiment, which each student will analyze in a formal lab report. Project teams will document their fixture designs with drawings and supporting descriptions. Also, each team will prepare a formal presentation showcasing their fixtures and present it to the class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: IET 321 orIET 215 andIET 216

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 365 Design of Machine Elements (3) Design of structural and mechanical elements with emphasis on theories of fatigue failure.

MET 365 Design of Machine Elements (3)

Design of Machine Elements covers a wide array of mechanical engineering principles. The course draws heavily on the knowledge gained in the strength of materials lecture and laboratory courses. Failure Theory is covered for both static and dynamic loading conditions. The study of failure under "low stress" cyclic loading, also called fatigue, is a feature of failure theory study. Finally, the theories are applied to the design of machine and structural elements that include beams, columns, pressure vessels, shafts, keys, couplings, belt and chain drives, fasteners, springs, gears, brakes, and clutches. The effects of wear and lubrication on machine design are also examined.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: E MCH 213 orET 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 401 Advanced Kinematics (3) Analysis and design of planar and space mechanisms using advanced techniques, including computers; robotics.

Advanced Kinematics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212, MET 108, MET 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 403 Advanced Mechanical Design (3) Continuation of strength of materials and machine design, with emphasis on advanced methods of design and analysis of machine elements.

Advanced Mechanical Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 365

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 415 Finite Element Analysis Applications I (3) Solutions of advanced engineering design problems using finite elements. Intended for engineering technologists.

Finite Element Analysis Applications I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 320 ; Concurrent:MET 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 417 Finite Element Analysis (3) Formulation and computer implementation of finite element models for solving problems in heat transfer, fluid flow, and solid mechanics.

Finite Element Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 365

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 425 Finite Element Analysis Applications II (3) Solutions of advanced engineering design problems using finite element methods.

Finite Element Analysis Applications II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 418 Finite Element Analysis for Plastics Design (3) Solutions of advanced engineering problems using finite element and finite difference techniques; advanced topics in computer-aided manufacturing; problems in optimization and design.

Finite Element Analysis for Plastics Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MCH T 213, PL ET 232, PL ET 235 . Prerequisite or concurrent:PL ET 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 431 Heat Transfer (3) Basic principles of conduction, convection, and radiation with applications.

Heat Transfer (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 432 Fluid Power (3) Principles of fluid flow, hydraulic components, and hydraulic circuits having application to industry.

Fluid Power (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 300 orMET 330;MET 331W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 435 Building Energy Systems (3) Analysis and design of components and systems for building heating and cooling; emphasis on applying the thermal sciences.

Building Energy Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 332, MET 336

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 438 Thermal Engineering B (3) Applied thermodynamics of power cycles; refrigeration and air conditioning cycles; combustion; psychometrics; and gas mixtures.

Thermal Engineering B (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 440 Vibrations for Technologists (3:) Principles of basic vibration theory, vibration measurement, data acquisition and analysis, and the effective presentation of vibration data.

MET 440 Vibrations for Technologists (3)

This course will introduce students to basic vibration theory. The theoretical topics will include lumped parameter, single degree-of-freedom and multi degree-of-freedom systems with descriptions of damping models, transmissibility, and transient behavior. Simple continuous systems will also be described. The focus of the course will be on data acquisition and data analysis and on practical vibration solutions. Students learn how to install various measurement devices and how to discriminatively process vibration signals. They also learn effective ways of presenting data to engineering and management. The practical vibration solutions presented will allow the student to understand and solve general problems typically encountered by a technologist in industry.

Student performance will be evaluated by exams, graded homework, assignments, and laboratory reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212 orMET 206;MATH 231 andMATH 250 orMATH 211;MET 341;MET 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 448 Mechanical Engineering Technology Laboratory B (2) Laboratory exercises in the areas of instrumentation, strength of materials, fluid flow, vibrations, thermodynamics, etc.

Mechanical Engineering Technology Laboratory B (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 336, MET 342, ENGL 202C and senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 441 Vibration Analysis (4) Analysis of motion arising from lateral and torsional vibrations of systems; free and forced vibrations; damping; isolation; balancing.

Vibration Analysis (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212, MET 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 450 Manufacturing Engineering (3) Design, analysis and operational issues related to improved productivity and efficiency in modern manufacturing systems.

MET 450 Manufacturing Engineering (3)

Manufacturing engineering includes discussion and integration of the components of automated manufacturing systems. The basic components of those systems are computer numerical control (CNC) machines, robots, and programmable logic controllers. Students also consider the design, analysis, and operational issues related to improved productivity and efficiency in modern manufacturing systems. Students will learn and understand manufacturing systems and their related problems in planning, design, analysis, and implementation. Students will learn associated technology including computer numerical control, robotics, and material handling systems. Students will learn how the technology is integrated into flexible manufacturing systems. Students will learn the fundamentals of manufacturing systems including group technology, cell formation, and just-in-time manufacturing. This course is the third of a three-course sequence with a focus on manufacturing. The first two courses, Introduction to Manufacturing Processes and Process Design Engineering, are required in the Mechanical Engineering Technology program at Penn State Capital College. This course, Manufacturing Engineering, is a senior-level technical elective. The course in this proposal will be offered at least every other year with a projected enrollment of 25. All project work will be done in the Engineering Lab Building.

Students are evaluated based on their individual performance as well as their participation as a team member. Evaluation opportunities are both lecture and project-related. There are two individual exams and student project teams will document their manufacturing system design. Also, each team will prepare a formal presentation showcasing their systems and present it to the class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 358

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 454 Automatic Controls (3) An introduction to basic automatic control theory, practical applications of automatic controls to typical industrial machinery, HVAC equipment, etc.

Automatic Controls (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212, MET 321

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 452 Rapid Prototyping (3) Introduction to the production of prototypes directly from computer models.

Rapid Prototyping (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: IET 216, MET 306

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 457 Lean Manufacturing (3) Principles and methods of Lean Manufacturing currently used in modern industries.

MET 457 Lean Manufacturing (3)

This course introduces the students to the methods of Lean Manufacturing used currently in the manufacturing industry. The basic Lean Manufacturing topics covered in the lecture include its history, the commitment required by a company to start and sustain Lean Mfg, team building, and the training required by both management and the employees. To aid in the organization of the many Lean topics lectured on and to give the students a structured guideline for analyzing a process, the method of Value Stream Management is used. This method, when used on either a manufacturing or office environment, maps the manufacturing process and analyzes it for opportunities to reduce waste. Once the process mapping has been accomplished, the more advanced Lean topics are then covered which introduces the student to methods of reducing or eliminating waste in the manufacturing process. These topics include fast setup (SMED), plant floor organization (5S), improving equipment uptime (TPM), improving product quality, error proofing a process (Poka-Yoke), work balancing and cellular layout. Additionally, the most advanced topics of autonomation, just-in-time (JIT), flexible or agile manufacturing, and Kanban are covered. In order for the student to fully comprehend the material presented, the students are placed into teams that are sponsored by local industries to work on a manufacturing process. The students are given the opportunity to explore a manufacturing process and develop ways to eliminate problems, issues, and waster in an actual situation rather than a simulation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: 7th semester standing; andIE T 215 orM E 468 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 461 Advanced Machine Design (3) Stress analysis, material selection, design of machine elements, design of connections, and computer-aided design.

Advanced Machine Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 210W, MET 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 462 Internal Combustion Engine Design (3) The effect of operation requirements on design and construction of internal combustion engines; study of support systems and emissions control.

Internal Combustion Engine Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 470 Materials Engineering (3) Study of material selection, material properties, material test methods, and special topics.

Materials Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 111, MET 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 480 Senior Capstone (1) Career and professional topics; development of year-long senior project with industry.

Senior Capstone (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 300 orMET 330;MET 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 485 Senior Industrial Project (3) Individual or group design projects in mechanical design or materials.

Senior Industrial Project (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 425, MET 470, MET 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 481 Project Design (1) Design of system or machine, including decision making, engineering analysis, layout, detail drawings, specifications, construction.

Project Design (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 365, MET 431 and senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 486 Project Design (3) Design of system or machine, including decision making, engineering analysis, layout, detail drawings, specifications, construction.

Project Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MET 365, MET 431, MET 481 and senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechan Engr Technolg (MET)

MET 497B Energy Conservation Systems (3) Analyze processes and systems for energy conversion, including power, refrigeration and air conditioning cycles, thermoelectric, and fuel cells.

Energy Conservation Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MET 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 101S Toy Fundamentals: First-Year Seminar (1) First-Year Seminar focusing on toy design and manufacture.

M E 101S Toy Fundamentals (1)
(FYS)

Toy Fundamentals is a First-Year Seminar intending to be an introduction to engineering design and prototyping through a product type everyone has used: toys! This five-week class explores the history of toys, marketing, toy design for different ages, and includes toy dissection, design, prototyping and field testing. It will run in the first 5 weeks of the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 102S Smart Lego Robots & Design (1) First-Year Seminar focusing on the development of technology exploration kits for middle-school-aged children.

M E 102S Toys for Technology Exploration: First-Year Seminar (1)

This is a First-Year Seminar that focuses on an important sub-group of toys. "Learning-by-doing" is a recognized method for improving student's learning in grades K-12 (and in college!). As part of "Toys for Technology Exploration", existing hands-on kits used for science and math education for ages 10-14 will be reviewed. The new standards for science and technology education in Pennsylvania are used to guide new hands-on kit designs, and these designs will be prototyped and field-tested with public school students.

Note: Class size, frequency of offering, and evaluation methods will vary by location and instructor.
For these details check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 103S The Art and Science of Manufacturing: First-Year Seminar (1) A First-Year Seminar focusing on the practical and non-technical aspects of manufacturing.

M E 103S The Art and Science of Manufacturing (1)
(FYS)

Manufacturing was primarily an art, which gradually increased its dependence on the new scientific discoveries, and therefore, physics, chemistry, and mathematics became an integral part of engineering foundation. Today, manufacturing is a very intricate combination of advanced scientific techniques and art. This First-Year Seminar will take students on an enchanting tour of various manufacturing processes used in different engineering disciplines. There will be three primary modes of instruction, videotapes, lectures (including those presented by guest lecturers), and an industrial plant tour.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 104S Environmentally Conscious Engineering: First-Year Seminar (1) A First-Year Seminar focusing on environmental issues as they pertain to the engineering profession.

M E 104S Environmentally Conscious Engineering (1)
(FYS)

The idea of this course was inspired by an ongoing National Science Foundation-supported project on environmentally conscious manufacturing, which started in 1994. Faculty members and doctoral students from four engineering departments are involved with this project: Mechanical Engineering, Industrial Engineering, Civil and Environmental Engineering, and Engineering Science and Mechanics. They are conducting cutting edge research on widely ranging topics with one common thread--they are all working on environmentally friendly engineering ideas. The course objective is to provide the students a glimpse of current engineering practices that are environmentally friendly. Also, students will have a chance to observe how research projects and experiments are conducted and they will be introduced to faculty and graduate students from different disciplines of engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 105S Product Dissection A: Bicycles--First-Year Seminar (1) A First-Year Seminar in which students analyze and disassemble a multi-speed bicycle.

M E 105S Product Dissection A: Bicycles (1)
(FYS)

Students are led through the disassembly, testing, troubleshooting and re-assembly of 10- and 15-speed bicycles. Routine maintenance, common problems, and fundamental design principles are addressed. Also, manufacturing and design issues such as material selection, fabrication technology, and reliability will be discussed. Students may supply their own bicycle, or use one from our supply.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 106S Product Dissection B: Household Appliances--First-Year Seminar (1) A First-Year Seminar in which students analyze and disassemble household appliances.

M E 106S Product Dissection B: Household Appliances (1)
(FYS)

Students will disassemble, analyze and re-assemble a series of small household appliances such as telephones and electric drills. Lectures will discuss issues of design and manufacturing as well as consumer product testing. Students will conceive, design, and carry out a consumer product testing program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 190S Special Topics in Mechanical Engineering: First-Year Seminar (1) A First-Year Seminar focusing on issues related to Mechanical Engineering.

M E 190S Special Topics in Mechanical Engineering: First-Year Seminar (1)
(FYS)

In this First-Year Seminar, students will explore the Mechanical Engineering profession by means of treatment of a particular topic in M E. Students will be assigned pertinent readings and the professor will lead discussions on the ethical, professional, and societal aspects of the topic area. The seminar will also feature group activities and encourage participation in the classroom setting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 107S Product Dissection C: The Enigmatic Engine--First-Year Seminar (1) A First-Year Seminar in which students analyze and disassemble a single-cylinder lawnmower engine.

M E 107S Product Dissection C: The Enigmatic Engine (1)
(FYS)

Students are led through the disassembly of a single cylinder lawn mower engine. Students work with faculty and student helpers to understand concepts of operation, manufacturing and assembly. Then the engines are reassembled and started. Guest speakers will lead discussions regarding the use of fossil fuels, design for manufacturing, and marketing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 240 Product Dissection (3) Dissection of products and processes; reverse engineering, examination of materials usage, manufacturing processes, design, invention, and consumer issues.

M E 240 Product Dissection (3)

This course examines the way in which products and machines work: their physical operation, the manner in which they are constructed, and the design and societal considerations that determine the difference between success and failure in the marketplace. The primary objectives in this course are to develop a basic aptitude for engineering and engineering design and to develop mental visualization skills by examination of design and manufacture of consumer and industrial products. Heavy emphasis is placed on hands-on laboratory experience and the development of team and communication skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EDSGN 100, PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 201 Introduction to Thermal Science (3) Application of the basic concepts of thermodynamics, fluid dynamics, and heat transfer to the solution of engineering problems.

Introduction to Thermal Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 302 Engineering Thermodynamics (4) Engineering thermodynamics and heat transfer, with pertinent applications to devices important in mechanical engineering. For students in engineering science.

Engineering Thermodynamics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CHEM 112, PHYS 211 andMATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 300 Engineering Thermodynamics I (3) Basic thermodynamics concepts, properties of pure substances, first and second law analysis of systems and control volumes.

Engineering Thermodynamics I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: CHEM 110, MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 308 Fluid Flow and Heat Transfer Laboratory (1) Experimental work to enhance understanding of thermodynamics, fluid dynamics, and heat transfer.

Fluid Flow and Heat Transfer Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320 . Prerequisite or concurrent:M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 320 Fluid FLow (3) Thermodynamic and dynamic principles applied to fluid behavior; ideal, viscous, and compressible fluids under internal and external flow conditions.

Fluid FLow (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212, MATH 251;M E 201 orM E 300;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 315 Heat Transfer Laboratory (1) Application of the fundamental concepts associated with conduction, convection, and radiation to the actual measurements of heat transfer.

Heat Transfer Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320 . Prerequisite or concurrent:M E 345, M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 325 Fluids Laboratory (1) Laboratory experience with fluid mechanics measurement techniques: flow visualization, pressure measurement, hot-wire anemometry, laser Doppler anemometry, computer data acquisition.

Fluids Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, M E 345

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 345 Instrumentation, Measurements, and Statistics (4) Fundamentals of statistics, sensors, instrumentation, and measurement of mechanical phenomena such as temperature, flow, pressure, force, stress, displacement, and acceleration.

M E 345 Instrumentation, Measurements, and Statistics (4)

This course is required for all mechanical engineering students, and is taken in the junior year. It serves as an introduction to the fundamental principles of instrumentation and measurement, along with statistics, and integrates and applies what the students have learned in their electrical engineering course.

The course includes a 3-hour-per-week hands-on laboratory where students apply the material learned in the lecture. For many students this is the first time they have actual hands-on experience with electronics and measurement equipment, such as oscilloscopes, breadboards, function generators, digital data acquisition systems, integrated circuits strain gages, displacement meters, thermocouples, tachometers, dynamometers, filters, volume flow meters, velocity meters, pressure transducers, etc. Students learn not only how to use these devices in the lab, but also the fundamental principles of their operation. Statistical analysis is integrated into the course, especially in the hands-on laboratories, where statistics is used to analyze and interpret acquired data.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent:E E 212 orE E 211 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 340 Mechanical Engineering Design Methodology (3) The design process; problem definition, conceptual design, system design, detail design, evaluation and test, implementation, documentation and communication.

M E 340 Mechanical Engineering Design Methodology (3)

This course is intended to provide mechanical engineering students with the fundamental tools to produce an effective design solution in a realistic professional environment with conflicting customer needs and technical capabilities. The students will identify the system design targets through interaction with the "customer", develop multiple conceptual designs, select the best design solution and produce a functional prototype. The course is project driven with significant input from the students in defining the work objectives and goals. Initially several mini-projects will be assigned with specific objectives such as identifying customer needs, quantifying technical design specifications and decision making. The course culminates with a student team based design competition. The competition provides an opportunity to apply the design process to an open-ended mechanical engineering problem.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: EDSGN 100, M E 320 Prerequisite or concurrent:M E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 345W Instrumentation, Measurements, and Statistics (4) Measurement concepts, probability and statistics, error analysis; electro- mechanical transducers, applied electrical and mechanical measurements, electrical and electronics instruments, data acquisition and instrumentation systems.

Instrumentation, Measurements, and Statistics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: Prerequisite or concurrent:E E 212 orE E 211 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 347 Computer-Aided Engineering (3) Introduction to the tools and techniques of computer-aided design, including CAD, spreadsheets, numerical methods, and finite element analysis.

M E 347 Computer-Aided Engineering (3)

In this course students learn how to use a variety of computer tools for engineering analysis and design. These tools include Computer-Aided Design software such as solid modeling, spreadsheets, numerical methods, and finite element analysis. A major emphasis of the course is the development and solution of mathematical models of engineering systems or components. Students see how simplified analysis diagrams (free-body diagrams, block diagrams and control volumes) can be developed for real systems and components, and how these diagrams can be used to develop the mathematical models. Numerical techniques for solving these models, including systems of equations, non-linear equations, ordinary and partial differential equations, numerical differentiation and integration, and curve fitting are discussed. Students are also taught how to learn a new computer package with minimal formal instruction. Students are evaluated through the use of written exams during the semester, a comprehensive written final, weekly homework assignments, and a design project. This course is required in the Mechanical Engineering program, integrates material from a number of previous courses, and provides the student with tools that will be used in a number of subsequent courses. It is offered annually in the fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 201 orCMPSC 202;EDSGN 100 orEDSGN 100S . Prerequisite or concurrent:E MCH 213, MATH 220, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 355 Automatic Controls Laboratory (1) Experimental investigation of simple position, velocity, and temperature control systems with analog and digital controllers.

M E 355 Dynamic Systems Laboratory (1)

The objective of the Dynamic Systems Laboratory is to enable students to experimentally investigate the calibration, response characteristics, modeling, and control of mechanical and fluid systems.

This course is intended to allow students to develop some hands-on experience and working knowledge of basic dynamic and control systems. Specifically, to

1. Identify the actuators, sensors, plants, and controllers of physical control systems.
2. Calibrate encoders, temperature, laser displacement, and flow sensors.
3. Measure steady state, step, and frequency response of thermal, fluid, and mechanical systems.
4. Compare simulation and experimental results to validate theoretical model.
5. Design PID controllers for thermal, fluid, and mechanical systems.
6. Implement and test PID controllers for thermal, fluid, and mechanical systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: M E 345, M E 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 355 Dynamic Systems Laboratory (1) Experimental investigation of simple position, velocity, and temperature control systems with analog and digital controllers.

M E 355 Dynamic Systems Laboratory (1)

The objective of the Dynamic Systems Laboratory is to enable students to experimentally investigate the calibration, response characteristics, modeling, and control of mechanical and fluid systems.

This course is intended to allow students to develop some hands-on experience and working knowledge of basic dynamic and control systems. Specifically, to

1. Identify the actuators, sensors, plants, and controllers of physical control systems.
2. Calibrate encoders, temperature, laser displacement, and flow sensors.
3. Measure steady state, step, and frequency response of thermal, fluid, and mechanical systems.
4. Compare simulation and experimental results to validate theoretical model.
5. Design PID controllers for thermal, fluid, and mechanical systems.
6. Implement and test PID controllers for thermal, fluid, and mechanical systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: M E 345 ; Prerequisite or concurrent:M E 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 357 System Dynamics (3) Mathematical modeling and analysis of linear dynamic systems; performance and design of simple controllers.

M E 357 System Dynamics (3)

This course is to explore the modeling of linear systems via transfer functions and state-space models; analysis of systems in the time and frequency domain using transfer functions and stat-space models; development of control techniques based on PID. The use of software Matlab and Simulink is another emphasis. Students are evaluated through the use of written exams during the semester, a comprehensive written final, weekly homework assignments, and a design project. This course is required in the ME BD program at Behrend, integrates material from a number of previous courses, and provides the student with tools that will be used in a number of subsequent courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CMPSC 201 orCMPSC 202;E E 211 orE E 212;MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 360 Mechanical Design (3) Specification of components such as shafts, bearings, and power transformers; optimal designs for operational, environmental, and manufacturing requirements.

M E 360 Mechanical Design (3)

This course is required for all mechanical engineering students, and is taken in the junior year. It is an introduction to analysis and design of mechanical components. It helps provide practical insight into theory provided by prerequisites in engineering mechanics and materials science. Students initially perform yielding and fatigue failure predictions for general structural elements and then focus on specific mechanical components such as gears, fluid film bearing, rolling element bearings, screws, shafts and springs. Use and interpretation of finite element analyses (FEA) are also introduced. The overall goals are for students to learn to make basic design decisions regarding the suitability of different materials in mechanical components (e.g. steel versus aluminum); and to make basic design decisions regarding the suitability of different components in a mechanical system (e.g. ball bearings versus fluid film bearings).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 315;CMPSC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 360 Mechanical Design (3) Specification of components such as shafts, bearings, and power transformers; optimal designs for operational, environmental, and manufacturing requirements.

M E 360 Mechanical Design (3)

This course is required for all mechanical engineering students, and is taken in the junior year. It is an introduction to analysis and design of mechanical components. It helps provide practical insight into theory provided by prerequisites in engineering mechanics and materials science. Students initially perform yielding and fatigue failure predictions for general structural elements and then focus on specific mechanical components such as gears, fluid film bearing, rolling element bearings, screws, shafts and springs. Use and interpretation of finite element analyses (FEA) are also introduced. The overall goals are for students to learn to make basic design decisions regarding the suitability of different materials in mechanical components (e.g. steel versus aluminum); and to make basic design decisions regarding the suitability of different components in a mechanical system (e.g. ball bearings versus fluid film bearings).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 315;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 365 Materials Testing Laboratory (1) Laboratory for materials testing, property identification and modification, failure analysis, and metallurgical testing.

M E 365 Materials Testing Laboratory (1)

This laboratory course provides an integrated approach to materials science and engineering. The laboratory examines the important relationships between processing, microstructure, and the properties of materials. The course provides an introduction to basic characterization techniques for materials, such as microscopy, hardness testing, fracture testing and analysis, fatigue testing, and impact testing. In addition, material selection and heat treatment topics are covered. The course requires hands-on involvement by the students in the planning of experiments as well as data manipulation and analysis of results. The laboratory exercises are intended to provide students with a broad appreciation of the breadth of material science and engineering and the principles behind material characterization and property modification. Students work in groups, and written reports are the primary basis for grading.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Concurrent: MATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 367 Machine Design (3) Design and selection of machine components and connections. Stress analysis and modes of failure of materials used in machine components.

M E 367 Machine Design (3)

This is a junior level course that introduces students to the selection, design and failure analysis of machine components including machine elements, supports/frames and materials. Both static and cyclic loads are covered as part of the design and analysis process. Extensive use is made of material properties, design tables, figures and graphs to assist in the design and analysis process. The course includes a comprehensive project that includes several of the topics covered in the course as well as other Machine Design topics. The goal of the project is for students to learn how various machine components and procedures are used in the Machine Design process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: M E 347
Concurrent: MATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 368 Materials Properties and Characterization (4) Properties and characteristics of materials.

Materials Properties and Characterization (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CHEM 110, E MCH 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 370 Vibration of Mechanical Systems (3) Modeling and analysis of vibration characteristics of mechanical systems with single degree and multiple degrees of freedom. Vibration control by isolation, absorption and balancing.

M E 370 Vibration of Mechanical Systems (3)

The course studies vibration characteristics of mechanical systems and vibration control. It is divided into four main topics. Fundamental aspects of mechanical vibrations are studied first. Types and causes of various vibratory motions are described. The concepts of mathematical modeling of the vibratory systems are presented. Model elements including mass/inertia, spring and damper elements and their corresponding describing equations are studied. Single degree-of-freedom vibrations are modeled and analyzed. Equations describing free vibrations of undamped and damped systems are derived. Natural frequency and damping ratio are defined and their physical significance discussed. Harmonically excited vibrations are studied with many practical application problems; resonance and its physical significance are emphasized. The theoretical aspects of general periodic vibrations and non-periodic vibrations are formulated by means of Fourier analysis and convolution integral. Vibrations of multiple degrees-of-freedom systems are studied. Mathematical models governing free vibrations are formulated. Equations determining the natural frequencies and mode shapes of the system are derived with relation to eigenvalue problems. Harmonically excited vibrations are analyzed with practical applications. Vibration control in relation to engineering design is the last topic studied. Various vibration control concepts and techniques are presented including vibration isolation, vibration absorption and balancing to reduce the intensity of the source of excitation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 212, CMPSC 201 orCMPSC 202, MATH 220, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 370 Vibration of Mechanical Systems (3) Modeling and analysis of vibration characteristics of mechanical systems with single degree and multiple degrees of freedom. Vibration control by isolation, absorption and balancing.

M E 370 Vibration of Mechanical Systems (3)

The course studies vibration characteristics of mechanical systems and vibration control. It is divided into four main topics. Fundamental aspects of mechanical vibrations are studied first. Types and causes of various vibratory motions are described. The concepts of mathematical modeling of the vibratory systems are presented. Model elements including mass/inertia, spring and damper elements and their corresponding describing equations are studied. Single degree-of-freedom vibrations are modeled and analyzed. Equations describing free vibrations of undamped and damped systems are derived. Natural frequency and damping ratio are defined and their physical significance discussed. Harmonically excited vibrations are studied with many practical application problems; resonance and its physical significance are emphasized. The theoretical aspects of general periodic vibrations and non-periodic vibrations are formulated by means of Fourier analysis and convolution integral. Vibrations of multiple degrees-of-freedom systems are studied. Mathematical models governing free vibrations are formulated. Equations determining the natural frequencies and mode shapes of the system are derived with relation to eigenvalue problems. Harmonically excited vibrations are analyzed with practical applications. Vibration control in relation to engineering design is the last topic studied. Various vibration control concepts and techniques are presented including vibration isolation, vibration absorption and balancing to reduce the intensity of the source of excitation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212, CMPSC 200, MATH 220, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 375 Vibrations Laboratory (1) Experimental measurement and analysis of mechanical system dynamics.

Vibrations Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: or concurrent:M E 370, M E 345

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 380 Machine Dynamics (3) Kinematic analysis of mechanisms such as linkages, flywheels, cams and gears. Dynamic forces and vibrations of mechanisms.

M E 380 Machine Dynamics (3)

In this course students learn how to apply the techniques of dynamics to analyze both the motion and forces associated with planar mechanisms. Students learn how to model and solve for the position, velocity, acceleration and forces on linkages using vectors. They also study the kinematics of gears, flywheels and cams. Machine vibrations is introduced as an integral part of Machine Dynamics. Students learn how to model simple mechanical systems as vibrating systems and then analyze the vibratory response of these systems. Once these analytical skills have been developed, the students can apply these skills to the design of linkages, internal combustion engines, gears, shafts and cams. Several in-class exams are used to evaluate students' performance. Computer problems are assigned so students can experience the solution methods to some of the more complex problems. This required course integrates material from calculus and dynamics to provide the student with tools that can be used to analyze the motion of machinery and can be used in the design of machinery and machine components. It is offered annually in the Fall semester and occasionally in the Spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: E MCH 212, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 400 Thermodynamics of Propulsion and Power Systems (3) Analysis and modeling of propulsion and power systems, including combustion, compressible flow through nozzles, chemical equilibrium, and moist air systems.

M E 400 Thermodynamics of Propulsion and Power Systems (3)

This course is specifically designed to take advantage of the senior level standing of the student by providing an integrative modeling and analysis approach to thermal-fluids systems. The course emphasizes the integration and application of fundamental principles of mass, momentum, and energy conservation to relatively complex systems. These systems include spark-ignition and diesel engines, gas-turbine engines for power production, and turbojet engines. The integration of the topics of combustion, compressible flow, and psychrometrics allow these systems to be analyzed in their totality. Emphasis is on creating engineering models of these systems. The course aims to integrate previous knowledge and develop skill in "thinking like an engineer."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 300 andM E 320 ; Prerequisite or concurrent:M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 401 Refrigeration and Air Conditioning (3) Theoretical principles, design, performance, and selection of various refrigeration and air-conditioning systems; building heat and cooling loads; solar heating.

Refrigeration and Air Conditioning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 402 Power Plants (3) A study of fossil-fuel steam generation and utility plants, including cogeneration, gas turbine, and combined cycles.

M E 402 Power Plants (3)

This course serves as an introduction to fossil-fuel plants for both steam generation and electricity production. Following an overview of an entire plant and an introduction to combustion processes, each subsystem of a fossil-fuel plant will be considered. The subsystems include fuel preparation and handling, boiler types and the fundamentals of steam generation, water systems (condensate-feedwater, makeup, cooling, and waste), and turbomachinery. Consideration will be given to environmental aspects of steam and power generation as well as operations, maintenance, and controls issues. Students will spend time at the West Campus Steam Plant (WCSP) to observe the various systems discussed in class. Data taken from the WCSP will be used in problem solving and in an assessment of the plant.

Course Objectives:
To acquaint students with both steam generation and electricity production and to present some of the engineering calculations encountered in practice.

Objectives that students will meet at the end of the course:
I . list the subsystems of a plant, indicating the function of each subsystem
2. sketch typical subsystems of a power plant (example: sketch the coal and ash handling system)
3. perform basic analyses associated with each subsystem
4. sketch the flow of water-steam, fuel, and air through a plant
5. analyze a heat balance, perform an availability analysis, and interpret the results of those analyses
6. select the type of plant appropriate for a given application
7. perform an energy audit on the auxiliary systems
8. perform a water audit on the plant
9. use DoE Best Practices (or equivalent program) to assess a steam plant

Students will be required to draw on material from core undergraduate courses in thermodynamics (M E 030 and M E 031), fluid mechanics (M E 033), and heat transfer (M E 412). Students must be able to:
sketch the configuration and draw a T-s diagram for a Rankine cycle and a Brayton cycle
indicate the general trends for the ideal cycles (example: for a Brayton cycle, how does the efficiency depend on the pressure ratio, inlet temperature, etc.)
define the basic modifications to the simple Rankine cycle and simple Brayton cycle
discuss the significance of the modifications
state the definition of the adiabatic efficiency for turbines and pumps
perform an energy balance given a particular cycle
use the Darcy-Weisbach equation to determine the friction losses in pipes and ducts
perform simple analysis of a heat exchanger

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 403 Polymer Electrolyte Fuel Cell Engines (3) Introduction to Fundamentals of Polymer Electrolyte Fuel Cells (PEFCs). Includes fundamentals of electrochemistry, thermodynamics, fluid mechanics, heat transfer materials, and manufacturing issues of PEFCs. A brief survey of other fuel cell types is also included.

M E 403 Polymer Electrolyte Fuel Cell Engines (3)

This course is intended for the engineering student interested in obtaining a fundamental background required for polymer electrolyte fuel cell (PEFC) modeling and diagnosis. Those students with interest in the basic design, operation, and characteristics of PEFC systems should also benefit.

This course serves as an introduction to the fundamental principles of electrochemistry, thermodynamics, heat and mass transfer, materials and manufacturing issues related to PEFC engines. The various types of PEFC components and technologies are dissected in detail, including direct inject alternative fuel systems. A survey of cutting-edge issues in fuel cell technology including the future direction of PEFC technology will be presented as time permits. The student will also participate in an experimental lab study to aide in the understanding of these systems, a computer-based simulation project, and a group-based fuel cell system design project. Issues of specific interest to mechanical engineers, including water management and heat and mass transfer in thin film porous media, will be dealt with in depth. A brief survey of other fuel cell types is also presented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: M E 300 Prerequisite or concurrent:M E 320
Concurrent: M E 410 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 403 Polymer Electrolyte Fuel Cell Engines (3) Introduction to Fundamentals of Polymer Electrolyte Fuel Cells (PEFCs). Includes fundamentals of electrochemistry, thermodynamics, fluid mechanics, heat transfer materials, and manufacturing issues of PEFCs. A brief survey of other fuel cell types is also included.

M E 403 Polymer Electrolyte Fuel Cell Engines (3)

This course is intended for the engineering student interested in obtaining a fundamental background required for polymer electrolyte fuel cell (PEFC) modeling and diagnosis. Those students with interest in the basic design, operation, and characteristics of PEFC systems should also benefit.

This course serves as an introduction to the fundamental principles of electrochemistry, thermodynamics, heat and mass transfer, materials and manufacturing issues related to PEFC engines. The various types of PEFC components and technologies are dissected in detail, including direct inject alternative fuel systems. A survey of cutting-edge issues in fuel cell technology including the future direction of PEFC technology will be presented as time permits. The student will also participate in an experimental lab study to aide in the understanding of these systems, a computer-based simulation project, and a group-based fuel cell system design project. Issues of specific interest to mechanical engineers, including water management and heat and mass transfer in thin film porous media, will be dealt with in depth. A brief survey of other fuel cell types is also presented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: M E 300, M E 320, CMPSC 201
Concurrent: M E 410 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 404 Gas Turbines (3) Thermodynamic cycles relating to gas turbines; analysis and performance of compressors, combustion chambers, single- and multi-stage turbines; recent developments.

M E 404 Gas Turbines (3)

This course enables students with the proper background to gain specialized knowledge as a step towards becoming practitioners in the field of gas turbines. The information imparted covers from basic cycles to properties of materials required to put together these impressive machines. Competent course performance requires knowledge of basic thermodynamics, fluids and heat transfer. The homework is carefully graduated in order to highlight key aspects already covered in the lectures, with new thinking an unavoidable part. As an optional part of the course, students can run and acquire data in an actual gas turbine. Additionally, those with a strong background in fluids can design blades and study the flow around them with CDF.

Course Objectives: Upon completion of this course, students should be able to:
1. Analyze cogeneration plants.
2. Analyze turbofans, jets and turbojets.
3. Specify a typical gas turbine installation, including auxiliaries.
4. Carry out conceptual design of gas turbine engines for different applications.
5. Specify construction materials to withstand typical operating conditions.
6. Demonstrate professionalism in interactions with colleagues, faculty, and staff.

Program Objectives: This course covers the following program objectives:
1. demonstrate ability to solve differential equations
2. demonstrate familiarity with linear algebra
3. perform analysis of thermal/fluids components
4. perform analysis of thermal/fluids systems
5. work effectively on multidisciplinary teams
6. demonstrate ability to communicate effectively with the written word
7. demonstrate ability to communicate effectively in oral communications
8. demonstrate professionalism in interactions with colleagues, faculty, and staff

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320 orM E 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 405 Indoor Air Quality Engineering (3) Prediction of the motion of contaminants (both gaseous particulate) in gas streams; analysis of ventilation systems and air pollution control systems; comparison of experimental sampling techniques.

M E 405 Air Pollution Control Systems (3)

This course serves as an introduction to environmental health engineering, which presents the quantitative relationships describing generation, movement, and control of pollutants inside the workplace. Although some aspects of the course can be applied to outdoor air pollution, the course concentrates on applications related to indoor air quality. In particular, students are taught how to measure and predict concentrations of air pollutants, both gaseous and particulate, in rooms. In addition, they are taught how to design both local and general ventilation systems to maintain acceptable indoor air quality. In addition, the design of air pollution control systems that remove both gaseous and particulate contaminants from the air is discussed.

The relationships are described by mass and energy balances that relate pollutant generation and movement to process parameters. The course is designed for seniors and graduate students in Mechanical, Chemical, Environmental and Civil Engineering, and Meteorology.

To work effectively in environmental health engineering, students must be proficient in applying the thermal sciences. The course uses principles of mathematics and thermal sciences included in accredited programs of engineering. Most students will have mastered some of these principles, but few will have mastered them all. The course reviews all the necessary thermal science principles before using them, but some students will need to review this material in more detail than others.

This course is offered once per year.

Course Objectives:
a. Demonstrate the ability to analyze and compare risks associated with various activities and with exposure to hazardous chemicals.
b. Demonstrate a working knowledge of the physiology and function of the respiratory system, including diseases of the lung.
c. Demonstrate the ability to estimate pollutant emission rates using emission factors and fundamental mass balance techniques.
d. Analyze practical problems of general and local ventilation requirements.
e. Design local ventilation systems using standard guidelines from ACGIH and ASHRAE.
f. Predict the motion of particles in air, and analyze pollution control devices which remove particles from the air.
g. Demonstrate professionalism in interactions with colleagues, faculty, and staff.

Program Objectives:
a. demonstrate knowledge of chemistry
b. demonstrate ability to solve differential equations
C. demonstrate familiarity with statistics
d. perform analysis of thermal/fluids components and thermal/fluids systems
e. demonstrate an appreciation of the economic, global, social, and ethical context of their work
f. demonstrate professionalism in interactions with colleagues, faculty, and staff
g. make effective use of spreadsheets as an analysis and design tool
h. use software such as Matlab and MathCAD to solve engineering problems including ODE'S, systems of linear equations, and numerical integration

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 406 (NUC E 406) Introduction to Statistical Thermodynamics (3) Statistical description of systems composed of large numbers of particles in the context of classical and quantum mechanics; basic concepts of probability theory and thermodynamics as they relate to statistical mechanics.

M E (NUC E) 406 Introduction to Statistical Thermodynamics (3)

This course is an introduction to probabilistic and statistical concepts in the physical sciences, which we refer to as "statistical thermodynamics." In areas such as design and processing of electronic devices, materials engineering, chemical engineering, and combustion engineering, the science of statistical mechanics is a particularly necessary, powerful, and important tool for the engineer. The underlying foundation of statistical mechanics is developed by (1) reviewing the basic ideas from probability theory, (2) deriving the binomial, Poisson, and Gaussian probability distributions, and (3) using these models to analyze several examples taken from science and engineering. To make a connection between macroscopic quantities and the corresponding probabilistic representation, classical thermodynamics is reviewed using the internal energy, entropy, and free energy functions in the context of the first and second laws. Statistical mechanics for classical and quantum-mechanical systems is presented via the micro-canonical, canonical, and grand canonical ensembles using the associated partition functions. During the syntheses of ideas, applications from various branches of science are presented. Some examples of applications are the Einstein crystal, the Debye crystal, the ideal gas, and black body radiation.

This course covers the following program objectives:
1. Demonstrate knowledge of basic chemistry and physics.
2. Demonstrate a knowledge of atomic and nuclear physics.
3. Demonstrate a knowledge of thermodynamics, heat transfer, and fluid flow.
4. Understand and apply the basic concepts of particle transport.
5, Understand and apply thermodynamics and heat transfer principles to the analysis of nuclear power components and systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 300 orM E 201 orM E 302 orCH E 303;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 408 Energy Systems (3) Theory, analysis, design, selection, and application of energy conversion systems.

M E 408 Polymer Electrolyte Fuel Cells Engines (3)

This course is intended for the engineering student interested in obtaining a fundamental background required for polymer electrolyte fuel cell (PEFC) modeling and diagnosis. Those students with interest in the basic design, operation, and characteristics of PEFC systems should also benefit.

This course serves as an introduction to the fundamental principles of electrochemistry, thermodynamics, heat and mass transfer, materials and manufacturing issues related to PEFC engines. The various types of PEFC components and technologies are dissected in detail, including direct inject alternative fuel systems. A survey of cutting-edge issues in fuel cell technology including the future direction of PEFC technology will be presented as time permits. The student will also participate in an experimental lab study to aide in the understanding of these systems, a computer-based simulation project, and a group-based fuel cell system design project. Issues of specific interest to mechanical engineers, including water management and heat and mass transfer in thin film porous media, will be dealt with in depth. A brief survey of other fuel cell types is also presented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, M E 410, M E 347

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 410 Heat Transfer (3) Transient heat conduction; convection in laminar and turbulent flow; heat exchanger devices; boiling and condensation; radiation.

M E 410 Heat Transfer (3)

M E 410, Heat Transfer, is a required course for mechanical and nuclear engineering students. The course presents the three modes of heat transfer: conduction, convection, and radiation. One-dimensional steady and transient conduction is studied for planar, cylindrical, and spherical geometries. The lumped capacitance analysis is used for transient conduction when appropriate. Analytical and numerical methods are presented for two-dimensional conduction problems, including the analysis of extended surfaces. Convection heat transfer is studied in both internal and external geometries and under laminar and turbulent flow regimes. External flows include cooling on flat plates due to laminar and turbulent boundary layer flows, and cooling of cylinders due to cross flow. The convection heat transfer analysis in internal flows considers laminar and turbulent pipe flows. Free convection is also considered where heat transfer is due to flow induced by fluid buoyancy. Boiling and condensation considers the effect of two-phase flows on surface heat transfer. Radiation heat transfer is studied by considering both the general characteristics of radiation as well as the properties of radiating surfaces and radiation heat transfer between surfaces. Methods for solving multi-mode heat transfer are presented throughout the course. Heat exchangers and heat transfer from extended surfaces are two applications studied in the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: AERSP 308, AERSP 311, C E 360 orM E 320;CMPSC 201 orCMPSC 202;MATH 220 orNUC E 309;MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 410 Heat Transfer (3) Thermal energy transfer mechanisms: conduction (steady, transient), convection (internal, external), radiation; lumped parameter method; heat exchangers; introduction to numerical methods.

M E 410 Heat Transfer (3)

M E 410, Heat Transfer, is a required course for mechanical and nuclear engineering students. The course presents the three modes of heat transfer: conduction, convection, and radiation. One-dimensional steady and transient conduction is studied for planar, cylindrical, and spherical geometries. The lumped capacitance analysis is used for transient conduction when appropriate. Analytical and numerical methods are presented for two-dimensional conduction problems, including the analysis of extended surfaces. Convection heat transfer is studied in both internal and external geometries and under laminar and turbulent flow regimes. External flows include cooling on flat plates due to laminar and turbulent boundary layer flows, and cooling of cylinders due to cross flow. The convection heat transfer analysis in internal flows considers laminar and turbulent pipe flows. Free convection is also considered where heat transfer is due to flow induced by fluid buoyancy. Boiling and condensation considers the effect of two-phase flows on surface heat transfer. Radiation heat transfer is studied by considering both the general characteristics of radiation as well as the properties of radiating surfaces and radiation heat transfer between surfaces. Methods for solving multi-mode heat transfer are presented throughout the course. Heat exchangers and heat transfer from extended surfaces are two applications studied in the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: AERSP 308, AERSP 311, C E 360 orM E 320;CMPSC 200 orCMPSC 202;MATH 220 orNUC E 309;MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 411 Heat-Exchanger Design (3) Thermal design and application of different heat-exchanger types, including surface selection and design optimization.

Heat-Exchanger Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 420 Compressible Flow I (3) Introductory compressible flow (gas dynamics), mathematical background, and physical concepts of isentropic flow, shock waves, expansion waves, and applications.

Compressible Flow I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 421 Viscous Flow Analysis and Computation (3) Apply analytical and computational methods to solve the differential equations describing fluid flow. Incompressible external flows past objects and internal flows in pipes and ducts are some problems considered.

M E 421 Viscous Flow Analysis and Computation (3)

M E 421 is an intermediate course in fluids mechanics that bridges between the required undergraduate fluid mechanics course and the graduate fluid mechanics courses. Steady and unsteady flows are considered past objects and in pipes, ducts, and annuli. Analytical and numerical methods are used to solve the boundary layer and Navier-Stokes equations that describe fluid motion. Analytical methods include solutions for steady and unsteady internal flows with heat transfer. Similarity equations for boundary layer flows are derived and then solved numerically using the Runge-Kutta method. Finite difference methods for viscous flows are introduced and applied. Turbulence modeling is presented and applied in a boundary layer code. The stages of transition from laminar to turbulent flow and methods for the prediction of transition are introduced.

Topics in M E 421 include:
1. Analytical solutions for one-dimensional viscous flows in Cartesian and cylindrical coordinates with heat transfer.
2. Unsteady viscous flow solutions using Separation of Variables.
3. Boundary layer similarity solutions using the Runge-Kutta method.
4. Panel method for incompressible inviscid flows.
5. Finite-differenced equations for viscous flows and the accuracy and stability of the schemes.
6. Using a commercial CFD code for a simple geometry.
7. Algebraic turbulence models and the approximations of each.
8. Higher-order turbulence models and the approximations used.
9. Stages of transition from laminar to turbulent flow.
10. Methods to predict boundary layer stability and transition.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: M E 201, M E 320, AERSP 308, AERSP 311 orC E 361;CMPSC 200 orCMPSC 201 orCMPSC 202;MATH 220;MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 421 Viscous Flow Analysis and Computation (3) Investigate analytical and computational methods for solving the differential equations describing fluid flow. Incompressible external flows past objects and internal flows in pipes and ducts are some problems considered.

M E 421 Viscous Flow Analysis and Computation (3)

M E 421 is an intermediate course in fluids mechanics that bridges between the required undergraduate fluid mechanics course and the graduate fluid mechanics courses. Steady and unsteady flows are considered past objects and in pipes, ducts, and annuli. Analytical and numerical methods are used to solve the boundary layer and Navier-Stokes equations that describe fluid motion. Analytical methods include solutions for steady and unsteady internal flows with heat transfer. Similarity equations for boundary layer flows are derived and then solved numerically using the Runge-Kutta method. Finite difference methods for viscous flows are introduced and applied. Turbulence modeling is presented and applied in a boundary layer code. The stages of transition from laminar to turbulent flow and methods for the prediction of transition are introduced.

Topics in M E 421 include:
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4. Panel method for incompressible inviscid flows.
5. Finite-differenced equations for viscous flows and the accuracy and stability of the schemes.
6. Using a commercial CFD code for a simple geometry.
7. Algebraic turbulence models and the approximations of each.
8. Higher-order turbulence models and the approximations used.
9. Stages of transition from laminar to turbulent flow.
10. Methods to predict boundary layer stability and transition.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: M E 320, M E 302, AERSP 311 orC E 261;CMPSC 201 orCMPSC 202;MATH 220, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 422 Principles of Turbomachinery (3) Application of Newton's laws of motion and basic laws of thermodynamics to analysis of fluid flow in turbomachinery.

Principles of Turbomachinery (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 427 Incompressible Aerodynamics (3) Analysis of lift and drag using potential flow theory, effects of viscosity on potential flow calculations, wind tunnel testing.

M E 427 Incompressible Aerodynamics (3)

The primary objective of this course is to teach students how to determine aerodynamic lift and drag using a variety of techniques, including potential flow theory, viscous flow analysis, and wind tunnel testing. Students also learn the limitations of each technique and how they can be used together to obtain better results. Fundamental concepts in aerodynamics are also discussed, including lift, drag, aerodynamic moment, induced drag, viscous drag, pressure drag, separation, stall, circulation, downwash, camber, thickness ratio, and lift distribution. Students should be able to use knowledge gained in this course to solve aerodynamic design problems.

Students will be evaluated through the use of written exams during the semester, a comprehensive written final, and weekly homework assignments. This course is a technical elective in the Mechanical Engineering program and allows students who have completed ME BD 240, Elementary Fluid Mechanics, to improve their understanding of fluids by covering the subject in more detail and applying it specifically to aerodynamics problems. It will usually be offered annually in the spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 428 Applied Computational Fluid Dynamics (3) Introduction to theory and application of computational techniques for solving fluid flow and heat transfer.

M E 428 Applied Computational Fluid Dynamics (3)

The purpose of this course is to teach students how to use a commercial CFD code to solve real-world engineering fluid flow problems. The definition of appropriate problem domain, set of governing equations, boundary conditions, and fluid properties is discussed. Sufficient theory of CFD is covered so that students are able to select appropriate elements or interpolation techniques and options, mesh size, pressure-correction technique and solution technique. Students are also taught how to interpret the results of a CFD simulation, including determination that the solution is physically realistic, conforms to the governing equations, is converged and grid independent, and determination of important engineering quantities such as net force, pressure drop and flow rate. Students are evaluated through the use of written exams during the semester, a comprehensive written final, weekly homework assignments, and a semester project. This course is a technical elective in the Mechanical Engineering program and allows students who are interested in fluid mechanics and heat transfer to further their study. It is offered periodically.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, M E 410, M E 347

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 430 (EGEE 430) Introduction to Combustion (3) Concepts related to laminar and turbulent premixed and nonpremixed combustion with applications to propulsion and stationary systems.

M E (EGEE) 430 Introduction to Combustion (3)

This course provides an introductory treatment of combustion science. The objectives of the course are to develop in the students an understanding of combustion kinetics, combustion thermochemistry, flame dynamics, flame stability, and pollutant formation. Coverage includes laminar and turbulent flames, premixed and diffusion flames, and detonations. Emphasis is placed on the role that Kinetics, heat transfer, mass transfer, and fluid dynamics have on flame structure and flame stability. The course includes some laboratory demonstrations of flat flame and diffusion flame burners, and incorporates numerical calculations of thermodynamic and kinetic combustion phenomena. The course begins with a review of transport phenomena, physical gas dynamics, and thermochemistry. Then, the concept of the laminar flame speed is introduced in the context of a one-dimensional flame and a propagating chemical wave. Issues of premixed flame structure and stability are presented along with a discussion of flammability limits. Next, laminar diffusion flames are presented via the Burke-Schumann analysis. From laminar flames, the emphasis shifts to turbulent premixed and diffusion flames, and the concepts of flame stretch and strain. Detonations are considered, with emphasis on thermodynamic analysis of the detonation and the structure of the detonation wave. Details of chemical kinetics for the hydrogen-oxygen and hydrocarbon-air reaction systems are presented, with linkage back to earlier topics such as flame stabilization and flammability limits. After kinetic phenomena, the course then considers pollutant formation focusing on soot and NOx. The fundamental aspects of combustion are applied to analysis of the combustion process and pollutant formation in international combustion engines and catalytic combustors. The course wraps up with discussion of atmospheric chemistry, the fate of pollutants, and the formation of secondary pollutants.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: M E 201 orM E 300 orEME 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 431 Internal Combustion Engines (3) Thermodynamic aspects of internal combustion engine design and performance; two- and four-stroke cycle, supercharged and non-supercharged, diesel and spark-ignition types.

M E 431 Thermodynamics of Propulsion and Power Systems (3)

This course is specifically designed to take advantage of the senior level standing of the student by providing an integrative modeling and analysis approach to thermal-fluids systems. The course emphasizes the integration and application of fundamental principles of mass, momentum, and energy conservation to relatively complex systems. These systems include spark-ignition and diesel engines, gas-turbine engines for power production, and turbojet engines. The integration of the topics of combustion, compressible flow, and psychrometrics allow these systems to be analyzed in their totality. Emphasis is on creating engineering models of these systems. The course aims to integrate previous knowledge and develop skill in "thinking like an engineer."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 432 Rocket Propulsion (3) Design and performance of rocket propulsion components and systems; thermodynamics, solid and liquid fuels, heat transfer, materials, controls, and instrumentation.

Rocket Propulsion (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 433 Fundamentals of Air Pollution (3) Natural and man-made sources of pollution; atmospheric dispersion; biological and health effects; control systems; legislation and regulations.

M E 433 Analysis and Design in Vibration Engineering (3)

In this course, students will learn basic techniques for modeling and analyzing linear multidegree-of-freedom (MDOF) mechanical systems, and will learn how to use these techniques for mechanical design. Students will learn to obtain equations of motion using energy methods (Lagrange's equations), with emphasis on the efficient formulation and reduction to the linear case. The basic theory of MDOF systems will be presented, including: eigenvalue problems; natural frequencies and normal modes; superposition and modal analysis; and frequency response. Numerical methods for solving static, dynamic and eigenvalue problems will be presented. Introductions to the theory of linear continuous systems and experimental methods of vibrations will be presented. A substantial portion of the course will be spent discussing design applications of the basic theory, such as: finite element numerical analysis and experimental modal analysis of beams and plates; vehicle suspension design; and vibration isolation and absorption.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 201 orM E 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 440W Mechanical Systems Design Project (3) Design and analysis of mechanical components and systems. Application of fundamental design and analysis methods to open ended engineering problems.

M E 440W Mechanical Systems Design Project (3)

Students develop and practice skills and techniques for managing and executing engineering design projects. These skills are applied to an industry-sponsored project. Project teams perform all facets of product and process design. This includes problem identification, planning of the project, formulation of design specifications, the development and evaluation of alternative conceptual designs, the development of detailed designs, the specification of manufacturing processes, prototyping of manufacturing processes and parts, and analysis and documentation of results. Students will travel to industrial sites to gain an understanding of existing processes and problems and to assess the customer's needs. Students will present their design process and final design in several formats: oral presentations, poster presentations, web pages, and reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: ENGL 202C, I E 312, M E 360, M E 370, M E 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 441W Thermal Systems Design Project (3) Design of thermal systems through component design and/or selection, system simulation and optimization. Assessment of system economics and energy efficiency.

M E 441W Thermal Systems Design Project (3)

Students develop and practice skills and techniques for managing and executing engineering design projects related more to thermal design but not excluding mechanical design. These skills are applied to projects mostly sponsored by the industry. Project teams perform all facets of product and process design either on paper via use of computer models and/or as a physical product. This includes problem identification, planning of the project, formulation of design specifications, the development and evaluation of alternative conceptual designs, the development of detailed designs, the specification of manufacturing processes, prototyping of manufacturing processes and parts, design computations, drawings and performance via use of CFD and analysis and documentation of results. Students will travel to industrial sites when possible to gain an understanding of existing processes and problems and to assess the customer's needs. Students will present their design process and final design in several formats: oral presentations, poster presentations, web pages and reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: ENGL 202C, M E 340, M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 442W Advanced Vehicle Design I (2) Part one of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical Elective requirements (when combined with M E 443W).

M E 442W Advanced Vehicle Design I (2)

Students develop and practice skills and techniques for managing and executing engineering design projects. This is done in the context of an international University-level engineering design competition that is sponsored by government agencies and/or by industry. The competitions are structured to span a full calendar year, with the competition itself taking place in late Spring. For that reason, the course is spread over two semesters. In the Fall semester, there is approximately equal emphasis on classroom lectures and hands-on laboratory activities; in the Spring semester, the emphasis is on hands-on laboratory activities. The focus is advanced powertrain technology for personal transportation vehicles. Broader aspects of energy efficiency, security, and sustainability also will be discussed. The specific technologies that are targeted will evolve with time to remain ahead of what is available in current production vehicles. Project teams perform all facets of product and process design. This includes problem identification, planning of the project, formulation of design specifications, the development and evaluation of alternative conceptual designs, the development of detailed designs, the specification of manufacturing processes, prototyping of manufacturing processes and parts, and analysis and documentation of results. Students also will participate in broader aspects of the design competition. This may include securing sponsorship and funding, participating in outreach and public relations events, developing a business plan, developing a web site, and traveling to competition workshops and to the annual competition. Students will present their design process and final design in several formats: oral presentations, poster presentations, web pages, and reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: ENGL 202C, I E 312, M E 340, M E 360, M E 370
Concurrent: M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 443W Advanced Vehicle Design II (1) Part two of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical Elective requirements (when combined with M E 442W).

M E 443W Advanced Vehicle Design II (1)

Students develop and practice skills and techniques for managing and executing engineering design projects. This is done in the context of an international University-level engineering design competition that is sponsored by government agencies and/or by industry. The competitions are structured to span a full calendar year, with the competition itself taking place in late Spring. For that reason, the course is spread over two semesters. In the Fall semester, there is approximately equal emphasis on classroom lectures and hands-on laboratory activities; in the Spring semester, the emphasis is on hands-on laboratory activities. The focus is advanced powertrain technology for personal transportation vehicles. Broader aspects of energy efficiency, security, and sustainability also will be discussed. The specific technologies that are targeted will evolve with time to remain ahead of what is available in current production vehicles. Project teams perform all facets of product and process design. This includes problem identification, planning of the project, formulation of design specifications, the development and evaluation of alternative conceptual designs, the development of detailed designs, the specification of manufacturing processes, prototyping of manufacturing processes and parts, and analysis and documentation of results. Students also will participate in broader aspects of the design competition. This may include securing sponsorship and funding, participating in outreach and public relations events, developing a business plan, developing a web site, and traveling to competition workshops and to the annual competition. Students will present their design process and final design in several formats: oral presentations, poster presentations, web pages, and reports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: M E 442W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 445 Microcomputer Interfacing for Mechanical Engineers (4) Interfacing of electro-mechanical systems to microcomputers for data acquistion, data analysis and digital control.

Microcomputer Interfacing for Mechanical Engineers (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 345 and seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 444 Engineering Optimization (3) Problem formulation, algorithms and computer solution of various engineering optimization problems.

M E 444 Engineering Optimization (3)

Students will learn to formulate and solve a variety of engineering optimization problems. Basic concepts, problem formulation, scaling, use of different optimizers, effect of tuning parameters and starting points and solution interpretation will be taught. Example problems will be taken from mechanical, aerospace, nuclear, civil, chemical, electrical and other engineering disciplines. This course will complement other engineering design courses, such as capstone design. Students will learn how optimization can reduce product turnaround time, and to make decisions involving weight, stiffness, strength, performance, energy utilization, and other attributes. Pedagogy will focus on hands-on experience through computational problem-solving and graphical understanding. Technology classrooms and computer labs for instruction will be used. A by-product of this course is increased math and computer skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MATH 220, MATH 230 orMATH 231, CMPSC 201 orCMPSC 202 orCMPSC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 446 (NUC E 446) Reliability and Risk Concepts in Design (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.

M E (NUC E) 446 Reliability and Risk Concepts in Design (3)

The course covers materials reliability in design including mechanical, electrical and system aspects. Five main topics will be studied. The course starts by introducing engineering risk and reliability, highlighting its interdisciplinary nature and its significance in system design. The concept of reliability as a probability is introduced and the basic laws of probability are reviewed. The discussion centers on the mathematics needed to understand and analyze complex systems including components in series and parallel. The topics include the independence, mutual exclusivity, truth tables and Venn diagrams. These concepts are then applied to simple systems consisting of one, two and three components in various configurations. The equivalency of the various methods is discussed. The effect of maintenance on a system’s reliability is presented along with discussions of various maintenance strategies. Then, the failure modes and effects analysis is introduced and examples discussed. The concept of fault trees and event trees and their application to reliability analysis are presented. Risk analysis is then introduced as a case study in the application of reliability analysis. A nuclear power plant system is analyzed to quantify the risk to the public from its operation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MATH 250 orMATH 251;M E 345 orSTAT 401 orI E 424 orNUC E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 448 Engineering Design Concepts (3) Engineering design and modelling, engineering economic analysis techniques, technical communication skills, project planning and design.

M E 448 Engineering Design Concepts (3)

This course is the first of a two-part sequence of courses that make up the capstone design experience in the ME BD major (the second course is M E 449, Mechanical Design Projects). In this course students study the engineering design process, begin working on their senior design project, and learn about professional topics related to industry. Topics in the engineering design process include customer needs identification, development of engineering specifications, concept generation, concept selection, costing, and project planning. Professional topics include communication, team work, ethics, safety, sustainability, globalization, and engineering economics. Students are evaluated on the design process and professional topics through assignments and quizzes. A major component of the course is to begin work on a capstone design project. Students work in teams of 3 to 4 on an industrially-sponsored project or other project approved by the faculty. The student teams work with the sponsor to develop specifications and a project plan, perform background research necessary to fully understand the project, begin to solve the problem, and make two presentations during the semester. The first presentation is a formal project proposal; the second presentation at the end of the semester is a progress report. Students are evaluated on both their technical and presentation skills, as well as their ability to function as a team. This course is required in the Behrend Mechanical Engineering (ME BD) program, and integrates material from a number of previous courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: M E 380 seventh-semester standing
Concurrent: M E 367 M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 446 (NUC E 446) Reliability and Risk Concepts in Design (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.

M E (NUC E) 446 Reliability and Risk Concepts in Design (3)

The course covers materials reliability in design including mechanical, electrical and system aspects. Five main topics will be studied. The course starts by introducing engineering risk and reliability, highlighting its interdisciplinary nature and its significance in system design. The concept of reliability as a probability is introduced and the basic laws of probability are reviewed. The discussion centers on the mathematics needed to understand and analyze complex systems including components in series and parallel. The topics include the independence, mutual exclusivity, truth tables and Venn diagrams. These concepts are then applied to simple systems consisting of one, two and three components in various configurations. The equivalency of the various methods is discussed. The effect of maintenance on a system's reliability is presented along with discussions of various maintenance strategies. Then, the failure modes and effects analysis is introduced and examples discussed. The concept of fault trees and event trees and their application to reliability analysis are presented. Risk analysis is then introduced as a case study in the application of reliability analysis. A nuclear power plant system is analyzed to quantify the risk to the public from its operation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 250 orMATH 251;M E 345 orNUC E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 449 Mechanical Design Projects (3) Group or individual design projects in the areas of mechanical engineering.

Mechanical Design Projects (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 448, eighth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 450 Modeling of Dynamic Systems (3) Modeling and analysis of dynamic interactions in engineering systems. Classical and state variable methods; digital simulation; stability and dynamic response.

Modeling of Dynamic Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 370, M E 345

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 452 Vehicle Road Dynamics (3) Investigations of three-dimensional dynamics and design into the study of vehicle dynamics including tire forces, suspension, and stability.

Vehicle Road Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 455 Automatic Control Systems (3) Dynamic analysis of systems involving automatic control of position, speed, power, flow, pressure, temperature, and other physical quantities.

Automatic Control Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, M E 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 456 (I E 456) Industrial Robot Applications (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.

M E (I E) 456 Industrial Robot Applications (3)

This course is a technical elective, and is normally taken by students in their Senior years. In this course, students learn about present and future status of robot applications, and are required to apply fundamental knowledge of physics and mathematics to develop software to analyze and control robots.

The course deals with mechanics and control of robot manipulators and wheeled mobile robots. First, students are taught to analyze 3-D kinematics, statics and dynamics of robot manipulators. Then, control algorithms for robot manipulators are presented. Sensors, actuators and softwares used in industrial robots are discussed. In the end, kinematics and control of wheeled mobile robots are presented. During this course, application of computer, particularly Matlab, is emphasized as much as possible.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 328 orM E 360;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 456 (I E 456) Industrial Robot Applications (3) Introduction to robotics, with emphasis on robot selection, programming, and economic justification for manufacturing applications.

M E (I E) 456 Industrial Robot Applications (3)

This course is a technical elective, and is normally taken by students in their Senior years. In this course, students learn about present and future status of robot applications, and are required to apply fundamental knowledge of physics and mathematics to develop software to analyze and control robots.

The course deals with mechanics and control of robot manipulators and wheeled mobile robots. First, students are taught to analyze 3-D kinematics, statics and dynamics of robot manipulators. Then, control algorithms for robot manipulators are presented. Sensors, actuators and softwares used in industrial robots are discussed. In the end, kinematics and control of wheeled mobile robots are presented. During this course, application of computer, particularly Matlab, is emphasized as much as possible.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 220;MATH 250 orMATH 251;I E 305 orM E 360;CMPSC 200 orCMPSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 460 Advanced Machine Design Problems (3) Special machine design problems in unusual types of springs; gear problems and involutometry; cam design and application; multiple diameter shaft deflections and ball bearings.

M E (NUC E) 460 Reliability and Risk Concepts in Design (3)

The course covers materials reliability in design including mechanical, electrical and system aspects. Five main topics will be studied. The course starts by introducing engineering risk and reliability, highlighting its interdisciplinary nature and its significance in system design. The concept of reliability as a probability is introduced and the basic laws of probability are reviewed. The discussion centers on the mathematics needed to understand and analyze complex systems including components in series and parallel. The topics include the independence, mutual exclusivity, truth tables and Venn diagrams. These concepts are then applied to simple systems consisting of one, two and three components in various cofigurations. The equivalency of the various methods is discussed. The effect of maintenance on a system's reliability is presented along with discussions of various maintenance strategies. Then, the failure modes and effects analysis is introduced and examples discussed. The concept of fault trees and event trees and their application to reliability analysis are presented. Risk analysis is then introduced as a case study in the application of reliability analysis. A nuclear power plant system is analyzed to quantify the risk to the public from its operation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 360, M E 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 461 (E MCH 461) Finite Elements in Engineering (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.

M E (E MCH) 461 Finite Elements in Engineering (3)

This is an introductory course in the Finite Element Method. Through this course, students gain knowledge in finite element theory and problem modeling. The mathematical formulation of the method is presented and then applied to problems in elasticity and heat transfer. Projects are assigned to demonstrate the finite element method in simplified problems using hand- calculations and computer programs such as Matlab. The use of commercial FEA programs is introduced and problems of increased complexity are assigned to demonstrate their use in a computer lab. Finally, problems of realistic complexity are assigned such that students can practice solving, documenting and presenting their use of commercial FEA programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 462 Lubrication in Machine Design (3) Lubricants and lubrication with applications to design aspects of machines and mechanisms including bearings, gears, cams, and automotive engines.

M E 462 Lubrication in Machine Design (3)

The course covers interdisciplinary materials on lubrication in machine design including mechanical, mechanics and chemistry aspects. Six main topics will be studied. The course starts by introducing engineering tribology, highlighting its interdisciplinary nature and its significance in machine design. Surfaces of machine components in contact are studied, including surface physiochemistry, surface topography, topographical measurements and characterization and classification of regimes of lubrication. Lubricants used in machine design are discussed in length, including types of industrial lubricants, properties of lubricating oils: compositions, viscosity and additives, synthetic lubricants and engine oils. The course will develop the theory of fluid-film lubrication, including the mechanisms of pressure generation, configuration of tribo-contacts and the Reynolds equation. Hydrodynamic lubrication is studied. The topics include the machine components with hydrodynamic lubrication, thrust bearings, journal bearings and design considerations of these devices. The last topic to be covered is the theory and application of Elastohydrodynamic lubrication (EHL). First, the machine components with concentrated contacts are introduced. Then, the Hertz theory of contact in studied and the governing equations for EHL are derived. Thermal EHL and traction are studied, and design calculations for rolling bearings, cams and gears are developed in relation to the geometrical and kinematic features of these components.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MATH 251, M E 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 461 (E MCH 461) Finite Elements in Engineering (3) Computer modeling and fundamental analysis of solid, fluid, and heat flow problems using existing computer codes.

M E (E MCH) 461 Finite Elements in Engineering (3)

This is an introductory course in the Finite Element Method. Through this course, students gain knowledge in finite element theory and problem modeling. The mathematical formulation of the method is presented and then applied to problems in elasticity and heat transfer. Projects are assigned to demonstrate the finite element method in simplified problems using hand- calculations and computer programs such as Matlab. The use of commercial FEA programs is introduced and problems of increased complexity are assigned to demonstrate their use in a computer lab. Finally, problems of realistic complexity are assigned such that students can practice solving, documenting and presenting their use of commercial FEA programs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 213, E MCH 210H orE MCH 210;CMPSC 200, CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 465 Introduction to Manufacturing Laboratory (1) A laboratory-based introduction to manufacturing processes including material removal, forming, casting and joining for metals and non-metals.

M E 465 Introduction to Manufacturing Laboratory (1)

This laboratory course provides an integrated approach to Manufacturing Science and Engineering. The laboratory examines common techniques for fabricating parts; providing an introduction to several basic processes for creating both metallic and polymeric parts. As a part of this course, students will be exposed to compressive, tensile, sheet, bending, casting and powder metal processes. Using basic material science principles, students will examine concepts such as material flow, springback, and cold working. The course requires hands-on involvement by the students in the planning of experiments as well as data manipulation and analysis of results. The laboratory exercises are intended to provide students with a broad appreciation of the breadth of Manufacturing Science and Engineering. Students work in groups. Written reports and in-class exercises are the primary basis for grading.

This course is a technical elective.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Concurrent: M E 468

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 467 Applied Finite Element Analysis (3) Review of matrix algebra; discretization; finite element formulation; application of finite element computer codes.

Applied Finite Element Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 410, M E 347

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 468 Engineering for Manufacturing (3) Manufacturability, the selection of the most effective materials and processes, and quality assurance.

M E 468 Engineering for Manufacturing (3)

This course will present an overview of the various manufacturing techniques that are currently used within industry. The advantages and disadvantages of each manufacturing technique will be discussed along with common defects that occur with each process. The start-up, operating, maintenance, and labor costs of each process will be presented along with general manufacturing economical concerns. Statistics and Quality assurance topics will also be covered, along with manufacturability and design for manufacturing concepts.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MATSE 259

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 469 Metallic Manufacturing Processes (3) Principles of metal working and introduction to current theories; analysis of deformation, joining, and metal removal processes.

M E 469 Metallic Manufacturing Processes (3)

In this integrated lecture/laboratory course students will learn a) metal deformations techniques such as: forging, rolling, extrusion and drawing, b) metal removal techniques for single, multi and infinite point cutting, and c) metal fastening techniques, including bolts, rivets and welds. As a part of the learning process, students will directly compare existing standards and theories to actual laboratory results. Students will learn how to assess the accuracy of both theoretical derivations and experimental procedures by first deriving theoretical equations in the classroom and then directly examining the ability of the equations to predict the given behavior by actually performing the manufacturing operation in the laboratory. Based on in-depth discussions regarding assumptions, approximations, and experimental error, students will assess the ability of the current state-of-the-art techniques to accurately predict the forces generated/required during various manufacturing metal working operations. In addition, students will derive their own theories by removing/improving some assumptions within the existing theories. For processes where multiple theories exist, students will compare and contrast the predictive abilities of the various techniques to those found through controlled laboratory experiments. Similar comparisons will also be made for processes where both engineering standards and theoretical techniques exist.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: Prerequisite or concurrent:M E 468

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 470 (E MCH 470) Analysis and Design in Vibration Engineering (3) Application of Lagrange's equations to mechanical system modeling, multiple- degree-of-freedom systems, experimental and computer methods; some emphasis on design applications.

M E 470 Analysis and Design in Vibration Engineering (3)

In this course, students will learn basic techniques for modeling and analyzing linear multidegree-of-freedom (MDOF) mechanical systems, and will learn how to use these techniques for mechanical design. Students will learn to obtain equations of motion using energy methods (Lagrange's equations), with emphasis on the efficient formulation and reduction to the linear case. The basic theory of MDOF systems will be presented, including: eigenvalue problems; natural frequencies and normal modes; superposition and modal analysis; and frequency response. Numerical methods for solving static, dynamic and eigenvalue problems will be presented. Introductions to the theory of linear continuous systems and experimental methods of vibrations will be presented. A substantial portion of the course will be spent discussing design applications of the basic theory, such as: finite element numerical analysis and experimental modal analysis of beams and plates; vehicle suspension design; and vibration isolation and absorption

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 212 orE MCH 212H;M E 370 orE SC 407H

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 480 Machine Dynamics (3) Force and motion relationships in constrained mechanisms; analysis of cam, gear, and linkage systems for motion and power transmission.

M E 480 Mechanism Design and Analysis (3)

The student who takes this course will develop a basic understanding of the analysis and synthesis of planar linkage mechanisms. Students will develop the ability to model real linkage mechanisms using kinematic diagrams, including identification of links and joints. They will also learn to use Gruebler’s equation to calculate the mobility or number of degrees of freedom of linkages based on the kinematic diagram. Students will also become familiar with real mechanism applications in the context of mechanism synthesis, where they will learn to determine the required dimensions of a mechanism for a specific application. Students will apply these dimensional synthesis methods in a design project which includes building a simple linkage prototype. They will learn kinematic analysis methods, i.e., analysis of position, velocity, and acceleration of planar linkages. These methods consist of graphical, algebraic, and complex number approaches. Students will also learn to use commercial software packages, e.g. Working Model, to predict position, velocity, and acceleration of planar linkages, and will compare their predictions to those using analytical approaches. Finally, students will learn to do dynamic force analysis of planar linkages to predict joint forces and motor torques. They will use commercial software packages to predict joint forces and motor torques of planar linkages, and will compare their predictions to those using analytical approaches.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: E MCH 212 ; Prerequisite or Concurrent:CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 471 Noise Control in Machinery (3) Nature of noise sources in machine elements and systems. Propagation and reduction of noise. Effects of noise on man.

M E 471 Noise Control in Machinery (3)

Course Objectives: This course prepares students to perform effectively as noise control engineers in industries with noise and vibration applications, e.g., during the early stages in product design or environmental noise control in industrial settings. Much of the material presented builds on second and third year courses covering such topics as dynamics, vibration, fluid mechanics and electrical components. Hands-on laboratory experiments (both programmed and open-ended) coordinated with focused lectures provide students with a working knowledge of the disciplines associated with noise and vibration and their practical applications for identifying, analyzing, and solving real world problems. The first part of the course centers on learning modules that cover the fundamentals of acoustics and noise control. Each module consists of two lectures followed with a laboratory experiment that demonstrates the relevant principles. These take place in small group settings (8 students maximum). Students are required to write individual reports based on the results of each of the laboratory experiments. The modules are followed with a laboratory project competition wherein each small group is given a noisy, small machine with the challenge to reduce its noise and vibration signatures. The course concludes with formal Power Point presentations of the results from each small group to an assessment team consisting of the industrial sponsors and selected professors and graduate students. This course is offered annually during the fall semester with an enrollment limited to 32 students (8/laboratory group).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, M E 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 480 Mechanism Design and Analysis (3) Design and analysis of mechanical linkages including kinematic synthesis and dynamic analysis. Linkages for a variety of applications are considered.

M E 480 Mechanism Design and Analysis (3)

The student who takes this course will develop a basic understanding of the analysis and synthesis of planar linkage mechanisms. Students will develop the ability to model real linkage mechanisms using kinematic diagrams, including identification of links and joints. They will also learn to use Gruebler's equation to calculate the mobility or number of degrees of freedom of linkages based on the kinematic diagram. Students will also become familiar with real mechanism applications in the context of mechanism synthesis, where they will learn to determine the required dimensions of a mechanism for a specific application. Students will apply these dimensional synthesis methods in a design project which includes building a simple linkage prototype. They will learn kinematic analysis methods, i.e., analysis of position, velocity, and acceleration of planar linkages. These methods consist of graphical, algebraic, and complex number approaches. Students will also learn to use commercial software packages, e.g. Working Model, to predict position, velocity, and acceleration of planar linkages, and will compare their predictions to those using analytical approaches. Finally, students will learn to do dynamic force analysis of planar linkages to predict joint forces and motor torques. They will use commercial software packages to predict joint forces and motor torques of planar linkages, and will compare their predictions to those using analytical approaches.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212 . Prerequisite or Concurrent:CMPSC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 481 Introduction to Computer-Aided Analysis of Machine Dynamics (3) Techniques and formulations for computer based kinematic and dynamic analyses of machines.

M E 481 Introduction to Computer-Aided Analysis of Machine Dynamics (3)

This course addresses computer methods for kinematic and dynamic analyses of two-dimensional (2D) multi-body machines at the advanced undergraduate and introductory graduate level. The course introduces the formalism of kinematic mobility and topology to help students recognize constrained kinematic chains embedded in larger engineering systems. Classic kinematic and Newtonian dynamic methods are reformulated using modern matrix methods. The latter half of the course focuses on underlying algorithms and theory behind commercially available mechanism analysis software packages that employ differential-algebraic equation (DAE) solvers. Students program their own numerical integration methods for time domain simulation of forward dynamics of a simple system to reinforce the theory. The overall goals are for students to be able to identify forward versus inverse dynamic problems; and to be able to plan, implement and debug an appropriate computer-based design tool to analyze kinematics and dynamics of 2D constrained mechanisms.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: M E 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 481 Introduction to Computer-Aided Analysis of Machine Dynamics (3) Techniques and formulations for computer based kinematic and dynamic analyses of machines.

M E 481 Introduction to Computer-Aided Analysis of Machine Dynamics (3)

This course addresses computer methods for kinematic and dynamic analyses of two-dimensional (2D) multi-body machines at the advanced undergraduate and introductory graduate level. The course introduces the formalism of kinematic mobility and topology to help students recognize constrained kinematic chains embedded in larger engineering systems. Classic kinematic and Newtonian dynamic methods are reformulated using modern matrix methods. The latter half of the course focuses on underlying algorithms and theory behind commercially available mechanism analysis software packages that employ differential-algebraic equation (DAE) solvers. Students program their own numerical integration methods for time domain simulation of forward dynamics of a simple system to reinforce the theory. The overall goals are for students to be able to identify forward versus inverse dynamic problems; and to be able to plan, implement and debug an appropriate computer-based design tool to analyze kinematics and dynamics of 2D constrained mechanisms.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: E MCH 212 ; Prerequisite or concurrent:CMPSC 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 491 Bioengineering Applications of Mechanical Engineering (3) Application of mechanical engineering knowledge in the context of life sciences.

M E 491 Bioengineering Applications of Mechanical Engineering (3)

The primary objective of this course is to teach students how to apply mechanical engineering knowledge in the context of life sciences. Fundamental mechanical engineering knowledge such as solid mechanics, fluid mechanics and system dynamics will be reviewed first. Then, different topics in bioengineering, such as motion biomechanics, physiological fluid mechanics, modeling of physiological systems, and rehabilitation engineering will be discussed. Throughout the semester, students also work in groups to solve several simplified real-life bioengineering projects. Students will be evaluated through these projects plus a final project presentation, an application presentation and several homework assignments. This course is a technical elective in the ME BD program and allows students who have completed their junior year to learn the application of mechanical engineering knowledge in the life science context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: E E 211, M E 320, M E 357, E MCH 213 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 494H Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

M E 494H Senior Thesis (1-9)

All Schreyer Scholars are required to complete an undergraduate honors thesis. This work represents the culmination of a student's honors experience. Through the thesis, the student demonstrates a command of relevant scholastic work and a personal contribution to that scholarship.

The thesis project can take many forms - from laboratory experiments all the way to artistic creations. The thesis document captures the relevant background, methods and techniques, as well as describing the details of the completion of the individual project. Two Penn State faculty members judge the merits of this Scholar's honors thesis, the student's self-selected thesis supervisor and the department-selected honors adviser in the student's area of honors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Junior or senior status in the University Scholars Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 496 Independent Studies (1-18) Creative projects, including nonthesis research, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 497A Fundamentals of Nuclear Engineering (3) An intensive course providing introduction to NucE to undergraduate co-op students, non-NucE graduate, and returning students.

Fundamentals of Nuclear Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 497B Advanced Vehicle Design I (2) Part one of a two course sequence; applications of design and analysis methods to open-ended advanced transportation vehicles. Two semester course; satisfies Senior Design or ME Technical requirements (when combined with M E 443W).

Advanced Vehicle Design I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: ENGL 202C, I E 312, M E 340, M E 360, M E 370 ; Prerequisite or concurrent:M E 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Engineering (M E)

M E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Technology (MCH T)

MCH T 111 Mechanics for Technology: Statics (3) Forces; moments; resultants; two- and three-dimensional equilibrium of force systems; friction; centroids and moments of inertial of areas.

MCH T 111 Mechanics for Technology: Statics (3)

MCH T 111 will provide practical and compressive coverage of elementary statics. In addition to the theoretical approach, the course will demonstrate the practical applications of statics concepts. Students entering this course should have basic knowledge of algebra as well as geometry and trigonometry. Course will introduce the definition of scalar and vector quantities. This will be followed by vector addition, vector subtraction, resolution of vectors, addition of systems of coplanar forces, rectangular components of a vector, etc. Course will also introduce the concept of moments and couples. This will be followed by introducing free-body diagrams as a tool for solving statics problems. Emphasis will be placed on equations of equilibrium for particles and rigid bodies. Students will be exposed to 2D and 3D equilibrium. Course will put emphasis on truss and frame analysis as well as pulleys. Distributed loads will also be discussed. Course will also introduce the concept of friction, angle of friction, wedges, etc. Belt friction and rolling resistance as well as friction in bearings will also be discussed. Course will also introduce the concept of centroids, center of gravity, and moment of inertia of an area. Emphasis will be put on calculating centroidal moment of inertia of composite areas. Polar moment of inertia and mass of moment of inertia will also be introduced. Student will learn not only problem solving strategy but also develop ability to present results in clear manner.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: MATH 026 orMATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Technology (MCH T)

MCH T 112 Statics Laboratory (1) Laboratory experimentation associated with basic engineering mechanics principles and concepts including forces, moments, equilibrium, trusses, frames, friction, and centroids.

MCH T 112 Statics Laboratory (1)

MCH T 112 facilitates the basic understanding of certain principles and concepts of elementary engineering mechanics. The course provides the hands-on experience essential to learn the fundamental engineering mechanics topics including forces, moments, equilibrium, frames, trusses, friction, and centroids.
Laboratory experiments will be supported by lectures presented in MCH T 111 (taken concurrently), demonstrations, and associated computer software utilization.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 026 orMATH 081
Concurrent: MCH T 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Technology (MCH T)

MCH T 212 Introduction to Dynamics (3) Absolute and relative motion related to particles and simple linkages. Force-mass-acceleration, work-energy, and impulse-momentum solution techniques.

Introduction to Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: MCH T 111 . Prerequisite or concurrent:MATH 083

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Technology (MCH T)

MCH T 214 Strength and Properties of Materials Laboratory (1) Measurement of mechanical properties of materials; structural testing, data acquisition and analysis; technical laboratory report writing.

Strength and Properties of Materials Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: MCH T 213
Concurrent: MCH T 213

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Technology (MCH T)

MCH T 213 Strength and Properties of Materials (3) Axial stress and strain; shear; torsion; beam stresses and deflections; combined axial and bending stresses; columns, ductility, resilience, and toughness.

MCH T 213 Strength and Properties of Materials (3)

MCH T 213 includes analysis and computations of axial stress and strain, shear and bearing stress; stress-strain diagrams, mechanical properties of materials including yield strength, ultimate strength, modulus of elasticity, percent elongation, poisson's ratio; stress concentration, axial deformations, statically-indeterminate axially loaded members, thermal stress and strain; torsion analysis including shear stress, angle of twist, power, rotational speed; beam bending analysis including shear force and bending moment diagrams, flexure stress, beam shear stress, , beam deflections; combined axial and bending stresses; columns.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: MCH T 111, MATH 026 orMATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mechanical Technology (MCH T)

MCH T 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 083S (GH;IL) First-Year Seminar in Medieval Studies (3) Critical approaches to the dimensions and directions in Medieval Studies.

MEDVL 083S 1st Yr Seminar in Medieval Studies (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Through readings, discussions, lectures, and research projects, students are expected to master the subject material of the course as well as to acquire basic skills useful to the study of the liberal arts, and specifically to methods of approaching medieval topics. Students will learn to read books and original documents, discuss them, formulate effective arguments, and write essays and papers. Analysis of this type will provide students with techniques for appreciating and judging arguments and presentations in many fields of learning, from scholarly to popular. The topics chosen for these seminars will acquaint students with major figures and developments. By reading and understanding documents, students will learn to consider the cultural assumptions of different groups and societies and to appreciate their own values and assumptions by contrast with these. Although the course will focus on a specific topic, the instructor will help the student to see the wider implications of the issues and controversies discussed. Whenever possible, the international and intercultural aspects of the topic will be considered. The course will challenge students to think about social behavior, the nature of the community, and the value of scholarly endeavor as these relate to the particular topic of the seminar. The experience will be of value in other humanities courses as well as in further study in Medieval Studies. The course fulfills the first-year seminar requirement as well as one of the humanities requirements in General Education or a Bachelor of Arts humanities requirement. Evaluation methods include: essay examinations, written essays and papers, classroom discussion, and oral presentations. The course will be offered once per year with an enrollment of 20.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 107 (GH;IL) (HIST 107) Medieval Europe (3) Rise and development of the civilization of medieval Europe from the decline of Rome to 1500.

MEDVL (HIST) 107 Medieval Europe (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

MEDVL/HIST 107 is an introductory course on the history of Europe from the late classical period to the beginning of the sixteenth century. There are three main areas of concentration in this course. First, the development of political, judicial and diplomatic institutions, from the collapse of central Roman authority through the rise of local chiefdoms to the centralized kingdom as ancestor of the modern state. The second theme is the role of Christianity in all its forms--orthodox, heretical, and popular--and its contribution to a distinctly medieval society. The third main theme is the development of society following changes in economic activity, cultural interest and the extended family.

Several forms of learning are used in this course. A textbook gives the student a broad overview of the period and gives a chronological structure to the material. This material provides a background to the instructor's lectures, which not only give factual information, but integrate the various trends, individuals and events. The assigned readings illustrate specific events or individuals; the discussion groups allow the student to explore these texts in a collaborative environment with the instructor and their fellow students. The research paper gives the student the opportunity to investigate a specific topic of interest, while training them in scholarly writing and analysis. Finally, the tests, all essay questions, let students demonstrate their comprehension of the material through problem solving.

The essay exams and discussion groups allow the student actively to address specific problems from the material. The research paper enables the student to gather information from traditional (library archives) and non-traditional (electronic) sources, then to present a conclusion in a comprehensive and coherent argument.

The class discussion promotes collaborate and cooperative learning, as the students expand on, and/or argue against, positions taken on the material by their instructor and fellow students. Internationalism and interculturalism is the essence of this course.

The research paper, essays and discussion allow for scholarly development through the investigation of communities in an important era of history.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 108 (GH;IL) Medieval Civilization (3) An interdisciplinary introduction to literature, art, and thought of the Middle Ages.

MEDVL 108 Medieval Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Middle Ages, the period from roughly A.D. 400 to 1500, was an important era in the development of many of the institutions, ideas and technologies so familiar today. Our ideas of love, honor, town planning, literature and science have their origins in the medieval period. MEDVL 108 studies the culture and community of this time through lectures complemented by discussions based on the reading of stories from the Middle Ages and viewing of medieval works in art.

The course will begin with a brief look at the chronological progression of events in the Middle Ages, particularly the connection of political events with cultural ideals and scientific progress. Then, various broad topics will be studied. One topic will investigate the types of people found in the three orders of society: the labatores (workers), bellatores (warriors) and oratores (clergy). Other topics include the growth of art and literature (such as the legends of King Arthur), the development of Gothic cathedrals, the creation of fashion, life in a castle, magic, and the idea of faith.

Medieval Studies 108 integrates all five active learning elements:
1) The essay exams and discussion groups allow the student actively to address specific problems from the material.
2) The optional research paper enables the student to gather information from traditional (library archives) and non-traditional (electronic) sources, then to present a conclusion in a comprehensive and coherent argument.
3) The class discussion promotes collaborate and cooperative learning, as the students expand on, and/or argue against, positions taken on the material by their instructor and fellow students.
4) Internationalism and interculturalism is the essence of this course.
5) The optional research paper, essays and discussion allow for scholarly development through the investigation of communities in an important era of history.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 187 Medieval Studies Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Medieval Studies Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1992
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 413 (IL) (HIST 413) Medieval Celtic Studies (3) Celtic civilization from antiquity to the end of the middle ages.

Medieval Celtic Studies (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in medieval studies or in language literature or European history of the medieval period

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 411 (IL) (HIST 411) Medieval Britain (3) Political, cultural, and economic history of Britain from circa 400 to 1485 with an emphasis on the kingdom of England.

Medieval Britain (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 6 credits in European history or medieval studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2002
Prerequisite: prior approval of proposed assignments by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Medieval Studies (MEDVL)

MEDVL 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 002 (GN) Our Changing Atmosphere: Personal and Societal Consequences (3) A survey of meteorology emphasizing how the nature of our lives, individually/societally, depends upon atmospheric structure, quality, and processes.

METEO 002 Our Changing Atmosphere: Personal and Societal Consequences (3) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The primary objective is to provide the student with an understanding of the mechanisms that determine local and regional weather and climate patterns, with emphasis on how these factors impact individuals and society. We focus on the energy balance of the atmosphere and the forces that drive motion and that are ultimately responsible for surface properties such as precipitation and air quality. Cloud microphysical processes are discussed with emphasis on natural and man-made influences. The potential for inadvertent as well as planned modification of precipitation is discussed. Data sets are provided that enable the students to investigate climate change patterns and to assess the causes of these changes. Student teams are required to prepare reports of findings that are presented in class as well as in written form. Finally, we shall explore the governmental policy implications and responses to a variety of climate threats (including global warming, ozone depletion and urban pollution and heat islands). Students are asked to explore a variety of governmental policy initiatives and to assess the soundness of these initiatives. Course readings are selected from popular scientific literature as well as government documents. Students are evaluated on their comprehension of the physical process (as determined by written examinations) and the soundness of their individual and team efforts in a variety of projects. Because of the hands-on nature of this course, we envision an enrollment of no more than 30. The course will be offered every semester.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 003 (GN) Introductory Meteorology (3) Nontechnical treatment of fundamentals of modern meteorology and the effects of weather and climate. A student who took METEO 002 may take the laboratory part of this course for 1 credit only

METEO 003 Introductory Meteorology (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of the course are for students to gain a better understanding of atmospheric structure and processes so they can better apply the weather information they encounter. Students will learn to read the sky so they can make their own short-term forecasts and adjust their behavior accordingly. When presented with a weather forecast containing caveats, they will have a better feeling for what controls the evolution of a developing system so they can understand why a certain degree of hedging is necessary. Students will be better able to assess the validity of the commonly expressed concerns about climate change and deteriorating air quality. While the objectives of METEO 002 and 003 are similar, METEO 003 is a more traditionally designed course that emphasizes the physics of the atmosphere. Each semester, the several sections of METEO 003 at University Park use material and exercises drawn from a common textbook such as A World of Weather: Fundamentals of Meteorology by J.M. Nese and L.M. Grenci, 1998, the book currently used in METEO 003P and METEO 003L at University Park. The lecture, taught by an instructor, is supported by several labs that are taught by different people, normally student teaching assistants. In contrast, METEO 002 is a small enrollment course emphasizing the impacts on society of our behavior within the atmosphere. It is taught entirely by one individual. In response to current issues of concern, the content and supporting reading material of METEO 002 will vary more from semester to semester than will the content of and readings for METEO 003. In addition, METEO 002 is designed to be delivered to small groups of 30 students, while METEO 003 will have a large-lecture component at University Park.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 004 (GN) Weather and Risk (3) Non-technical introduction to the science and historical development of meteorology, and the role of weather forecasting as a tool for risk management by individuals, businesses, and societies.

METEO 004 Weather and Risk (3) (GN)

METEO 004 traces the development of weather forecasting as both a scientific discipline and as a tool for risk management. Beginning from the pre-modern history of weather forecasting as a diverse set of folkloric and ritualistic practices, the emergence of meteorology as a genuine science has enabled the development of powerful tools for managing risks faced by individuals, businesses and societies.

Students will learn about the fundamental principles that govern the global atmospheric circulation, and how this circulation shapes weather and climate. They will learn how this scientific understanding has served as the foundation of a global system of weather observation and forecasting, encompassing a worldwide network of atmospheric observing instruments, powerful computer modeling systems, and a highly elaborate system for disseminating information to diverse users. Demand for weather forecasts is driven by the need to manage weather risks confronting agriculture, transportation, the military, insurance, humanitarian relief, and virtually every other sector of society. Examples will be given of how forecasts are incorporated into the decision-making of businesses. This topic leads to a discussion of the economic value of weather information, and the role of public and private providers of information.

The treatment is organized around three themes. First, the possibility of generating a forecast of future conditions requires the adoption of the perspective that the natural world has an underlying regularity, and that this regularity can be discovered and organized through research. The second theme is the critical role of *instrumentation* in providing the quantitative basis for formal scientific forecasting models. Third, developments in weather forecasting have not proceeded solely from improvements in scientific knowledge: rather, society's *demand for risk management tools* has acted as a constant spur on efforts to improve forecasting techniques, as part of a feedback loop between the producers and consumers of forecasts.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 022 The Oceans (2) A survey of oceanic properties and processes, with emphasis on the mechanisms of tides, waves, and ocean currents.

The Oceans (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 101 (GN) Understanding Weather Forecasting (3) Fundamental principles of synoptic and physical meteorology, satellite and radar imagery, and data analysis in the setting of mid-latitude weather forecasting.

METEO 101 Introduction to Weather Forecasting (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Never before has the quantity of available weather information so far exceeded the quality of the public's understanding of atmospheric science. Meteorology 101: Understanding Weather Forecasting aims to help correct this imbalance by helping students develop the knowledge and skills they need to become critical consumers of weather information. Students who successfully complete Meteorology 101 will be able to apply knowledge of fundamental concepts of atmospheric science to discriminate between reliable and unreliable weather forecasts, and to explain what makes one forecast better than another.

To ensure that students develop the knowledge and skills required to critically assess public weather forecasts, Meteorology 101 will provide an apprentice-training environment that will encourage students to learn forecast mid-latitude weather themselves. They will discover that weather forecasting involves sophisticated data analysis techniques, a thorough understanding of atmospheric science, and strong verbal and graphic communication skills. As it develops these competencies, METEO 101 will fulfill the goals established for Penn State General Education courses in the Natural Science knowledge domain.

The intended audience includes undergraduate students at University Park and other Penn State campuses, as well as adult learners in the weather information industry and weather hobbyists worldwide. To reach this diverse audience, METEO 101 will be offered through the University's World Campus in a Web-based, instructor-led format. Currently in development in collaboration between the Department of Meteorology, the EMS e-Education Institute, and the World Campus, METEO 101 will combine digital video, audio, simulation models, virtual field trips to on-line weather data resources, text, and interactive quizzes that provide instantaneous feedback. The course will provide unprecedented access to one of the world's most distinguished meteorology programs.

METEO 101 will be offered three times each year during the spring, summer, and fall semesters to an expected audience of about 300 annually.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 122 (GN) (AGECO 122) Atmospheric Environment: Growing in the Wind (3) Students will learn about the effect of weather on plants, animals, and humans.

METEO 122 Atmospheric Environment: Growing in the Wind (3) (GN)

Atmospheric Environment: Growing in the Wind is for first-year students who are interested in learning about the atmospheric environment and its influence on animals, plants, and humans. It is about how processes at the ground surface and in the air govern weather conditions on Earth. Growing in the Wind focuses on five major weather elements: energy, temperature, moisture, pressure, and wind and how these factors govern ecosystems and habitation of Earth. Emphasis is also given to human impacts on weather and climate. The lectures (2, one-hour lectures each week) are organized around the central theme that the unequal distribution of incoming solar energy (both spatially and temporally) produces temperature and pressure contrast at the Earth's surface and in the atmosphere that in turn cause storms and control the weather and climate. Computer lab exercises (1, two-hour lab each week) will reinforce concepts learned in lecture. No prerequisites are required. A sincere interest in the environment helps. The course will be offered each fall semester.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 200A Introduction to Weather Analysis I (1.5) Introduction to the collection, display, and application of weather observations used by the operational meteorologist. Students who have passed METEO 201 may not schedule this course for credit.

Introduction to Weather Analysis I (1.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 200B Introduction to Weather Analysis II (1.5) Introduction to the collection, display, and application of numerical weather forecasts used by the operational meteorologist. Students who have passed MET EO 201 may not schedule this course for credit.

Introduction to Weather Analysis II (1.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: METEO 200A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 201 Introduction to Weather Analysis (3) Introduction to the collection, display, and application of weather observations and numerical forecasts used by the operational meteorologists. Students who have passed both METEO 200A and 200B may not schedule this course for credit.

Introduction to Weather Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 241 Fundamentals of Tropical Forecasting (3) Applying atmospheric principles to the tropics, with an emphasis on the development, structure, prediction and destructive impact of hurricanes.

METEO 241 Fundamentals of Tropical Forecasting (3)

Worldwide, approximately 80 tropical cyclones develop each year. This global annual average of tropical cyclones is small in comparison to the thousands of low-pressure systems that routinely parade across the middle latitudes each year. Yet tropical storms and hurricanes garner far greater attention from meteorologists and the media. The obvious reason for this lopsided focus is that tropical cyclones can inflict great devastation to life and property.

One of the primary goals of Meteorology 241: Fundamentals of Tropical Forecasting is to give students a working knowledge of hurricanes and tropical storms so that they can become critical weather consumers. For example, when a hurricane bears down on the coast of the United States, the media often portray the storm as a monster capable of laying waste to anything in its path. In METEO 241, students will understand that the initial fury of a land-falling hurricane is focused within a swath of coastal area approximately 30 miles long or less.

To ensure that students develop the knowledge and skills required to critically assess weather forecasts issued by the National Hurricane Center, METEO 241 will provide, like METEO 101, an apprentice-training environment. Under the tutelage of professional weather forecasters, students, in their role as apprentices, will also work toward the goal of creating their own tropical-weather forecasts.

In the process, students in METEO 241 will learn about the pitfalls of forecasting the tracks and intensities of tropical storms and hurricanes as they actively work with output from sophisticated numerical models available on the Internet. Moreover, successful students will apply their knowledge of the fundamental concepts of atmospheric science in order to competently evaluate forecasts issued by the National Hurricane Center in Miami and the Joint Typhoon Warning Center in Honolulu.

Students will also gain a broad perspective of the general weather and oceanic patterns in the tropics. For example, students will learn about El Nino and La Nina. In the process, they will discover that El Nino and La Nina are not to blame for every unusual weather event that occurs anywhere in the world.

It should be noted here that METEO 241will be one of four courses required for students to earn a Certificate of achievement in Weather Forecasting, a unique online program offered through Penn State's World Campus. The three other courses that will comprise this online program are METEO 101: Understanding Weather Forecasting, METEO 361: Fundamentals of Mesoscale Weather Forecasting and METEO 410: Advanced Topics in Weather Forecasting.

To facilitate the learning objectives, METEO 241 will include the use of digital video, audio, simulation models, virtual field trips to on-line resources for weather data, text, and interactive quizzes that provide timely feedback.

To demonstrate their mastery of the learning objectives, students will complete automated online quizzes, actively engage in online discussion groups focusing on real-time weather, and publish, to a personal "e-portfolio", four comprehensive projects that will explore timely case studies related to weather forecasting. The e-portfolio will take the form of a Web site that students initially create during the second course of the program (METEO 241 or METEO 361). Students will augment their e-portfolio as part of the requirements for METEO 241, METEO 361 and METEO 410. They will also use the space to reflect on their learning.

At the end of the program, students will make a final e-portfolio entry that highlights their program accomplishments. In this way, the e-portfolio will serve both as a showcase of a student's work for the purpose of course assessment and as a chronicle of a student's achievements during the program. By using their Penn State personal Web space to host their e-portfolios, students will be able to share their work not only with program faculty and students, but also with external audiences, including potential employers. Upon successful completion of the program, graduates will receive a copy of their final e-portfolio on CD-ROM.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: METEO 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 297 Special Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 297A Weather Camp Workshop II (1) One week intensive meteorology workshop designed for youth entering their senior year of high school.

Weather Camp Workshop II (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 297F Weather Challenge Forecast Preparation Laboratory (0.5) Forecast methods/data discussed prior to nightly weather forecast entry. Satisfactory performance will be determined by attendance and forecast accuracy.

Weather Challenge Forecast Preparation Laboratory (0.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 300 Fundamentals of Atmospheric Science (4) An introduction to the fundamentals of atmospheric dynamics, physics, and chemistry.

METEO 300 Fundamentals of Atmospheric Science (4)

This course prepares students for their 400-level meteorology courses by laying a solid foundation in the application of physical, chemical, and mathematical principles to a broad range of atmospheric phenomena. Students are introduced to fundamental concepts and applications of atmospheric thermodynamics, radiative transfer, atmospheric chemistry, cloud microphysics, atmospheric dynamics, and the atmospheric boundary layer. These topics are covered broadly but in enough depth to introduce students to the methods atmospheric scientists use to describe and predict atmospheric phenomena. The course is designed to be taken by sophomore meteorology students as well as by students in related disciplines who have an adequate mathematical and physical background.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: CHEM 110, PHYS 211
Concurrent: MATH 230 or MATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 395A Internship in Meteorological Communication (3 per semester/maximum of 6) Meteorology internship focusing on communication of weather forecasts or other atmospheric information.

METEO 395A Internship in Meteorological Communication (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship with an agency or company that focuses on communication of weather forecasts or other atmospheric information. This internship is normally completed after the sophomore year. Given the focus of this internship and the paper requirement to relate the internship experience to meteorology coursework, students must have completed the first two required courses covering weather analysis or forecasting and fundamentals of atmospheric science. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student's Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student's internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 361 Fundamentals of Mesoscale Weather Forecasting (3) Applying atmospheric principles to small-scale weather systems, with an emphasis on the conceptual modeling and short-range prediction of severe thunderstorms.

METEO 361 Fundamentals of Mesoscale Weather Forecasting (3)

When outbreaks of severe weather occur, dire warnings for tornadoes, large hail or damaging straight-line winds urgently scroll across the bottoms of television screens. Simultaneously, television weathercasters warn viewers to "take cover immediately". Yet, because of the limited spatial and time scales of severe thunderstorms, the areas affected by tornadoes, large hail and damaging straight-line winds often turns out to be relatively small (sometimes as small a tenth of one percent of the original "watch area"). There is no doubt that people should be prepared to take definitive action to protect their lives and the lives of their families when outbreaks of severe weather occur. But the overall impression that entire counties or cities will be destroyed by severe weather can be, and frequently is, misleading.

One of the primary goals of Meteorology 361: Fundamentals of Mesoscale Weather Forecasting is to give students a scientifically grounded perspective of the spatial and time scales of typical outbreaks of severe weather. In the process, students will become better weather consumers. To gain such insights, students will learn conceptual models of the life cycles of severe thunderstorms and will then apply them in real-time outbreaks of severe weather. In the final analysis, students will be able to more accurately weigh the information being disseminated by the media and the Storm Prediction Center in Norman, Oklahoma.

To ensure that students develop the knowledge and skills required to critically assess public weather forecasts, METEO 361 will provide, like METEO 101, an apprentice-training environment that will guide students, under the tutelage of professional weather forecasters, to actively learn how to create their own mesoscale-weather forecasts. In the process, METEO 361 will reinforce the notion that weather forecasting involves sophisticated techniques of data analysis and a thorough understanding of atmospheric science. METEO 361 will also stress that the clear communication of the forecast requires strong verbal and graphic communication skills.

Using conceptual models and real-time radar and satellite imagery in concert with output from numerical models designed specifically for mesoscale forecasting, students will predict severe weather on time scales of a few hours to one day. For example, students will be given a litany of web-based tools and asked to place their own "watch box" for severe weather. Students will then be asked to verify and discuss the outcomes of their forecasts. For more general outlooks of severe weather (time scales of one to two days), students will use output from the numerical models that were introduced in METEO 101 to identify the areas likely to be at risk for severe weather.

It should be noted here that METEO 361will be one of four courses required for students to earn a Certificate of Achievement in Weather Forecasting, a unique online program offered through Penn State's World Campus. The three other courses that will comprise this online program are METEO 101: Understanding Weather Forecasting, METEO 241: Fundamentals of Tropical Forecasting and METEO 410: Advanced Topics in Weather Forecasting.

To facilitate the learning objectives, METEO 361 will include the use of digital video, audio, simulation models, virtual field trips to on-line resources for weather data, text, and interactive quizzes that provide timely feedback.

To demonstrate their mastery of the learning objectives, students will complete automated online quizzes, actively engage in online discussion groups focusing on real-time weather, and publish, to a personal "e-portfolio", four comprehensive projects that will explore timely case studies related to weather forecasting. The e-portfolio will take the form of a Web site that students initially create during the second course of the program (METEO 241 or METEO 361). Students will augment their e-portfolio as part of the requirements for METEO 241, METEO 361 and METEO 410. They will also use the space to reflect on their learning.

At the end of the program, students will make a final e-portfolio entry that highlights their program accomplishments. In this way, the c-portfolio will serve both as a showcase of a student's work for the purpose of course assessment and as a chronicle of a student's achievements during the program. By using their Penn State personal Web space to host their e-portfolios, students will be able to share their work not only with program faculty and students, but also with external audiences, including potential employers. Upon successful completion of the program, graduates will receive a copy of their final e-portfolio on CD-ROM.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: METEO 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 395B Private Sector Meteorology Internship (3 per semester/maximum of 6) Private sector internship focusing on atmospheric problems and applications.

METEO 395B Private Sector Meteorology Internship (3)

A student participates for at least 100 hours in an internship with a private sector company that focuses on problems or applications that use meteorological information. This internship is normally completed after the sophomore year. Given the focus of this internship and the paper requirement to relate the internship experience to meteorology coursework, students must have completed the first two required courses covering weather analysis or forecasting and fundamentals of atmospheric science. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 395C Internship in Meteorological Operations (3 per semester/maximum of 6) Internship focusing on time-sensitive operational meteorological applications such as weather or climate forecasts.

METEO 395C Internship in Meteorological Operations (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship in an operational setting that focuses on the creation of time-sensitive meteorological products such as weather or climate forecasts. This internship is normally completed after the sophomore year. Given the focus of this internship and the paper requirement to relate the internship experience to meteorology coursework, students must have completed the first two required courses covering weather analysis or forecasting and fundamentals of atmospheric science. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 395E Off-Campus Meteorological Research Internship (3 per semester/maximum of 6) Meteorological internship focusing on an off-campus research project.

METEO 395E Off-Campus Meteorological Research Internship (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship whose focus is a research project requiring applications of meteorological knowledge. This internship is normally completed after the sophomore year. Given the focus of this internship and the paper requirement to relate the internship experience to meteorology coursework, students must have completed the first two required courses covering weather analysis or forecasting and fundamentals of atmospheric science. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 101, METEO 200A andMETEO 200B orMETEO 201 andMETEO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 395D International Meteorological Internship (3 per semester/maximum of 6) An internship in an international setting that focuses on applying meteorological knowledge.

METEO 395D International Meteorological Internship (3)

A student participates for at least 100 hours in an internship in an international setting that focuses on applying meteorological knowledge. This internship is normally completed after the sophomore year. Given the focus of this internship and the paper requirement to relate the internship experience to meteorology coursework, students must have completed the first two required courses covering weather analysis or forecasting and fundamentals of atmospheric science. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201 andMETEO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 410 Advanced Topics in Weather Forecasting (3) Exploring highly specialized topics and techniques in weather forecasting that span from mesoscale to planetary spatial scales and short-term to long- range time scales.

METEO 410 Advanced Topics in Weather Forecasting (3)

T.H. Huxley's passage from Biogenesis and Abiogenesis -- "The great tragedy of Science - the slaying of a beautiful hypothesis by an ugly fact" (1870) -- will serve as the springboard for learning in METEO 410. In the spirit of a "beautiful hypothesis," forecasters' diagnoses of the present state of the atmosphere and their prognoses for how the atmosphere will evolve with time may be scientifically sound. Yet, local weather can turn out dramatically different than the intent of the forecast (the ugly fact). To compound this "great tragedy of Science," weather forecasters routinely spend most of their preparation time on local details, particularly when the weather tends to get more interesting.

Nonetheless, there are "master forecasters" who regularly avoid great tragedies in weather forecasting. Master forecasters will prudently weigh the length of the forecast time as well as interactions between weather features on the hemispheric, synoptic, meso and local scales while, at the same time, they will adroitly use an array of forecasting tools to arrive at a high-quality local forecast. With the prudent and seasoned approach of the master forecaster in mind, METEO 410 will provide students with a master apprenticeship in weather forecasting. As master apprentices, students will learn highly specialized tools and techniques that will help them to hone and expand their overall forecasting skills.

For example, students will learn a new technique for forecasting rare and extreme weather that is based on assessing departures of specific meteorological fields from climatological norms. In the process, students will study rare historic events, such as the great ice storm across northern New England and eastern Canada in 1998. Along the way, students will learn some basic statistics, including climatological means and standard deviations.

As master apprentices, students will also learn about medium-range forecasting (three to seven days into the future) and medium-range computer models. Students will learn how to implement modern prediction techniques, such as ensemble forecasts from computer models. Master forecasters increasingly take advantage of this avant-garde technique in short to medium-range forecasting.

Unique learning modules, which run the gamut from forecasting wildfires to learning about the influence of the North Atlantic Oscillation on long-range forecasts (seven days or more), will provide students with the tools to understand the bases for all the forecasts they see on television, hear on the radio, read in publications such as Weatherwise, or access on the World Wide Web. For example, students will learn about the forecasting products issued by the Climate Prediction Center, which include seasonal outlooks that focus on the seasonal impacts of La Nina and El Nino.

To facilitate the learning objectives, METEO 410 will include the use of digital video, audio, simulation models, virtual field trips to on-line resources for weather data, text, and interactive quizzes that provide timely feedback.

It should be noted here that METEO 410 will be one of four courses required for students to earn a Certificate of Achievement in Weather Forecasting, a unique online program offered through Penn State's World Campus. The three other courses that will comprise this online program are METEO 101: Understanding Weather Forecasting, METEO 241: Fundamentals of Tropical Forecasting and METEO 361: Fundamentals of Mesoscale Weather Forecasting.

To demonstrate their mastery of the learning objectives, students will complete automated online quizzes, actively engage in online discussion groups focusing on real-time weather, and publish, to a personal "e-portfolio", four comprehensive projects that will explore timely case studies related to weather forecasting. The e-portfolio will take the form of a Web site that students initially create during the second course of the program (METEO 241 or METEO 361). Students will augment their e-portfolio as part of the requirements for METEO 241, METEO 361 and METEO 410. They will also use the space to reflect on their learning.

At the end of the program, students will make a final e-portfolio entry that highlights their program accomplishments. In this way, the e-portfolio will serve both as a showcase of a student's work for the purpose of course assessment and as a chronicle of a student's achievements during the program. By using their Penn State personal Web space to host their e-portfolios, students will be able to share their work not only with program faculty and students, but also with external audiences, including potential employers. Upon successful completion of the program, graduates will receive a copy of their final e-portfolio on CD-ROM.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: METEO 101, METEO 241, METEO 361

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 412 Synoptic Applications of Dynamic Meteorology (4) Study of development and structure of large-scale weather systems and fronts.

Synoptic Applications of Dynamic Meteorology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989
Prerequisite: METEO 411;METEO 422

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 411 Synoptic Meteorology Laboratory (4) Techniques of analyzing synoptic scale weather situations; introduction to weather forecasting.

Synoptic Meteorology Laboratory (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201;MATH 230 orMATH 231 Prerequisite or concurrent:METEO 421 andMETEO 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 413 Map Analysis (3) Analysis of actual surface weather observations, with emphasis on the Norwegian cyclone model, missing or bad data, and mesoscale phenomena.

METEO 413 Map Analysis (3)

METEO 413, Map Analysis, is designed as a professional elective for Meteorology majors and as such it is primarily taken by fourth-year students. Third-year students who have completed METEO 411 may also register for Map Analysis. The course encourages students to tie together concepts learned in prior meteorology courses through analysis of numerous weather maps from across the northern hemisphere both at the surface and above. This is accomplished by improving the student's understanding of the cyclone model and applying that knowledge to "real-life" analyses where data quality may be compromised and topographic and other mesoscale factors may be important. Grades are based upon the best 13 of 14 lab assignments, 2 or more quizzes, and in-class assignments. Class participation is rewarded on an extra-credit basis. METEO 413 is offered each spring; enrollment is limited to 15 students.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: METEO 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 414 Mesoscale Meteorology (4) A survey of conceptual models and analysis techniques for mesoscale atmospheric features.

Mesoscale Meteorology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: METEO 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 415 Forecasting Practicum (3) Modern techniques in weather analysis and forecasting.

Forecasting Practicum (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: METEO 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 415 Forecasting Practicum (3) Modern techniques in weather analysis and forecasting.

Forecasting Practicum (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Fall 2010
Prerequisite: or concurrent:METEO 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 416 Advanced Forecasting (3) Competitive, simulated, operational, real-time forecasting is covered.

Advanced Forecasting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: METEO 414, METEO 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 418W Topics in Mesoscale Meteorology (3) Topics in mesoscale meteorology will be investigated in an independent study environment through computer-based modules, papers, and semester project.

Topics in Mesoscale Meteorology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1995
Prerequisite: METEO 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 417 Hydrometeorology (3) Theory and application of precipitation meteorology, hydrology, and regional forecast planning; control of the hydrometeorological system and its societal effects.

Hydrometeorology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: METEO 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 419 Air Quality Forecasting (3) Issues relating to the prediction and dispersion of air pollutants as discussed.

METEO 419 Air Quality Forecasting (3)

Prediction of air quality is discussed from the perspective of operational weather forecasting. The chemical properties of pollutants for which public forecasts are currently made, fine-scale particulate matter and ozone, are summarized to provide the physical background for making forecasts. The impacts of weather on pollutant concentrations are discussed. Current techniques for forecasting air quality are presented and used by the students to create their own air quality forecasts. Students present air quality weather briefings and post-analysis of significant historical air quality events. To take this course, students must have the background provided in a basic course in chemistry and a basic course in meteorology that covers weather systems governing the transport of air pollution.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: CHEM 110 andMETEO 003 orMETEO 101 orMETEO 200A andMETEO 201B orMETEO 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 422 Advanced Atmospheric Dynamics (3) Survey of advanced dynamical topics including instabilities, numerical modeling, and others of current interest.

METEO 422 Advanced Atmospheric Dynamics (3)

This course in atmospheric dynamics covers advanced topics, including instabilities that lead to the development of various atmospheric phenomena at the synoptic and smaller scales, numerical modeling principles and applications, topographic gravity and Rossby waves, understanding of the general circulation that can be used for extended-range forecasting, and frontal structure and frontogensis. Some additional topics will vary at the discretion of the instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: METEO 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 421 Atmospheric Dynamics (4) Balanced and unbalanced flows, vorticity, circulation and potential vorticity, an introduction to wave dynamics and stability analysis, and a quantitative discussion of the general circulation.

METEO 421 Atmospheric Dynamics (4)

This course builds on the foundation laid in METEO 300, Fundamentals of Atmospheric Science, by presenting applications of the equations of motion to the description of a variety of atmospheric motions. The dynamics of balanced flows (e.g., geostrophic winds) are reviewed and contrasted with unbalanced flows (e.g., inertial oscillations, isallobaric and convective isallobaric winds) that often help to maintain geostrophy (for examples, frontogenesis). The intrinsically rotational aspects of large-scale atmospheric motions are presented through a discussion of vorticity dynamics (including both relative and planetary vorticity) and the related circulation theorems of Kelvin and Bjerknes that culminate in potential vorticity thinking. An introduction to wave dynamics presents the perturbation method and the concepts of phase and group velocity with applications to gravity and Rossby waves, and to geostrophic adjustment. These techniques are then applied to the stability of convective, barotropic, and baroclinic motions. Finally, the general circulation (including zonally averaged circulation, longitudinally dependent features, the angular momentum budget, and the Lorenz energy cycle) is discussed quantitatively to provide a description of planetary-scale motions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: METEO 300;MATH 230 orMATH 231 andMATH 232
Concurrent: METEO 431 MATH 251 PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 431 Atmospheric Thermodynamics (3) Classical thermodynamics applied to both the dry and the moist atmosphere.

Atmospheric Thermodynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 434 Radar Meteorology (3) Fundamental operating principles of radars, with application to observation of meteorological phenomena.

METEO 434 Radar Meteorology (3)

Students will learn the basic operation principles of weather radar as it affects the taking and interpreting of measurements of weather phenomena. To achieve this ability, students must master concepts of radar design and operation, electromagnetic propagation through and scattering by atmospheric constituents, and the characteristics of atmospheric scatterers. With these tools in hand, the class will focus on interpreting weather phenomena. One-third of each lecture will be dedicated to the discussion and interpretation of student-provided radar images. Students will actively participate in the class through bringing radar observations to class for discussion. They will be required to access data from the World Wide Web, organize it for a computer-based presentation, do an in-class presentation and lead the subsequent discussion. Students should have a basic background in electromagnetic theory, such as can be acquired in a physical meteorology course (METEO 437), as well as have either completed or be co-registered for a mesoscale meteorology class (METEO 414). Students will be evaluated based on class participation, homework and two exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: METEO 437
Concurrent: METEO 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 436 Radiation and Climate (3) Elements of earth-sun geometry, radiative transfer, photochemistry, remote sensing of the atmosphere, physical climatology, climate forcing.

METEO 436 Radiation and Climate (3)

This course covers radiation and how it interacts with the atmosphere and earth's surface to drive motions in the atmosphere. The fundamentals of radiative transfer at the molecular level, including absorption, scattering, transmission, and emission of radiation by matter, are discussed and applied to help describe the earth's energy budget. Crucial to understanding these processes in the atmosphere are the interactions of radiation with water in the vapor, liquid, and solid states. Applications of radiative transfer to the understanding of seasons and of climate and climate change are presented as well.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009

Concurrent: METEO 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 437 Atmospheric Chemistry and Cloud Physics (3) Properties of aerosols and clouds, cloud nucleation and precipitation processes, atmospheric electricity, cloud and precipitation chemistry, biogeochemical cycles.

METEO 437 Atmospheric Chemistry and Cloud Physics (3)

This course develops an understanding of how the physical and chemical properties of the atmosphere influence cloud and precipitation formation, as well as how clouds in turn affect the properties of the atmosphere. The roles that chemistry and clouds play in modulating weather, climate, and atmospheric electricity are also treated.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: METEO 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 440W Principles of Atmospheric Measurements (3) Theory and practices used in measurement and analysis of meteorological variables.

METEO 440W Principles of Atmospheric Measurements (3)

The standard theories and practices used in measurement and analysis of atmospheric variables are surveyed in the lecture portion of the course. The laboratory portion of the course provides students hands-on experience with using standard and self-produced instruments to make reliable measurements and with analyzing meteorological observations to determine their significance. In the laboratory reports, students learn the fundamentals of appropriate scientific writing to summarize the objectives of the lab exercise, to provide an analysis of the observations, and to critique the results. The initial drafts of these reports are evaluated critically by the instructors and teaching assistants and then are revised by the students based on these evaluations. Discussion of scientific writing and of proper report protocols are presented in the course as well.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006 Ending: Summer 2010
Prerequisite: METEO 300, METEO 431, STAT 301 orSTAT 401 orENNEC 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 445 Laboratory in Atmospheric Physics I (1) Measurement practices, data analysis and management, radiometry lidars and radars, trace gas measurements.

Laboratory in Atmospheric Physics I (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1991
Prerequisite: or concurrent:METEO 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 440W Principles of Atmospheric Measurements (3) Theory and practices used in measurement and analysis of meteorological variables.

METEO 440W Principles of Atmospheric Measurements (3)

The standard theories and practices used in measurement and analysis of atmospheric variables are surveyed in the lecture portion of the course. The laboratory portion of the course provides students hands-on experience with using standard and self-produced instruments to make reliable measurements and with analyzing meteorological observations to determine their significance. In the laboratory reports, students learn the fundamentals of appropriate scientific writing to summarize the objectives of the lab exercise, to provide an analysis of the observations, and to critique the results. The initial drafts of these reports are evaluated critically by the instructors and teaching assistants and then are revised by the students based on these evaluations. Discussion of scientific writing and of proper report protocols are presented in the course as well.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: METEO 300, METEO 431, STAT 301 orSTAT 401 orE B F 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 446 Laboratory in Atmospheric Physics II (1) Experimental practices in cloud and aerosol physics, atmospheric electricity, atmospheric chemistry, radar meteorology.

Laboratory in Atmospheric Physics II (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1991
Prerequisite: or concurrent:METEO 437

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 448 Stormwater Hydrology (3) Relationship between surface runoff, rainfall and water chemistry during rainfall events for the purpose of assessing urbanization, non-point source contamination.

METEO 448 Stormwater Hydrology (3)

This course uses material from conventional hydrology and water quality texts and relates that material to field and laboratory measurements. The focus of our attention is the Spring Creek Watershed in State College, specifically a few of its tributaries within 2 miles of the campus. The course consists of lectures and field work. Field work will be concerned with measurements of certain organic and inorganic chemical constituents (to be analyzed externally by local laboratories), pH and electrical conductivity in water samples taken during storm events along tributaries of Spring Creek. This data will be integrated with half-hourly measurements of flow rate at stream gauges along these same streams and half-hourly rainfall data. Lectures will relate these measurements to practical aspects of surface runoff, water quality, and the identification of non-point source contamination, specifically urbanized surfaces.

The purpose of the course is to use classroom theory to understand the direct runoff response to storm events and its relationship to both urbanization and water quality. The material is diverse, practical, and cross-disciplinary, requiring the instructor to act alternately as team leader and lecturer. No exams are given, but homework based on the field measurements, a term project, and a term paper constitute the evaluation mechanism, along with the instructor's perception of each student's efforts in the field and laboratory. A team project that addresses the solution to a practical problem may also be assigned, and a report summarizing all the newly acquired data and their significance will be generated as a classroom project. Students outside the Department of Meteorology and the College of Earth and Mineral Sciences are encouraged to take this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 451 Introduction to Physical Oceanography (3) Air-sea interaction, wind-driven and thermohaline circulations, upwelling, El Nino, waves, and tides.

METEO 451 Elements of Physical Oceanography (3)

The primary objective of this course is to describe the circulation of the ocean and present a theoretical basis for understanding it. The focus is on the large-scale, basin-wide features of the ocean circulation, such as: 1) the subtropical ocean gyres that contain the wind-driven western boundary currents like the Gulf Stream, 2) the equatorial oceans that respond rapidly to external forcing to produce phenomena like El Nino, and 3) the thermohaline circulation that acts as a slow regulator of the earth's climate. A main goal is to demonstrate to meteorology students that the ocean is not a static, passive lower boundary to the atmosphere but a dynamic, evolving entity that is intimately coupled to the atmosphere through the exchange of heat, momentum, and water. Thus the oceans affect weather and climate. Students are evaluated on their comprehension of the relevant physical processes (as determined by written examinations) and by term papers and laboratory reports or a combination of the two. This course will be offered annually with an enrollment of about 12 students.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: METEO 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 452 Tropical Meteorology (3) Atmospheric processes in the tropics; mass, heat, energy, momentum, and water vapor budgets, cumulus convection, hurricanes and other disturbances.

Tropical Meteorology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: METEO 411, METEO 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 454 Introduction to Micrometeorology (3) Physical processes and their measurement in the lowest layers of the atmosphere; application to hydrology, plant systems, and air pollution.

METEO 454 Introduction to Micrometeorology (3)

Students will learn the basic fluid mechanics and thermodynamics of the atmospheric boundary layer (ABL), the lowest few hundred meters to few kilometers of the atmosphere. Specific topics covered include:
1. Introduction to micrometeorology
2. The surface energy budget
3. Radiation balance near the surface
4. Soil heat transfer
5. Air temperature and humidity in the boundary layer
6. Wind distribution in the boundary layer
7. Introduction to viscous flows
8. Introduction to turbulence in the boundary layer
9. Semi-empirical theories of turbulence

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: METEO 421 andMETEO 431 orEME 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 456 Environmental Meteorology (3) Atmospheric processes and phenomena relevant to the environmental sciences and engineering, including boundary layer meteorology and air pollution dispersion.

Environmental Meteorology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: C E 360, MATSC 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 455 Atmospheric Dispersion (3) The basic principles of atmospheric flow, introduction to the modeling of turbulent diffusion, and the use of EPA dispersion models.

METEO 455 Atmospheric Dispersion (3)

Students will learn both the theory and current practice of numerical modeling of the turbulent dispersion of effluents from sources in the atmospheric boundary layer. Lab sessions involve hands-on experience with the numerical models used in the applied dispersion community. Classroom sessions cover the boundary-layer meteorology and dispersion theory on which these models are based. In laboratory sessions, students become acquainted with the present practice of short-range atmospheric dispersion modeling through:
exploring the air-quality resources available on the World Wide Web
examining the design of the air-quality models used today in permitting and hazardous-release applications
discussing the input data needed by the models, the nature and reliability of their predictions and the advantages of improved models including AERMOD
running the models SCREEN3 and ISC (the U.S. EPA's Industrial Source Complex model).

Lectures on boundary-layer meteorology include:
the atmospheric boundary layer, turbulence, and the surface energy budget
buoyancy, stability and their influence on the atmospheric boundary layer
mass conservation in fluid motion, turbulent and molecular fluxes and their roles in atmospheric dispersion
the contrast between instantaneous and average properties of turbulent flow, the convergence of averages and implications for dispersion models

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301, C E 360, M E 320, METEO 454, METEO 456 orEGEE 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 460 Weather Risk and Financial Markets (3) This course will introduce the role that weather plays as a source of financial and operational risk for businesses, market and other institutions.

METEO 460 Weather Risk and Financial Markets (3)

The course introduces students to the role that weather plays as a source of financial and operational risk for business, markets, and other institutions. It also introduces the tools and concepts for weather risk management-the insurance products, financial instruments, and decision tools that organizations use to manage, reduce, and transfer their weather-related risks. Major topics include: (i) The concept of risk and the role of weather as a driver of economic risk; (ii) Probabilistic approaches to weather forecasting; (iii) Techniques for valuation of weather derivatives; (iv) Links between weather and markets for energy and agricultural commodities; and (v) Management of catastrophic hurricane risks. Weekly assignments culminate in a major student project on weather risk management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009 Ending: Summer 2010
Prerequisite: METEO 411;ENNEC 472;E B F 301 orEM SC 473

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 465 Middle Atmosphere Meteorology (3) A topical survey of physical, chemical, and dynamical processes at work in the stratosphere and mesosphere (middle atmosphere).

Middle Atmosphere Meteorology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: METEO 421, METEO 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 460 Weather Risk and Financial Markets (3) This course will introduce the role that weather plays as a source of financial and operational risk for businesses, market and other institutions.

METEO 460 Weather Risk and Financial Markets (3)

The course introduces students to the role that weather plays as a source of financial and operational risk for business, markets, and other institutions. It also introduces the tools and concepts for weather risk management-the insurance products, financial instruments, and decision tools that organizations use to manage, reduce, and transfer their weather-related risks. Major topics include: (i) The concept of risk and the role of weather as a driver of economic risk; (ii) Probabilistic approaches to weather forecasting; (iii) Techniques for valuation of weather derivatives; (iv) Links between weather and markets for energy and agricultural commodities; and (v) Management of catastrophic hurricane risks. Weekly assignments culminate in a major student project on weather risk management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: METEO 411;E B F 472;E B F 301 orEM SC 473

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 466 Planetary Atmospheres (3) A survey of planetary atmospheres and the chemical and physical processes by which they form and evolve.

Planetary Atmospheres (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 141, PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 469 From Meteorology to Mitigation: Understanding Global Warming (3) Introduction to global warming and climate change: the basic, science, projected impacts, and approaches to mitigation.

METEO 469 From Meteorology to Mitigation: Understanding Global Warming (3)

Human-caused climate change represents one of the great environmental challenges of our time. As it is inextricably linked with issues of energy policy, a familiarity with the fundamentals of climate change is therefore critical for those looking to careers in the energy field. To appreciate the societal, environmental, and economic implications of policies governing greenhouse gas emissions, one must further understand the basic underlying science. METEO 469 serves to lay down the fundamental scientific principles behind climate change and global warming. A firm grounding in the science is then used as a launching point for exploring issues involving climate change impacts and mitigation. METEO 469 will introduce students to the basic information necessary for understanding Earth's climate, including the relevant atmospheric processes, and aspects of other key components of the climate system such as the cryosphere, hydrosphere, and biosphere. Students will learn how to do basic computations and to use theoretical models of the climate system of varying complexity to address questions regarding future climate change. Students, further, will explore the impacts of various alternative greenhouse gas emissions scenarios and investigate policies that would allow for appropriate stabilization of future greenhouse gas concentrations. The structure of the course roughly parallels the treatment of the subject matter by the reports of the Intergovernmental Panel on Climate Change (IPCC), focusing first on the basic science, then the future projections and their potential impacts, and finally issues involving adaptation, vulnerability, and mitigation. METEO 469 will combine digital video, audio, simulation models, virtual field trips to on-line data resources, text, and interactive quizzes that provide instantaneous feedback.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: MATH 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 470 Climate Dynamics (3) The fundamental principles that govern Earth's climate and their relevance to past and future climate change.

METEO 470 Climate Dynamics (3)

Climate Dynamics delves into the fundamental processes that control the earth's climate of the past, present, and future. Fundamentals are developed from concepts of basic dynamic meteorology, radioactive transfer, and thermodynamics. Basic atmospheric radioactive transfer, the surface energy and hydrologic budgets, and the atmospheric and oceanic circulation are covered. A survey of the earth's climate through geologic history is also covered, including extinction events and the impacts on climate. The concepts developed in this course are applied to the topic of anthropogenic climate change and how various aspects of the system could be influenced by global warming.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: METEO 300, METEO 421, METEO 431
Concurrent: METEO 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 471W Observing Meteorological Phenomena (3) Teaching the observational and interpretative skills needed to read the sky.

Observing Meteorological Phenomena (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: METEO 421 . Prerequisite or concurrent:METEO 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 472W Topics in Climatology (3) Selected topics of current interest in physical and dynamic climatology and climatic change.

Topics in Climatology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002

Concurrent: METEO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 474 Computer Methods of Meteorological Analysis and Forecasting (3) Distribution of scalars and vectors; sampling; regression and correlation in two and three dimensions; time series, statistical forecasting; forecast verification.

METEO 474 Computer Methods of Meteorological Analysis and Forecasting (3)

Meteorology 474: Computer Methods of Meteorological Analysis and Forecasting explores the computationally intensive statistical methods used in the development of automated weather analysis and forecasting systems. The focus of the course is on learning to develop and use artificially intelligent automated systems to perform data quality control, quantitative analysis of large meteorological data sets, and weather forecasting. Coverage will include the relevant statistical, mathematical, and computational methods including matrix operations, data quality control, regression analysis, neural network construction, decision tree growth, and forecast system verification. Students will leave the course with an understanding of how to efficiently develop accurate and robust statistical weather analysis and prediction systems. Thus, the course serves as a professional elective for those students wishing to pursue careers in statistical weather forecasting, meteorological data analysis, and associated fields. Meteorology 474 uses a project oriented lecture/lab format to provide students with hands-on experience in developing and testing weather analysis and forecast systems. Students will both code their own forecast system development programs and use off-the-shelf software designed for rapid development and testing of forecast systems. To tackle these assignments, students will team up in pairs using the computer laboratory facilities of the Meteorology Department and meteorological data sets of current interest. A key element of the resulting project reports will be an investigation into the origin of the observed forecast system errors. One section of Meteorology 474 will be offered each year with a capacity of approximately 20 students. The class size is tailored to in-class training with the software tools and open discussion with the instructor and classmates. Grading will be based on the team assignments and on a mid-term and final examination.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: STAT 301 orSTAT 401 orE B F 472

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 473 Application of Computers to Meteorology (3) Application of statistical and numerical methods to practical problems in meteorology.

Application of Computers to Meteorology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 101, CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 475W (GEOSC 475W) Global Biogeochemical Cycles (3) The study of Earth's major global biogeochemical cycles (carbon, oxygen, nitrogen, phosphorus, and sulfur) in the context of the climate system.

Global Biogeochemical Cycles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MATH 110 andMATH 111 orMATH 140 andMATH 141 andCHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 476 Atmospheric Natural Disasters Seminar (2) Survey of naturally occurring, catastrophic meteorological events, including severe thunderstorms, tornadoes, aviation hazards, floods, and severe winter storms.

Atmospheric Natural Disasters Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: METEO 411
Concurrent: METEO 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 477 (E E 477) Fundamentals of Remote Sensing Systems (3) The review of fundamental physical properties leads into discussions of various techniques, including imaging, spectroscopy, radiometry, and active sensing.

Fundamentals of Remote Sensing Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 330 orMETEO 436

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 480M Undergraduate Research (3) A research thesis will be prepared. A written and oral presentation required.

Undergraduate Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: junior or senior standing as a Meteorology Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 480W Undergraduate Research (3) A research thesis will be prepared. A written and oral presentation required.

Undergraduate Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991
Prerequisite: junior or senior standing as a Meteorology Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 480M Undergraduate Research (3) A research thesis will be prepared. A written and oral presentation required.

Undergraduate Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: junior or senior standing as a Meteorology Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 481 Weather Communications I (3) Multi-instructor weather communications survey including forecasting, science teaching and writing, television and radio broadcasting, climate studies, forensics, industrial applications.

Weather Communications I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: METEO 201 orMETEO 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 482 Weather Communications II (3) Multi-instructor workshop designed to mimic real-life applications of weather communications in industry, broadcasting, the courtroom, and the classroom.

Weather Communications II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: METEO 481

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 483 Weather Communications III (3) Individualized course designed for in-depth study of weather communications in industry, broadcasting, the courtroom and/or the classroom.

Weather Communications III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: METEO 411, METEO 482

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 484 Weather Communications Apprenticeship (3) Mentor-led course that focuses on a specific issue of problem in weather communications related to broadcasting, climate or industry.

METEO 484 Weather Communications Apprenticeship (3)

METEO 484 is a professional elective course that is offered on an individual basis to a student or a team of students (up to 3) who are engaged in a long-term project related to developing a new approach to weather communications. It could be offered any semester, but will usually be held in the spring or summer. It is an elective course toward the completion of the Weather Forecasting and Communications Option in Meteorology. Under the tutelage of a primary instructor in Weather Communications, the student will extend to its completion work that was begun in Meteorology 483 and reviewed by the individual course committee. The likely projects include web design of community weather pages, production of a weekly 15-minute weather show for local government access channels, case studies for a forensic climatology investigation, and similar types of projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: METEO 481, METEO 482 andMETEO 483

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 485 National Weather Service Operations (2-3) Joint instruction with lead personnel from the State College National Weather Service Office on a variety of operational weather topics.

METEO 485 National Weather Service Operations (2-3)

METEO 485 is a professional elective course that is offered to interested students who desire to expand their horizons in the field of operational weather forecasting. This course provides a view of operational meteorology from those involved in the daily routine of regional forecasting. The topics vary with each offering, but are focused on the advances occurring and needed in this field. Sample topics include quantitative precipitation predictions, long-range weather forecasting, and the climatology of significant weather events. Regular interactions with experienced forecasters helps focus the student's career choices and stimulates the operational meteorologists to be lifelong learners. The course will be offered in the spring and fall semester each year. It is an elective course that may be used toward the completion of the Weather Forecasting and Communications Option in Meteorology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prerequisite or concurrent:METEO 481, METEO 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 486 Pennsylvania Climate Studies (1-2 per semester/maximum of 3) An overview of the Pennsylvania State Climate Office and an introduction to various aspects of its operations.

METEO 486 Pennsylvania Climate Studies (1-2)

Those interested in climate topics will become thoroughly acquainted with the important process of acquiring and assessing the quality of climate observations. Students will be introduced to the various observational networks and data formats. They will learn to manipulate large climate data fields using both flat and relational database management systems. Each student will contribute to the state climate web page and will conduct a research project during the second half of the semester. This course will be offered in fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006 Ending: Fall 2010
Prerequisite: METEO 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 486 Pennsylvania Climate Studies (1-2 per semester/maximum of 3) An overview of the Pennsylvania State Climate Office and an introduction to various aspects of its operations.

METEO 486 Pennsylvania Climate Studies (1-2)

Those interested in climate topics will become thoroughly acquainted with the important process of acquiring and assessing the quality of climate observations. Students will be introduced to the various observational networks and data formats. They will learn to manipulate large climate data fields using both flat and relational database management systems. Each student will contribute to the state climate web page and will conduct a research project during the second half of the semester. This course will be offered in fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: METEO 101 orMETEO 200A andMETEO 200B orMETEO 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 491 Joint National Weather Service Map Discussion (1) Students evaluate and discuss real-time, regional and local weather conditions and forecasts with University instructors and National Weather Service forecasters.

Joint National Weather Service Map Discussion (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: METEO 411, METEO 415
Concurrent: METEO 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 495A Meteorology Communications Internship (3 per semester/maximum of 6) Internship focusing on communication of weather forecasts or other meteorological information.

METEO 495A Meteorology Communications Internship (3 per semester/,maximum of 6)

A student participates for at least 100 hours in an internship with an agency or company that focuses on communication of weather forecasts or other meteorological information. This internship is normally completed after the junior year. Given the focus of this internship and the paper requirement to relate the internship experience to a 400-level meteorology course, students must have completed the required course on synoptic meteorology. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 495B Meteorology Private Sector Internship (3 per semester/maximum of 6) Internship focusing on meteorological problems and applications pursued by private sector companies.

METEO 495B Meteorology Private Sector Internship (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship with a private sector company that focuses on problems or applications that use meteorological information. This internship is normally completed after the junior year. Given the focus of this internship and the paper requirement to relate the internship experience to a 400-level meteorology course, students must have completed the required course on synoptic meteorology. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 495C Meteorological Operations Internship (3 per semester/maximum of 6) Internship focusing on time-sensitive meteorological applications such as weather or climate forecasts that are produced.

METEO 495C Meteorological Operations Internship (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship in an operational setting that focuses on the creation of time-sensitive meteorological products such as weather or climate forecasts. This internship is normally completed after the junior year. Given the focus of this internship and the paper requirement to relate the internship experience to a 400-level meteorology course, students must have completed the required course on synoptic meteorology. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: METEO 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 495D Meteorological International Internship (3 per semester/maximum of 6) Meteorological internship in an international setting.

METEO 495D Meteorological International Internship (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship in an international setting that focuses on applying meteorological knowledge. This internship is normally completed after the junior year. Given the focus of this internship and the paper requirement to relate the internship experience to 400-level meteorology coursework, students must have completed at least six credits of Meteorology courses. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 6 credits of 400-level Meteorology coursework

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 495E Meteorological Off-Campus Research Internship (3 per semester/maximum of 6) Off-campus meteorological internship focusing on a research project.

METEO 495E Meteorological Off-Campus Research Internship (3 per semester/maximum of 6)

A student participates for at least 100 hours in an internship whose focus is a research project requiring applications of meteorological knowledge. This internship is normally completed after the junior year. To provide sufficient background for performing atmospheric research successfully, students must have completed at least nine credits of 400-level Meteorology courses. After the internship has been completed, the student writes a paper based on the contract posted on the Department of Meteorology website. This paper normally is evaluated by the student’s Meteorology Department academic advisor. The course grade depends on this evaluation combined with the assessment provided to the advisor by the student’s internship supervisor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: 9 credits of 400-level Meteorology coursework

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497A Aerobiology Field Methods (3) Field measurement and modeling of the dispersion of biological particles and atmospheric conditions within and above plant canopies.

Aerobiology Field Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497A Communications Internship (3) Supervised internship of at least 100 hours at a facility that focuses on disseminating weather forecasts or weather-related information.

Communications Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497C Operations Internship (3) Supervised internship of at least 100 hours at a governmental facility that focuses on operational weather forecasting.

Operations Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497B Private Secotr Internship (3) Supervised internship of at least 100 hours at a private company that focuses on creating or applying meteorological knowledge.

Private Secotr Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497D International Internship (3) Supervised internship of at least 100 hours at an international meteorological facility.

International Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 497E Off Campus Research Internship (3) Supervised internship of at least 100 hours in which the student engages in off-campus research. .

Off Campus Research Internship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 498K Supervised Teaching (1) Select undergraduates help prepare lessons and get in front of the classroom.

Supervised Teaching (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Meteorology (METEO)

METEO 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 106 (GN) Elementary Microbiology (3) Importance of microorganisms in health and disease, agriculture, and industry; descriptive course for students not planning advanced study in microbiology. The combination of MICRB 106 GN and 107 GN must be taken to receive General Education credit in biology.

MICRB 106 Elementary Microbiology (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Microbiology 106 is an introductory lecture course intended for students who do not plan to pursue further study in microbiology. It is particularly appropriate for students in allied health fields, agriculture, environmental engineering, and restaurant and institutional food management. The course can be used to meet natural science (GN) General Education requirements. To receive GN credit, however, MICRB 106 must be taken with its companion laboratory course, MICRB 107.

Students taking this course will come to understand and appreciate the unique nature of microorganisms and their importance to life on earth. Microbes were the first form of life to evolve, and even though different in structure from other forms of living things, many similarities can be found in terms of genetics, metabolism, and the roles they play in nature. Bacteria, viruses, and other forms of microscopic life will be examined in some detail, as will their biological activities both beneficial and harmful.

Most people think of microbes in their negative roles: disease, food spoilage, and bio-deterioration. Indeed, we spend a lot of time and resources controlling microbes in our environment and treating diseases they cause. But microbes are found naturally on and within the human body with beneficial effect. They are also important in the production of food, vitamins, drugs, and other useful products. They are used extensively in biotechnology. They have important ecological roles and are essential to the continued existence of life on earth.

MICRB 106 uses a lecture format supplemented with contemporary videos to highlight the current challenges and benefits that microbiology brings to our society and our collective and individual health. Also included in the course are active learning activities that involve critical thinking and investigation of internet resources.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 107 (GN) Elementary Microbiology Laboratory (1) Selected techniques used to observe, identify and count bacteria; effects of chemical and physical agents on microorganisms. The combination of MICRB 106 GN and 107 GN must be taken to receive General Education credit in biology.

MICRB 107 Elementary Microbiology Laboratory (1)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Microbiology 107 is an introductory laboratory course designed for students who do not intend to pursue further study in the field. The course demonstrates the use and practice importance of microbes in everyday life. Instruction begins with the proper handling and visualization of microorganisms. Almost by definition, the vast majority of microorganisms are too small to be seen with the naked eye. Therefore, students must learn the correct use of the light microscope. Instruction in the proper care and maintenance of the microscope is provided. Students prepare and stain specimens using a number of methods designed to characterize microorganisms. The importance of working safely in a laboratory setting is emphasized throughout the course.

Many skills are developed in this laboratory course. Aseptic (without contamination) technique is taught and is used to transfer organisms properly from one culture medium to another. A variety of media are used and the reasons for their use are explained. Students also learn how to calculate the number of bacteria in specimens such as water, soil or food. The course demonstrates ways to control microbial growth by means of temperature, osmotic pressure, pH, exposure to ultraviolet light and disinfectants. Students learn the importance of controlling microbial growth on their person and how failure to do so can lead to the spread of disease, especially in hospital settings. Other experiments illustrate methods used to preserve dairy products and test water for contamination.

While students learn to isolate and identify organisms from their own body, other common bacteria found in or on the human body are also studied. A variety of diagnostic cultural and physiological tests are employed to identify organisms students have isolated. This simulates in a very real way the process physicians depend on for diagnosis of infectious diseases. A related experiment demonstrates how antibiotics that are likely to be effective in treating an infection are selected. Taken together, most of the experiments conducted in MICRB 107 are designed to encourage students to investigate the many important roles microorganisms play in the living world.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2002
Prerequisite: or concurrent:MICRB 106

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 151A Seminar and Practicum for Medical Laboratory Technicians--Clinical Chemistry (7) Basic principles and procedures for measuring chemical components of blood and other body fluids.

Seminar and Practicum for Medical Laboratory Technicians--Clinical Chemistry (7)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 150 Introductory Medical Laboratory Technology (4) Introduction to basic principles and procedures of clinical laboratory work. Practicum emphasizes proper collection, handling, and preparation of biological samples.

Introductory Medical Laboratory Technology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: admission to 2-MLT program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 151C Seminar and Practicum for Medical Laboratory Technicians--Hematology (6) Red and white blood cell identification and enumeration. Related procedures for diagnosing normal or disease states.

Seminar and Practicum for Medical Laboratory Technicians--Hematology (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 151D Seminar and Practicum for Medical Laboratory Technicians--Immunohematology (4) Immunologic considerations necessary for the transfusion of blood and blood products.

Seminar and Practicum for Medical Laboratory Technicians--Immunohematology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 151E Seminar and practicum for Medical Laboratory Technicians--Urinalysis (2) Identification of cellular and crystalline urinary sediments. Qualitative chemical analysis of urine.

Seminar and practicum for Medical Laboratory Technicians--Urinalysis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 151F Seminar and Practicum for Medical Laboratory Technicians--Immunology/ Serology (2) Antigen-antibody interactions of diagnostic importance; methods used to identify and quantify antigen-antibody complexes.

Seminar and Practicum for Medical Laboratory Technicians--Immunology/ Serology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 151W Seminar and Practicum for Medical Laboratory Technicians--Clinical Microbiology (6) Properties of normal and abnormal human microbial flora and procedures for their identification.

Seminar and Practicum for Medical Laboratory Technicians--Clinical Microbiology (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 141, CHEM 202, MICRB 150, MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 201 Introductory Microbiology (3) Elementary principles of microbial and viral structure, reproduction, genetics and physiology; relationship to food, water, soil, industrial and disease processes.

MICRB 201 Introductory Microbiology (3)

MICRB 201, Introductory Microbiology, is a survey course that touches on the full range of topics generally considered to fall within the scope of microbiology. After a short overview of the origins of microbiology and the ways in which forms of life too small to be seen with the naked eye can be studied, the course launches into the following basic topics:
1) structure and function of the bacterial cell as compared with plant and animal cells
2) care, feeding, and controlling the growth of bacteria
3) how bacteria acquire and use energy
4) how energy and nutrients are used to make cell components and carry out life processes
5) how bacteria organize, replicate and control the expression of genetic information
6) how viruses differ organizationally and reproductively from bacteria, and finally
7) how bacteria are classified and why various classification schemes are important

The remainder of the course is concerned with specific roles bacteria and viruses play in nature. Issues addressed include:
1) role of bacteria in the cycling of elements in the terrestrial environment
2) importance of bacteria in aquatic environments, including the safety of drinking water and treatment of waste water
3) the role of bacteria and viruses in human health and disease
Bacteria existed long before higher life forms, so animals, including humans, evolved means to protect themselves from harmful bacteria while forming relationships with bacteria that are beneficial. These harmful and beneficial relationships are intimately connected to immunology, a field that has long been included in the study of microbiology. The study of disease-causing microbes includes the topics of how these organisms are spread and how they can be controlled using anti-bacterial and anti-viral agents. Selected diseases are used to explain the various mechanisms by which microbes are able to cause illness.

Finally, the course also covers the role microorganisms play in the spoilage of foods and, more importantly, the myriad ways in which bacteria, yeast and fungi are used to manufacture such popular foods as breads, cheeses, wines, beers and many other fermented food and dairy products. At some point in the course, there is discussion of how microbes are used in the rapidly-expanding area of biotechnology. Bacteria have, by far, the greatest genetic diversity of all living things, so their potential for yielding products of benefit to agriculture and humankind is enormous. This topic also treats the controversial issues connected with biotechnology, including ethical, theoretical and practical issues that are or will eventually need to be addressed by society.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 201H Introductory Microbiology (3) Elementary principles of microbial and viral structure, reproduction, genetics and physiology; relationship to food, water, soil, industrial and disease processes.

MICRB 201H Introductory Microbiology (3)

MICRB 201H, Introductory Honors Microbiology, is a survey course that touches on the full range of topics generally considered to fall within the scope of microbiology. After a short overview of the origins of microbiology as a science and the ways in which forms of life too small to be seen with the naked eye can be studied, the course covers the following basic topics: 1) the tree of life and the position of microbes in the biological world, 2) structure and function of the bacterial cell as compared with plant and animal cells, 3) microbial nutrition and growth, 4) molecular biology and gene regulation in microbes, 5) microbial genetics, 6) an overview of microbial classification and diversity, and 7) the principles of how microbes interact with their environment.

Unlike the standard sections of MICRB 201, the honors course then moves on to an integrated description of microbial diversity and ecology in association with topics such as carbon metabolism, energy acquisition and utilization including photosynthesis, and the environmental impacts of microbial utilization of inorganic chemicals. This is followed by a section concerning eukaryotic or non-bacterial microbes, a section concerning the use of microbes in industry, and then a basic overview of viruses and how they work.

The last part of the course deals with microbial interactions with other organisms with an emphasis on their interactions with man. This starts with a discussion of how microbial growth can be controlled, and then the various kinds of relationships that can exist between microbes and other organisms are covered. This is followed by a section on immunology or the mechanisms animals possess to defend themselves against potentially harmful microbes. The final section concerning a broad range of microbially-caused diseases is preceded by a description of microbial analysis in the clinical or medical laboratory as well as a discussion of how disease-causing microbes are spread in animal populations.

MICRB 201H is taught so as to emphasize the impact of microbes on our everyday lives. One way this is accomplished is by class presentations made by small groups of students on topics of current interest in the community at large. Students also write a term paper that can involve any aspect of microbiology using an article from the popular press as their starting point. All students are also required to make a short in-class presentation in which they provide an overview of their term paper. While much of the instruction involves the standard lecture format, classroom discussion is encouraged at all times.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 251 (B M B 251) Molecular and Cell Biology I (3) Biomolecules, genetic mechanisms, organization of cells and their organelles, DNA replication, protein synthesis, membranes, the cell nucleus, energy conversion.

Molecular and Cell Biology I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 202 Introductory Microbiology Laboratory (2) Qualitative and quantitative techniques with regard to recognition of bacteria and their processes on a microscopic, colonial, and physiological basis.

Introductory Microbiology Laboratory (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110 . Prerequisite or concurrent:MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 252 (B M B 252) Molecular and Cell Biology II (3) Continuation of BIOCH/B M B/MICRB 251: cytoskeleton, cell growth, division, adhesion, signalling, germ cells, differentiation, immune system, nervous system, plant cells.

Molecular and Cell Biology II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: MICRB 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 398 Special Topics (1-9) Formal courses give infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 400 Introductory Environmental Microbiology (2) Elementary ecological relationships of microorganisms in the biosphere; role of bacteria in water pollution and purification. This course should not be scheduled by students who have taken Micrb. 201 or 202.

Introductory Environmental Microbiology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 401 Microbial Physiology and Structure (3) Physiology and structure of bacteria important in microbiological research. Designed for science majors.

Microbial Physiology and Structure (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 202 orCHEM 210;MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 405A Seminar and Practicum in Medical Technology (8) Chemistry. Fundamental principles and the quantitative measurement of chemical components in the blood and other body fluids.

Seminar and Practicum in Medical Technology (8)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 405B Seminar and Practicum in Medical Technology (1) Urinalysis. Identification of cellular and noncellular urinary sediments. Qualitative chemical analysis of urine.

Seminar and Practicum in Medical Technology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 405D Seminar and Practicum in Medical Technology (5) Immunohematology. Immunologic and genetic principles governing the transfusion of blood and blood products.

Seminar and Practicum in Medical Technology (5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 405C Seminar and Practicum in Medical Technology (6) Hematology. Principles of red and white blood cell development. Identification of normal and pathological conditions.

Seminar and Practicum in Medical Technology (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 405E Seminar and Practicum in Medical Technology (7) Microbiology. Identification of normal and abnormal microbial flora from various locations on and within the human body.

Seminar and Practicum in Medical Technology (7)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 405F Seminar and Practicum in Medical Technology (3) Serology-Immunology. Immunological principles and their application in the identification of present or past disease states of the human.

Seminar and Practicum in Medical Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 408 Laboratory Instructional Practice (1-2) Participation in the instruction of undergraduate laboratory courses, including classroom preparation; discussion of principles and objectives of each exercise.

Laboratory Instructional Practice (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: 8 credits in microbiology and permission of department head

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 410 Principles of Immunology (3) Theories of immunity; focuses on the basis for the acquired immune response at the organ, cell, and molecular levels.

Principles of Immunology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: B M B 251, MICRB 201 orMICRB 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 411 Survey of Microbiology Literature (1 per semester) An introduction to readings and oral presentations in microbiology.

Survey of Microbiology Literature (1 per semester)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: 8 credits in microbiology courses

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 412 Medical Microbiology (3) Characteristics, methods of identification, and pathogenesis of bacteria that cause human disease; principles of disease dynamics and control.

Medical Microbiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 413 Microbial Diversity (2) survey of microorganisms having special adaptive mechanisms for life in common and unique environments; topics include ecology, evolution, and bioremedia- tion.

Microbial Diversity (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 415 General Virology: Bacterial and Animal Viruses (3) The interaction of different types of viruses with bacterial and animal cells, including mechanisms of infection and viral synthesis.

MICRB 415 General Virology: Bacterial and Animal Viruses (3)

General Virology: Bacterial and Animal Viruses covers the interactions of different types of viruses with animal and bacterial cells, emphasizing molecular and genetic concepts of viral infection and viral replication. Students are expected to apply basic concepts of microbiology as well as molecular and cell biology to understanding selected viral life cycles, particularly at the molecular level. Lectures are augmented by in-class discussion and homework assignments. Typically, students are evaluated by two hourly exams and a final exam that assess their knowledge of virology and their ability to apply basic concepts of gene expression and cell biology to explaining viral life cycles. This course builds on the common requirements of MICRB 201 and B M B(MICRB) 251/252. The instruction expands into the cellular and molecular bases of viral life cycles with regular reference to and comparison with cellular and molecular biology of uninfected cells. The content of this course complements those on the basic mechanisms of gene expression (B M B 400) and prepares the student for understanding the molecular basis of viral pathogenesis covered in B M B/MICRB/V SC 435.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: B M B 251, B M B 252 orBIOL 110, BIOL 230W;MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 421W Laboratory of General and Applied Microbiology (3) Laboratory exercises demonstrating fundamental techniques and principles of experimentation of general and applied microbiology.

Laboratory of General and Applied Microbiology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MICRB 201, MICRB 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 416 (BIOTC 416) Microbial Biotechnology (2) Fundamentals of applied biotechnology; the use of microorganisms in the synthesis of biologically-important and industrially-useful products.

Microbial Biotechnology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: MICRB 201, MICRB 202;B M B 442 orMICRB 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 422 Medical Microbiology Laboratory (2) Laboratory exercises demonstrating properties and classification of medically important microorganisms and techniques used in their identification.

Medical Microbiology Laboratory (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: MICRB 202
Concurrent: MICRB 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 432 (B M B 432, VB SC 432) Advanced Immunology: Signaling in the Immune System (3) The study of signaling pathways that regulate the immune response.

MICRB (B M B/V SC) 432 Advanced Immunology: Signaling in the Immune System (3)

This course will use the immune system as a model in which to study how cells communicate in order to coordinate an immune response. We will focus on signaling mechanisms that regulate such immune responses as T cell activation, Thl/Th2 differentiation, macrophage activation and migration of immune cells to sites of inflammation. All lectures are based on recent reviews by key investigators in each field, as well as primary articles to present students with the most recent advances as well as techniques and approaches used. The goal of the course will be to convey a basic understanding of intracellular signaling mechanisms that will pertain to all areas of biology, an appreciation for current questions and future directions in the field, and an in depth understanding of the signals that govern immune responses. The material presented will build on the basic concepts learned in B M B 400 and MICRB 410, and will lay the foundation for more advanced courses at the graduate level, such as Molecular Immunology, Special Topics in Immunology, and Readings in Immunology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: B M B 400, MICRB 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 435 (B M B 435, VB SC 435) Viral Pathogensis (2) A study of the molecular, immunological and pathological aspects of viral diseases as well as laboratory methods of diagnosis.

MICRB (B M B/V SC) 435 Viral Pathogenesis (2)

In Viral Pathogenesis, a multifaceted approach that includes lectures, in-class discussion, and outside assignments is used to introduce students to molecular mechanisms of viral pathogenesis. Emphasis is placed on human viruses. In some instances, traditional animal virus model systems are also discussed to address important concepts in detail. The course is divided into three parts: (1) general concepts in virology (20%); (2) general concepts in viral pathogenesis (40%); and (3) specific examples of viral pathogenesis (40%). Students are typically evaluated on in-class participation, outside assignments, quizzes and exams. Exams emphasize students' knowledge of concepts more than specific, factual information and are comprised of a combination of multiple-choice, short-answer and/or essay questions. To fully understand concepts/mechanisms of viral pathogenesis, a working knowledge of viruses, molecular biology, cell biology and immunology is beneficial. Hence, MICRB 201 is a prerequisite for this course as is the combination of either BIOL 110/230 or B M B(MICRB) 251/252. While MICRB 415 is not a prerequisite for the course, some material covered in MICRB 415 is addressed, albeit rapidly, during the initial lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MICRB 201;B M B 251 andB M B 252 orBIOL 110 andBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 442 (B M B 442) Laboratory in Proteins, Nucleic Acids, and Molecular Cloning (3) Laboratory in enzyme purifications and assay techniques; nucleic acid isolation and characterization, including plasmid preparation.

MICRB (B M B) 442 Laboratory in Proteins, Nucleic Acids, and Molecular Cloning (3)

The DNA portion of B M B/MICRB 442 serves as an introduction to fundamental techniques of recombinant DNA technology and as a reinforcement of principles of Molecular Genetics from lecture courses. The central experiment entails all basic procedures necessary to clone a gene, i.e. to make a recombinant molecule comprised of DNA from two sources. Students use restriction enzymes to cut two distinct DNA molecules into smaller fragments. The fragments are mixed and treated with the enzyme Ligase, which randomly combines small fragments into large recombinant DNA molecules in new combinations different in composition from either original molecule. The recombinant molecules, which include genes that confer drug resistance, are transformed intoE. coli cells that initially have no drug resistance. Cells that acquire recombinant DNA molecules are identified by selective plating on growth media containing drugs. From the transformed cells, recombinant DNA is isolated and analyzed by agarose gel electrophoresis, completing the array of basic gene cloning techniques. In addition to this central, multi-session experiment, students also do PCR and an investigation of the lac operon, a classic molecular genetic model system.

The proteins portion of B M B/MICRB 442 is designed to introduce students to protein biochemistry topics and laboratory techniques typically encountered in academic and commercial settings. Students will learn about buffers, spectroscopy, enzyme purification and characterization methods. Specifically, the experiments include preparation of buffers and performing kinetic studies to determine Km and Vmax values. Separation of a mixture of phycobiliproteins using ion-exchange column chromatography is a major experiment that the students will perform to learn protein purification methods. In this experiment they will learn how to pour a column, apply sample, elute it with salt gradient and collect fractions using automated fraction collector. Ammonium sulfate precipitation and dialysis will be part of protein purification procedures. Characterization of the separated proteins will be performed by determining the absorption spectra with a Genesys-5 spectrophotometer and by determining the molecular weights of the subunits of the phycobiliproteins by SDS-polyacrylamide gel electrophoresis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: B M B 251, BIOL 230W orMICRB 201;CHEM 202 orCHEM 210 . Prerequisite or concurrent:B M B 211 orB M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 450 (B M B 450) Microbial/Molecular Genetics (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.

Microbial/Molecular Genetics (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: BIOL 222, MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 447 Laboratory in Molecular Immunology (1) Laboratory in molecular techniques to assay antigens, antibodies, and receptor sites.

Laboratory in Molecular Immunology (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1995
Prerequisite: MICRB 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 450 (B M B 450) Microbial/Molecular Genetics (2) Genetic phenomena, with emphasis on molecular mechanisms: gene transfer, recombination, gene conversion, gene fusion, suppression, transposons.

Microbial/Molecular Genetics (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: BIOL 222 orBIOL 322, MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 460 (B M B 460) Cell Growth and Differentiation (3) Mechanisms and regulation of protein trafficking, organelle biosynthesis, cell development, signaling and cell cycle control. Emphasizes experimental design and analysis.

MICRB (B M B) 460 Cell Growth and Differentiation (3)

Cell Growth and Differentiation is a unique course that uses the primary literature to teach significant content in advanced cell biology while simultaneously exposing students to the scientific craft of experimental design and analysis. In addition to exploring historical and current cell biology research articles, students will develop two vital scientific skills; critical thinking as applied to experimental data and creative thinking about solving unresolved questions in cell biology.

There is no course textbook. As an alternative, we read from journals to explore questions about cell biology and how cell biologists decipher cell functions. Instead of a general survey of cell biology, we delve into specific issues, often looking at "classic" papers describing how a specific phenomenon was first investigated to place current questions in context before progressing to the latest publications exploring how innovative techniques have been applied to deciphering cell function.

The course is divided into four units, each of which emphasizes content in a different area. Actual content may vary from year to year as the course is updated to reflect progress in a field of research. We have previously explored the general areas of cell membrane dynamics, intracellular protein trafficking, cell cycle regulation, cell signaling pathways and cancer cell biology. Finally, the course ends with a unit on stem cells and therapeutic cloning technology. A portion of the final unit is also devoted to discussing the ethical implications of stem cell research with an emphasis on how to make personal decisions about how our society should approach these issues.

Reading guides are provided for each assignment to help students find and understand important points in reading assignments. Class periods are devoted to explanations and instructor-led discussions about the readings with an emphasis on understanding the questions, the methods used to approach the questions, the experimental results and the interpretations of the results. Furthermore, periodic class periods are dedicated to experimental approach exercises where students work in groups to practice posing new questions as suggested by our readings and proposing experiments to answer these questions. These skills are vital part of what cell biologists do daily, and these exercises provide practice in thinking like a scientist. Students have previously reported that by taking this course they acquired the ability to read and understand the primary literature and have gained an in-depth understanding about how to use various experimental techniques.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: B M B 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 496 Independent Studies (1-18) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 480 (B M B 480) Tumor Viruses and Oncogenes (3) Oncogenes, DNA and RNA tumor viruses, and relevant experimental techniques with emphasis on molecular basis of carcinogenesis and gene regulation.

Tumor Viruses and Oncogenes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent:MICRB 415, MICRB 435 orMICRB 460

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 498A (B M B 498A) Antibiotics: Development and Resistance (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Antibiotics: Development and Resistance (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 498A Antibiotics: Development and Resistance (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Antibiotics: Development and Resistance (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Microbiology (MICRB)

MICRB 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Engineering (MIN E)

MIN E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Engineering (MIN E)

MIN E 415 Management in the Mineral Industries for Environmental, Legal, and Health and Safety Problems (3) Mineral industries management and labor structure analyzed, with emphasis on environmental, health and safety, and legal aspects.

Management in the Mineral Industries for Environmental, Legal, and Health and Safety Problems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Engineering (MIN E)

MIN E 471 Aggregates Production (3) Design and analysis of quarries, sand and gravel pits, and ancillary operations.

Aggregates Production (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Engineering (MIN E)

MIN E 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Engineering (MIN E)

MIN E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 301 Elements of Mineral Processing (3) Introduction to mineral process engineering. Sampling, sizing, comminution, physical and chemical processes, applications to industrial practice. Pollution control.

Elements of Mineral Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110 orCHEM 106;MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 401 Mineral Process Engineering (3) Unit operations for processing particulate materials: comminution, screening, classification, slurry pumping, thickening, filtration, etc.; application to mineral processing plant design.

Mineral Process Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MN PR 301, MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 413 Mineral Processing Laboratory (1) A laboratory study of the chemical and physical principles involved in practical mineral processing operations.

Mineral Processing Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: or concurrent:MN PR 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 410 Introduction to Quantitative Mineral Processing Engineering Analysis (3) This course examines the use of quantitative engineering techniques such as simulation, optimization, parameter estimation, etc., to calculate the expectations of mineral processing circuitry.

Introduction to Quantitative Mineral Processing Engineering Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MN PR 301, MN PR 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 421 Particle Technology Laboratory (1-3) Particle sizing techniques used in mineral separations. Sampling, sieving, perturbation, adsorption, microscopic methods. Separations based on size, shape, density, paramagnetism.

Particle Technology Laboratory (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 250 orMATH 251;PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 424 Coal Preparation (3) Unit operations, flowsheets, and testing methods used in preparation of coal.

Coal Preparation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MN PR 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 425 Interfacial Phenomena and Flotation (3) Surface and interfacial phenomena related to flotation agglomeration, flocculation, and dispersion of particles. Application to mineral separation and related processes.

Interfacial Phenomena and Flotation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301;MATH 250 orMATH 251;MN PR 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 426 (MATSE 426) Aqueous Processing (3) A study of the chemical and engineering principles pertinent to metal processing in aqueous systems: hydrometallurgical extraction, plating, materials preparation.

MN PR (MATSE) 426 Aqueous Processing (3)

This 3-credit course deals with the chemical and engineering principles underlying the aqueous processing of metals: metal extraction from primary and secondary sources, electroplating, and metal finishing, powder synthesis, energy storage and conversion, and treatment of recycling of metal-containing toxic wastes.

1. Physico-Chemical Principles - Thermodynamic, chemical kinetic and transport factors which control hydrochemical processes (leaching; precipitation; adsorption; solvent extraction; ion exchange; electrowinning, electrorefining and electroplating; membrane processes; energy storage and conversion); graphical representation of homogeneous and solid/solution equilibria; chemical reagents.

2. Engineering Principles - Reactor design and staged operations; ideal batch, continuous stirred-tank and plug-flow reactors; fluidized bed reactors; electrochemical reactors; multistage separation processes (solid-liquid, liquid-liquid, and gas-liquid systems).

3. Process Synthesis - Design of metal separation (extraction, refining, waste treatment) materials synthesis, metal finishing, and energy storage/conversion processes and system-integration of unit operations, industrial practice. Emphasis on closing circuits to minimize or eliminate waste effluents.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: EME 301 orMATSE 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 451 Senior Projects (1-6) Independent research and/or design projects under the supervision of the mineral processing faculty.

Senior Projects (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mineral Processing (MN PR)

MN PR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 023 Mineral Land and Mine Surveying (2) Surveying theory and practice applied to mineral lands and mines, traversing, leveling, mapping, underground surveying, microcomputer drafting and graphics.

Mineral Land and Mine Surveying (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: ED&G 100, EG T 101 orE G 010 ; 1/2 unit of secondary school trigonometry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 030 Introduction to Mining Engineering (3) Examination, development, and exploitation of mineral deposits; mining methods; unit operations; mining equipment; fundamentals of explosives.

Introduction to Mining Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 030 Introduction to Mining Engineering (2) Examination, development, and exploitation of mineral deposits; mining methods; unit operations; mining equipment; fundamentals of explosives.

Introduction to Mining Engineering (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 400 (IL) Mining and Our Environment (3) For nonmining students. Nontechnical treatment of mining methods, practices, and role in today's civilization; socioeconomic and environmental problems.

Mining and Our Environment (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 402 Mine Plant Engineering (3) Theory and concepts of electrical power systems and loads in mining and similar industrial applications; drive systems for materials handling.

Mine Plant Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 401 Introduction to Mining Operations (1) An introduction to underground and surface mining methods; selection of extraction equipment; relevant auxiliary operations. Not intended for Mining Engineering majors.

Introduction to Mining Operations (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E MCH 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 403 Mine Power System Design (3) Mine power system arrangements; design and specification of components and equipment.

Mine Power System Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MNG 402 orE E 211 orE E 387

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 404 Mine Materials Handling Systems (2) Analysis and design of materials-handling systems in mining, such as belt conveyors, locomotives, and hoisting.

Mine Materials Handling Systems (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MNG 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 410 Underground Coal Extraction (2) Underground coal-mine design; extraction techniques; description of the various auxiliary operations as they relate to the mining methods.

Underground Coal Extraction (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MNG 404, MNG 422, MNG 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 411 Mine Systems Engineering (2) Applied operations research and systems methods for decision making in mine operations; time and systems studies to improve productivity.

Mine Systems Engineering (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MNG 404

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 412 Mineral Property Evaluation (3) Ore reserve estimation using statistics and geostatistics, mine cost estimation, engineering economy concepts applied to mineral deposits.

Mineral Property Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MNG 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 422 Mine Ventilation and Air Conditioning (3) Quality, quantity, and temperature-humidity control of the mine atmosphere; general mine environmental control.

Mine Ventilation and Air Conditioning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: C E 360, MNG 030 . Prerequisite or concurrent:M E 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 431 Rock Mechanics (3) Ground stresses, laboratory rock properties, laboratory and field instrumentation, rock mass characteristics, subsidence, slope stability, design of mine workings.

MNG 431 Rock Mechanics (3)

This course was designed to introduce the student to the subject of rock mechanics. It includes an introduction to experimental stress analysis, the physical properties of rock, underground stresses, laboratory and field instrumentation, model studies, rock mass properties, and the discussion of a number of rock mechanics field applications associated with mining, petroleum and civil engineering, and geoscience. A technical paper written on some field related to the laboratory and/or theoretical aspect of rock mechanics is required. A series of eight laboratory sessions are included. These give the students hands-on experience relative to the concepts and instrumentation problems discussed in lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: E MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 441 Surface Mining Systems and Design (3) Design of surface mining for noncoal and coal minerals; emphasis on quarry and strip mining planning parameters: unit operations, systems, haulroads, draglines, spoil stability, reclamation, legal requirements, and health and safety.

Surface Mining Systems and Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MN PR 301, MNG 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 442 Surface Mine Sedimentation Control (2) Design principals and practices for rainfall runoff control, erosion control systems, and sedimentation pond sizing and construction.

Surface Mine Sedimentation Control (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: C E 360, MNG 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 443 Strip Mine Cut Planning (2) Analysis of cut planning, sequencing, and spoil placement in mine and outside dumps for contour, area, and mountain-top mining.

Strip Mine Cut Planning (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MNG 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 444 Groundwater Aspects in Mining (2) Physical and chemical hydrology specific to mining and the environment; mine drainage formation, abatement, and remediation.

Groundwater Aspects in Mining (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 451W Mining Engineering Project (1-5) Independent and integrative design and report of specific mine evaluation, layout, equipment selection, environmental control, permitting, and financial analysis.

Mining Engineering Project (1-5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: seventh-semester standing in mining engineering plus six months of mining work experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 445 Environmental Concerns in the Mining Industry (3) Environmental aspects of mining including water and soil contamination; remediation techniques; revegetation and land use planning and legislation.

Environmental Concerns in the Mining Industry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 460 Mine Maintenance Engineering (3) Mine maintenance system design; maintenance planning and management; safety and cost analysis of maintenance programs.

Mine Maintenance Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 497 Special Topics (1-9) Formal courses given on a topical or special interest subject which may be offered infrequently; several different topics may be taught in one year or term.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining (MNG)

MNG 470 Mining and Geologic Structures (3) Study of geologic structures and their impacts on mining operations.

MNG 470 Mining and Geologic Structures (3)

The objective of this course is to introduce students to geologic structures that can impact mining operations and how to represent them for mine planning. A fundamental understanding of geologic processes that lead to various structures is covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: GEOSC 001, GEOSC 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 030 Introduction to Mining Technology (2) Examination, development, exploitation of mineral deposits; history of mining, common mining methods, operation methods, equipment types, explosives fundamentals.

MNG T 030 Introduction to Mining Technology (2)

“ Introduction to Mining Technology” is a second semester course to introduce students to the subject of mining engineering so they understand the bituminous coal mining industry and the challenges that it faces – economic, environmental, political, societal, ethical, as well as technological. Emphasis is placed on encouraging students to learn mining engineering by observing and doing: conducting case studies, solving problems, and designing basic mining systems. Principles of beneficiation and processing will be injected at a continuous pace, as with the disciplines of mining engineering: rock mechanics, ventilation, production, auxiliary operations planning, and management. This technical foundation will serve as a prerequisite for MNGT 203, MNGT 209 and MNGT 205.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 100 Mining Technology Orientation (1) Introduction to the underground mining industry including history, terminology, current mining equipment and methods, regulations, organization.

MNG T 100 Mining Technology Orientation (1)

"Mining Technology Orientation" is a first semester introduction to the underground mining industry from past to present. The student will be introduced to basic mining systems and their evolution over the last century. Mining terminology and its unique application will be discussed. The impact of mining regulations will be reviewed. Possible career paths and the organization of mining companies will be included in this orientation. Visits producing coal mines will be required.
Students who successfully complete this course will be able to:
a. Discuss changes in mining methods over the years.
b. Demonstrate knowledge of terminology used in mining industry.
c. Explain how state and federal regulations impact mine operation.
d. List several career options in mining, and the skills required by each.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 110 Mining Administration and Law (3) Introduction to mine organization and management structure, and government regulations regarding permitting, reporting and recordkeeping.

MNG T 110 Mining Administration and Law (3)

"Mining Administration and Law" is a second semester course that provides a framework for the student to understand the mine organization and management structure and organization. It will also introduce the student to the state and federal regulations regarding permitting, and reporting, and record keeping. This course provides a background for and is a prerequisite for MNG T 216. Students who successfully complete this course will be able to:
a. Explain the basic organization of a mining operation from the general superintendent to the laborer.
b. Know and understand the basic concepts of a safety program.
c. Use and apply accident analysis statistics to further improve a safety program.
d. Discuss the development of rules and regulations with focus on those that impact the first line supervisor.
e. Understand the process for promulgating new rules and regulations.
f. Demonstrate basic management techniques that a first line supervisor will use in performance of his/her job.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 202 Mining Ventilation (3) Introduction to mine ventilation systems at mine face, mine gases and use of gas detection equipment, state and federal regulations.

MNG T 202 Mining Ventilation (3)

"Mining Ventilation" is an introduction course in mine ventilation systems, equipment and mine gases for students in the productions emphasis only. The course will emphasize ventilation systems used in mining sections at the mine faces. Gas detection devices will be demonstrated and students will become proficient in their uses. The requirements of both state and federal regulations will be discussed and reviewed. General complete mine ventilation will be discussed. CHEM 011 provides a background in combustion and gas reactions, while PHYS 150 provides a background on the static and dynamic forces of moving air. This course requires MNG T 030 as a prerequisite to ensure that students have a basic understanding of background mining methods and equipment. Students who successfully complete this course will be able to:
a. Explain role of ventilation in the mining environment.
b. Explain and understand section ventilation and long-wall ventilation systems.
c. Demonstrate proper use of instruments to measure air pressure, flow rate and air quality, and interpret measured results.
d. Describe and interpret federal and state regulations related to mine ventilation.
e. Understand ventilation mapping and explain how flow is affected by various mining methods.
f. Explain ventilation flow through a mine complex.
g. Know all of the mine gases.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 101, PHYS 150, MNG T 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 203 Introduction to Strata Control (1) Review basic concepts of geology and impact of geologic features on mining con conditions; introduce strata control theory and methods. (Nominal first 5 weeks of spring semester)

MNG T 203 Introduction to Strata Control (1)

"Introduction to Strata Control" will be offered in the first five weeks of the third semester to provide students in both options with a basic background in the geological forces and structure in the roof and walls of a mine environment. It requires MNG T 030 as a prerequisite so students have a basic understanding of mine operation, and serves as a prerequisite to MNG T 213, where the students in the production emphasis learn how to control these strata. Students who successfully complete this course will be able to:
a. Explain where and how coal deposits are formed.
b. Explain structural geology features related to mining and their causes.
c. Explain the impact of coal depositional and structural geology features on mining conditions.
d. Review basic strata control theories and applications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MNG T 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 204 Mine Plant Technology (3) Electrical, transportation, ventilation, and other systems required to operate underground coal mine, and to transport and process coal.

Mine Plant Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 205W Mining Systems Technology (3) Comparison of mining methods with focus on preventative maintenance, coal transport, and estimating production and manpower needs.

MNG T 205W Mining Systems Technology (3)

Review of the impact of various methods of room & pillar and longwall mining on the mining operation, the systems required to transport coal from the mine, and the needs for preventative maintenance for each. Quantitative methods for evaluating the production capabilities and manpower requirements of each will also be explored.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MNG T 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 207 Electric Mine Machine Circuits (3) Application of electric power and safety issues related to the installation and maintenance of circuits and various power control devices.

MNG T 207 Electric Mine Machine Circuits (3)

"Electric Mine Machine Circuits" is a fourth semester course for students in the maintenance emphasis only and provides a basic foundation in the application of electric power and safety issues related to the installation and maintenance of circuits and various power control devices from the transformer to the mine face. MNG T 204 is a prerequisite to ensure students have a basic understanding of mine plant equipment. Students who successfully complete this course will be able to:
a. Explain the application of AC and DC power in mining, their effect on motors, and the advantages and disadvantages of each.
b. Use electrical equations to determine AC and DC power requirements, voltage, amperage, and power factor.
c. Understand and use of electrical cables and battery power in the mining industry, the maintenance requirements of each, and the advantages and disadvantages of each.
d. Read electrical wiring schematics and identify symbols. Be able to identify differences between schematic and actual wiring.
e. Determine the maintenance and record keeping required for electrical face equipment to maintain permissible condition and regulatory compliance.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MNG T 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 208 Mine Power Distribution (3) Topics of high voltage curcuits, underground transmission, power stations, power conversion, safety regulations and power devices.

MNG T 208 Mine Power Distribution (3)

"Mine Power Distribution" is a fourth semester course for students in the maintenance emphasis only and provides a background into how to distribute and adequately protect the high voltage electricity supply throughout the mining environment to serve the underground transformer for distribution to the variety of electrical systems used. MNG T 204 is a prerequisite to ensure students have a basic understanding of mine plant equipment. Students who successfully complete this course will be able to:
a. Explain state and federal safety requirements in relation to high-voltage mine power systems.
b. Calculate total power requirements for given section of connected equipment, including recommended sectionalizing equipment and overload settings.
c. Demonstrate knowledge of typical mine power distribution systems, identify the key components and how they function.
d. Examine the requirements for splicing and terminating high-voltage mine power cables, and effects of improperly made repairs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MNG T 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 209 Mine Machinery Control Methods (2) Basic principles and applications of solid state, variable frequency, PLC, electro hydraulic and networked controls in mine machinery.

MNG T 209 Mine Machinery Control Methods (2)

"Mine Machinery Control Methods" is a third semester course for students in the Maintenance emphasis and provides information on the current methods used to operate and control the various driven functions of speed in rotating mining equipment. The interface between motors and computer controls, including the safety and automated interlocks will be covered. MNG T 030 is a required prerequisite to provide a technical functional understanding of the operation of the equipment being controlled. MATH 082 and PHYS 150 are required prerequisites to ensure that the students can perform the required performance calculations. Students who successfully complete this course will be able to:
a. Investigate various types of networked controls, their function and capability, and list the advantages and disadvantages of each.
b. Explain the applicable state and federal regulations related to low, medium, and high voltage systems.
c. Troubleshoot various types of control circuits to identify faulty wiring, components, or software.
d. Demonstrate ability to install software, set operating parameters, default values, and recommend adjustments to optimize system reliability.
e. Investigate the ramification of automated systems in the underground environment, both positive and negative.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: PHYS 150, MNG T 030, MATH 082

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 210 Mine Machine Dynamics (3) Operation and interaction of mechanized equipment used at the coal face including common electrical, hydraulic and mechanical systems.

Mine Machine Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 211 Practicum in Mining Technology (3) Field and shop techniques in procedures of electrical, mechanical and ventilation phases of mine maintenance

MNG T 211 Practicum in Mining Technology (3)

"Practicum in Mining Technology" is a fourth semester course that provides students with the practical application of modern equipment and techniques used during the installation, relocation, and repair of complex mining equipment and systems as they are applied in the underground environment. MNG T 204 is a prerequisite to ensure students have a basic understanding of mine plant equipment. Students who successfully complete this course will be able to:
a. Plan the installation of all equipment required to successfully install a complete continuous miner section.
b. Plan the successful relocation of a modern long-wall mining section from a completed panel to a new panel.
c. Demonstrate an ability to conduct or supervise the safe repair of low, medium, and high-voltage equipment in compliance with all regulatory requirements.
d. Explain and demonstrate how to safely troubleshoot and/or repair high-pressure mine hydraulic systems.
e. Discuss and demonstrate the steps required to conduct ox-acetylene and electric arc-welding repair of equipment in compliance with regulatory requirements.
f. Practice the application and safe operation of manual lifting aides and devices used to facilitate the repair of large mining components.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MNG T 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 213 Strata Control Methods (2) Introduce pillar-design parameters, roof control planning, roof bolting, standing supports, rib stability, floor condition problems, and longwall strata control.

MNG T 213 Strata Control Methods (3)

Strata Control Methods is designed to introduce pillar-design parameters, roof control planning, roof bolting, standing supports, rib stability, floor condition problems, and longwall strata control in the Mining Environment.

Pillar-design parameters, take into account the structural geology features related to mining. The impact of Geologic Data being extremely useful in assessing mining conditions and aiding in indicating necessary control measures to be taken with increased width, destructive stresses resulting in failure may be produced in the mine roof, bottom, and pillars causing serious limitations on pillar width. The effects of pillar design by incorporating Pillar Collapse through Failure Characteristics, Failure Mechanisms, and Failure Prevention, and the impact that may be contributed to Coal Bumps and Gas Outbursts. A review of the basic strata control theories and applications which incorporates Environmental Impacts of both Subsidence and Reclamation.

Roof Control Planning reviews the strata control theories and applications by introducing the inter-related system of the mines roof, ribs and floor. The introduction of roof control theory and fundamentals with emphasis placed on ground control being a three part process of proper sizing of openings, proper sizing of pillars and selection of proper artificial supports. Also, within the element of roof control planning, MSHA requirements are introduced and incorporated.

Roof Bolting and Standing Supports are brought to the forefront while maintaining an understanding of the three mechanisms of roof bolting which are: Beam Building, Suspension and Keying. Depending on conditions and applications, bolting may range from resin-anchored combination bolts, tensioned rebar, mechanically-anchored resin-assisted systems, cable bolts, and other specialty supplemental supports. The applications of standing supports are discussed in roof support planning as they are used either as remedial measures or throughout gate roads where bolting systems must be coupled with roof-to-floor supports.

Rib Stability and Floor Condition Problems are addressed through rib stabilization methods and proper support installation along with floor condition problems, prevention and control. With the sources of Roof/Rib Hazards in Underground coal mines being associated with the two broad categories being Natural and Mining Related, Geologic hazards and high stresses associated with deep cover are addressed allowing for appropriate action to be identified and proper supports to be utilized.

Longwall Strata Control theories and methods are discussed as they require special precautions to be taken in response to the elevated stress levels encountered. This is done through properly designed gate entry chain pillars to achieve roof/floor stability and mitigate bumps. Also, included are shields as roof support mechanisms and guarding installation on longwall equipment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006 Ending: Fall 2010
Prerequisite: MNG T 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 213 Strata Control Methods (3) Introduce pillar-design parameters, roof control planning, roof bolting, standing supports, rib stability, floor condition problems, and longwall strata control.

MNG T 213 Strata Control Methods (3)

Strata Control Methods is designed to introduce pillar-design parameters, roof control planning, roof bolting, standing supports, rib stability, floor condition problems, and longwall strata control in the Mining Environment.

Pillar-design parameters, take into account the structural geology features related to mining. The impact of Geologic Data being extremely useful in assessing mining conditions and aiding in indicating necessary control measures to be taken with increased width, destructive stresses resulting in failure may be produced in the mine roof, bottom, and pillars causing serious limitations on pillar width. The effects of pillar design by incorporating Pillar Collapse through Failure Characteristics, Failure Mechanisms, and Failure Prevention, and the impact that may be contributed to Coal Bumps and Gas Outbursts. A review of the basic strata control theories and applications which incorporates Environmental Impacts of both Subsidence and Reclamation.

Roof Control Planning reviews the strata control theories and applications by introducing the inter-related system of the mines roof, ribs and floor. The introduction of roof control theory and fundamentals with emphasis placed on ground control being a three part process of proper sizing of openings, proper sizing of pillars and selection of proper artificial supports. Also, within the element of roof control planning, MSHA requirements are introduced and incorporated.

Roof Bolting and Standing Supports are brought to the forefront while maintaining an understanding of the three mechanisms of roof bolting which are: Beam Building, Suspension and Keying. Depending on conditions and applications, bolting may range from resin-anchored combination bolts, tensioned rebar, mechanically-anchored resin-assisted systems, cable bolts, and other specialty supplemental supports. The applications of standing supports are discussed in roof support planning as they are used either as remedial measures or throughout gate roads where bolting systems must be coupled with roof-to-floor supports.

Rib Stability and Floor Condition Problems are addressed through rib stabilization methods and proper support installation along with floor condition problems, prevention and control. With the sources of Roof/Rib Hazards in Underground coal mines being associated with the two broad categories being Natural and Mining Related, Geologic hazards and high stresses associated with deep cover are addressed allowing for appropriate action to be identified and proper supports to be utilized.

Longwall Strata Control theories and methods are discussed as they require special precautions to be taken in response to the elevated stress levels encountered. This is done through properly designed gate entry chain pillars to achieve roof/floor stability and mitigate bumps. Also, included are shields as roof support mechanisms and guarding installation on longwall equipment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: GEOSC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 214 Mining Management I (3) Leadership skill development for supervisors, managing change, tools to plan, organize, control, communicate and monitor effectively.

MNG T 214 Mining Management I (3)

"Mine Management I" will provide students with the introductory skills for individual, group and one-on-one leadership skills to keep up with evolving management roles and responsibilities. This course will explore how supervisors can maintain technical expertise while demonstrating effective leadership. This process includes the tools supervisors use to plan, organize, control communicate and monitor effectively. This course serves as a prerequisite to MNG T 215. Students who successfully complete this course will be able to:
a. Succeed in a rapidly changing environment
b. Plan, organize, communicate and monitor
c. Apply the most appropriate supervisory style to individuals and situations
d. Apply appropriate motivational techniques
e. Use delegation for effective employee performance and development, time management and motivation
f. Create an action plan
g. Develop interpersonal skills that help communicate, listen, and handle conflicts
h. Analyze their own behavior style and recognize strengths and weaknesses
i. Given a labor situation, describe a plan of action toward resolution
j. Identify the characteristics of A & B personalities and explain how they might be managed differently
k. Explain a given organizational chart and the focus and function at different management levels
l. Given an emergency situation at a mining operation, recommend a hypothetical course of action to avoid loss of life and personal injury, and minimize impact on production capability and reserves

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 215 Mining Management II (3) Financial management, effective meeting management, critical thinking, project management and cost and risk control.

MNG T 215 Mining Management II (3)

"Mine Management II" is a follow-up to Mine Management I (Mining Technology 214) for students in production emphasis only. The primary goals of the course are to further explore and develop management skills to be an effective leader in an ever-changing industry. This process includes financial management, effective meeting management, critical thinking, project management and cost and risk control. Students who successfully complete this course will be able to:
a. Get a firm grasp of the financial side of the job.
b. Understand the business dynamics of dollars and cents.
c. Set and meet goals for your projects.
d. Understand the principles of process management.
e. Apply process management to process issues and customer satisfaction.
f. Reduce the need for crisis supplies.
g. Identify the actions/approaches you can take to avoid or mitigate risk.
h. Build the trust and rapport necessary for effective coaching.
i. Effectively conduct meetings.
j. Interpret typical income and expense balance sheets.
k. Produce preliminary cost estimate (+/- 10%) for given application.
l. Demonstrate appropriate oral and written communication skills.
m. Prepare hypothetical request for capital improvements required to maintain or improve productivity, complete with financial justification.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MNG T 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Mining Technology (MNG T)

MNG T 216 Mine Regulations and Laws (3) State and federal mining regulations and application to underground coal mines. Relationship with company policies and consequences of non-compliance.

MNG T 216 "Mine Regulations and Laws" (3)

"Mine Regulations and Laws" is a fourth semester course that builds on the knowledge gained in the prerequisite, MNG T 110, by providing more advanced study into state and federal regulations and company policies regarding equipment and electrical inspection, personnel safety and egress, and measurement of related environmental conditions within the mine. This class includes discussions on the interaction of state and federal regulation and the conflicts created by applying each. The consequences of non-compliance are also discussed. Students who successfully complete this course will be able to:
a. This course is designed to familiarize the student with the applicable underground coal mining regulations and how they are interpreted and enforced.
b. For a specified situation, find and interpret appropriate sections of PA Bituminous Coal Mining Act.
c. Develop and evaluate alternative solutions to a proposed regulatory issue.
d. Conduct a discussion with a mining inspector, in regards to a violation and potential monetary penalty.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MNG T 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 004 (GA) Film Music (3) An introductory examination of music's role in Hollywood narrative film from the classic era (1930s and 1940s) to the present.

MUSIC 004 Film Music (3)
(GA)

The course examines the role of music in narrative film, the premier art form of the twentieth century. The popularity, significance, and value of film art would not be what it is today if music had not become an integral--indeed, indispensable--part of motion pictures from the outset.

Preliminary objectives will include basic musical information (the fundamental elements of music; the broad stylistic eras of western music and their associated characteristics; the culturally encoded language of tonal music and associated musical meaning) and the main techniques of narrative film. The main objectives of the course are: to identify and recognize the principles of nondiegetic music in narrative film; to identify and recognize the purpose and functions of music in narrative film; to recognize some of the historic eras/genres/trends in Hollywood film making; to identify and recognize selected films, directors and composers; to analyze and articulate the role of music in a given scene and in a given film; and to recognize underlying assumptions and values of the culture conveyed through the diegesis.

These objectives will be met by addressing such questions as: What are the underlying principles of music in film? What are the functions of music/sound within a particular scene and how does it achieve those functions? What do we see of what we hear, and what do we hear of what we see--and why? What secrets does music tell? To what extent does music influence--even control-- our interpretation of a film? More broadly, to what extent do films reflect our culture, past and present--our interests, our values?

Evaluation methods will include quizzes, exams, discussion boards, and a final paper. The course will be available for GA credit. It will not satisfy any requirements for the major or minor in music. The films and film excerpts will be made available to the students online.

General Education: GA
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 005 (GA) An Introduction to Western Music (3) A general survey of art music in western society, highlighting important composers and stylistic developments.

MUSIC 005 An Introduction to Western Music (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 005 is a course on listening, with emphasis on the relationship between musical style and historical context. The course begins with an introduction to the elements of music. The goal of this section is to give all students, whether they have previous experience as performers, the basic skills necessary to approach any musical work as intelligent listeners. This activity takes four weeks. The remaining portion of the course is spent surveying the history of Western art music, with that history treated as a series of case studies: particular works are considered stylistically with regard to the historical circumstances of their production and consumption. From this activity students gain experience considering artworks in discipline-specific terms, even as they learn to relate particular artistic features to nonmusical factors of culture and society. Three methods of evaluation are used. Four examinations test the students' mastery of the course material. Four concert reports give students the opportunity to apply that knowledge to the act of listening in an authentic performance setting. An analytical paper presents a more detailed challenge, asking students to evaluate a relatively complicated work (such as a Mozart symphony), which they come to know intimately through repeated listening, using the basic technical tools of a music theorist. This requirement also includes a historical-research component. The course requires a technology classroom (typically it is taught in the Forum). It is offered fall and spring semesters, with an enrollment of 300 each semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 005S (GA) An Introduction to Western Music (3) A general survey of art music in western society, highlighting important composers and stylistic developments.

An Introduction to Western Music (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 005H (GA) An Introduction to Western Music (3) A general survey of art music in western society, highlighting important composers and stylistic developments.

An Introduction to Western Music (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 007 (GA;US) Evolution of Jazz (3) Study of the origins and development of jazz as an art form.

MUSIC 007 Evolution of Jazz (3)
(GA;US)

(BA) This course meets the Bachelor of Arts degree requirements.

Evolution of Jazz is a course designed to examine the historical and sociological of the American art form - jazz. This general education course is for non-majors. The material covered in this course begins with the precursors to jazz emphasizes the African musical traditions and white American (initially European) influences that have shaped jazz as an American art form. This is followed by period studies of the various jazz styles: New Orleans Dixie, Chicago Style Dixieland, Swing, Be-Bop, Cool, Hard Bop, Free Jazz, Fusion Jazz, Neo Bop, Latin Jazz, and New Age. The various jazz styles are examined from musical, sociological and economical perspectives. The major innovators and performers are identified and studied. As new styles are presented, a careful comparison to the previous style is done to help with classification. The primary objectives of the course are to create a greater appreciation for jazz music by providing knowledge about the intercultural development of jazz in America, by developing critical listening skills, and exposing students to the music representing various eras and performers of this music. A major component of the course is listening. Early in the course listening skills are taught. Students learn how to recognize certain instruments, hear the various sections within a group, and identify forms. Several written reviews of recorded and live jazz performances are required. Listening is also a part of each examination. This course is offered each fall, spring, and summer (one section each session) with an average enrollment of 40 each session.

General Education: GA
Diversity: US
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 008 (GA) Rudiments of Music (3) Introduction to the elements of music: notation, scales, meter, rhythm, intervals; basic chord structure.

MUSIC 008 Rudiments of Music (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Learning the rudiments of music can be compared to the learning of a language. Students must learn to hear melodic, harmonic, and rhythmic patterns (audiation) before they sing, play or write in notation. In this introductory class, students are introduced to melodic, harmonic and rhythmic patterns by imitating the instructor who establishes these patterns at the piano, or by singing or as in the case of rhythm by striking a drum head. Eventually students will take turns "tossing" these patterns to teach other. Basic skills of improvisation can also be taught at this level of audiation by having students expand upon the basic patterns.

As a result of these creative and aesthetic experiences, students will be able to translate the audiation of patterns into musical notation - moving from the smallest unit of a rhythmic motive towards the creation of a coherent rhythmic phrase. Similarly, at the melodic level, the student will begin with intervallic patterns and move towards the creation of a coherent melodic phrase. Intervals are then combined vertically to form harmonies. At the next stage of learning, students will learn to identify and to write that which they are hearing in dictation.

This course in "musical literacy" enables students:
(1) to deepen their appreciation of music
(2) to begin studying a musical instrument and
(3) to enter the rigorous study of music theory required of music majors

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 009 (GA;IL) Introduction to World Musics (3) An overview of the music of India, China, Japan, Indonesia, Africa, and the Middle East.

MUSIC 009 Introduction to World Musics (3)
(GA;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 009 is a course that explores world cultures through their music. The course begins with an overview of ways to examine world music as a cultural phenomenon. The goal of this section is to help students move beyond their preconceived understanding of music in order to open their minds and ears to a wide variety of music through a selection of case studies, including, but not limited to, the music of the Celtic nations, the African continent, West Asia (the Middle East), India, Indonesia, Japan, and the Native American culture groups. The music of these cultures is explored both as a product and reflection of culture and as an aesthetic art form. Through this approach students not only develop a basic fluency in the characteristics of selected world musics, but also gain a broader understanding of the general classifications and geographical divisions of world music and the ways in which music relates to and is a part of all world cultures. Two primary methods of evaluation are used. Four examinations test the students' understanding of the material. Two assigned reaction/research papers provide students with the opportunity to explore particular types of music in greater depth, examining both the music itself and the social context in which it is found. These papers require students a) to think actively about contemporary musical developments around the world, including how they are affected by current socio-political events and cultural trends; and b) to utilize resources available in the university library as a way of exploring these developments. World musics are best understood when students engage in the music and in discussions of the music and culture; thus there is also a class participation/discussion component for the purposes of evaluation. The course requires a technology classroom equipped with a sound system, television/VCR, and piano.

General Education: GA
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 040S First-Year Seminar in Music Education (1) Introduction to the University, the School of Music, the music education degree program, and the music teaching profession.

MUSIC 040S First-Year Seminar in Music Education (1)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is offered to music majors during their first semester who are intending to apply to the Teacher Certification Degree Program in Music Education. It provides prospective music teachers with an opportunity to:

- learn about aspects of and opportunities available at the University in general.
- learn about aspects of and opportunities available specifically at the PSU School of Music.
- learn about the PSU music education curriculum and program.
- gain a general understanding of the music teaching profession.
- begin and develop a professional relationship with his/her advisor.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 050 (GA) Beginning Piano: Non-Music Major (1) Introduction to the keyboard, notation, chord progressions, transposition, improvisation, and simple accompanying techniques for the non-music major. An additional fee is required for this course.

MUSIC 050 Beginning Piano: Non-Music Major (1)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 050 is a course designed to provide the beginning non-music major student with strategies for developing some of the basic skills required for playing the piano. No knowledge of music or piano is assumed and there are no prerequisites for the course. The course emphasizes strategies for learning to read and interpret musical notation from two clefs and musically realize the notation in real time with a healthy physical approach to the keyboard. Practice of these strategies outside the class is expected and checked. Objectives include learning to accurately sight-play a single voice divided between the hands with some extensions and shifts beyond a five-finger position. Special facilities required to teach the course include a 17-keyboard Midi piano lab with visual displays for teacher demonstrations. The course is offered every semester, including summers, often with multiple sections.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 052 (GA) Voice CLass: Non-Music Major (1) Group study emphasizing development of rudimentary skills and their recreational use in a range of popular and art music.

MUSIC 052 Voice Class: Non-Music Major (1)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to present and apply basic principles of singing. Students learn songs, and address topics such as posture, breathing, tone production, expressiveness, and vocal health. Objectives are proficiency of breath management, a resonant vocal timbre, and effective communication in song. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible writing or listening assignments, and possible written quizzes. The course is offered every spring semester. The maximum enrollment is fifteen.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 051 (GA) Intermediate Class Piano: Non-Music Major (1) Instruction in harmonizing melodies, accompanying techniques, improvisation, and repertoire.

MUSIC 051 Intermediate Class Piano: Non-Music Major (1)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 051 is course designed to provide the intermediate non-music major student with strategies for developing some of the advanced skills required for playing the piano. Some knowledge of music or piano is assumed and MUSIC 050 or a placement audition is a prerequisite for this course. The course emphasizes strategies for learning to read and interpret musical notation from two clefs and musically realize the notation in real time with a healthy physical approach to the keyboard. Practice of these strategies outside the class is expected and checked. Objectives include learning to accurately sight-play a multiple voice musical texture with many extensions and shifts beyond a five-finger position. Special facilities required to teach the course include a 17-keyboard midi piano lab with visual displays for teacher demonstrations. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: MUSIC 050 or placement audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 053 (GA) Class Voice Practicum (1) Voice study in group and individual formats, supervised by in-class lessons and discussions, enhanced by additional individual instruction with pedagogy students.

MUSIC 053 Class Voice Practicum (1)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 053 is a voice class experience that affords the pupil instruction in a class setting and in individual lessons. The weekly class meetings feature either demonstration lessons with his or her teacher (from the voice pedagogy curriculum). These lessons give the instructor the opportunity to monitor the progress of the pupils, supervise and evaluate the teaching of the pedagogy students, and make suggestions for further growth. Pupils and pedagogy students also have the opportunity to learn by observing the demonstration lessons of others in the class. Lesson evaluation forms are completed and turned in at the end of each meeting. Class concerts typically occur at mid-term and at the end of the semester. These performances give the pupils the opportunity to display their vocal and musical progress. The individual lessons that pupils receive out-of-class give them an occasion for concentrated work in a more relaxed atmosphere. It may be of interest that this is the only course offering individual voice instruction in the School of Music that does not carry an additional applied music fee. In addition to the vocal and musical advancement for pupils in MUSIC 053, this course also serves as a progressive training ground in teaching for advanced voice students. They gain important teaching experience in a closely supervised forum.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 054 (GA) Beginning Class Guitar: Non-Music Major (1) Class instruction in guitar for non-music majors.

MUSIC 054 Beginning Class Guitar: Non-Music Major (1) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides opportunity to explore the structure of various styles of folk music while developing basic skills for playing guitar and reading guitar tablature. Meter, tonality, harmonic progressions, texture, and form as well as stylistic features of various strumming techniques comprise the core knowledge that is developed through the process of playing guitar. The course assumes no previous formal study of music. Assessments are performance-based with students demonstrating knowledge and skill acquired through individual "playing tests" scheduled throughout the semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 076 Chamber Orchestra (1 per semester, maximum of 8) Chamber orchestra rehearsal and performance.

Chamber Orchestra (1 per semester, maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 077 (GA) Philharmonic Orchestra (1 per semester/maximum of 8) Orchestra rehearsal and performance.

**MUSIC 077 Philharmonic Orchestra (1 per semester/maximum of 8)
(GA)**

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to develop the instrumental performing skills, music reading abilities, and interpretive capabilities of the class members within a large symphonic orchestra context. The repertoire includes the standard literature from the 19th and 20th centuries as well as new music written for symphony orchestra. Students will be assessed by the use of performance evaluation and assessment of participation and contribution to established goals of the ensemble. The course is for students who have advanced performance skills on standard orchestral string, wind, and percussion instruments. An audition is required.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 078 (GA) Symphonic Wind Ensemble (1 per semester/maximum of 8) Rehearsal and performance of wind repertoire and concert band literature.

MUSIC 078 Symphonic Wind Ensemble (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to develop the instrumental performance skills, music reading abilities, and interpretive capabilities of the class members within a wind ensemble (one player per part) concert band setting. The repertoire includes original concert band literature, transcriptions, and concert marches. The available literature covers a range of historical time periods from pre-Baroque to the present. Students are assessed by the use of performance evaluations and assessment of participation and contribution to established goals of the ensemble. The course is designed for those students who have advanced performance skills on standard wind and percussion instruments. An audition is required.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 079 Pep Band (1 per semsester/maximum of 4) A band to perform at selected athletic events.

Pep Band (1 per semsester/maximum of 4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 080 (GA) Symphonic Band (1 per semester/maximum of 8) Rehearsal and performance of symphonic band literature. A select group using standard instrumentation.

MUSIC 080 Symphonic Band (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to develop the instrumental performance skills, music reading abilities, and interpretive capabilities of the class members within an advanced large (multiple players per part) concert band setting. The repertoire includes original concert band literature, transcriptions, and concert marches. The available literature covers a range of historical time periods from pre-Baroque to the present. Students are assessed by the use of performance evaluations and assessment of participation and contribution to established goals of the ensemble. The course is designed for those students who have advanced performance skills on standard wind and percussion instruments. An audition is required.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 081 (GA) Marching Blue Band (1 per semester/maximum of 4) Rehearsal and performance of appropriate music and maneuvers for football games and related events.

MUSIC 081 Marching Blue Band (1 per semester/maximum of 4)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course develops the instrumental performance skills and marching skills of class members within the marching band setting. Objectives are to combine high level musical and visual performance with uniform marching style to create interesting and entertaining maneuvers suitable for parades, football games, and other athletic/outdoor venues. This course is open to students in all majors. Evaluation is based upon participation, achievement of individual music and marching performance requirements, and contribution to group performance goals. An audition is required for participation. Class meetings occur in an outdoor setting and require a facility with a fully lined football field. This course is offered every fall semester with an enrollment of 275.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 082 (GA) Concert Band (1 per semester/maximum of 8) Rehearsal and performance of concert band literature.

MUSIC 082 Concert Band (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of the course are to develop the instrumental performance skills, music reading abilities, and interpretive capabilities of the class members within a moderately advanced large concert band setting. The repertoire includes original concert band literature, transcriptions, and concert marches. The available literature covers a range of historical time periods from pre-Baroque to the present. Students are assessed by the use of performance evaluations and assessment of participation and contribution to established goals of the ensemble. The course is designed for those students who have moderate performance skills on standard wind and percussion instruments. An audition is required.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 083 (GA) Campus Band (1 per semester/maximum of 8) Rehearsal and performance of concert band literature.

MUSIC 083 Campus Band (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to develop skills in the performance of instrumental music. The class will enhance sight-reading skills, sensitivity to tone and ensemble blending, and rhythmic articulation. The repertoire of the ensembles includes the standard literature from the 19th and 20th centuries written for both marching band and concert band. Students are given seating assignments throughout each section of the ensemble according to their ability and experience. Students will be assessed by periodic performance evaluations. The course is designed for students who have had only modest experience in instrumental music but who have had previous instruction in their instruments. No audition is necessary, although basic music literacy is required.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2002
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 084 (GA) Jazz Ensemble (1 per semester/maximum of 8) Survey and performance of historic and contemporary big band styles.

MUSIC 084 Jazz Ensemble (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 084, Jazz Ensemble, includes three sections - Centre Dimensions (001), Inner Dimensions (002), and Outer Dimension (003). These are performance groups of 1619 members each. Admission to the groups is by audition. Students are placed by ability level.

The course consists of the study and performance of big band jazz from the mid 1920s to the present. Important composers of the idiom are routinely represented as well as newer contributors. There is a focus on ensemble group sound as well as individual solo improvisation.

Part of the learning process includes working on the fundamentals of jazz playing, rhythm, articulation, and harmony. Each learning segment, or unit, is concluded with public performance of the music studied and learned.

Section one, Centre Dimensions, represents the School of Music at collegiate jazz festivals as an advanced enhancement of the learning experience.

Members are expected to learn their individual parts, attend sections and rehearsals, and participate in the performances. These courses are offered each fall and spring semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 085 (GA) Singing Lions (1 per semester/maximum of 8) Rehearsal and performance of popular music of all eras, including swing, jazz, and show choir styles.

Singing Lions (1 per semester/maximum of 8)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1995
Prerequisite: placement audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 087 Mallet Ensemble (1) Study and performance of music for keyboard percussion instruments.

Mallet Ensemble (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 086 (GA) Percussion Ensemble (1 per semester/maximum of 8) Study and performance of percussion chamber music in various instrumental combinations, focusing on the classical and contemporary repertoire.

MUSIC 086 Percussion Ensemble (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Percussion Ensemble involves the rehearsal and performance of works for various combinations of percussion instruments in a chamber music setting. It also involves the group study of the various percussion instruments and techniques as described by or demonstrated by the conductor of the ensemble (percussion faculty member). The objectives of the course are to teach the art of ensemble performing (i.e., performing music well in a collaborative sense rather than just individually), to augment the understanding of the role of percussion within the discipline of music, and to foster the skills of organization and cooperation through rehearsal and performance of music requiring (generally) three to twelve players. Due to the nature of this type of musical organization and given the wide variety and large number of instruments which may be involved at any given time, there is also an inherent study of logistics involved when setting up or moving the instruments from one venue to another. Students performing in Percussion Ensemble are generally also involved in performing in other larger heterogeneous instrumental performing groups such as the bands and orchestras. Skills learned in the Percussion Ensemble setting directly affect the ability of these students to contribute a highly developed sense of musical unity in the larger performing groups. They also learn specific skills which are necessary for successfully entry and acceptance into professional music performance circles. The course is offered each semester and the enrollment is generally between eight and fifteen performers.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 088 (GA) Campus Choir (1 per semester/maximum of 8) Building skills needed for successful choral singing including vocal production, sight singing, ear training, and music fundamentals.

MUSIC 088 Campus Choir (1)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to develop the vocal skills and sight-reading abilities of the class members within a choral context. The choral repertoire will include standard vocal and choral selections. Students will be assessed by the use of periodic quizzes and vocal performance examinations. The course is designed for those students who have an interest in choral singing but who have limited background. There is no audition necessary.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 089 (GA) University Choir (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of 100-150 voices.

MUSIC 089 University Choir (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The University Choir is the largest mixed-voiced ensemble on the University Park campus. The choir participates in two campus performances per semester and has toured Europe, Canada, and the eastern region of the United States. Membership is determined by audition and is open to both undergraduate and graduate students. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 090 (GA) Glee Club (1 per semester/maximum of 8) Rehearsal and performance of music composed for male voices from the sixteenth to the twentieth centuries, including sacred and secular compositions.

MUSIC 090 Glee Club (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Penn State Glee Club is a large auditioned ensemble of 60-75 male voices music from the Renaissance through the twentieth-century, as well as ional folksongs, spirituals, and choruses from opera and musical theatre.Penn State Glee Club performs twice per semester including the annual Homecoming Concert and the Blue and White concert. The ensemble tours yearly and has performed throughout Pennsylvania, the eastern United States and Europe. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 091 (GA) Oriana Singers (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire for treble voices from the sixteenth to twentieth centuries, including sacred and secular compositions.

MUSIC 091 Oriana Singers (1.0 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Oriana Singers was founded in 1994 to serve the musical needs of highly talented undergraduate and graduate women. The 65-voice ensemble performs repertoire representing every musical period, genre and style in its two campus concerts per semester. The choir has been invited to perform at prestigious regional and national music conferences and has participated in tours within the state of Pennsylvania. Membership is determined by audition. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 092 (GA) Chamber Music for Voices (1 per semester/maximum of 8) Select groups of singers performing choral chamber music.

MUSIC 092 Chamber Music for Voices (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Chamber Music for Voices is a course which includes four small auditioned chamber choirs comprising of members of four large ensembles. The repertoire of these 9-16 member ensembles is selected from a wide range of choral literature. Membership in Section 1 is open to Oriana Singers members; Section 2 is open to Glee Club members; Section 3 is open to University Choir members; and Section 4 is open to Women's Chorale members. The goal of the ensembles is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, discovery of new means of artistic expression, and the specific skills necessary to sing in a small ensemble with only two or three singers per voice part. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 093 (GA;US;IL) Essence of Joy (1 per semester, maximum of 8) Rehearsal and performance of choral repertoire from the African/American tradition.

MUSIC 093 Essence of Joy (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Essence of Joy is a highly selective mixed choral ensemble that specializes in repertoire written by African-Americans. The repertoire of the 45-voiced ensemble includes all art, folk, and sacred genres within this large field of study, Essence of Joy has performed at numerous prestigious national and regional meetings of music educators and choral conductors. In addition, the choir tours extensively and has presented performances throughout Pennsylvania, the eastern region, the southern region, and eastern Europe. Membership is open to undergraduate and graduate students. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances of African-American choral music. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 094 (GA) Women's Chorale (1 per semester, maximum of 8) Rehearsal and performance of treble choral literature.

MUSIC 094 Women's Chorale (1.0 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Women's Chorale is the largest treble ensemble on the University Park campus. Membership is determined by audition and is open to both undergraduate and graduate students. The choir participates in two campus performances per semester. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessment (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 101 Music Common Hour (1) Student and faculty recitals, master classes, lectures by faculty and guests, and Common Hour attendance.

Music Common Hour (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 104 (GA) Chamber Singers (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of approximately twenty-four voices.

MUSIC 104 Chamber Singers (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Chamber Singers is a premier chamber choir at the University. The repertoire of the 14-voiced ensemble is selected from a wide range of choral literature from medieval chant to commissioned twenty-first century choral works. Membership is open to undergraduate and graduate students. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc, Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 103 (GA) Concert Choir (1 per semester/maximum of 8) Rehearsal and performance of choral repertoire appropriate to mixed-voice ensemble of approximately sixty voices.

MUSIC 103 Concert Choir (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The Concert Choir is the premier mixed choir at the University. The repertoire of the 14-voiced ensemble is selected from a wide range of choral literature from medieval commissioned twenty-first century choral works. The choir has performed numerous major works with orchestra and tours yearly. Recent tours have included performances in New Orleans, LA and Toronto, Canada. The choir has performed at prestigious regional and national music conferences. Membership is open to undergraduate and graduate students. The goal of the ensemble is to provide artistic, meaningful, and successful choral performances. To achieve this goal, the learning objectives for individual students include attention toward individual vocal development, increased musicianship skill, and the discovery of new means of artistic expression. In addition to these individual objectives, the conductor of the ensemble also teaches directly toward the objectives of ensemble tone, blend, balance, intonation, dynamics, diction, phrasing, etc. Grades are determined by a combination of vocal and musicianship assessments (both written and aural) and attendance at rehearsals and performances.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 106 (GA) Early Music Ensemble (1 per semester/maximum of 8) Ensemble for the performance and study of Baroque or early music on instruments of the era.

MUSIC 106 Early Music Ensemble (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The Early Music Ensemble will meet for a single two-hour rehearsal each week. Extra rehearsals may be scheduled when circumstances warrant them, i.e., when visiting ensembles come to Penn State. Membership of the ensemble will remain essentially constant from one semester to the next. Vacancies arising when a student leaves or graduates will be filled as needed. It is integral to the ensemble's activities that faculty and students perform along side each other; thereby providing a unique learning opportunity for the students. A constant membership encourages performers' understanding of early music performance practice. The ensemble will give concerts on campus. Off-campus performances may be considered outreach opportunities and as valuable experiences for the students.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 110 Keyboard Skills I: Music Major (1) Introduction to the keyboard, chord progressions, transposition, improvisation, and simple accompanying techniques.

Keyboard Skills I: Music Major (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 112 Class Guitar (0.5-1) Functional guitar techniques and materials.

MUSIC 112 Guitar Techniques I (.5)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 112 is offered for students who are tracking acceptance into the Teacher Education Degree Program in Music. The focus of the course is learning to play the guitar in order to accompany and learning techniques on how to teach the guitar in classroom settings. Topics include: beginning level guitar pedagogy, instrument care and maintenance, classroom structure and materials. The instructional format includes: performance, lecture, large and small group discussion, readings, and musical and teaching examples. Students complete several practical assignments, and present summations of small group discussions. Two practice performances and a final playing and written exam are given.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 113 Music Theatre--Class Voice I (1) Group study emphasizing development of sound vocal and musicianship skills fundamental for music theatre.

Music Theatre--Class Voice I (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: admission into the School of Theatre with intent to major in Music Theatre

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 115 Voice Class (1) Class study of voice, with emphasis on pedagogical experiences and techniques useful in public school music classrooms.

Voice Class (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 114 Music Theatre--Class Voice II (1) Group study emphasizing development of sound vocal and musicianship skills fundamental for music theatre.

Music Theatre--Class Voice II (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: MUSIC 113

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 116 Intermediate Voice Class: Music Major (1) Class study of voice, with emphasis on pedagogical experiences and techniques useful in public school music classrooms. For Music Majors only.

Intermediate Voice Class: Music Major (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994
Prerequisite: MUSIC 115

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 119S First-Year Music Seminar (2) Individual applied instruction and group activities; orientation, area recitals, and studio classes as required by instructor.

First-Year Music Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 121 Basic Musicianship I (1) Elementary sight singing and dictation.

Basic Musicianship I (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1989
Prerequisite: ability to reproduce simple rhythm and tonal patterns
Concurrent: MUSIC 131

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 122 Basic Musicianship II (1) Continuation of Music 121.

Basic Musicianship II (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1989
Prerequisite: MUSIC 121
Concurrent: MUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 129S First-Year Performance Seminar (3) Individual applied instruction and group activities; orientation, area recitals, and studio classes as required by instructor.

First-Year Performance Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 131 Music Theory I (2) Review of rudiments; introduction to the fundamental linear and vertical features of tonal music, integration of written and aural skills.

Music Theory I (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1989
Prerequisite: ability to read musical notation; knowledge of musical rudiments.
Concurrent: MUSIC 121

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 132 Music Theory II (2) Continuation of Music 131.

Music Theory II (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1989
Prerequisite: MUSIC 131
Concurrent: MUSIC 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 151 Brass Techniques I (1) Introduction to basic performance techniques on brass instruments; teaching strategies and materials for use in a heterogeneous instrument setting.

MUSIC 151 Brass Techniques I (1)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to basic brass instrument performance techniques taught in a heterogeneous (mixed group of brass instruments) class setting. The course will provide students with basic introduction to embouchure formation, tone production, and executive skills on two brass instruments. Instructor and student modeled teaching strategies and methods for use in elementary school mixed instrument classes will be demonstrated. Published heterogeneous method books will be investigated and procedures for applying research-based tonal and rhythmic development activities to beginning instrumental instruction will be applied.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 152 Percussion Techniques I (1) Introduction to basic performance techniques on percussion instruments; teaching strategies and materials for use in a heterogeneous instrument setting.

MUSIC 152 Percussion Techniques I (1)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to basic percussion instrument performance techniques. The course will provide students with a basic introduction to playing techniques for a variety of percussion instruments. Instructor and student modeled teaching strategies and methods for use in elementary and secondary school mixed instrument classes will be demonstrated. Published method books will be investigated.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 153 String Techniques I (1) Performance techniques on stringed instruments for music education majors.

MUSIC 153 String Techniques I (1)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is required for students working toward entrance to the Bachelor of Music Education degree program. The purpose of the course is to allow students to develop proper performance techniques on two of the four orchestral bowed stringed instruments (violin, viola, cello, and double bass) at a sufficient level so that they can provide a desirable aural model for beginning and intermediate string students. Grades will be based on students' musical achievement on the instruments. There will be two performance assessments (one midterm and one final) for each instrument during the course. Required repertoire lists and evaluation tools will be provided prior to all assessments. Students must receive a passing grade for both instruments in order to receive an overall passing grade for the course.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 154 Woodwind Techniques I (1) Performance and teaching techniques for woodwind instruments.

MUSIC 154 Woodwind Techniques I (1)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for students pursuing a degree in music education. Principles of teaching public school students to begin to play woodwind instruments will be covered and applied to the five woodwind instruments. Students will have the opportunity to perform on each instrument, and teach their peers using the principles of woodwind pedagogy and instrument-specific techniques. This course is part of a block of courses covering all band and orchestra instruments traditionally offered in public school music programs. Students can elect to take more courses with more in-depth instruction on each instrument in order to further prepare them to teach the instruments in the public schools. Students will be advised to take such courses if their career goals include teaching band and/or orchestra in the public schools.

Students will observe teaching techniques for teaching instrument-specific pedagogy through being students themselves. They will keep a journal of observed teaching techniques and instrument resources for future reference as a teacher. They will perform playing tests on their instrument to demonstrate proficiency on the instrument, and engage in peer-teaching activities to demonstrate understanding of pedagogical techniques.

Music education majors will take this course as part of a sequence of music education courses. This course is offered as one of the early music education courses, and serves as a model and introduction for the pedagogical techniques and concepts the students will master in future courses.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 162 (IL) Introduction to Music History (2) An introduction to Western music history and world music of selected cultures through the study of representative works.

MUSIC 162 Introduction to Music History (2)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to music history and world music. The course has four objectives: 1. to provide an overview of the different types of music that have prevailed in the West during the past 1500 years; 2. to introduce music from other parts of the world; 3. to examine the many ways that music has functioned in society; 4. to "stretch the students' ears" through exposure to a wide range of technical musical materials. The course serves as the first in a sequence of three music history courses taken by all music majors. Evaluation methods include written tests, listening tests, and class participation.

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006

Concurrent: MUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 170 Keyboard Skills II: Music Major (1) Instruction in secondary chord progressions, transposition, improvisation, accompanying techniques, simple score reading.

Keyboard Skills II: Music Major (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1985
Prerequisite: MUSIC 050, MUSIC 110 or placement audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 173 Composition I (2) Composition instruction for first-year composition majors.

Composition I (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: admission to the B.M. degree in Composition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 173S First-Year Composition Seminar (2) Individual composition instruction for freshman composition majors (Fall semester) and group activities.

First-Year Composition Seminar (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1999
Prerequisite: admission to the BM degree in Composition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 181 Jazz Improvisation I (2) A study of the fundamentals of jazz theory, harmonic functions, and their applications to jazz improvisation.

Jazz Improvisation I (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1991
Prerequisite: MUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 174 Composition II (2) Composition instruction for first-year composition majors.

Composition II (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 173

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 182 Jazz Improvisation II (2) A study of advanced harmonic concepts and their application to jazz improvisation.

Jazz Improvisation II (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1986
Prerequisite: MUSIC 181

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 190 (GA) Chamber Music for Strings (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily string instruments--string quartets, piano trios, clarinet quintets.

MUSIC 190 Chamber Music for Strings (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Chamber Music for Strings meets at least two hours per week - once with the instructor for coaching and at least once for an additional rehearsal without the instructor's presence. Course objectives include, but are not limited to, the development of rehearsal and ensemble skills, an increased awareness of musical styles, public performance(s) of works prepared, and the development of the interpersonal skills necessary for the players to operate as a unit. Chamber music is an integral part of instrumental musical training. It is an important partner with conducted ensembles in the performance preparation of musicians. Evaluation of student work is based on participation in rehearsals, the progress made by the ensemble, and the quality of the ensemble's performances. The course is offered during fall and spring semesters.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 191 (GA) Chamber Music for Woodwinds (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily woodwind instruments--woodwind quintets and quartets.

MUSIC 191 Chamber Music for Woodwinds (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Chamber Music for Woodwinds meets at east two hours per week - once with the instructor for coaching and at least once for an additional rehearsal without the instructor's presence. Course objectives include, but are not limited to, the development of rehearsal and ensemble skills, an increased awareness of musical styles, public performance(s) of works prepared, and the development of the interpersonal skills necessary for the players to operate as a unit. Chamber music is an integral part of instrumental musical training. It is an important partner with conducted ensembles in the performance preparation of musicians. Evaluation of student work is based on participation in rehearsals, the progress made by the ensemble, and the quality of the ensemble's performances. The course is offered during fall and spring semesters.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 192 (GA) Chamber Music for Brass (1 per semester/maximum of 8) Preparation for performance of advanced chamber music literature involving primarily brass instruments--brass quartets and quintets.

MUSIC 192 Chamber Music for Brass (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Chamber Music for Brass meets at least two hours per week - once with the instructor for coaching and at least once for an additional rehearsal without the instructor's presence. Course objectives include, but are not limited to, the development of rehearsal and ensemble skills, an increased awareness of musical styles, public performance(s) of works prepared, and the development of the interpersonal skills necessary for the players to operate as a unit. Chamber music is an integral part of instrumental musical training. It is an important partner with conducted ensembles in the performance preparation of musicians. Evaluation of student work is based on participation in rehearsals, the progress made by the ensemble, and the quality of the ensemble's performances. The course is offered during fall and spring semesters.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 193 Sonata Duos (1 per semester/maximum of 8) Preparation for performance of advanced sonata literature for various individual instruments with keyboard.

Sonata Duos (1 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 194 Studio and Recital Accompanying (1 per semester/maximum of 8) Keyboard accompaniment of student soloists in the studio and in public performance under faculty supervision.

Studio and Recital Accompanying (1 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: KEYBD 120J orKEYBD 130J or consent of supervising faculty member

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 210 Keyboard Skills III: Music Major (1) Playing accompaniments from chord symbols and full notation, transposition, improvisation, modulation, score-reading, and standard literature.

Keyboard Skills III: Music Major (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1985
Prerequisite: MUSIC 170 or placement audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 212 Guitar Techniques II (1) Intermediate performance and teaching techniques for guitar.

MUSIC 212 Guitar Techniques II (1)

MUSIC 212 is offered as an Individual Emphasis course for students who have been accepted into the Teacher Education Degree Program in Music. The focus of the course is on learning to play the guitar in a group class setting in order to accompany oneself and learning techniques for how to teach the guitar in classroom settings. Topics include: intermediate level guitar pedagogy, instrument care and maintenance, classroom structure and materials. The instructional format includes: performance, lecture, large and small group discussion, readings, and musical and teaching examples. Students complete several practical assignments and present summations of small group discussions. Two practice performances, a final playing and written exam are given, and a formal concert is performed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 216 Care and Nuture of Young Singing Voices (0.5) The nature of singing voices in children from birth through adolescence; strategies for helping all children become successful singers.

MUSIC 216 Care and Nurture of Young Singing Voices (.5)

The focus of this course is the nature of child and adolescent singing voices and strategies for assisting all children in learning to sing. Aural identification of various stages of vocal development or children and adolescents will be highlighted as well as strategies for nurturing the young singing voice in a classroom and rehearsal setting. Observations of teachers working with children will be included in the course experiences. This course is for music majors intending to apply to the Teacher Education Degree Program in Music and must be taken prior to entrance to the Degree program, typically during the sophomore year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 221 Basic Musicianship III (1) Intermediate sight singing and dictation.

Basic Musicianship III (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1991
Prerequisite: MUSIC 122 Prerequisite or concurrent:MUSIC 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 231 Music Theory III (2) Intermediate concepts of tonal theory.

Music Theory III (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1989
Prerequisite: MUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 222 Basic Musicianship IV (1) Continuation of Music 221.

Basic Musicianship IV (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 221 . Prerequisite or concurrent:

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 240 Music in Early Childhood (3) Development of musical knowledge and skills; materials and methods for musical experiences for children in educational and recreational settings.

Music in Early Childhood (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: for students in the N-3 Teacher Certification Program only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 241 Music for Classroom Teachers (3) Development of competencies for guiding musical experiences of children in the elementary classroom.

Music for Classroom Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: for students in the K-6 Teacher Certification Program only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 251B Brass Techniques II: Horn (0.5) A class setting in which horn performance techniques, teaching/diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.

MUSIC 251B Brass Techniques II: Horn (.5)

This course develops proper performance techniques on the horn in a class setting. Teaching techniques and materials specific to the horn are demonstrated and applied. Students will develop a performance level that will enable them to provide a desirable aural model for intermediate and advanced horn students. Students are introduced to appropriate horn teaching techniques; standard horn teaching materials including method books, etudes, and solo literature; effective strategies for diagnosing problems in student performances; and recommended instruments and equipment for all levels of horn study. Class meetings will occur twice per week for 1/2 semester. Students will be expected to practice outside of class meeting times. Grades will be based on students' musical achievement on the hornt and understanding of material presented. There will be multiple performance assessments throughout the course. This course is recommended for students working toward entrance to the Teacher Education Program in Music and the Bachelor of Music Education degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 251A Brass Techniques II: Trumpet (0.5) A class setting in which trumpet performance techniques, teaching/diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.

MUSIC 251A Brass Techniques II: Trumpet (.5)

This course develops proper performance techniques on the trumpet in a class setting. Teaching techniques and materials specific to the trumpet are demonstrated and applied. Students will develop a performance level that will enable them to provide a desirable aural model for intermediate and advanced trumpet students. Students are introduced to appropriate trumpet teaching techniques; standard trumpet teaching materials including method books, etudes, and solo literature; effective strategies for diagnosing problems in student performances; and recommended instruments and equipment for all levels of trumpet study. Class meetings will occur twice per week for 1/2 semester. Students will be expected to practice outside of class meeting times. Grades will be based on students' musical achievement on the trumpet and understanding of material presented. There will be multiple performance assessments throughout the course. This course is recommended for students working toward entrance to the Teacher Education Program in Music and the Bachelor of Music Education degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 251C Brass Techniques II: Trombone (0.5) A class setting in which trombone performance techniques, teaching/diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.

MUSIC 251C Brass Techniques II: Trombone (.5)

This course develops proper performance techniques on the trombone in a class setting. Teaching techniques and materials specific to the trombone are demonstrated and applied. Students will develop a performance level that will enable them to provide a desirable aural model for intermediate and advanced trombone students. Students are introduced to appropriate trombone teaching techniques; standard trombone teaching materials including method books, etudes, and solo literature; effective strategies for diagnosing problems in student performances; and recommended instruments and equipment for all levels of trombone study. Class meetings will occur twice per week for 1/2 semester. Students will be expected to practice outside of class meeting times. Grades will be based on students' musical achievement on the trombone and understanding of material presented. There will be multiple performance assessments throughout the course. This course is recommended for students working toward entrance to the Teacher Education Program in Music and the Bachelor of Music Education degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 253A String Techniques II: Violin (0.5) Performance techniques on violin for music education majors.

MUSIC 253A String Techniques II: Violin (.5)

This course is recommended for students working toward the Bachelor of Music Education degree program, and who hope to teach string/orchestra classes. The purpose of the course is to allow students to develop proper performance techniques on the violin at a sufficient level so that they can provide a desirable aural model for intermediate and advanced string students. Grades will be based on students' musical achievement on the instrument. There will be multiple performance assessments throughout the course. Required repertoire lists and evaluation tools will be provided prior to all assessments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 153

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 251D Brass Techniques II: Euphonium/Tuba (0.5) A class setting in which euphonium and tuba performance techniques, teaching/ diagnostic strategies, instructional materials, and literature are taught, practiced, and developed.

MUSIC 251D Brass Techniques II: Euphonium/Tuba (.5)

This course develops proper performance techniques on the euphonium and tuba in a class setting. Teaching techniques and materials specific to the euphonium and tuba are demonstrated and applied. Students will develop a performance level that will enable them to provide a desirable aural model for intermediate and advanced euphonium and tuba students. Students are introduced to appropriate euphonium and tuba teaching techniques; standard euphonium and tuba teaching materials including method books, etudes, and solo literature; effective strategies for diagnosing problems in student performances; and recommended instruments and equipment for all levels of euphonium and tuba study. Class meetings will occur twice per week for 1/2 semester. Students will be expected to practice outside of class meeting times. Grades will be based on students' musical achievement on the euphonium and/or tuba and understanding of material presented. There will be multiple performance assessments throughout the course. This course is recommended for students working toward entrance to the Teacher Education Program in Music and the Bachelor of Music Education degree.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 253B String Techniques II: Viola (0.5) Performance techniques on viola for music education majors.

MUSIC 253B String Techniques II: Viola (.5)

This course is recommended for students working toward the Bachelor of Music Education degree program, and who hope to teach string/orchestra classes. The purpose of the course is to allow students to develop proper performance techniques on the viola at a sufficient level so that they can provide a desirable aural model for intermediate and advanced string students. Grades will be based on students' musical achievement on the instrument. There will be multiple performance assessments throughout the course. Required repertoire lists and evaluation tools will be provided prior to all assessments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 153

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 253D String Techniques II: Double Bass (0.5) Performance techniques on double bass for music education majors.

MUSIC 253D String Techniques II: Double Bass (.5)

This course is recommended for students working toward the Bachelor of Music Education degree program, and who hope to teach string/orchestra classes. The purpose of the course is to allow students to develop proper performance techniques on the double bass at a sufficient level so that they can provide a desirable aural model for intermediate and advanced string students. Grades will be based on students' musical achievement on the instrument. There will be multiple performance assessments throughout the course. Required repertoire lists and evaluation tools will be provided prior to all assessments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 153

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 253C String Techniques II: Cello (0.5) Performance techniques on cello for music education majors.

MUSIC 253C String Techniques II: Cello (.5)

This course is recommended for students working toward the Bachelor of Music Education degree program, and who hope to teach string/orchestra classes. The purpose of the course is to allow students to develop proper performance techniques on the cello at a sufficient level so that they can provide a desirable aural model for intermediate and advanced string students. Grades will be based on students' musical achievement on the instrument. There will be multiple performance assessments throughout the course. Required repertoire lists and evaluation tools will be provided prior to all assessments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 153

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 254A Woodwind Techniques II: Flute (0.5) Performance and teaching techniques and materials selection for flute.

MUSIC 254A Woodwind Techniques II: Flute (.5)

This course is intended for music majors working toward the Teacher Education Degree Program in Music. This course may serve as a music education elective, and is best taken during the junior year. It should only be taken following successful completion of MUSIC 154 Woodwind Techniques I. The purpose of the course is to allow students to develop proper performance techniques in order to produce a characteristic sound on the flute at a sufficient level so that they can provide a desirable aural model for beginning and intermediate string students. Grades will be based largely on the performance achievement on the flute, in addition to development of resources for flute pedagogy and demonstration of appropriate diagnosis and prescription for flute performance problems. There will be two performance assessments during the course. There will be one midterm and one final assessment, weighted as listed:

Midterm Assessment (performance and diagnosis) 30%
Final Assessment (performance and diagnosis) 50%
Resource journal 10%

The required repertoire list will be provided approximately two weeks prior to each assessment. Students will also be provided with a copy of the measurement tool to be used in evaluating their performance. Students must receive a passing grade for both assessments in order to receive an overall passing grade for the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 154

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 254B Woodwind Techniques II: Oboe (0.5) Performance and teaching techniques and materials selection for oboe.

MUSIC 254B Woodwind Techniques II: Oboe (.5)

This course is intended for music majors working toward the Teacher Education Degree Program in Music. This course may serve as a music education elective, and is best taken during the junior year. It should only be taken following successful completion of MUSIC 154 Woodwind Techniques I. The purpose of the course is to allow students to develop proper performance techniques in order to produce a characteristic sound on the oboe at a sufficient level so that they can provide a desirable aural model for beginning and intermediate string students. Grades will be based largely on the performance achievement on the oboe, in addition to development of resources for oboe pedagogy and demonstration of appropriate diagnosis and prescription for oboe performance problems. There will be two performance assessments during the course. There will be one midterm and one final assessment, weighted as listed:

Midterm Assessment (performance and diagnosis) 30%
Final Assessment (performance and diagnosis) 50%
Resource journal 10%

The required repertoire list will be provided approximately two weeks prior to each assessment. Students will also be provided with a copy of the measurement tool to be used in evaluating their performance. Students must receive a passing grade for both assessments in order to receive an overall passing grade for the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 154

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 254D Woodwind Techniques II: Saxophone (0.5) Performance and teaching techniques and materials selection for saxophone.

MUSIC 254D Woodwind Techniques II: Saxophone (.5)

This course is intended for music majors working toward the Teacher Education Degree Program in Music. This course may serve as a music education elective, and is best taken during the junior year. It should only be taken following successful completion of MUSIC 154 Woodwind Techniques I. The purpose of the course is to allow students to develop proper performance techniques in order to produce a characteristic sound on the saxophone at a sufficient level so that they can provide a desirable aural model for beginning and intermediate string students. Grades will be based largely on the performance achievement on the saxophone, in addition to development of resources for saxophone pedagogy and demonstration of appropriate diagnosis and prescription for saxophone performance problems. There will be two performance assessments during the course. There will be one midterm and one final assessment, weighted as listed:

Midterm Assessment (performance and diagnosis) 30%
Final Assessment (performance and diagnosis) 50%
Resource journal 10%

The required repertoire list will be provided approximately two weeks prior to each assessment. Students will also be provided with a copy of the measurement tool to be used in evaluating their performance. Students must receive a passing grade for both assessments in order to receive an overall passing grade for the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 154

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 254C Woodwind Techniques II: Clarinet (0.5) Performance and teaching techniques and materials selection for clarinet.

MUSIC 254C Woodwind Techniques II: Clarinet (.5)

This course is intended for music majors working toward the Teacher Education Degree Program in Music. This course may serve as a music education elective, and is best taken during the junior year. It should only be taken following successful completion of MUSIC 154 Woodwind Techniques I. The purpose of the course is to allow students to develop proper performance techniques in order to produce a characteristic sound on the clarinet at a sufficient level so that they can provide a desirable aural model for beginning and intermediate string students. Grades will be based largely on the performance achievement on the clarinet, in addition to development of resources for clarinet pedagogy and demonstration of appropriate diagnosis and prescription for clarinet performance problems. There will be two performance assessments during the course. There will be one midterm and one final assessment, weighted as listed:

Midterm Assessment (performance and diagnosis) 30%
Final Assessment (performance and diagnosis) 50%
Resource journal 10%

The required repertoire list will be provided approximately two weeks prior to each assessment. Students will also be provided with a copy of the measurement tool to be used in evaluating their performance. Students must receive a passing grade for both assessments in order to receive an overall passing grade for the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 154

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 254E Woodwind Techniques II: Bassoon (0.5) Performance and teaching techniques and materials selection for bassoon.

MUSIC 254E Woodwind Techniques II: Bassoon (.5)

This course is intended for music majors working toward the Teacher Education Degree Program in Music. This course may serve as a music education elective, and is best taken during the junior year. It should only be taken following successful completion of MUSIC 154 Woodwind Techniques I. The purpose of the course is to allow students to develop proper performance techniques in order to produce a characteristic sound on the bassoon at a sufficient level so that they can provide a desirable aural model for beginning and intermediate string students. Grades will be based largely on the performance achievement on the bassoon, in addition to development for resources for bassoon pedagogy and demonstration of appropriate diagnosis and prescription for bassoon performance problems. There will be two performance assessments during the course. There will be one midterm and one final assessment, weighted as listed:

Midterm Assessment (performance) 33%
Final Assessment (performance and written exam) 66%

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 154

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 261 (IL) Survey of Music History I (3) A survey of music history to 1750, with readings, listening, and lecture.

Survey of Music History I (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: MUSIC 131, MUSIC 162

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 256 Introduction to Finale (1) Introduction to music notation processing using Finale on both the IBM and Macintosh platforms.

Introduction to Finale (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 132

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 262 (IL) Survey of Music History II (3) A survey of music history from 1750 to the present, with readings, listening, and lecture.

Survey of Music History II (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: MUSIC 132, MUSIC 162

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 266 Basic Conducting (1) Basic instruction and practicum in conducting, both choral and instrumental.

Basic Conducting (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1993
Prerequisite: MUSIC 221, MUSIC 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 267 Techniques of Composition (2) Basic instruction in the techniques of composition in all idioms.

Techniques of Composition (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1993
Prerequisite: or concurrent:MUSIC 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 270 Keyboard Skills IV: Music Major (1) Instruction in secondary chord progressions, transposition, improvisation, accompanying techniques, score reading.

Keyboard Skills IV: Music Major (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1987
Prerequisite: MUSIC 210 or placement audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 273 Composition III (2) Composition instruction for second-year composition majors.

Composition III (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 174

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 274 Composition IV (2) Composition instruction for second-year composition majors.

Composition IV (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 273

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 295A Early Field Experience in Music Education (1) Observation of music learning and teaching processes, development of basic teaching skills and reflective behaviors.

MUSIC 295A Early Field Experience in Music Education (1)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is offered to music majors during their fourth semester who are intending to apply to the Teacher Education Degree Program in Music. It provides prospective music teachers with an opportunity to observe various components involved in the music teaching process; develop basic music teaching skills; identify behaviors of effective music teachers; identify their own strengths and weaknesses as a teacher, set goals based on those traits, and apply strategies to improve; develop their ability to reflect on their own teaching; observe and interact with children of varying races, religious beliefs, national origins and socioeconomic backgrounds, particularly children for whom English is a second language and who are considered in need of early intervention; continue developing their own sight-singing and piano skills.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: fourth semester standingMUSIC 115, MUSIC 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297A Choral Conducting Practicum (1) For undergraduates who creat their own choirs from the membership of Penn State Ensembles.

Choral Conducting Practicum (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297A Choral Conducting Practicum (1) For students who create their own choirs from the membership of Penn State Ensembles.

Choral Conducting Practicum (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297B Choral Conducting Project (1) For undergraduate students who serve as assistants and interns with non-penn state ensembles.

Choral Conducting Project (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297B Choral Conducting Project (1) For undergraduate students who serve as assistants and interns with non-Penn State Ensembles.

Choral Conducting Project (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297C Sinfonietta (1) String training ensemble for those who wish to improve their orchestral reading skills and repertoire.

Sinfonietta (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297C Sinfonietta (1) String training ensemble for those who wish to improve their orchestral reading skills and repertoire.

Sinfonietta (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297D Fall Athletic Pep Band (1) For students not in Blue Band to participate in special athletic events.

Fall Athletic Pep Band (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297E World Music Classroom (3) Explore the nature of music and musical cultures globally. Students will experience music through listening, singing, and dance.

World Music Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 297F Class Voice (1) Group study emphasizing development of rudimentary skills and their recreational use in a range of popular and art music.

Class Voice (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 312 Performance of Diverse Musical Styles (1) Exploration of world instruments and singing through performance and study.

MUSIC 312 Performance of Diverse Musical Styles (1)

The focus of the course is participation in a non-Western based music ensemble to gain knowledge of global music traditions and how to apply world music ensemble practices into K-12 teaching. Topics include: cultural knowledge and significance, playing technique and pedagogy, and applications for teaching. The instructional format includes: performance, lecture, small group discussion, readings, and musical examples. Students complete several practical assignments and present summations of small group discussions. A final playing and written exam are given, and a formal concert is performed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 325 History of Music II (3) Music from 1700 to 1827; the music of the late baroque and the classical periods.

History of Music II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 326 History of Music III (3) Music from 1827 to the present; the romantic era to the contemporary.

History of Music III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 331 Tonal Analysis (2) Introduction to standard procedures of tonal analysis, including concepts of form and structure.

Tonal Analysis (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 221, MUSIC 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 332 Analysis of Twentieth Century Music (2) Application of analytical techniques and compositional theories to music of the twentieth century.

Analysis of Twentieth Century Music (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1996
Prerequisite: MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 336 Orchestration (2) Scoring for the orchestra.

Orchestration (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1988
Prerequisite: MUSIC 222, MUSIC 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 340 Music Learning and Development (2) Application of psychological principles to teaching of music, including curriculum design and contemporary practices in music education.

MUSIC 340 Music Learning and Development (2)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 340 is offered every fall semester for students who have just been accepted into the Teacher Certification program in Music Education. The focus of the course is music learning and development and their application to curriculum design for school music settings. Topics include: philosophical frameworks for music education, skill and content learning sequences in music, writing instructional objectives, and the process for developing music curricula. The instructional format includes: lecture, large and small group discussion, readings, and musical and teaching examples. Students complete several practical assignments, present summations of small group discussions, and prepare two drafts of a philosophical statement.

A midterm and final exam are typically given. Students in MUSIC 340 also enroll concurrently in MUSIC 341 and MUSIC 395A, a practicum course focusing on teacher delivery skills and application of content from MUSIC 340 and MUSIC 341.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: acceptance into Teacher Education Degree Program in Music
Concurrent: MUSIC 341 MUSIC 395A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 341 Instructional Materials in Music (2) Exploration of instructional materials and repertoire for use in K-12 music settings. Limited to Music Education majors who have been accepted into the Teacher Education Degree Program in Music.

MUSIC 341 Instructional Materials in Music (2)

MUSIC 341 is offered to students who have been accepted into the Teacher Education Degree Program in Music. The focus of this course is to gain knowledge through exploration of the process for selecting instructional materials and repertoire for K-12 music across all settings, choral, general, and instrumental settings. Topics include: the exploration of instructional materials, the criteria for selection of materials, and strategies for arranging musical materials to meet the needs of students. The instructional format includes: lecture, large and small group discussion, readings, and musical examples. Students complete several practical assignments and present summations of small group discussions. A written midterm and final evaluation will be given to assess student learning.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Concurrent: MUSIC 340 MUSIC 395A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 345 Instrucational Practices in Music (2) For music education students to learn about instrucational techniques and practices for music performance and general music classes.

MUSIC 345 Instructional Practices in Music (2)

This course is designed to cover general principles in planning and delivery of instruction for, and assessment of the learning of, students in public school K-12 music rehearsals and classrooms. Further, this course will focus on application and implementation of strategies to specific settings in which students will be certified to teach. Course objectives enable students to develop an understanding of the interaction of planning and delivery of instruction and the assessment of student learning; develop an understanding of principles of presenting and leading students in music activities and performance experiences; develop strategies for planning music lessons and rehearsals; and develop strategies for assessing student learning.

Students in the course will select appropriate instructional strategies reflecting technical and musical objectives and needs of the students; plan music lessons and rehearsals reflecting technical and musical objectives and needs of the students; and develop valid tools and procedures for assessing students' music learning. The students in this course will be evaluated on their effectiveness in writing task analyses, lesson and rehearsal plans, designing assessment tools, and implementing plans and assessments in a variety of music settings in peer-teaching situations.

Music education majors will take this course as part of a sequence of music education courses. This course is preceded by courses concerning musical development, teaching experiences, and courses in selection and design of instructional materials, and this course precedes a capstone course (MUSIC 441W, MUSIC 442W, MUSIC 443W, MUSIC 444W, MUSIC 445W, or MUSIC 446W) in which students study one instructional setting and curriculum level (choral, band, orchestra, general music; elementary middle school, high school) in greater depth, depending on their future career goals. Approximately 25 students will be enrolled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 340, MUSIC 341, MUSIC 395A piano and voice proficiencies passed.
Concurrent: MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 366 Intermediate Conducting (1) Intermediate instruction in conducting; conducting techniques specific to instrumental or choral music; introduction to rehearsal technique.

MUSIC 366 Intermediate Conducting (1)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 366 focuses on the development of more advanced physical skills and gestures appropriate for conducting expressive performances and rehearsals of music ensembles. The instructional format includes instructor demonstrations, student conducting of the class ensemble, and active participation as a performer and observer for peer conductors. Outside of class, students are expected to practice conducting gestures and use basic score study skills as preparation for conducting assigned music. Students prepare several music scores and conduct the class ensemble in practice episodes and instructor-evaluated performances. Students receive feedback and peer feedback on their performances in both practice and evaluated conducting episodes. Students are graded through instructor evaluation of conducting performances, completion of self-assessments involving review of a video of their performances, and participation in providing feedback for peers.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2008
Prerequisite: MUSIC 266, MUSIC 270, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 373 Composition V (3) Composition instruction for third-year position majors.

Composition V (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 274

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 374 Composition VI (3) Composition instruction for third-year composition majors.

Composition VI (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 373

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 387 Language Diction for Singers: Italian and English (1) Intensive drill in the pronunciation, phonetic transcription, and singing of Italian and English.

Language Diction for Singers: Italian and English (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1991
Prerequisite: VOICE 170J orVOICE 180J or 2 semesters ofVOICE 100J orVOICE 110J

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 388 Language Diction for Singers: French (1) Intensive drill in the pronunciation, phonetic transcription, and singing of French.

Language Diction for Singers: French (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1987
Prerequisite: VOICE 170J orVOICE 180J or two semesters ofVOICE 100J orVOICE 110J

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 389 Language Diction for Singers: German (1) Intensive drill in the pronunciation, phonetic transcription, and singing of German.

Language Diction for Singers: German (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1987
Prerequisite: VOICE 170J orVOICE 180J or two semesters ofVOICE 100J orVOICE 110J

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 395B Cohort Practicum II (1) Observation and teaching experiences in a variety of musical instruction settings.

MUSIC 395B Cohort Practicum II (1)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed for students to implement the general principles in planning and delivery of instruction for, and assessment of the learning of, students in public schools K-12 music rehearsals and classrooms, as learned in MUSIC 345. Further, this course will focus on application and implementation of strategies to specific settings in which students will be certified to teach. Course objectives are for students to lead activities with K-12 students in a general, lesson, and ensemble settings; interview teachers in K-12 settings with regard to their approach to planning lessons and rehearsals; identify qualities and behaviors of effective music teachers; identify their own strengths and weaknesses as a teacher, set goals based on those traits, and apply strategies to improve; develop their ability to reflect on their own teaching; and assess students' learning.

Students in the course will observe teachers the K-12 schools teaching students and reflect on their techniques and attributes for successful teaching. Students will implement activities and assessment tools with students in K-12 public school settings, develop their skill in identifying their own techniques and attributes for successful teaching, and become comfortable in a variety of musical settings.

Music education majors will take this course as part of a sequence of music education courses. This course is preceded by courses concerning musical development, teaching experiences, and courses in selection and design of instructional materials, and this course precedes a capstone course (MUSIC 441W, MUSIC 442W, MUSIC 443W, MUSIC 444W, MUSIC 445W, or MUSIC 446W) in which students study one instructional setting and one curricular level (choral, band, orchestra, general music; elementary, middle school, high school) in greater depth, depending on their future career goals. Approximately 25 students will be enrolled.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2009
Prerequisite: MUSIC 341, MUSIC 395A piano proficiency passed
Concurrent: MUSIC 345

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 395A Cohort Practicum I (1) Observation and pre-service experience in the schools. Limited to Music Education Majors.

MUSIC 395A Cohort Practicum I (1)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 395A is offered for students who are tracking acceptance into the Teacher Education Degree Program in Music. Students will enroll concurrently with the proposed course MUSIC 341 and the revised course MUSIC 340. The focus of the course is to provide students with opportunity to explore instructional materials and repertoire through interviews and observation of K-12 teachers. Topics include: the design and implementation of observational tools, and the leading and teaching of songs in a variety of settings. The instructional format includes: large and small group discussion, readings, and musical and teaching examples and experiences. Students complete several practical assignments including off campus observations, and present summations of small group discussions.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2008
Prerequisite: Acceptance into Teacher Education Degree Program in Music
Concurrent: MUSIC 340 MUSIC 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 400 Solo Recital (1) Required recital for Performer's Certificate.

Solo Recital (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1994
Prerequisite: permission of the director of the school of music

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 412 Jazz Pedagogy (2) The development of advanced skills in pedagogy for teaching jazz bands.

Jazz Pedagogy (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994
Prerequisite: admission to the Music Education program or certification

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 414 String Pedagogy (1-2) The development of skills in pedagogy for teaching strings.

String Pedagogy (1-2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1992
Prerequisite: completion of 300-level strings course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 415 Woodwind Pedagogy (1-2) The development of skills in pedagogy for teaching woodwinds.

Woodwind Pedagogy (1-2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1992
Prerequisite: completion of 300-level woodwind course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 416 Brass Pedagogy (1-2) The development of skills in pedagogy for teaching brass.

Brass Pedagogy (1-2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1992
Prerequisite: completion of 300-level brass course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 417 Percussion Pedagogy (1-2) The development of advanced skills in pedagogy for teaching percussion.

Percussion Pedagogy (1-2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: MUSIC 152;PERCN 320J orPERCN 330J or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 418 Voice Pedagogy (2) Analysis of techniques of teaching voice and studies of related music literature and pedagogical writings.

Voice Pedagogy (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: VOICE 270J orVOICE 280J ; or four semesters ofVOICE 100J orVOICE 110J

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 421 Jazz Combo Class (1) Study and performance of small group jazz.

Jazz Combo Class (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994
Prerequisite: MUSIC 181

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 419 Piano Pedagogy I (2) Analysis of beginning teaching methods and teaching strategies for children.

Piano Pedagogy I (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: KEYBD 270 orKEYBD 280;MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 422 Jazz Harmony and Arranging (3) Analysis and composition of jazz tunes and chord progressions; instrumental and vocal arranging in the jazz idiom.

Jazz Harmony and Arranging (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: MUSIC 222, MUSIC 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 425 Advanced Voice Pedagogy (2) Analysis of techniques of teaching voice, supervised teaching, studies of studio materials and related topics.

Advanced Voice Pedagogy (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: MUSIC 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 424 Piano Pedagogy II (2) Analysis of techniques of teaching intermediate-early advanced level piano and studies of music literature and pedagogical writings.

Piano Pedagogy II (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: KEYBD 270 orKEYBD 280;MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 427 Masters of Music (3) An intensive investigation of the works of a major composer in Western music history. (May be repeated for credit.)

Masters of Music (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 428 Graduate Review of Tonal Analysis (2) Application of analytical techniques to music from Bach to Brahms.

Graduate Review of Tonal Analysis (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: undergraduate core in music theory and literature at an accredited university or elementary analysis; MUSIC 429 and 430 if indicated on entering competency exam

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 430 Harmony Review for Graduate Students (2) An intensive review of tonal harmony from a linear approach, including part- writing and counterpoint.

Harmony Review for Graduate Students (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1995
Prerequisite: MUSIC 232 or undergraduate core in music theory at an accredited university

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 429 Aural Review for Graduate Students (1) An intensive review of the aural skills required for a theoretical understanding of 18th- and 19th-century music.

Aural Review for Graduate Students (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994
Prerequisite: MUSIC 221 or undergraduate core in music theory at an accredited university

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 431 ADVANCED TONAL ANALYSIS (2-3) Advanced techniques of musical analysis.

ADVANCED TONAL ANALYSIS (2-3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1996
Prerequisite: MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 433 Advanced Analysis of Twentieth Century Music (2-3) In-depth studies of selected twentieth-century repertoires and/or analytical models.

Advanced Analysis of Twentieth Century Music (2-3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1996
Prerequisite: MUSIC 262, MUSIC 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 432 Graduate Review of Twentieth-Century Analysis (2-3) The theory and analysis of style in music of the twentieth century.

Graduate Review of Twentieth-Century Analysis (2-3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1997
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 435 Score Reading (1) Introduction in score reading at the keyboard.

Score Reading (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: MUSIC 232 ; piano proficiency passed

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 438 Figured Bass (2) Learning to realize and play figured basses at the keyboard with emphasis on examples from Italy, Germany, France, and England from 1600 to 1800.

Figured Bass (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: MUSIC 232 ; piano proficiency passed

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 440 Forms in Music (3) An investigation of the traditional forms of tonal music in Western culture. (May be repeated for credit.)

Forms in Music (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 441W Capstone Experience in Elementary General and Choral Music (3) Selection and application of materials, methods, teaching and assessment strategies for elementary general and choral music settings.

MUSIC 441W Capstone Experiences in Elementary General and Choral Music (3)

This course is intended for Music Education majors in their senior year who have particular interest in working with elementary school children in a general music or choral setting. Students will apply all previous Music Education course work to this teaching setting. They will learn how to construct a course of study, including assessment strategies. Students will then apply that course of study by working with one elementary music class in the local schools. Teacher delivery issues, reflective practice, and assessment of student achievement will become a major component of this experience. A review of traditional approaches to elementary music teaching will also be presented and critically discussed. In addition, students will prepare two drafts of a philosophical statement justifying the inclusion of music in every child's curriculum as well as four drafts of a paper reviewing and summarizing articles on a topic of interest related to elementary music teaching.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 441W Emphasis in Elementary General and Choral Music (3) Selection and application of materials, methods, teaching and assessment strategies for elementary general and choral music settings.

MUSIC 441W Capstone Experiences in Elementary General and Choral Music (3)

This course is intended for Music Education majors in their senior year who have particular interest in working with elementary school children in a general music or choral setting. Students will apply all previous Music Education course work to this teaching setting. They will learn how to construct a course of study, including assessment strategies. Students will then apply that course of study by working with one elementary music class in the local schools. Teacher delivery issues, reflective practice, and assessment of student achievement will become a major component of this experience. A review of traditional approaches to elementary music teaching will also be presented and critically discussed. In addition, students will prepare two drafts of a philosophical statement justifying the inclusion of music in every child's curriculum as well as four drafts of a paper reviewing and summarizing articles on a topic of interest related to elementary music teaching.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 442W Capstone Experience in Middle School General and Choral Music (3) Capstone experience to teaching in general and choral middle school settings.

MUSIC 442W Capstone Experience in Middle School General and Choral Music (3)

This course is offered to students who have been accepted into the Teacher Certification program in Music Education. The focus of this course is to provide students with opportunity to explore middle school choral and general music settings under the close supervision of a faculty member. Topics include: the design and implementation of middle school level curriculum in general and choral music, the leading and teaching of songs in these settings, and specific grade-level appropriate pedagogy. The instructional format includes: writing, lecture, small group discussion, readings, musical and teaching examples, and off campus observation and teaching in middle school classrooms. Students complete several practical assignments including off campus observations, presentation of the summations of small group discussions, curriculum planning and models, and teaching within public schools in grades 5-9.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007
Prerequisite: Limited to Music Education Majors.MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 444W Capstone Experiences in Elementary and Intermediate Band (3) Examination and application of teaching strategies and materials for students planning to teach band in the elementary and middle schools.

MUISC 444W Capstone Experiences in Elementary and Intermediate Band (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is intended to prepare pre-service teachers to teach beginning through intermediate instrumental (band) music. Preparation will include observation of current public school teachers and teaching technique4s and methods, preparation and implementation of appropriate lessons including assessments, in-depth analysis (case study) of a student currently in the public schools, development of a written philosophy of music education and banc instruction, and consideration of practical matters associated with teaching in the public schools such as scheduling, recruitment and parent interaction.

The course serves as a capstone to the prior courses in the music education curriculum. Previous courses in instructional planning, instructional materials, instrument techniques, conducting piano and voice use will have developed necessary prior skills. Skills and concepts from these classes will be applied in this authentic context in the collegiate and public school classrooms.

The students will be assessed according to their effectiveness in observation, teaching preparation, teaching and research. Evaluation will be in the form of written and verbal feedback, and completion of rubrics by the instructor and the students themselves (self- and peer-evaluation). Enrollment will likely be approximately 5 students each time the course is offered.

The students will be spending considerable class time in local elementary and middle schools for field work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395A, MUSIC 366 piano proficiency passes

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 443 Choral Methods and Materials: Emphasis (3) Selection and analysis of choral literature, study of the adolescent voice; administration of school choral programs. Intended for those with a choral emphasis.

Choral Methods and Materials: Emphasis (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007
Prerequisite: MUSIC 266, MUSIC 295A, MUSIC 340, MUSIC 348 piano proficiency passed

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 444W Emphasis in Elementary and Intermediate Band (3) Examination and application of teaching strategies and materials for students planning to teach band in the elementary and middle schools.

MUISC 444W Capstone Experiences in Elementary and Intermediate Band (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is intended to prepare pre-service teachers to teach beginning through intermediate instrumental (band) music. Preparation will include observation of current public school teachers and teaching technique4s and methods, preparation and implementation of appropriate lessons including assessments, in-depth analysis (case study) of a student currently in the public schools, development of a written philosophy of music education and banc instruction, and consideration of practical matters associated with teaching in the public schools such as scheduling, recruitment and parent interaction.

The course serves as a capstone to the prior courses in the music education curriculum. Previous courses in instructional planning, instructional materials, instrument techniques, conducting piano and voice use will have developed necessary prior skills. Skills and concepts from these classes will be applied in this authentic context in the collegiate and public school classrooms.

The students will be assessed according to their effectiveness in observation, teaching preparation, teaching and research. Evaluation will be in the form of written and verbal feedback, and completion of rubrics by the instructor and the students themselves (self- and peer-evaluation). Enrollment will likely be approximately 5 students each time the course is offered.

The students will be spending considerable class time in local elementary and middle schools for field work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395A, MUSIC 366 piano proficiency passes

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 445W Capstone Experiences in High School Band (3) Examination and application of teaching strategies and materials for students planning to teach high school bands.

MUSIC 445W Capstone Experiences in High School Band (3)

This course is intended to prepare pre-service teachers to teach high school band. Students will observe, analyze, and discuss the teaching techniques, methods, and materials used by public school teachers in high school band instructional settings. Students will prepare and implement rehearsal plans including assessments, in-depth investigation of appropriate repertoire for use in high school bands and concert programming. Students will develop score analysis skills necessary to plan and guide music making and learning in the band rehearsal. Students will develop materials and strategies that strengthen the connection of instrumental performance to the public school curriculum. Students will develop a written philosophy of music education and the role instrumental performance in band within the music education of high school students. Students will consider practical matters associated with teaching in the public schools such as: scheduling, interaction with parents/teachers/administrators, parental support organizations (music boosters), advocacy, community/school support, and long-range instrumental music program development plans.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 445W Emphasis in High School Band (3) Examination and application of teaching strategies and materials for students planning to teach high school bands.

MUSIC 445W Capstone Experiences in High School Band (3)

This course is intended to prepare pre-service teachers to teach high school band. Students will observe, analyze, and discuss the teaching techniques, methods, and materials used by public school teachers in high school band instructional settings. Students will prepare and implement rehearsal plans including assessments, in-depth investigation of appropriate repertoire for use in high school bands and concert programming. Students will develop score analysis skills necessary to plan and guide music making and learning in the band rehearsal. Students will develop materials and strategies that strengthen the connection of instrumental performance to the public school curriculum. Students will develop a written philosophy of music education and the role instrumental performance in band within the music education of high school students. Students will consider practical matters associated with teaching in the public schools such as: scheduling, interaction with parents/teachers/administrators, parental support organizations (music boosters), advocacy, community/school support, and long-range instrumental music program development plans.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 446W Capstone Experiences in Strings and Orchestra (3) Development of teaching techniques for instructing elementary and secondary string/orchestra student musicians for music education majors.

MUSIC 446W Capstone Experiences in Strings and Orchestra (3)

This course is intended to prepare pre-service teachers to teach elementary and secondary string instrumental (orchestra) music. Preparation will include observation of current public school teachers and teaching techniques and methods, preparation and implementation of appropriate lessons including assessments, in-depth analysis (case study) of a student currently in the public schools, development of a written philosophy of music education and string/orchestra instruction, and consideration of practical matters associated with teaching in the public schools such as scheduling, recruitment and parent interaction.

The course serves as a capstone to the prior courses in the music education curriculum. Previous courses in instructional planning, instructional materials, instrument techniques, conducting, piano and voice use will have developed necessary prior skills. Skills and concepts from these classes will be applied in this authentic context in the collegiate and public school classrooms.

The students will be assessed according to their effectiveness in observation, teaching preparation, teaching, and research. Evaluation will be in the form of written and verbal feedback, and completion of rubrics by the instructor and the students themselves (self- and peer-evaluation). Enrollment will likely be approximately 5 students each fall semester. Students will spend considerable class time in local public schools for fieldwork.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 446W Emphasis in Strings and Orchestra (3) Development of teaching techniques for instructing elementary and secondary string/orchestra student musicians for music education majors.

MUSIC 446W Capstone Experiences in Strings and Orchestra (3)

This course is intended to prepare pre-service teachers to teach elementary and secondary string instrumental (orchestra) music. Preparation will include observation of current public school teachers and teaching techniques and methods, preparation and implementation of appropriate lessons including assessments, in-depth analysis (case study) of a student currently in the public schools, development of a written philosophy of music education and string/orchestra instruction, and consideration of practical matters associated with teaching in the public schools such as scheduling, recruitment and parent interaction.

The course serves as a capstone to the prior courses in the music education curriculum. Previous courses in instructional planning, instructional materials, instrument techniques, conducting, piano and voice use will have developed necessary prior skills. Skills and concepts from these classes will be applied in this authentic context in the collegiate and public school classrooms.

The students will be assessed according to their effectiveness in observation, teaching preparation, teaching, and research. Evaluation will be in the form of written and verbal feedback, and completion of rubrics by the instructor and the students themselves (self- and peer-evaluation). Enrollment will likely be approximately 5 students each fall semester. Students will spend considerable class time in local public schools for fieldwork.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MUSIC 345, MUSIC 395B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 450 Teaching Marching Band (2) Traditional and contemporary drill design principles, show development strategies, instructional techniques, and organizational procedures involved in teaching marching band.

MUSIC 450 Teaching Marching Band (2)

(BA) This course meets the Bachelor of Arts degree requirements.

MUSIC 450 is a marching band technique course for music education majors, band directors, and experienced marching band members. This course develops knowledge and skills required to organize and teach marching band with an emphasis on traditional and contemporary drill design and charting. Students are taught an eclectic understanding of drill systems, contemporary drill design, and visual design theory with opportunities to apply drill design computer software (Pyware Java 3D) in developing effective movements for marching units. Course topics include philosophy and role of marching band in the music program, historical perspectives, marching band styles, administration and organization of the marching band and auxiliary units and teaching techniques.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007
Prerequisite: MUSIC 345 or three years collegiate marching band experience or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 451 Computer Programming for Musicians (3 per semester/maximum of 12) In-depth study of music programming techniques.

MUSIC 451 Computer Programming for Musicians (3 per semester/maximum of 12)

This is an in-depth study of a given music programming language or environment. The language/environment will vary from semester to semester, to include languages such as SuperCollider and Max/MSP. Students will be expected to work independently on a series of projects that require increasing levels of difficulty in programming methodology. The course may be repeated for credit.

Students will be acquainted with the basics of how the programming environment treats fundamental matters such as signal flow, defining functions, variables and arguments, and music synthesis techniques.

These principles will be expanded, with added layers of complexity to the types of problems presented. More complex instruments, processing, and filtering will be covered, along with real-time capabilities (ability of the program to respond to input from audio input or data from an external controller) and the creation of graphical user interfaces (GUIs).

Advanced topics will include algorithmic composition and the creation of plug-ins that may be used by other programs.

As this is an upper division class, students will be expected to be self-motivated and work independently. Assignments will present problems that may be approached in a number of ways - there is no single right answer; putting it another way, the correct answer is the one that works.

Students pursuing the minor in Music Technology (MUTEC) are required to complete two elective courses, one of them upper division. This course will serve those students wishing to apply the minor to areas of software development.

Along with MUSIC 455 Technology in Music, this course may also serve as the second part of an elective music technology cognate for students in the graduate and IUG programs in music theory.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: INART 258, MUSIC 455 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 455 Technology in Music (1-3:1.5:1.5) Survey of how musical information is stored and processed in computer systems.

MUSIC 455 Technology in Music (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides a survey of how musical information is stored and transmitted in digital devices. It will be divided into three sections.

Weeks 1 and 2 are an introduction to acoustical principles such as the nature of sound transmission and measurements of frequency, sound power level, phase, timbre, and localization. Computer basics will also be covered, with topics to include binary number representation and basic computer operation.

Weeks 3 through 8 cover the MIDI transmission protocol that enables musical information to be stored and transmitted efficiently. Topics include the nature of the MIDI data structure, the types of messages that may be passed, and the suitability of MIDI for expressive performance. MIDI software is discussed, including notation software, editor/librarian software, and sequencers. The bulk of the course's project component involves working with sequencing programs. Students are also exposed to using MIDI on the web, downloading files and importing them into various applications.

Weeks 9 through 15 cover digital audio so that students may understand how instruments capable of understanding MIDI messages are able to translate the instructions into audio signals. Topics include sampling theory, digital vs. analog recording, filters, signal processing, and editing sound files. Projects involving digital audio also use a sequencing program that is able to combine MIDI and audio data.

The students are expected to work independently to complete reading assignments according to the schedule outlined in the course syllabus. While due attention will be given to discussion of this material in class, the primary focus of class sessions will be hands-on application, to ensure that students master a set of skills on the computer.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: CMPSC 100, CMPSC 101, CMPSC 121 orMUSIC 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 458 Electronic Music Composition (3) An introduction to the art of composition in the electronic audio medium.

MUSIC 458 Electronic Music Composition (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Music 458 will focus on the creative craft of musical composition in the medium of electronic audio. Topics covered will include but not be limited to: recording, MIDI and digital audio techniques, study of literature and the investigation of the creative process in musical composition. Students are expected to enter the class with strong fundamentals in both music theory and MIDI and digital audio. The student will be expected to complete several projects that demonstrate both their creativity and their technical competence in the medium.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: INART 258

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 459 Project in Electronic Music (1-3 per semester, maximum of 12) A studio course in the theory and practice of electronic music. Enrollment is restricted to 10 students.

Project in Electronic Music (1-3 per semester, maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 458

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 460 Teaching Musical Cultures (2) Exploration of the world's musical cultures and the implication of and procedures for teaching multicultural music. Limited to upper division music majors or permission of program.

Teaching Musical Cultures (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: MUSIC 262 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 461W Studies in Music History: Antiquity to 1600 (3) In-depth study of selected aspects of music and culture from antiquity to 1600, with emphasis on writing and research.

Studies in Music History: Antiquity to 1600 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 261, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 462W Studies in Music History: 1550-1750 (3) In-depth study of selected aspects of music and culture from 1550-1750, with emphasis on writing and research.

Studies in Music History: 1550-1750 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1996 Ending: Summer 2010
Prerequisite: MUSIC 261, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 461W Studies in Music History: Antiquity to 1600 (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from antiquity to 1600, with emphasis on writing and research.

Studies in Music History: Antiquity to 1600 (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 261, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 462W Studies in Music History: 1550-1750 (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1550-1750, with emphasis on writing and research.

Studies in Music History: 1550-1750 (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 261, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 463W Studies in Music History: 1700-1900 (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1700-1900, with emphasis on writing and research.

Studies in Music History: 1700-1900 (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 463W Studies in Music History: 1700-1900 (3) In-depth study of selected aspects of music and culture from 1700-1900, with emphasis on writing and research.

Studies in Music History: 1700-1900 (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 464W Studies in Music History: 1850-Present (3) In-depth study of selected aspects of music and culture from 1850 to the present, with emphasis on writing and research.

Studies in Music History: 1850-Present (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997 Ending: Summer 2010
Prerequisite: MUSIC 262, MUSIC 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 464W Studies in Music History: 1850-Present (3 per semester/maximum of 6) In-depth study of selected aspects of music and culture from 1850 to the present, with emphasis on writing and research.

Studies in Music History: 1850-Present (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Future: Fall 2010
Prerequisite: MUSIC 262, MUSIC 332

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 465 Advanced Conducting I (3) Advanced instruction in conducting; conducting techniques specific to instrumental or choral music; emphasis on score study and rehearsal technique.

Advanced Conducting I (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994
Prerequisite: MUSIC 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 466 Advanced Conducting II (2 per semester/maximum of 8) Standard scores of symphonies, tone poems, operas, oratorios, and shorter vocal and instrumental works studied from the viewpoint of the conductor.

Advanced Conducting II (2 per semester/maximum of 8)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1995
Prerequisite: MUSIC 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 467 Opera Workshop (1-3 per semester/maximum of 6) History, analysis, and production of operas from sixteenth century to present.

Opera Workshop (1-3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 468 Acting for Singers (2 per semester/maximum of 4) To help students develop authentic and specific characters/portrayals on stage through physical and emotional awareness.

MUSIC 468 Acting for Singers (2)

This is a course teaching singers the fundamentals of acting. All types of stage work related to vocal music will be explored from performing in recitals and concerts to the opera and excerpted scenes. The objective of the course is to make singers more comfortable on stage and more realistic/believable in their performances/presentations. This course differs from acting courses offered in other areas because the singer has restrictions placed upon him due to the requirements of the music, especially in regard to timing and the sense of time, and the use of texts which are often in foreign languages. The course will be offered to music majors currently studying voice at an advanced level (V220J or higher) so that vocal technique will not be the main issue; this includes students enrolled in the BM, BMA, BA, and BME programs. Exceptions can be made by permission of the instructor. The course is an elective 2 credit course which students may repeat for a maximum of 4 credits. An accompanist will be present to accompany students in their song/aria presentations. Every class meeting will begin with warm-up exercises and then continue with further exercises focusing on helping students develop a sense of timing and enabling them to explore the "beats" (or central topic) of a scene. Emphasis will be placed on learning how to prepare for a scene, analyze it, and determining the goal(s) of the character. The students will be encouraged to learn how to be specific in their acting and to learn what will "read" to an audience while accurately reflecting the portrayed emotion. Some work will be solo work, but there will also be opportunities to work with partners. Improvisation will also be incorporated.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: Must be currently enrolled for voice jury track at the level of V220J or higher or register with permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 471 Structural and Sixteenth-Century Counterpoint (2) Advanced species counterpoint and its application to the sixteenth-century style.

Structural and Sixteenth-Century Counterpoint (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: MUSIC 222, MUSIC 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 472 Eighteenth-Century Counterpoint (2) Imitative and nonimitative counterpoint in the style of Bach.

Eighteenth-Century Counterpoint (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: MUSIC 222, MUSIC 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 474 Composition VIII (3) Composition instruction for fourth-year composition majors.

Composition VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 473

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 473 Composition VII (3) Composition instruction for fourth-year composition majors.

Composition VII (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1998
Prerequisite: MUSIC 374

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 476W B.A. Senior Project (3) A semester project appropriate to student's option in B.A. program (e.g., research paper, performance with program notes, or related paper).

B.A. Senior Project (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1992
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 480 Opera Literature (3) Studies in the development of the opera from 1600 to the present, treating both libretto and music.

Opera Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 478 Vocal Literature (3) Introduction to the literature for solo voice in opera, oratorio, cantata, art song, and chamber music from the baroque to the present.

Vocal Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 481 Keyboard Literature (3) Studies in the development of keyboard music and instruments; a survey of all eras using listening, analysis, and performance.

Keyboard Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 483 Seminar in Voice Pedagogy (2) Survey of literature relevant to the teaching of voice from historical sources through recent pedagogical scholarship.

Seminar in Voice Pedagogy (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: MUSIC 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 485 Chamber Music Literature (3) Survey of chamber music for strings, winds, and brass instruments from the mid-16th century to the present day.

Chamber Music Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 487 Orchestral Literature (3) Survey of orchestral literature.

Orchestral Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1997
Prerequisite: MUSIC 262, MUSIC 331

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 489 Studio and Recital Accompaniment (1 per semester/maximum of 4) Advanced keyboard accompaniment of student soloists in the studio and in public performance under faculty supervision.

Studio and Recital Accompaniment (1 per semester/maximum of 4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: MUSIC 194 or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 494 Research Topics (1-3) Supervised research leading to senior thesis or project.

Research Topics (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 493 Sonata Duos (1 per semester/maximum of 4) Preparation for performance of advanced sonata literature for various individual instruments with keyboard.

Sonata Duos (1 per semester/maximum of 4)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: MUSIC 193 or equivalent; permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 494H Research Topics (1-3) Supervised research leading to senior thesis or project.

Research Topics (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 495B Student Teaching: Choral Music (5-7) Observation and teaching under supervision.

MUSIC 495B Student Teaching: Choral Music (5-7)

(BA) This course meets the Bachelor of Arts degree requirements.

As required by the Pennsylvania Department of Education, all music education students seeking certification must enroll in a culminating student teaching experience which closely approximates a full-time working experience in the public schools of Pennsylvania. The objective of this course is to offer a transition between student life and professional life directly prior to graduation. This total immersion in the field of CHORAL MUSIC allows the student to learn from and work with a mentor teacher in an off-campus setting. During the semester prior to the course, cooperating music teachers and school districts are contacted requesting their participation and music education students interview with the teachers. The students then move to the community in which they will be student teaching and adopt the practices of that mentor teacher within that specific school district.

Students are evaluated by both the mentor teacher and a Penn State supervisor who visits a minimum of four times per semester. This course is offered every semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2001
Prerequisite: completion of all courses in the major with a grade of "C" or better
Concurrent: MUSIC 443

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 495A Student Teaching: General Music (5-7) Observation and teaching under supervision.

MUSIC 495A Student Teaching: General Music (6-8)

(BA) This course meets the Bachelor of Arts degree requirements.

As required by the Pennsylvania Department of Education, all music education students seeking certification must enroll in a culminating student teaching experience which closely approximates a full-time working experience in the public schools of Pennsylvania. The objective of this course is to offer a transition between student life and professional life directly prior to graduation. This total immersion in the field of GENERAL MUSIC allows the student to learn from and work with a mentor teacher in an off-campus setting. During the semester prior to the course, cooperating music teachers and school districts are contacted requesting their participation and music education students interview with the teachers. The students then move to the community in which they will be student teaching and adopt the practices of that mentor teacher within that specific school district.

Students are evaluated by both the mentor teacher and a Penn State supervisor who visits a minimum of four times per semester. This course is offered every semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2001
Prerequisite: completion of all courses in the major with a grade of "C" or better
Concurrent: MUSIC 442

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 495C Student Teaching: Instrumental Music (5-7) Observation and teaching under supervision.

MUSIC 495C Student Teaching: Instrumental Music (5-7)

(BA) This course meets the Bachelor of Arts degree requirements.

As required by the Pennsylvania Department of Education, all music education students seeking certification must enroll in a culminating student teaching experience which closely approximates a full-time working experience in the public schools of Pennsylvania. The objective of this course is to offer a transition between student life and professional life directly prior to graduation. This total immersion in the field of INSTRUMENTAL MUSIC allows the student to learn from and work with a mentor teacher in an off-campus setting. During the semester prior to the course, cooperating music teachers and school districts are contacted requesting their participation and music education students interview with the teachers. The students then move to the community in which they will be student teaching and adopt the practices of that mentor teacher within that specific school district.

Students are evaluated by both the mentor teacher and a Penn State supervisor who visits a minimum of four times per semester. This course is offered every semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2001
Prerequisite: completion of all courses in the major with a grade of "C" or better
Concurrent: MUSIC 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497A Survey Music History (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Survey Music History (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497A Essence of Joy (1) Ensemble to perform sacred and secular repertoire from the african american traditions.

Essence of Joy (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497B Oriana Singers (1) Performs music written for treble voices.

Oriana Singers (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497B Survey Music History (3) For graduate students who need remedial work in music history.

Survey Music History (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497C Women's Chorale (1) Performs selected treble repertoire from the past five centuries.

Women's Chorale (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497D University Choir (1) Presents both major large-scale choral works and appropriate shorter work. 18th, 19th, and 20th century major works.

University Choir (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497C Oriana Singers (1) Performs music written for treble voices.

Oriana Singers (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497D Mallet Ensemble (1) Study and Performance of Music for keyboard percussion instruments.

Mallet Ensemble (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497E Essence of Joy (1) Ensemble to perform sacred and secular repertoire from the African American traditions.

Essence of Joy (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497E Viola Orchestral Excerpts (1) An introduction to excerpts from the viola parts of standard orchestral literature required for professional orchestral auditions.

Viola Orchestral Excerpts (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497F Glee Club (3) Male voices singing music from the renaissance through the twentieth-century.

Glee Club (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497F Business of Music (1) Survey of topics related to a career in music performance - including auditions, competitions, finances, work abroad, etc. Gues lecturers included.

Business of Music (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497G Hi-Lo's (1) Select group performing choral chamber music.

Hi-Lo's (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497I Viola Orchestral Excerpts (1) An introduction to excerpts from the viola parts of standard orchestral literature required for professional orchestral auditions.

Viola Orchestral Excerpts (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 497J Mallet Ensemble (1) Study and performance of music for keyboard percussion instruments.

Mallet Ensemble (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 498A Review of Harmony/Analysis (2) Devoted to an in-depth study of tonal harmony and analysis, beginning with a review of diatonic progressions and continuing with chromatic harmony.

Review of Harmony/Analysis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 498B Bass Orchestral Excerpts (1) This course is designed to study in depth a series of double bass excerpts from the standard orchestral and opera repertoire. We will look at how to prepare and mock audition behind a screen at the end of the semester.

Bass Orchestral Excerpts (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music (MUSIC)

MUSIC 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 100J (GA) Trumpet: Secondary (1 per semester, maximum of 8) Individual instruction in trumpet one-half hour per week.

BRASS 100J Trumpet: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the trumpet well in a variety of musical settings. The instrument is active in orchestral, band, jazz, chamber, and solo settings. Therefore, the basic goal for serious trumpet students as well as amateur trumpet students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-half hour lesson per week, presuming at least 5 hours of practice. Enrollment can range from 10-1 2 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 101J (GA) French Horn: Secondary (1 per semester, maximum of 8) Individual instruction in French horn one-half hour per week. For students who qualify.

BRASS 101J French Horn: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the French horn well in a variety of musical settings. The instrument is active in orchestral, band, chamber, and solo settings. Therefore, the basic goal for serious horn students as well as amateur horn students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-half hour lesson per week, assuming at least 5 hours of practice. Enrollment can range from 5-8 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 102J (GA) Trombone: Secondary (1 per semester, maximum of 8) Individual instruction in trombone one-half hour per week.

BRASS 102J Trombone: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the trombone well in a variety of musical settings. The instrument is active in orchestral, band, jazz, chamber, and solo settings. Therefore, the basic goal for serious trombonists as well as amateur trombonists is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-half hour lesson per week, presuming at least 5 hours of practice. Enrollment can range from 10-15 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 104J (GA) Tuba: Secondary (1 per semester, maximum of 8) Individual instruction in tuba one-half hour per week.

BRASS 104J Tuba: Secondary (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the tuba well in a variety of musical settings. The instrument is active in orchestral, band, chamber, and solo settings. Therefore, the basic goal for serious tuba students as well as amateur tuba students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-half hour lesson per week, presuming at least 5 hours of practice per week. Enrollment can range from 8-10 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 103J (GA) Euphonium: Secondary (1 per semester, maximum of 8) Individual instruction in euphonium/baritone one-half hour per week.

BRASS 103J Euphonium: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the euphonium well in a variety of musical settings. The instrument is active in orchestral, band, chamber, and solo settings. Therefore, the basic goal for serious euphonium students as well as amateur euphonium students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-half hour lesson per week, presuming at least 5 hours of practice. Enrollment can range from 12-15 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 110J (GA) Trumpet: Secondary (2 per semester, maximum of 16) Individual instruction in trumpet one hour per week.

BRASS 110J Trumpet: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the trumpet well in a variety of musical settings. The instrument is active in orchestral, band, jazz, chamber, and solo settings. Therefore, the basic goal for serious trumpet students as well as amateur trumpet students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-hour lesson per week, presuming at least 10 hours of practice. Enrollment can range from 10-12 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 111J (GA) French Horn: Secondary (2 per semester, maximum of 16) Individual instruction in French horn one hour per week. For students who qualify.

BRASS 111J French Horn: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the horn well in a variety of musical settings. The instrument is active in orchestral, band, chamber, and solo settings. Therefore, the basic goal for serious horn students as well as amateur horn students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-hour lesson per week, presuming at least 10 hours of practice. Enrollment can range from 5-8 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 112J (GA) Trombone: Secondary (2 per semester, maximum of 16) Individual instruction in trombone one hour per week.

BRASS 112J Trombone: Secondary (2 per semester/maximum of 16)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the trombone well in a variety of musical settings. The instrument is active in orchestral, band, jazz, chamber, and solo settings. Therefore, the basic goal for serious trombonists as well as amateur trombonists is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-hour lesson per week, presuming at least 10 hours of practice. Enrollment can range from 10-15 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 113J (GA) Euphonium: Secondary (2 per semester, maximum of 16) Individual instruction in euphonium/baritone one hour per week.

BRASS 113J Euphonium: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and I skills required to play the euphonium well in a variety of musical settings. The instrument is active in orchestral, band, chamber, and solo settings. Therefore, goal for serious euphonium students as well as amateur euphonium students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-hour lesson per week, presuming at least 10 hours of practice. Enrollment can range from 12-15 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 114J (GA) Tuba: Secondary (2 per semester, maximum of 16) Individual instruction in tuba one hour per week.

BRASS 114J Tuba: Secondary (2 per semester/maximum of 16)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

The goals of this course are to introduce, define, and develop the musical and technical skills required to play the tuba well in a variety of musical settings. The instrument is active in orchestral, band, chamber, and solo settings. Therefore, the basic goal for serious tuba students as well as amateur tuba students is to be proficient and versatile. The repertoire studied includes a variety of musical genre including the use of technical etudes, lyrical studies and standard solo works in a variety of styles. This course directly affects the student's ability to participate and contribute in the various ensembles on campus. The teacher and the student evaluate the student's progress and performance. Suggestions for improvement are agreed upon and developed. The course is offered to both music majors and non-majors. Students receive a one-hour lesson per week, presuming at least 10 hours of practice. Enrollment can range from 8-10 per semester depending on the availability of staffing.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 121J French Horn: Primary I (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

French Horn: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 120J Trumpet: Primary I (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trumpet: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 122J Trombone: Primary I (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trombone: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 124J Tuba: Primary I (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Tuba: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 123J Euphonium: Primary I (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Euphonium: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 130J Trumpet: Performance I (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 131J French Horn: Performance I (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 132J Trombone: Performance I (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 133J Euphonium: Performance I (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 134J Tuba: Performance I (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 170J Trumpet: Primary II (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trumpet: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 120J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 171J French Horn: Primary II (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

French Horn: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 121J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 172J Trombone: Primary II (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trombone: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 122J and permission of jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 174J Tuba: Primary II (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Tuba: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 124J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 173J Euphonium: Primary II (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Euphonium: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 123J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 180J Trumpet: Performance II (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 130J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 181J French Horn: Performance II (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 131J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 182J Trombone: Performance II (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 132J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 183J Euphonium: Performance II (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 133J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 184J Tuba: Performance II (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 134J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 220J Trumpet: Primary III (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.

Trumpet: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 170J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 221J French Horn: Primary III (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors.

French Horn: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 171J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 222J Trombone: Primary III (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.

Trombone: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 172J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 223J Euphonium: Primary III (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors.

Euphonium: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 173J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 224J Tuba: Primary III (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B. S. majors.

Tuba: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 174J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 230J Trumpet: Performance III (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 180J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 231J French Horn: Performance III (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 181J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 233J Euphonium: Performance III (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 183J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 232J Trombone: Performance III (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 182J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 234J Tuba: Performance III (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 184J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 271J French Horn: Primary IV (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

French Horn: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 221J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 270J Trumpet: Primary IV (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trumpet: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 220J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 272J Trombone: Primary IV (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trombone: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 222J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 273J Euphonium: Primary IV (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Euphonium: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 223J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 274J Tuba: Primary IV (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors.

Tuba: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 224J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 280J Trumpet: Performance IV (3) individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 230J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 281J French Horn: Performance IV (3) Individual instruction in French Horn one hour per week. For B.Mus. French Horn performance majors.

French Horn: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 231J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 283J Euphonium: Performance IV (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus euphonium/baritone majors.

Euphonium: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 233J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 282J Trombone: Performance IV (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 232J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 284J Tuba: Performance IV (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 234J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 321J French Horn: Primary V (2) Individual instruction in French Horn one hour per week. For School of Music B.A. and B.S. majors.

French Horn: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 271J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 320J Trumpet: Primary V (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.

Trumpet: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 270J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 322J Trombone: Primary V (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.

Trombone: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 272J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 324J Tuba: Primary V (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Tuba: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 274J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 323J Euphonium: Primary V (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors.

Euphonium: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 273J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 330J Trumpet: Performance V (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 280J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 331J French Horn: Performance V (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 281J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 332J Trombone: Performance V (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 282J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 333J Euphonium: Performance V (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 283J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 334J Tuba: Performance V (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 284J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 371J French Horn: Primary VI (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

French Horn: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 321J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 370J Trumpet: Primary VI (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trumpet: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 320J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 372J Trombone: Primary VI (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Trombone: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 322J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 374J Tuba: Primary VI (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors.

Tuba: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 324J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 373J Euphonium: Primary VI (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Euphonium: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 323J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 380J Trumpet: Performance VI (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 330J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 381J French Horn: Performance VI (3) Individual instruction of French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 331J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 383J Euphonium: Performance VI (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 333J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 382J Trombone: Performance VI (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 332J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 384J Tuba: Performance VI (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 334J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 421J French Horn: Primary VII (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors.

French Horn: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 321J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 420J Trumpet: Primary VII (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.

Trumpet: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 370J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 422J Trombone: Primary VII (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.

Trombone: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 372J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 424J Tuba: Primary VII (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Tuba: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 374J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 423J Euphonium: Primary VII (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Euphonium: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 373J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 430J Trumpet: Performance VII (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 380J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 431J French Horn: Performance VII (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 381J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 432J Trombone: Performance VII (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 382J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 433J Euphonium: Performance VII (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 383J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 434J Tuba: Performance VII (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 384J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 470J Trumpet: Primary VIII (2) Individual instruction in trumpet one hour per week. For School of Music B.A. and B.S. majors.

Trumpet: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 420J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 471J French Horn: Primary VIII (2) Individual instruction in French horn one hour per week. For School of Music B.A. and B.S. majors.

French Horn: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 421J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 472J Trombone: Primary VIII (2) Individual instruction in trombone one hour per week. For School of Music B.A. and B.S. majors.

Trombone: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 422J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 473J Euphonium: Primary VIII (2) Individual instruction in euphonium/baritone one hour per week. For School of Music B.A. and B.S. majors.

Euphonium: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 423J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 474J Tuba: Primary VIII (2) Individual instruction in tuba one hour per week. For School of Music B.A. and B.S. majors.

Tuba: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 424J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 480J Trumpet: Performance VIII (3) Individual instruction in trumpet one hour per week. For B.Mus. trumpet performance majors.

Trumpet: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 430J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 481J French Horn: Performance VIII (3) Individual instruction in French horn one hour per week. For B.Mus. French horn performance majors.

French Horn: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 431J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 483J Euphonium: Performance VIII (3) Individual instruction in euphonium/baritone one hour per week. For B.Mus. euphonium/baritone majors.

Euphonium: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 433J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 482J Trombone: Performance VIII (3) Individual instruction in trombone one hour per week. For B.Mus. trombone majors.

Trombone: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 432J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Brass (BRASS)

BRASS 484J Tuba: Performance VIII (3) Individual instruction in tuba one hour per week. For B.Mus. tuba majors.

Tuba: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: BRASS 434J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 100J (GA) Piano: Secondary (1 per semester, maximum of 8) Individual instruction in piano one-half hour per week.

KEYBD 100J Piano: Secondary (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Keyboard 100J is designed to provide the intermediate non-music major and/or music major student with strategies for developing some of the advanced skills required for playing the piano. Some knowledge of music or piano is assumed. Admission to the course is controlled by the piano faculty. Music 050, 051 (for non-music majors), completion of the piano proficiency (for music majors), or permission of the instructor is a prerequisite for this course. Students learn repertoire, sight-playing, score analysis, interpretive techniques, how to practice to the fullest possible communication of the composer's intent, scales, and a proper and healthy physical approach to the keyboard. Practice of these elements outside the class is expected. Objectives include learning score analysis and interpretive rendering of great masterworks of the piano. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible listening assignments, attendance at studio class and specific concerts. Special facilities required to teach the course are two well-maintained grand pianos for student performance and teacher demonstration. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 101J (GA) Organ: Secondary (1 per semester, maximum of 8) Individual instruction in pipe organ one-half hour per week.

KEYBD 101J Organ: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Keyboard 101J is designed to provide the intermediate non-music major and/or music major student with strategies for developing some of the advanced skills required for playing the organ. Some knowledge of music or piano is assumed. Admission to the course is controlled by the keyboard faculty. Students learn repertoire, sight-playing, score analysis, interpretive techniques, how to practice to the fullest possible communication of the composer's intent, scales, and a proper and healthy physical approach to the keyboard and pedals. Practice of these elements outside the class is expected. Objectives include learning score analysis and interpretive rendering of great masterworks of the organ. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible listening assignments, attendance at studio class and specific concerts. Special facilities required to teach the course is a well-maintained pipe organ for student performance and teacher demonstration. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 102J (GA) Harpsichord: Secondary (1 per semester, maximum of 8) Individual instruction in harpsichord one-half hour per week.

KEYBD 102J Harpsichord: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Keyboard 102J is designed to provide the intermediate non-music major and/or music major student with strategies for developing some of the advanced skills required for playing the harpsichord. Some knowledge of music or piano is assumed. Admission to the course is controlled by the keyboard faculty. Students learn repertoire, sight-playing, score analysis, interpretive techniques, how to practice to the fullest possible communication of the composer's intent, scales, and a proper and healthy physical approach to the keyboard and pedals. Practice of these elements outside the class is expected. Objectives include learning score analysis and interpretive rendering of great masterworks of the harpsichord. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible listening assignments, attendance at studio class and specific concerts. Special facilities required to teach the course is a well-maintained harpsichord for student performance and teacher demonstration. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 110J (GA) Piano: Secondary (2 per semester, maximum of 16) Individual instruction in piano one hour per week.

KEYBD 110J Piano: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Keyboard 110J is designed to provide the intermediate non-music major and/or music major student with strategies for developing some of the advanced skills required for playing the piano. Some knowledge of music or piano is assumed. Admission to the course is controlled by the piano faculty through interview and/or audition. Music 050, 051 (for non-music majors), completion of the piano proficiency (for music majors), or permission of the instructor is a prerequisite for this course. Students learn repertoire, sight-playing, score analysis, interpretive techniques, how to practice for the fullest possible communication of the composer's intent, scales, a proper and healthy physical approach to the keyboard. Practice of these elements outside the class is expected. Objectives include learning score analysis and interpretive rendering of great masterworks of the piano. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible listening assignments, attendance at studio class and specific concerts. Special facilities required to teach the course are two well-maintained grand pianos for student performance and teacher demonstration. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 112J (GA) Harpsichord: Secondary (2 per semester, maximum of 16) Individual instruction in harpsichord one hour per week.

KEYBD 112J Harpsichord: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Keyboard 112J is designed to provide the intermediate non-music major and/or music major student with strategies for developing some of the advanced skills required for playing the harpsichord. Some knowledge of music or piano is assumed. Admission to the course is controlled by the keyboard faculty. Students learn repertoire, sight-playing, score analysis, interpretive techniques, how to practice to the fullest possible communication of the composer's intent, scales, and a proper and healthy physical approach to the keyboard and pedals. Practice of these elements outside the class is expected. Objectives include learning score analysis and interpretive rendering of great masterworks of the harpsichord. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible listening assignments, attendance at studio class and specific concerts. Special facilities required to teach the course is a well-maintained harpsichord for student performance and teacher demonstration. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 111J (GA) Organ: Secondary (2 per semester, maximum of 16) Individual instruction in pipe organ one hour per week.

KEYBD 111J Organ: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Keyboard 111J is designed to provide the intermediate non-music major and/or music major student with strategies for developing some of the advanced skills required for playing the organ. Some knowledge of music or piano is assumed. Admission to the course is controlled by the keyboard faculty. Students learn repertoire, sight-playing, score analysis, interpretive techniques, how to practice to the fullest possible communication of the composer's intent, scales, a proper and healthy physical approach to the keyboard and pedals. Practice of these elements outside the class is expected. Objectives include learning score analysis and interpretive rendering of great masterworks of the organ, Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible listening assignments, attendance at studio class and specific concerts. Special facilities required to teach the course is a well-maintained pipe organ for student performance and teacher demonstration. The course is offered every semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 120J Piano: Primary I (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 121J Organ: Primary I (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 130J Piano: Performance I (3) Individual instruction in piano one hour per week. For B.Mus. performance majors.

Piano: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 131J Organ: Performance I (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performane majors.

Organ: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 170J Piano: Primary II (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 120J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 180J Piano: Performance II (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 130J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 171J Organ: Primary II (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 121J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 181J Organ: Performance II (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 131J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 220J Piano: Primary III (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 170J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 221J Organ: Primary III (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 171J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 230J Piano: Performance III (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 180J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 231J Organ: Performance III (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 181J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 270J Piano: Primary IV (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 220J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 271J Organ: Primary IV (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 221J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 280J Piano: Performance IV (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 230J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 320J Piano: Primary V (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 270J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 281J Organ: Performance IV (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 231J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 321J Organ: Primary V (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 321J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 330J Piano: Performance V (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 280J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 331J Organ: Performance V (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 281J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 370J Piano: Primary VI (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 320J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 371J Organ: Primary VI (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S majors.

Organ: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 321J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 381J Organ: Performance VI (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 331J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 380J Piano: Performance VI (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 330J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 420J Piano: Primary VII (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 370J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 421J Organ: Primary VII (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 371J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 430J Piano: Performance VII (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 380J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 431J Organ: Performance VII (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 381J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 470J Piano: Primary VIII (2) Individual instruction in piano one hour per week. For School of Music B.A. and B.S. majors.

Piano: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 420J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 471J Organ: Primary VIII (2) Individual instruction in pipe organ one hour per week. For School of Music B.A. and B.S. majors.

Organ: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 421J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 480J Piano: Performance VIII (3) Individual instruction in piano one hour per week. For B.Mus. piano performance majors.

Piano: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 430J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Keyboard (KEYBD)

KEYBD 481J Organ: Performance VIII (3) Individual instruction in pipe organ one hour per week. For B.Mus. organ performance majors.

Organ: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: KEYBD 431J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 100J (GA) Percussion: Secondary (1 per semester, maximum of 8) Individual instruction in percussion one-half hour per week. For both music and non-music majors.

PERCN 100J Percussion: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course consists of private instruction in selected areas of percussion performance. Individualized instruction will guide the student toward competence playing the instrument(s), the study of appropriate repertoire, developing interpretive insights, acquisition of music reading skills, and acquiring both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State music ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned material (music, etude books, etc.), essential accessories (metronome, practice pad, etc.), and appropriate instrumental needs (sticks, mallets, small instruments, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 120J Percussion: Primary I (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Percussion: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: Acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 110J (GA) Percussion: Secondary (2 per semester, maximum of 16) Individual instruction in percussion one hour per week. For both music and non-music majors.

PERCN 110J Percussion: Secondary (2 per semester/maximum of 16)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward competence playing the instrument, the study of appropriate repertoire, developing interpretive insights, acquisition of music reading skills, and acquiring both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State music ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned material (music, etude books, etc.), essential accessories (metronome, practice pad, etc.), and appropriate instrumental needs (sticks, mallets, small instruments, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 130J Percussion: Performance I (3) Individual instruction in percussion one hour per week. For B.Mus percussion majors.

Percussion: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 170J Percussion: Primary II (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 120J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 180J Percussion: Performance II (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 130J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 220J Percussion: Primary III (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 170J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 230J Percussion: Performance III (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 180J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 270J Percussion: Primary IV (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 220J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 280J Percussion: Performance IV (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 230J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 320J Percussion: Primary V (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 270J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 330J Percussion: Performance V (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 280J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 370J Percussion: Primary VI (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 320J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 380J Percussion: Performance VI (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 330J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 420J Percussion: Primary VII (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 370J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 430J Percussion: Performance VII (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 380J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 470J Percussion: Primary VIII (2) Individual instruction in percussion one hour per week. For School of Music B.A. and B.S. majors.

Percussion: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 420J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Percussion (PERCN)

PERCN 480J Percussion: Performance VIII (3) Individual instruction in percussion one hour per week. For B.Mus. percussion majors.

Percussion: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: PERCN 430J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 100J (GA) Violin: Secondary (1 per semester, maximum of 8) Individual instruction in violin one-half hour per week.

STRNG 100J Violin: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the violin in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. Students receive one-half hour of private instruction per week. The course is open to Music majors and nonmajors and is offered every semester. Enrollment can range from 10-20 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 101J (GA) Viola: Secondary (1 per semester, maximum of 8) Individual instruction in viola one-half hour per week.

STRNG 101J Viola: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the viola in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. Students receive one-half hour of private instruction per week. The course is open to Music majors and non-majors and is offered every semester. Enrollment can range from 5-8 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 102J (GA) Violoncello: Secondary (1 per semester, maximum of 8) Individual instruction in violoncello one-half hour per week.

STRNG 102J Violoncello: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the violoncello in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. Students receive one-half hour of private instruction per week. The course is open to Music majors and non-majors and is offered every semester. Enrollment can range from 8-10 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 103J (GA) Double Bass: Secondary (1 per semester, maximum of 8) Individual instruction in double bass one-half hour per week.

STRNG 103J Double Bass: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the double bass in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. Students receive one-half hour of private instruction per week. The course is open to Music majors and non-majors and is offered every semester. Enrollment can range from 3-5 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 110J (GA) Violin: Secondary (2 per semester, maximum of 16) Individual instruction in violin one hour per week.

STRNG 110J Violin: Secondary (2 per semester/maximum of 16)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the violin in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. The course is open to Music majors and nonmajors and is offered every semester. Enrollment can range from 4-6 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 111J (GA) Viola: Secondary (2 per semester, maximum of 16) Individual instruction in viola one hour per week.

STRNG 111J Viola: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the viola in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. The course is open to Music majors and non-majors and is offered every semester. Enrollment can range from 3-5 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 112J (GA) Violoncello: Secondary (2 per semester, maximum of 16) Individual instruction in violoncello one hour per week.

STRNG 112J Violoncello: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the violoncello in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. The course is open to Music majors and non-majors and is offered every semester. Enrollment can range from 3-5 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 113J (GA) Double Bass: Secondary (2 per semester, maximum of 16) Individual instruction in double bass one hour per week.

**STRNG 113J Double Bass: Secondary (2 per semester/maximum of 16)
(GA)**

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce, define, and develop the musical and technical skills required to play the double bass in a variety of musical contexts. Fundamentals of technique are addressed through the study of scales and other technical studies or etudes. These are then applied in various musical settings, including solo, chamber, and orchestral works. The course is open to Music majors and non-majors and is offered every semester. Enrollment can range from 3-5 students per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 114J (GA) Guitar: Secondary (2 per semester, maximum of 16) Individual instruction in guitar one hour per week.

Guitar: Secondary (2 per semester, maximum of 16)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1995
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 120J Violin: Primary I (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 121J Viola: Primary I (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 123J Double Bass: Primary I (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 122J Violoncello: Primary I (2) Individualized instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 130J Violin: Performance I (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 131J Viola: Performance I (3) Individual instruction in viola one hour per week. For B.Mus. guitar performance majors.

Viola: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 132J Violoncello: Performance I (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 133J Double Bass: Performance I (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 170J Violin: Primary II (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 120J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 172J Violoncello: Primary II (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 122J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 171J Viola: Primary II (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 121J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 173J Double Bass: Primary II (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 123J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 180J Violin: Performance II (3) Individual instruction in violin one hour per week. For B.Mus. violin performance major.

Violin: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 130J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 181J Viola: Performance II (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 131J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 182J Violoncello: Performance II (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 132J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 183J Double Bass: Performance II (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 133J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 220J Violin: Primary III (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 170J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 221J Viola: Primary III (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 171J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 222J Violoncello: Primary III (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 172J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 230J Violin: Performance III (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 180J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 223J Double Bass: Primary III (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 173J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 231J Viola: Performance III (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 181J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 232J Violoncello: Performance III (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 182J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 233J Double Bass: Performance III (3) Individual instruction in double bass one hour per week. For B.Mus. double bass majors.

Double Bass: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 183J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 270J Violin: Primary IV (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students .

Violin: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 220J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 272J Violoncello: Primary IV (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 222J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 271J Viola: Primary IV (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 221J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 273J Double Bass: Primary IV (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 223J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 280J Violin: Performance IV (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 230J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 282J Violoncello: Performance IV (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 232J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 281J Viola: Performance IV (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 231J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 283J Double Bass: Performance IV (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 233J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 321J Viola: Primary V (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 271J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 320J Violin: Primary V (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 270J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 322J Violoncello: Primary V (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 272J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 330J Violin: Performance V (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 280J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 323J Double Bass: Primary V (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 273J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 331J Viola: Performance V (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 281J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 332J Violoncello: Performance V (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 282J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 370J Violin: Primary VI (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 320J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 333J Double Bass: Performance V (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 283J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 371J Viola: Primary VI (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 322J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 372J Violoncello: Primary VI (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 322J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 373J Double Bass: Primary VI (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 323J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 380J Violin: Performance VI (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 330J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 382J Violoncello: Performance VI (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 332J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 381J Viola: Performance VI (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 331J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 383J Double Bass: Performance VI (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 333J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 421J Viola: Primary VII (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 371J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 420J Violin: Primary VII (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 370J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 422J Violoncello: Primary VII (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 372J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 423J Double Bass: Primary VII (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 373J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 431J Viola: Performance VII (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 381J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 430J Violin: Performance VII (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 380J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 432J Violoncello: Performance VII (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 382J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 470J Violin: Primary VIII (2) Individual instruction in violin one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violin: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 420J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 433J Double Bass: Performance VII (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 383J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 471J Viola: Primary VIII (2) Individual instruction in viola one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Viola: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 421J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 472J Violoncello: Primary VIII (2) Individual instruction in violoncello one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Violoncello: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 422J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 473J Double Bass: Primary VIII (2) Individual instruction in double bass one hour per week. For School of Music B.A. and B.S. majors; other qualified students.

Double Bass: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 423J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 480J Violin: Performance VIII (3) Individual instruction in violin one hour per week. For B.Mus. violin performance majors.

Violin: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 430J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 481J Viola: Performance VIII (3) Individual instruction in viola one hour per week. For B.Mus. viola performance majors.

Viola: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 431J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 483J Double Bass: Performance VIII (3) Individual instruction in double bass one hour per week. For B.Mus. double bass performance majors.

Double Bass: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 433J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - String (STRNG)

STRNG 482J Violoncello: Performance VIII (3) Individual instruction in violoncello one hour per week. For B.Mus. violoncello performance majors.

Violoncello: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: STRNG 432J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 100J (GA) Voice: Secondary (1 per semester, maximum of 8) Individual instruction in voice one-half hour per week.

VOICE 100J Voice: Secondary (1 per semester/maximum of 8)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to present and apply basic principles of singing. Students learn songs, and address topics such as posture, breathing, tone production, expressiveness, and vocal health. Objectives are proficiency of breath management, a resonant vocal timbre, and effective communication in song. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible writing or listening assignments, and a possible studio recital, The course is offered every semester. The maximum enrollment is 30 per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 110J (GA) Voice: Secondary (2 per semester, maximum of 16) Individual instruction in voice one hour per week.

VOICE 110J Voice: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to present and apply basic principles of singing. Students learn songs, and address topics such as posture, breathing, tone production, expressiveness, and vocal health. Objectives are proficiency of breath management, a resonant vocal timbre, and effective communication in song. Evaluation is based on accuracy of music learning, improvement in technique and expressiveness, possible writing or listening assignments, and a possible studio recital. The course is offered every semester. The maximum enrollment is 3 per semester.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 120J Voice: Primary I (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 130J Voice: Performance I (3) Individual instruction in voice one hour per week. For B.Mus voice performance majors.

Voice: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury permission

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 170J Voice: Primary II (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 120J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 180J Voice: Performance II (3) Individual instruction in voice one hour per week. For B.Mus voice performance majors.

Voice: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 130J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 212J Music Theatre Voice I (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.

Music Theatre Voice I (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 220J Voice: Primary III (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 170J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 262J Music Theatre Voice II (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.

Music Theatre Voice II (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 230J Voice: Performance III (3) Individual instruction in voice one hour per week. For B.Music voice performance majors.

Voice: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 180J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 270J Voice: Primary IV (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 220J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 280J Voice: Performance IV (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.

Voice: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 230J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 320J Voice: Primary V (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 270J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 312J Music Theatre Voice III (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.

Music Theatre Voice III (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 330J Voice: Performance V (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.

Voice: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 280J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 370J Voice: Primary VI (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 320J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 362J Music Theatre Voice IV (1) Individual instruction in voice. Intended for Theatre Arts BFA-Music Theatre Option students.

Music Theatre Voice IV (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: acceptance into program by faculty jury and successful completion of MUSIC 113-114

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 380J Voice: Performance VI (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.

Voice: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 330J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 412J Musical Theatre Voice V (2) Individual instruction in voice. Intended for Theatre BFA in Music Theatre students.

VOICE 412J Musical Theatre Voice V (2)

VOICE 412J continues to develop a vocal approach and technique to musical theatre repertoire. It is required of fourth-year musical theatre students. All aspects of vocal production are explored. The voice sequence is a required element of the B.F.A. musical theatre training program. Grading will be based on attendance, preparation, and attitude. These are all critical factors for entering the profession and for successfully completing this course. Deadlines and appointments must be kept. Students must do adequate outside preparation. VOICE 412J is a requirement for the B.F.A. in musical theatre. It is offered every fall semester with an enrollment of approximately 15 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: admission into Theatre BFA in Musical Theatre

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 420J Voice: Primary VII (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 370J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 430J Voice: Performance VII (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.

Voice: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 380J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 462J Musical Theatre Voice VI (2) Individual instruction in voice. Intended for Theatre BFA in Music Theatre students.

VOICE 462J Musical Theatre Voice VI (2)

VOICE 462J continues to develop a vocal approach and technique to musical theatre repertoire studied in Musical Theatre Voice V. It is required of fourth-year musical theatre students. All aspects of vocal production are explored. The voice sequence is a required element of the B.F.A musical theatre training program. Grading will be based on attendance, preparation, and attitude. These are all critical factors for entering the profession and for successfully completing this course. Deadlines and appointments must be kept. Students must do adequate outside preparation. This course is a requirement for the B.F.A. in musical theatre. It is offered every spring semester with an enrollment of approximately 15.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: Admission into Theatre BFA in Musical Theatre

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 470J Voice: Primary VIII (2) Individual instruction in voice one hour per week. For School of Music B.A. and B.S. majors.

Voice: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 420J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Voice (VOICE)

VOICE 480J Voice: Performance VIII (3) Individual instruction in voice one hour per week. For B.Mus. voice performance majors.

Voice: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: VOICE 430J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 100J (GA) Flute: Secondary (1 per semester, maximum of 8) Individual instruction in flute one-half hour per week. For both music and non-music majors.

WWNDS 100J Flute: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, the development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 101J (GA) Oboe: Secondary (1 per semester, maximum of 8) Individual instruction in oboe one-half hour per week. For both music and non-music students.

WWNDS 101J OBOE: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 102J (GA) Clarinet: Secondary (1 per semester, maximum of 8) Individual instruction in clarinet one-half hour per week. For both music and non-music students.

WWNDS 102J Clarinet: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 103J (GA) Bassoon: Secondary (1 per semester, maximum of 8) Individual instruction in bassoon one-half hour per week. For both music and non-music majors.

WWNDS 103J Bassoon: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 104J (GA) Saxophone: Secondary (1 per semester, maximum of 8) Individual instruction in saxophone one-half hour per week. For both music and non-music majors.

WWNDS 104J Saxophone: Secondary (1 per semester/maximum of 8) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 110J (GA) Flute: Secondary (2 per semester, maximum of 16) Individual instruction in flute one hour per week. For both music and non-music majors.

WWNDS 110J Flute: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 111J (GA) Oboe: Secondary (2 per semester, maximum of 16) Individual instruction in oboe one hour per week. For both music and non-music students.

WWNDS 111J OBOE: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward the mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 112J (GA) Clarinet: Secondary (2 per semester, maximum of 16) Individual instruction in clarinet one hour per week. For both music and non-music students.

WWNDS 112J Clarinet: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 114J (GA) Saxophone: Secondary (2 per semester, maximum of 16) Individual instruction in saxophone one hour per week. For both music and non-music majors.

WWNDS 114J Saxophone: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission of the instructor, depending on studio enrollments and availability of staff.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 113J (GA) Bassoon: Secondary (2 per semester, maximum of 16) Individual instruction in bassoon one hour per week. For both music and non-music majors.

WWNDS 113J Bassoon: Secondary (2 per semester/maximum of 16) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

Individualized instruction will guide the student toward mastery of the instrument, the study of repertoire, development of interpretive insights, and acquisition of both tonal and technical command. Skill building will enable the student to be active as a performer, participating in Penn State ensembles by competitive audition. Evaluation of the student's progress will be graded by the instructor according to the criteria stated in the course syllabus and will include: preparation of weekly assignments; solo and/or ensemble performances as assigned; attendance at recitals, concerts, and masterclasses, as assigned; acquisition of assigned materials (music, books, etc.), essential accessories (metronome, tuner, etc.); attendance at lessons (as stipulated in the course syllabus). The course is offered fall and spring semesters by permission.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004
Prerequisite: permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 120J Flute: Primary I (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 121J Oboe: Primary I (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 122J Clarinet: Primary I (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 123J Bassoon: Primary I (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 124J Saxophone Primary I (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone Primary I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 130J Flute: Performance I (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 131J Oboe: Performance I (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 132J Clarinet: Performance I (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.

Clarinet: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 133J Bassoon: Performance I (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 134J Saxophone: Performance I (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: acceptance into program by faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 170J Flute: Primary II (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 120J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 172J Clarinet: Primary II (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 122J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 171J Oboe: Primary II (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 121J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 173J Bassoon: Primary II (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 123J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 174J Saxophone: Primary II (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 124J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 180J Flute: Performance II (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 130J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 181J Oboe: Performance II (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 131J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 182J Clarinet: Performance II (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinetmajors.

Clarinet: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 132J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 184J Saxophone: Performance II (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 134J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 183J Bassoon: Performance II (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 133J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 220J Flute: Primary III (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 170J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 222J Clarinet: Primary III (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 172J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 221J Oboe: Primary III (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 171J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 223J Bassoon: Primary III (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 173J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 224J Saxophone: Primary III (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary III (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 174J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 231J Oboe: Performance III (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 181J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 230J Flute: Performance III (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 180J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 232J Clarinet: Performance III (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.

Clarinet: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 182J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 233J Bassoon: Performance III (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 183J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 234J Saxophone: Performance III (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 184J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 270J Flute: Primary IV (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 220J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 272J Clarinet: Primary IV (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 222J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 271J Oboe: Primary IV (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 221J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 273J Bassoon: Primary IV (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 223J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 274J Saxophone: Primary IV (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary IV (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 224J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 280J Flute: Performance IV (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 230J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 281J Oboe: Performance IV (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 231J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 282J Clarinet: Performance IV (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.

Clarinet: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 232J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 283J Bassoon: Performance IV (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 233J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 284J Saxophone: Performance IV (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance IV (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 234J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 320J Flute: Primary V (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 270J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 322J Clarinet: Primary V (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 272J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 321J Oboe: Primary V (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 271J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 323J Bassoon: Primary V (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 273J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 324J Saxophone: Primary V (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary V (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 274J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 330J Flute: Performance V (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 280J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 331J Oboe: Performance V (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 281J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 332J Clarinet: Performance V (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinetmajors.

Clarinet: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 282J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 333J Bassoon: Performance V (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 283J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 370J Flute: Primary VI (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 320J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 334J Saxophone: Performance V (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance V (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 284J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 371J Oboe: Primary VI (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 321J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 373J Bassoon: Primary VI (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 323J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 372J Clarinet: Primary VI (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 322J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 374J Saxophone: Primary VI (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary VI (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 324J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 380J Flute: Performance VI (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 330J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 382J Clarinet: Performance VI (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.

Clarinet: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 332J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 381J Oboe: Performance VI (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 331J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 383J Bassoon: Performance VI (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 333J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 420J Flute: Primary VII (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 370J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 384J Saxophone: Performance VI (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance VI (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 334J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 421J Oboe: Primary VII (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 371J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 422J Clarinet: Primary VII (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 372J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 424J Saxophone: Primary VII (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 374J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 423J Bassoon: Primary VII (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary VII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 373J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 430J Flute: Performance VII (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 380J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 432J Clarinet: Performance VII (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.

Clarinet: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 382J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 431J Oboe: Performance VII (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 381J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 433J Bassoon: Performance VII (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 383J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 470J Flute: Primary VIII (2) Individual instruction in flute one hour per week. For School of Music B.A. and B.S. majors.

Flute: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 420J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 434J Saxophone: Performance VII (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance VII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 384J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 471J Oboe: Primary VIII (2) Individual instruction in oboe one hour per week. For School of Music B.A. and B.S. majors.

Oboe: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 421J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 472J Clarinet: Primary VIII (2) Individual instruction in clarinet one hour per week. For School of Music B.A. and B.S. majors.

Clarinet: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 422J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 473J Bassoon: Primary VIII (2) Individual instruction in bassoon one hour per week. For School of Music B.A. and B.S. majors.

Bassoon: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 423J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 474J Saxophone: Primary VIII (2) Individual instruction in saxophone one hour per week. For School of Music B.A. and B.S. majors.

Saxophone: Primary VIII (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 424J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 480J Flute: Performance VIII (3) Individual instruction in flute one hour per week. For B.Mus. flute performance majors.

Flute: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 430J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 481J Oboe: Performance VIII (3) Individual instruction in oboe one hour per week. For B.Mus. oboe majors.

Oboe: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 431J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 482J Clarinet: Performance VIII (3) Individual instruction in clarinet one hour per week. For B.Mus. clarinet majors.

Clarinet: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 432J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 483J Bassoon: Performance VIII (3) Individual instruction in bassoon one hour per week. For B.Mus. bassoon performance majors.

Bassoon: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 433J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music - Woodwinds (WWNDS)

WWNDS 484J Saxophone: Performance VIII (3) Individual instruction in saxophone one hour per week. For B.Mus. saxophone performance majors.

Saxophone: Performance VIII (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: WWNDS 434J and permission of faculty jury

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Music Education (MU ED)

MU ED 440 Music Learning and Development (2) Psychological principles related to music learning processes and applications of those to teaching music.

Music Learning and Development (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nanofabrication Manufacturing Technology (NMT)

NMT 210W Introduction to Nanofabrication Manufacturing Technology (3) This course provides an overview of basic Nanofabrication Manufacturing Technology for Engineering and Technology students. The course will give the student an overview of atomic physics and the use of atoms to build devices and machines.

NMT 210W Introduction to Nanofabrication Manufacturing Technology (3)

This course provides an overview of basic Nanofabrication Manufacturing Technology (NMT) for Engineering and Technology students. The course will give the students an overview of atomic physics and the use of atoms to build devices and machines. Students will study the NMT industry and learn about applications in MEMS, bionanofab technology, and nanochemical applications. Internet resources will be used extensively in this course to aid in instruction. Semiconductors will be introduced and the student will learn about PN junctions, bipolar-, and field effect transistor applications. Included in the course are three project papers and eight hands-on lab experiments. Each lab experiment will require a formal written report. Computer usage will be stressed in both the lectures and labs. Students will look at transistors using PSPICE models and will use LASI to design a simple CMOS inverter.

The student will keep an Engineering Notebook for historical reference and documentation validating the steps and procedures used during the labs. In addition, the student will write seven engineering lab reports (six of these will be written as individual reports, one will be written as a team report). A research paper on the topic of nanofabrication technology is also required.

Maximum enrollment for NMT 210W is set at 25 students per section. In most cases, the number of sections at each location will be one per semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: E E T 101
Concurrent: STAT 200 CHEM 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nanofabrication Manufacturing Technology (NMT)

NMT 250 Introduction to Nanotechnology Quality Control and Quality Assurance (1) Overview of basic quality control and quality assurance methods used by the Nanotechnology industry.

NMT 250 Introduction to Nanotechnology Quality Control and Quality Assurance (1)

This course provides an overview of basic quality control and quality assurance for Nanomanufacturing Technology students. Students will obtain fundamental understanding of modern statistical quality control methods used by industry. The last four weeks of the course will cover the concepts, principles, procedures, statistical tools, and computations used to analyze and maintain statistical control of nanofabrication manufacturing and production processes and systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: STAT 200, NMT 210W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 101 Introduction to Naval Science (2) Introduction to naval organization, customs, military law, ships, aircraft, and Marine Corps and Navy career paths.

Introduction to Naval Science (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 204 Leadership and Management I (2) Managerial thought and behavioral theories, with emphasis on how they apply to the naval organization.

Leadership and Management I (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 102 Sea Power and Maritime Affairs (3) Historical evolution of sea power and its effects on world history; current U.S. maritime strategy for employment of naval forces.

Sea Power and Maritime Affairs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 205 Navigation (3) Theory and principles of all types of piloting and navigation, including a practicum emphasizing correct documentation and plotting.

Navigation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 313 Marine Corps Leadership Theory and Techniques (2) Introduction to Marine Corps leadership theory and techniques and their application to military-related practical skills and subject matter.

Marine Corps Leadership Theory and Techniques (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 311 Evolution of Warfare (2) Survey of development of military strategy, tactics, principles of war, and weaponry through the ages and recent U.S. applications.

Evolution of Warfare (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 322 Naval Ships Systems I--Naval Engineering (3.5) Principles and applications of engineering concepts to ship construction, stability, and propulsion and auxiliary systems.

Naval Ships Systems I--Naval Engineering (3.5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 401 Naval Operations and Seamanship (3) Introduction to naval operations; the theory and principles of the rules of the road; use of the maneuvering board.

Naval Operations and Seamanship (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: NAVSC 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 323 Naval Ships Systems II--Weapons (3) An analysis of electromagnetic wave theory, principles of underwater sound propagation, electro-optic theory, and weapons control systems.

Naval Ships Systems II--Weapons (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: NAVSC 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 402 Leadership and Management II (2) The Navy's Resource Management Program (personnel management), counseling techniques, military justice, prevention of substance abuse, and naval correspondence and publications.

Leadership and Management II (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: NAVSC 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Navy (NAVSC)

NAVSC 411 Amphibious Warfare (2) A historical survey and evaluation of twentieth-century amphibious warfare operations.

Amphibious Warfare (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: 6 credits of Navy ROTC courses

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 001S Atomic Adventures: First-Year Seminar (1) First-year seminar exploring the interesting and exciting world of nuclear science and its applications.

NUC E 001S Atomic Adventures: First-Year Seminar (1)
(FYS)

The overall objectives of Engineering First-Year Seminars are to engage students in learning about engineering and orient them to the scholarly community in a way that will bridge to, and enhance their benefit from, later experiences in the College and the University.

Seminars adhere to the two specific goals identified below by including one or more of the strategies following each goal:

1. Introduce students to a specific field, or encourage their exploration of a number of fields, of study in engineering;
 familiarization with the engineering majors and career options and with the objectives of general education and other components of the curriculum
 development of a particular topic, contemporary issue, emerging or interdisciplinary field of concentration, or professional responsibilities in engineering
 plant tours or demonstrations of engineering facilities

2. Acquaint students with tools, resources and opportunities available to them in the Department(s), College and University
 exposure to learning support services and career development resources

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 002S PSU Lion Loop: First-Year Seminar (1) First-year seminar involving hands-on work and learning using the PSU Lion Loop research project.

NUC E 002S PSU Lion Loop: First-Year Seminar (1)
(FYS)

The overall objectives of Engineering First-Year Seminars are to engage students in learning about engineering and orient them to the scholarly community in a way that will bridge to, and enhance their benefit from, later experiences in the College and the University.

Seminars adhere to the two specific goals identified below by including one or more of the strategies following each goal:

1) Introduce students to a specific field, or encourage their exploration of a number of fields, of study in engineering;
familiarization with the engineering majors and career options and with the objectives of general education and other components of the curriculum
development of a particular topic, contemporary issue, emerging or interdisciplinary field of concentration, or professional responsibilities in engineering
plant tours or demonstrations of engineering facilities

2) Acquaint students with tools, resources and opportunities available to them in the Department(s), College and University
exposure to learning support services and career development resources

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 003S Power Plants and Their Simulation: First-Year Seminar (1) First-year seminar using modern computer tools applied to power plant simulation.

NUC E 003S Power Plants and Their Simulation: First-Year Seminar (1) (FYS)

The overall objectives of Engineering First-Year Seminars are to engage students in learning about engineering and orient them to the scholarly community in a way that will bridge to, and enhance their benefit from, later experiences in the College and the University.

Seminars adhere to the two specific goals identified below by including one or more of the strategies following each goal:

1) Introduce students to a specific field, or encourage their exploration of a number of fields, of study in engineering;
familiarization with the engineering majors and career options and with the objectives of general education and other components of the curriculum
development of a particular topic, contemporary issue, emerging or interdisciplinary field of concentration, or professional responsibilities in engineering
plant tours or demonstrations of engineering facilities

2) Acquaint students with tools, resources and opportunities available to them in the Department(s), College and University
exposure to learning support services and career development resources

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 301 Fundamentals of Reactor Physics (4) Nuclear reactions and interactions relevant to nuclear engineering including fission, cross-sections, reaction rate calculations, energy depositions rates, and radioactive decay.

Fundamentals of Reactor Physics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: MATH 230, MATH 251, PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 302 Introduction to Reactor Design (4) Static and dynamic reactor theory applied to basic reactor design problems.

Introduction to Reactor Design (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: NUC E 301, NUC E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 310W Issues in Nuclear Engineering (2) Societal and technical issues facing nuclear engineers, including safety, operations, waste, regulation, public acceptance, economics, ethics, and radiation.

Issues in Nuclear Engineering (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 309 Analytical Techniques for Nuclear Concept (3) This course is an introduction to many of the analytical techniques used in the nuclear engineering discipline.

Analytical Techniques for Nuclear Concept (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: MATH 230, MATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 401 Introduction to Nuclear Engineering (3) Fundamental concepts of nuclear engineering, including fission, reactor theory, shielding, and radioisotopes; intended for other than nuclear engineering students.

Introduction to Nuclear Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: MATH 250 orMATH 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 403 Advanced Reactor Design (3) Physical principles and computational methods for reactor analysis and design. Multigroup diffusion theory; determination of fast and thermal group constants; cell calculations for heterogeneous core lattices.

Advanced Reactor Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: NUC E 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 405 (CHEM 406) Nuclear and Radiochemistry (3) Theory of radioactive decay processes, nuclear properties and structure, nuclear reactions, interactions of radiation with matter, biological effects of radiation.

Nuclear and Radiochemistry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: CHEM 452 orPHYS 237 orNUC E 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 406 (M E 406) Introduction to Statistical Thermodynamics (3) Statistical description of systems composed of large numbers of particles in the context of classical and quantum mechanics; basic concepts of probability theory and thermodynamics as they relate to statistical mechanics.

NUC E (M E) 406 Introduction to Statistical Thermodynamics (3)

This course is an introduction to probabilistic and statistical concepts in the physical sciences, which we refer to as "statistical thermodynamics." In areas such as design and processing of electronic devices, materials engineering, chemical engineering, and combustion engineering, the science of statistical mechanics is a particularly necessary, powerful, and important tool for the engineer. The underlying foundation of statistical mechanics is developed by (1) reviewing the basic ideas from probability theory, (2) deriving the binomial, Poisson, and Gaussian probability distributions, and (3) using these models to analyze several examples taken from science and engineering. To make a connection between macroscopic quantities and the corresponding probabilistic representation, classical thermodynamics is reviewed using the internal energy, entropy, and free energy functions in the context of the first and second laws. Statistical mechanics for classical and quantum-mechanical systems is presented via the micro-canonical, canonical, and grand canonical ensembles using the associated partition functions. During the syntheses of ideas, applications from various branches of science are presented. Some examples of applications are the Einstein crystal, the Debye crystal, the ideal gas, and black body radiation.

This course covers the following program objectives:
1. Demonstrate knowledge of basic chemistry and physics.
2. Demonstrate a knowledge of atomic and nuclear physics.
3. Demonstrate a knowledge of thermodynamics, heat transfer, and fluid flow.
4. Understand and apply the basic concepts of particle transport.
5, Understand and apply thermodynamics and heat transfer principles to the analysis of nuclear power components and systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 300 orM E 201 orM E 202 orCH E 303;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 408 Radiation Shielding (3) Radiation sources in reactor systems; attenuation of gamma rays and neutrons; point kernel methods; deep penetration theories; Monte Carlo methods.

Radiation Shielding (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1985
Prerequisite: NUC E 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 409 (MATSE 409) Nuclear Materials (3) Nuclear reactor materials: relationship between changes in material properties and microstructural evolution of nuclear cladding and fuel under irradiation.

NUC E (MATSE) 409 Nuclear Materials (3)

NUC E/MATSE 409 provides a background on the types of materials used in nuclear reactors and their response to neutron irradiation. Most of the materials problems encountered in the operation of nuclear power reactors for energy production are discussed here. The objective of the course is to give nuclear engineering students a background in materials, so they understand the limitations put on reactor operations and reactor design by materials performance. In the first part of the course, we review basic concepts of physical metallurgy, to develop a mechanistic and microstructurally based view of material properties. In the second part of the course, we present the methods to calculate displacement damage to the material produced by exposure to neutron irradiation. The microstructural evolution that results from the reactor exposure (including radiation damage and defect cluster evolution, and changes) is described. The aim is to create a linkage between these changes at the atomistic level and the changes in macroscopic behavior of the material. Special attention is given to property changes that affect fuel performance and operational safety. Both mathematical methods and experimental techniques are emphasized so that theoretical modeling is instructed by experimental data. Students use the TRIM and SPECTER codes to quantitatively evaluate neutron damage, as well as learn simple analytical models that describe microstructural evolution and property changes under irradiation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 428 Radioactive Waste Control (3) Nature, sources, and control of radioactive wastes; theory and practice of disposal processes.

Radioactive Waste Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: NUC E 301 orNUC E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 420 Radiological Safety (3) Ionizing radiation, biological effects, radiation measurement, dose computational techniques, local and federal regulations, exposure control.

Radiological Safety (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: NUC E 301 orNUC E 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 430 Design Principles of Reactor Systems (3) Nuclear power cycles; heat removal problems; kinetic behavior of nuclear systems; material and structural design problems.

Design Principles of Reactor Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 410;NUC E 301 orNUC E 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 444 Nuclear Reactor Operations Laboratory (1) Correlation of reactor physics and reactor theory with practical reactor situations that will be controlled by the student.

Nuclear Reactor Operations Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: or concurrent:NUC E 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 431W Nuclear Reactor Core Design Synthesis (4) Technical and economic optimization of nuclear systems.

Nuclear Reactor Core Design Synthesis (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: ENGL 202C;NUC E 403, NUC E 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 445 Nuclear Digital Instrumentation (3) Interfacing nuclear instruments to microprocessors and computers.

Nuclear Digital Instrumentation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 446 (M E 446) Reliability and Risk Concepts in Design (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.

NUC E (M E) 446 Reliability and Risk Concepts in Design (3)

The course covers materials reliability in design including mechanical, electrical and system aspects. Five main topics will be studied. The course starts by introducing engineering risk and reliability, highlighting its interdisciplinary nature and its significance in system design. The concept of reliability as a probability is introduced and the basic laws of probability are reviewed. The discussion centers on the mathematics needed to understand and analyze complex systems including components in series and parallel. The topics include the independence, mutual exclusivity, truth tables and Venn diagrams. These concepts are then applied to simple systems consisting of one, two and three components in various configurations. The equivalency of the various methods is discussed. The effect of maintenance on a system’s reliability is presented along with discussions of various maintenance strategies. Then, the failure modes and effects analysis is introduced and examples discussed. The concept of fault trees and event trees and their application to reliability analysis are presented. Risk analysis is then introduced as a case study in the application of reliability analysis. A nuclear power plant system is analyzed to quantify the risk to the public from its operation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Fall 2010
Prerequisite: MATH 250 orMATH 251;STAT 401 orI E 424 orNUC E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 446 (M E 446) Reliability and Risk Concepts in Design (3) Introduction to reliability mathematics. Failure data collection and analysis. Components and systems reliability prediction. Effects of maintenance on reliability. Risk Analysis. Case studies in engineering applications.

NUC E (M E) 446 Reliability and Risk Concepts in Design (3)

The course covers materials reliability in design including mechanical, electrical and system aspects. Five main topics will be studied. The course starts by introducing engineering risk and reliability, highlighting its interdisciplinary nature and its significance in system design. The concept of reliability as a probability is introduced and the basic laws of probability are reviewed. The discussion centers on the mathematics needed to understand and analyze complex systems including components in series and parallel. The topics include the independence, mutual exclusivity, truth tables and Venn diagrams. These concepts are then applied to simple systems consisting of one, two and three components in various configurations. The equivalency of the various methods is discussed. The effect of maintenance on a system's reliability is presented along with discussions of various maintenance strategies. Then, the failure modes and effects analysis is introduced and examples discussed. The concept of fault trees and event trees and their application to reliability analysis are presented. Risk analysis is then introduced as a case study in the application of reliability analysis. A nuclear power plant system is analyzed to quantify the risk to the public from its operation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 250 orMATH 251;M E 345 orNUC E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 450 Radiation Detection and Measurement (3) Theory and laboratory applications of radiation detectors, including proton, neutron, charged particle detectors, NIM devices, and pulse-height analysis.

Radiation Detection and Measurement (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: NUC E 301 orNUC E 405;NUC E 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 451 Experiments in Reactor Physics (3) Acquisition and processing of nuclear and atomic data; application to nucleonic phenomena of importance in nuclear engineering.

Experiments in Reactor Physics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 212, NUC E 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 470 Power Plant Simulation (3) Basic knowledge necessary for intelligent simulation and interpretation of simulations of transients in nuclear power plants.

Power Plant Simulation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: M E 320, MATH 251, NUC E 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 490 (AERSP 490, E E 471) Introduction to Plasmas (3) Plasma oscillations; collisional phenomena; transport properties; orbit theory; typical electric discharge phenomena.

Introduction to Plasmas (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: E E 361 orPHYS 467

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 494H Senior Thesis (1-9) Students must have approval of a thesis adviser before scheduling this course.

NUC E 494H Senior Thesis (1-9)

All Schreyer Scholars are required to complete an undergraduate honors thesis. This work represents the culmination of a student's honors experience. Through the thesis, the student demonstrates a command of relevant scholastic work and a personal contribution to that scholarship.

The thesis project can take many forms - from laboratory experiments all the way to artistic creations. The thesis document captures the relevant background, methods and techniques, as well as describing the details of the completion of the individual project. Two Penn State faculty members judge the merits of this Scholar's honors thesis, the student's self-selected thesis supervisor and the department-selected honors adviser in the student's area of honors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Junior or senior status in the University Scholars Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 496 Independent studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 497A Fundamentals of Nuclear Engineering (3) An intensive course providing introduction to NucE to undergraduate co-op students, non-NucE graduate, and returning students.

Fundamentals of Nuclear Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 497A Fundamentals of Nuclear Engineering (3) An intensive course providing introduction to Nuclear Engineering to undergraduate co-op students, non-NucE graduate, and returning students.

Fundamentals of Nuclear Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nuclear Engineering (NUC E)

NUC E 497D Radiation Detection Measurement Lab (1) Theory and laboratory applications of radiation detectors, including proton, neutron, charged particle detectors, NIM devices, and pulse-height analysis.

Radiation Detection Measurement Lab (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 044 Introduction to Death Education (1) Educational and consumer aspects of dying and death from a health education perspective.

Introduction to Death Education (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 111 Nursing Roles (4) Introduction to associate degree nursing roles and nursing process.

NURS 111 Nursing Roles (4)

NURS 111 focuses on professional development which includes an introduction to associate degree nursing roles and nursing process. This course provides the student with in-depth study of health patterns, health perception, management, and self perception across the life span while utilizing the steps of the nursing process which include assessment, diagnosis, planning, implementation, and evaluation.

Evaluation methods include scheduled examinations, assessments, evaluation of preparatory clinical work, and criteria based mid-term and final clinical performance evaluations. The course consists of classroom and clinical evaluation with students completing nursing actions for adult clients in a variety of health care settings. The course is placed in the first semester of the first year of study. Upon completion of this course, the student will:

1. Identify the following basic concepts related to the individual: life span development, basic development, communications, relationships, basic needs, adaptation and diversity.

2. Identify physical and personal factors that contribute to a safe, therapeutic environment.

3. Describe basic concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing.

4. Recognize research as a theoretical basis for the use of the nursing process.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: or concurrent:NURS 112, BIOL 141;BIOL 142 orBIOL 129, HD FS 129 orPSYCH 212, ENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 111S Nursing Roles (4) Introduction to associate degree nursing roles and nursing process.

NURS 111S Nursing Roles (4)
(US;IL)

NURS 111S US;IL is an introduction to associate degree nursing roles and nursing process with an emphasis on societal norms and the multicultural influences on health care needs. It focuses on professional development which includes an introduction to associate degree nursing roles and nursing process and the need to appreciate the differences that exist among culturally diverse patient populations. This course provides the student with in-depth study of health patterns, cultural diversity, health perception, management, and self perception across the life span while utilizing the nursing process and clinical judgment. Upon completion of the course students will be able to meet the following objectives: identify the following basic concepts related to the individual: adaptation, basic development, basic needs, communication, diversity, life span development, and relationships; identify the individuals' unique physical and personal factors that contribute to a safe, therapeutic environment; describe basic concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing; provides basic care to clients applying the nursing process and is sensitive to different cultural values, traditions, beliefs and customs; and recognize research as a theoretical basis for the use of the nursing process. Teaching strategies include lecture, discussion, simulation laboratory and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: or concurrent:NURS 112, BIOL 141;BIOL 142 orBIOL 129, HD FS 129 orPSYCH 212, ENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 111S (US;IL) Nursing Roles (4) Introduction to nursing roles/process with emphasis on societal norms and multicultural influences on health care needs.

NURS 111S Nursing Roles (4)
(US;IL)

NURS 111S US;IL is an introduction to associate degree nursing roles and nursing process with an emphasis on societal norms and the multicultural influences on health care needs. It focuses on professional development which includes an introduction to associate degree nursing roles and nursing process and the need to appreciate the differences that exist among culturally diverse patient populations. This course provides the student with in-depth study of health patterns, cultural diversity, health perception, management, and self perception across the life span while utilizing the nursing process and clinical judgment. Upon completion of the course students will be able to meet the following objectives: identify the following basic concepts related to the individual: adaptation, basic development, basic needs, communication, diversity, life span development, and relationships; identify the individuals’ unique physical and personal factors that contribute to a safe, therapeutic environment; describe basic concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing; provides basic care to clients applying the nursing process and is sensitive to different cultural values, traditions, beliefs and customs; and recognize research as a theoretical basis for the use of the nursing process. Teaching strategies include lecture, discussion, simulation laboratory and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: admission to 2NURS major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 112 Health Patterns/Nursing Interventions (4) Emphasis on individual health patterns and selected nursing interventions.

NURS 112 Health Patterns/Nursing Interventions (4)

NURS 112 focuses on the study of individual health patterns and selected nursing interventions. This course provides the student with in-depth study of emphasized health patterns which include activity-exercise, nutritional-metabolic, pharmacological, interventions, elimination, and perioperative interventions. Students will be able to utilize the nursing process based on the client's individual health patterns and formulate appropriate nursing interventions. Teaching strategies include lecture, discussion and simulation laboratory and clinical experiences. This course builds and expands on the basic concepts of nursing practice that are introduced in NURS 111S US;IL. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: or concurrent:NURS 111, BIOL 141, BIOL 142 orBIOL 129, HD FS 129 orPSYCH 212, ENGL 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 112 Health Patterns/Nursing Interventions (4) Emphasis on individual health patterns and selected nursing interventions.

NURS 112 Health Patterns/Nursing Interventions (4)

NURS 112 focuses on the study of individual health patterns and selected nursing interventions. This course provides the student with in-depth study of emphasized health patterns which include activity-exercise, nutritional-metabolic, pharmacological, interventions, elimination, and perioperative interventions. Students will be able to utilize the nursing process based on the client's individual health patterns and formulate appropriate nursing interventions. Teaching strategies include lecture, discussion and simulation laboratory and clinical experiences. This course builds and expands on the basic concepts of nursing practice that are introduced in NURS 111S US;IL. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 111S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 113 Childbearing Family (4) Introduction to antepartum, intrapartum, postpartal, and neonatal nursing care.

NURS 113 Nursing Care During Childbearing Years (3)

NURS 113 focuses on the care of the childbearing family including prenatal, antepartal, postpartal, and neonatal periods. Upon completion of the course students will be able to meet the following objectives: describe concepts related to childbearing families: life span development, basic health needs, communications, relationships, adaptation and diversity; evaluate physical and personal factors as they contribute to a safe, therapeutic environment for childbearing families; describe common health patterns, and alterations in function for select childbearing families; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing while providing care to the childbearing family; use interpreted research related to specific client situations; and apply the nursing process in developing a plan of care for the childbearing family. Students will utilize the nursing process based on the client's individual health patterns and formulate appropriate nursing interventions. Teaching strategies include lecture, discussion, laboratory simulation and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 111, NURS 112, ENGL 015, HD FS 129 orPSYCH 212 Prerequisite or concurrent:BIOL 129 orBIOL 141;BIOL 142, PSYCH 100, SOC 001 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 113 Nursing Care During Childbearing Years (3) Emphasis on childbearing family through prenatal, intrapartal, postpartal and neonatal periods.

NURS 113 Nursing Care During Childbearing Years (3)

NURS 113 focuses on the care of the childbearing family including prenatal, antepartal, postpartal, and neonatal periods. Upon completion of the course students will be able to meet the following objectives: describe concepts related to childbearing families: life span development, basic health needs, communications, relationships, adaptation and diversity; evaluate physical and personal factors as they contribute to a safe, therapeutic environment for childbearing families; describe common health patterns, and alterations in function for select childbearing families; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing while providing care to the childbearing family; use interpreted research related to specific client situations; and apply the nursing process in developing a plan of care for the childbearing family. Students will utilize the nursing process based on the client's individual health patterns and formulate appropriate nursing interventions. Teaching strategies include lecture, discussion, laboratory simulation and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 114 Nursing Care During Childrearing Years (3) Emphasis on infancy through young adulthood with common and well- defined health problems, with integrated nursing content.

NURS 114 Nursing Care During Childrearing Years (3)

NURS 114 focuses on nursing care of the childrearing family with emphasis on child wellness and common health problems affecting children with a variety of health maintenance and/or acute and chronic health needs from infancy to young adulthood. Students will provide basic nursing care to children with basic and complex health care needs, apply concepts related to children's growth and development, learn communication skills appropriate to the development of the child, begin to develop effective interpersonal relationships with the family, identify norms and deviations in the health status of children, and function peripherally as a member of the multidisciplinary team. Upon completion of the course the student will be able to meet the following course objectives: evaluate physical and personal factors as they contribute to a safe, therapeutic environment for select pediatric clients and their families; describe common health patterns and alterations in function for select pediatric clients and families; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing while providing care to the childrearing family; use interpreted research related to specific pediatric client situations; and apply the nursing process in developing a plan of care for select pediatric clients and families. Teaching strategies include lecture, discussion, and laboratory simulation and clinical experiences. The course is limited to 2NURS majors; is taught one time per academic year; and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 114 Childrearing Family (4) Emphasis on infancy through young adulthood with common and well defined health problems, with integrated nursing content.

NURS 114 Nursing Care During Childrearing Years (3)

NURS 114 focuses on nursing care of the childrearing family with emphasis on child wellness and common health problems affecting children with a variety of health maintenance and/or acute and chronic health needs from infancy to young adulthood. Students will provide basic nursing care to children with basic and complex health care needs, apply concepts related to children's growth and development, learn communication skills appropriate to the development of the child, begin to develop effective interpersonal relationships with the family, identify norms and deviations in the health status of children, and function peripherally as a member of the multidisciplinary team. Upon completion of the course the student will be able to meet the following course objectives: evaluate physical and personal factors as they contribute to a safe, therapeutic environment for select pediatric clients and their families; describe common health patterns and alterations in function for select pediatric clients and families; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing while providing care to the childrearing family; use interpreted research related to specific pediatric client situations; and apply the nursing process in developing a plan of care for select pediatric clients and families. Teaching strategies include lecture, discussion, and laboratory simulation and clinical experiences. The course is limited to 2NURS majors; is taught one time per academic year; and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 111, NURS 112, ENGL 015, HD FS 129 orPSYCH 212, ENGL 015 Prerequisite or concurrent:BIOL 129 orBIOL 141;BIOL 142, PSYCH 100, SOC 001 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 115 Medications and the Elderly Client (1) Nursing implications of medication therapy with the elderly client.

Medications and the Elderly Client (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 116 Clinical Immersion I: Introduction to Concepts of Illness (2) Clinical immersion course that utilizes clinical experiences and seminars to develop clinical competency.

NURS 116 Clinical Immersion I: Introduction to Concepts of Illness (2)

NURS 116 is designed to further develop the nursing students’ skills in the delivery of direct patient care. Students will be placed in clinical settings where they will practice and develop their ability to utilize the nursing process through the use of assessment skills, clinical judgment, nursing interventions, medication administration, patient safety and patient education, and perioperative care of the surgical patient. In addition, students will explore introductory concepts of illness and pathophysiology that will lay a foundation of knowledge and skills necessary for nursing courses taken in the second level of the nursing major. These include processes of illness – cell injury, inflammation, pain, fever and healing; processes for illness prevention, protection, and homeostasis – immunity, fluid and electrolytes, acid-base balance; and concepts of disease manifestation – poor tissue oxygenation, circulatory perfusion and hemorrhagic shock, and altered glucose metabolism. The course is limited to 2NURS majors, is taught one time per academic year and has clinical sections of 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: NURS 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 200W Introduction to Nursing Research (3) Introduction to methods and philosophy of empirical inquiry as applied to research in nursing.

NURS 200W**NURS 200W Understanding and Applying Nursing Research (3)**

NURS 200W is the introduction to methods and philosophy of empirical inquiry as applied to research in nursing. The course is a writing intensive course with the goal to help the student write clearly and effectively while learning the basics of nursing research and its application to developing evidence based practice. Upon completion of this course the student will be able to: discuss the roles and responsibilities of the nurse as researcher in the clinical setting; identify criteria for the evaluation of research for applicability to evidence based clinical practice and optimum client care outcomes; introduce basic content relevant to the research process in nursing; identify similarities between the research process and the nursing process; identify the process by which a researchable problem is formulated.; provide an opportunity to formulate a problem for study; appraise current issues relevant to nursing research (including cultural diversity issues and ethics of conducting research); write directional hypotheses, null hypotheses, and questions that relate to a given research problem and demonstrate critical thinking; and conduct a research critique and evidence-based practice project on a given topic. Teaching strategies include lecture, selected readings, discussion, writing exercises, study guide exercises, audio visuals, internet/computer lab, group activities, active learning modules, interactive CD modules and research presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: STAT 200, NURS 215, NURS 225, NURS 230, NURS 351 ; orSTAT 200 andNURS 390 for NURN major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 200W Understanding and Applying Nursing Research (3) Introduction to methods and philosophy of empirical inquiry as applied to research in nursing and application to practice.

NURS 200W**NURS 200W Understanding and Applying Nursing Research (3)**

NURS 200W is the introduction to methods and philosophy of empirical inquiry as applied to research in nursing. The course is a writing intensive course with the goal to help the student write clearly and effectively while learning the basics of nursing research and its application to developing evidence based practice. Upon completion of this course the student will be able to: discuss the roles and responsibilities of the nurse as researcher in the clinical setting; identify criteria for the evaluation of research for applicability to evidence based clinical practice and optimum client care outcomes; introduce basic content relevant to the research process in nursing; identify similarities between the research process and the nursing process; identify the process by which a researchable problem is formulated.; provide an opportunity to formulate a problem for study; appraise current issues relevant to nursing research (including cultural diversity issues and ethics of conducting research); write directional hypotheses, null hypotheses, and questions that relate to a given research problem and demonstrate critical thinking; and conduct a research critique and evidence-based practice project on a given topic. Teaching strategies include lecture, selected readings, discussion, writing exercises, study guide exercises, audio visuals, internet/computer lab, group activities, active learning modules, interactive CD modules and research presentation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: STAT 200 orSTAT 250, NURS 225 ; orSTAT 200 orSTAT 250 andNURS 390 for NURN major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 203 (GHA) First Aid and CPR (3) An introductory first aid course designed to provide the basic knowledge and skills to provide assistance to someone injured/ill.

NURS 203 First Aid and CPR (3)
(GHA)

NURS 203 is an introductory first aid and safety course meeting the general education credit requirements for primarily non-nursing majors, such as Education and Special Education. It provides the basic knowledge and skills to provide the immediate care necessary to treat someone injured or suddenly ill until professional help arrives on the scene. NURS 203 incorporates discussion of infectious disease and the standard precautions needed by rescuers to prevent disease transmission. Students are evaluated through written testing and also practical skill testing. A card is issued to the student for First Aid and One-person CPR (not the Professional CPR or Healthcare Provider CPR) upon successful completion of the course. NURS 203 is offered in the fall, spring, and/or summer semester. The course objectives are as follows:

Upon completion of this course, students will be able to:
1. Explain how the EMS system works and how the professional rescuer's role in the EMS system differs from a citizen responder's role.

2. Identify guidelines to follow to ensure personal safety and the safety of others at the scene of an emergency.

3. Describe basic safety precautions to prevent disease transmission when providing first aid and CPR services.

4. Describe four emergency action principles.

5. Recognize breathing emergencies, such as a choking, and demonstrate the correct first aid care.

6. Identify the major risk factors for cardiovascular and cerebrovascular disease.

7. State the signs and symptoms of a heart attack and stroke.

8. Demonstrate the correct technique for providing cardiopulmonary resuscitation (CPR) to an adult.

9. Demonstrate how life-threatening bleeding can be controlled.

10. Demonstrate the correct care for various common injuries, including sprains and fractures.

11. State the signs and symptoms of common medical emergencies, including poisoning, seizures, and heat and cold emergencies.

12. Describe the first aid care for common medical emergencies.

13. Describe when and how to move a person in an emergency situation.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 205 Introduction to Pharmacological Concepts (3) Study of basic concepts of pharmacology and relevant nursing implications.

NURS 205 Introduction of Pharmacological Concepts (3)

NURS 205 is the introduction to pharmacological concepts and identifies the pharmacodynamics of major classifications of drugs. Prototypes, or original drug models from which subsequent types arise are summarized. This course is closely linked to pathophysiology, as most medications are administered based on a pathophysiologic condition. Pharmacologic principles covered in the course have practical application for students administering medications to clients in the clinical setting during the junior and senior years. Drug effects, side effects, contraindications, risks and adverse reactions are reviewed. Administration of the right drug to the right client with the right dose, time, and route is outlined with each medication classification. Recognition of the legal aspects as well as the nursing responsibilities relative to the administration of drugs is included in the course. The course includes a description of the process of drug development and evaluation as well as identification of research related to pharmacology as it influences nursing practice. Measures taken in the United States to insure drug safety are also described. Enrollment is limited to junior level nursing students or special permission from the instructor for non-nursing majors. The course is offered yearly during the fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; or approval of nursing program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 211 Patho/Nursing Interventions I (5) Emphasis on middle-aged adults. Develop expanding competencies in caring for clients with acute or chronic dysfunctional health patterns.

NURS 211 Pathophysiology I - Nursing Interventions (5)

NURS 211 focuses on nursing care of clients through the adult life span with acute or chronic dysfunctional health patterns involving respiratory, cardiac, and musculoskeletal impairment in need of medical and/or surgical intervention. Nursing strategies developed by the student consider the developmental stage, psychosocial needs and cultural sensitivity. Students develop and implement a plan of care that integrates nursing strategies and health teaching during the acute and rehabilitative period and evaluate care making appropriate recommendations and referrals to members of the healthcare team. Upon completion of the course, the student will be able to describe wellness-illness concepts of the individual, family and groups within the community related to life-span development, basic medical-surgical health needs, communications, relationship adaptation and diversity to clients with respiratory, cardiovascular, and musculoskeletal dysfunction; analyze the impact of physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community who experience respiratory, cardiovascular, and musculoskeletal dysfunction; analyze health needs and the actual and potential impact of these needs on the individual, family, and groups within the community for clients with respiratory, cardiovascular, and musculoskeletal dysfunction; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing for clients with respiratory, cardiovascular, and musculoskeletal dysfunction; demonstrate the application of interpreted research findings as a theoretical basis for the use of the nursing process in the care of the clients with respiratory, cardiovascular, and musculoskeletal dysfunction; integrate the nursing process to provide comprehensive care for select clients, families, and groups within the community for clients with respiratory, cardiovascular, and musculoskeletal dysfunction.
Teaching strategies include lecture, discussion and simulation laboratory and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 113, NURS 114 . Prerequisite or concurrent:MICRB 106, MICRB 107 Quantification elective

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 211 Pathophysiology I - Nursing Interventions (5) Caring for middle-aged adult with acute/chronic alterations in resp/cardio and musculoskeletal dysfunction.

NURS 211 Pathophysiology I - Nursing Interventions (5)

NURS 211 focuses on nursing care of clients through the adult life span with acute or chronic dysfunctional health patterns involving respiratory, cardiac, and musculoskeletal impairment in need of medical and/or surgical intervention. Nursing strategies developed by the student consider the developmental stage, psychosocial needs and cultural sensitivity. Students develop and implement a plan of care that integrates nursing strategies and health teaching during the acute and rehabilitative period and evaluate care making appropriate recommendations and referrals to members of the healthcare team. Upon completion of the course, the student will be able to describe wellness-illness concepts of the individual, family and groups within the community related to life-span development, basic medical-surgical health needs, communications, relationship adaptation and diversity to clients with respiratory, cardiovascular, and musculoskeletal dysfunction; analyze the impact of physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community who experience respiratory, cardiovascular, and musculoskeletal dysfunction; analyze health needs and the actual and potential impact of these needs on the individual, family, and groups within the community for clients with respiratory, cardiovascular, and musculoskeletal dysfunction; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing for clients with respiratory, cardiovascular, and musculoskeletal dysfunction; demonstrate the application of interpreted research findings as a theoretical basis for the use of the nursing process in the care of the clients with respiratory, cardiovascular, and musculoskeletal dysfunction; integrate the nursing process to provide comprehensive care for select clients, families, and groups within the community for clients with respiratory, cardiovascular, and musculoskeletal dysfunction.
Teaching strategies include lecture, discussion and simulation laboratory and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 116

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 212 Pathophysiology/Nursing Interventions II (4) Caring for middle-aged adults with acute or chronic dysfunctional health patterns involving nutritional, metabolic, reproductive, oncological and immunological impairment.

NURS 212 Pathophysiology II - Nursing Interventions (4)

NURS 212 focuses on nursing care of clients through the adult life span with acute or chronic dysfunctional health patterns involving nutritional, metabolic, reproductive, oncological and immunological impairment in need of medical and/or surgical intervention. Nursing strategies developed by the student consider the developmental stage, psychosocial needs and cultural sensitivity. Students develop and implement a plan of care that integrates nursing strategies and health teaching during the acute and rehabilitative period and evaluate care making appropriate recommendations and referrals to members of the healthcare team. Upon completion of the course, the student will be able to meet the following course objectives: describe wellness-illness concepts of the individual, family and groups within the community related to life-span development, basic medical-surgical health needs, communications, relationships, adaptation and diversity to clients with nutritional, metabolic, reproductive, oncological, and immunological impairment; analyze the impact of physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community who experience nutritional/metabolic reproductive, oncological, and immunological impairment; analyze health needs and the actual and potential impact of these needs on the individual, family, and groups within the community for clients with nutritional, metabolic, reproductive, oncological or immunological impairment; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing for clients with nutritional, metabolic, reproductive, oncological or immunological impairment; demonstrate the application of interpreted research findings as a theoretical basis for the use of the nursing process in the care of clients with nutritional, metabolic, reproductive, oncological and immunological impairment integrate the nursing process to provide comprehensive care for select clients, families, and groups with nutritional, metabolic, reproductive, oncological or immunological impairment within the community. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 113, NURS 114 . Prerequisite or concurrent:MICRO 106, MICRO 107 Quantification elective

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 212 Pathophysiology II - Nursing Interventions (4) Caring for middle-aged adults with acute/chronic alterations in metabolism, reproduction, oncology and immunology.

NURS 212 Pathophysiology II - Nursing Interventions (4)

NURS 212 focuses on nursing care of clients through the adult life span with acute or chronic dysfunctional health patterns involving nutritional, metabolic, reproductive, oncological and immunological impairment in need of medical and/or surgical intervention. Nursing strategies developed by the student consider the developmental stage, psychosocial needs and cultural sensitivity. Students develop and implement a plan of care that integrates nursing strategies and health teaching during the acute and rehabilitative period and evaluate care making appropriate recommendations and referrals to members of the healthcare team. Upon completion of the course, the student will be able to meet the following course objectives: describe wellness-illness concepts of the individual, family and groups within the community related to life-span development, basic medical-surgical health needs, communications, relationships, adaptation and diversity to clients with nutritional, metabolic, reproductive, oncological, and immunological impairment; analyze the impact of physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community who experience nutritional/metabolic reproductive, oncological, and immunological impairment; analyze health needs and the actual and potential impact of these needs on the individual, family, and groups within the community for clients with nutritional, metabolic, reproductive, oncological or immunological impairment; apply concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing for clients with nutritional, metabolic, reproductive, oncological or immunological impairment; demonstrate the application of interpreted research findings as a theoretical basis for the use of the nursing process in the care of clients with nutritional, metabolic, reproductive, oncological and immunological impairment integrate the nursing process to provide comprehensive care for select clients, families, and groups with nutritional, metabolic, reproductive, oncological or immunological impairment within the community. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 116

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 213 Pathophysiology/Nursing Interventions III (5) Care of adults with complex physical dysfunctional health patterns.

NURS 213 Pathophysiology III - Nursing Interventions (5)

NURS 213 focuses on nursing care of adults with acute and complex health problems related to sensory perceptual and neurological alterations, activity, exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity. The emphasis is on enhancing critical thinking skills necessary for making sound nursing judgments for clients with complex health problems. Nursing strategies developed by the student consider the developmental stage, psychosocial needs, cultural sensitivity, and the environment. Upon completion of the course, the student will be able to meet the following course objectives: evaluate the wellness-illness status of the individual, family, and groups within the community; modify physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community; support optimal levels of wellness of individuals, families, and groups within the community in relationship to sensory perceptual alterations, activity – exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity; integrate concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing in relationship to sensory perceptual alterations, activity – exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity; relate interpreted research findings to nursing practice situations in relation to alterations in sensory perceptual patterns, activity – exercise patterns, nutritional metabolic patterns, urinary patters, and skin integrity; value the nursing process as a means of providing a comprehensive plan of care for select clients, families, and groups within the community in relation to alterations in sensory perceptual patterns, activity – exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 211, NURS 212 . Prerequisite or concurrent: Arts elective and Humanities elective

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 213 Pathophysiology III - Nursing Interventions (5) Care for adults with complex physical and dysfunctional health patterns.

NURS 213 Pathophysiology III - Nursing Interventions (5)

NURS 213 focuses on nursing care of adults with acute and complex health problems related to sensory perceptual and neurological alterations, activity, exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity. The emphasis is on enhancing critical thinking skills necessary for making sound nursing judgments for clients with complex health problems. Nursing strategies developed by the student consider the developmental stage, psychosocial needs, cultural sensitivity, and the environment. Upon completion of the course, the student will be able to meet the following course objectives: evaluate the wellness-illness status of the individual, family, and groups within the community; modify physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community; support optimal levels of wellness of individuals, families, and groups within the community in relationship to sensory perceptual alterations, activity – exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity; integrate concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing in relationship to sensory perceptual alterations, activity – exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity; relate interpreted research findings to nursing practice situations in relation to alterations in sensory perceptual patterns, activity – exercise patterns, nutritional metabolic patterns, urinary patters, and skin integrity; value the nursing process as a means of providing a comprehensive plan of care for select clients, families, and groups within the community in relation to alterations in sensory perceptual patterns, activity – exercise patterns, nutritional metabolic patterns, urinary patterns, and skin integrity. The course is limited to 2NURS majors, is taught one time per academic year and clinical sections are limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 214W Psychiatric Nursing/Leadership Concepts (5) Care of older adults with complex emotional or physical dysfunctional health patterns while developing the management knowledge base.

NURS 214W Nursing Care of Clients with Psychiatric/Mental Health Disorders (3)

NURS 214W focuses on applying the principles and concepts of nursing in the care of adults with emotional and dysfunctional mental health patterns. Students will explore the social, cultural and legal issues that influence the care of the mentally ill. Emphasis is placed on exploring acute and chronic mental health disorders and interventions that apply use of therapeutic relationships and selected interventions for mental health crisis. Upon completion of the course, the student will be able to meet the following course objectives: evaluate the wellness-illness status of the individual, family, and groups within the community, in relationship to life-span development, complex medical-surgical and mental health needs, communications, relationships, adaptation and diversity in relation to psychiatric nursing; modify physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community in relation to psychiatric nursing; support optimal levels of wellness of individuals, families, and groups within the community in relation to psychiatric nursing; integrate concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing; relate interpreted research findings in relation to psychiatric nursing practice situations; value the nursing process as a means of providing a comprehensive plan of care for select clients, families, and groups within the community in relation to psychiatric nursing. Teaching strategies include lecture, discussion and laboratory simulations and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and has clinical sections of 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 211, NURS 212 . Prerequisie or concurrent: Arts elective and Humanities elective

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 214W Nursing Care of Clients with Psychiatric/Mental Health Disorders (3) Emphasis on care of adults with emotional or dysfunctional mental health patterns.

NURS 214W Nursing Care of Clients with Psychiatric/Mental Health Disorders (3)

NURS 214W focuses on applying the principles and concepts of nursing in the care of adults with emotional and dysfunctional mental health patterns. Students will explore the social, cultural and legal issues that influence the care of the mentally ill. Emphasis is placed on exploring acute and chronic mental health disorders and interventions that apply use of therapeutic relationships and selected interventions for mental health crisis. Upon completion of the course, the student will be able to meet the following course objectives: evaluate the wellness-illness status of the individual, family, and groups within the community, in relationship to life-span development, complex medical-surgical and mental health needs, communications, relationships, adaptation and diversity in relation to psychiatric nursing; modify physical, personal, social and group factors that contribute to safe, therapeutic care for select clients, families, and groups within the community in relation to psychiatric nursing; support optimal levels of wellness of individuals, families, and groups within the community in relation to psychiatric nursing; integrate concepts related to the role of the associate degree nurse as provider of care, manager of care, and member within the discipline of nursing; relate interpreted research findings in relation to psychiatric nursing practice situations; value the nursing process as a means of providing a comprehensive plan of care for select clients, families, and groups within the community in relation to psychiatric nursing. Teaching strategies include lecture, discussion and laboratory simulations and clinical experiences. The course is limited to 2NURS majors, is taught one time per academic year and has clinical sections of 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 212, PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 216 Clinical Immersion II: Introduction to Concepts of Leadership (2) Clinical immersion course focusing on patient care and clinical seminars to develop leadership and clinical competencies.

NURS 216 Clinical Immersion II: Introduction to Concepts of Leadership (2)

NURS 216 is designed as a capstone clinical course to develop the nursing students' skills in leadership and the management of the delivery of patient care. Students will be placed in clinical settings where they will practice and develop their assessment skills, clinical judgment, and nursing interventions for multiple patient assignments. In addition, students will explore introductory concepts of leadership and management of patient care that will develop their clinical practice in the professional role of the registered nurse. Concepts that will be explored include – advocacy, nursing code of ethics, standards of practice; patient safety, prioritization, managing time, delegation, and supervising care; communication, collaboration, conflict; disaster management, disease management, patient rights and advanced directives; and professional nursing as a career. Teaching strategies include laboratory simulation and clinical immersion. The course is limited to 2NURS majors; is taught one time per academic year; and has clinical sections limited to 8-10 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: NURS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 215 (US) Health: Introduction to Wellness (3) Designed to explore the wellness component of health, with emphasis on concepts of health, life-style patterns and nursing interventions.

NURS 215 Health: Introduction to Wellness (3)
(US)

NURS 215 is the first course in the baccalaureate nursing program and is the students' introduction to the profession of Nursing and the discipline of Nursing Science. Designed to explore the wellness component of health, the course emphasizes concepts of health and life-style patterns in relation to human developmental patterns and the nursing process. The course is didactic, with no clinical component, and is offered the fall semester of the sophomore year to the full enrollment of about 120 incoming nursing majors. In the following spring semester, nursing concepts introduced in Nursing 215 are expanded, more fully developed, and put into clinical practice in Nursing 230, Health: Nursing Process. Upon completion of Nursing 215, the student will be able to meet the following course objectives: (1) identify knowledge from nursing and contributing disciplines as a foundation for the understanding of wellness, (2) compare and contrast selected concepts of health, (3) identify factors which influence an individual's choices related to wellness, (4) identify the influence of lifestyle patterns and physical environmental factors on wellness, (5) explore nursing strategies for promoting health of families, (6) describe selected interventions used by nurses in assisting clients to achieve their desired health, (7) recognize the significance of research to the theoretical base of nursing practice related to wellness, (8) identify the role of the professional nurse as a health care provider. The concepts of diversity and cultural competence are emphasized and integrated within each major topic discussed. Teaching strategies emphasize inquiry-based learning and promote critical thinking. Teaching strategies include but are not limited to questioning, lecture, selected readings, exploration of internet sites on health and nursing, case studies, small group activities, group discussions, audiovisuals, role playing, journaling, self-reflection, and field trips. Evaluation methods may include quizzes; written assignments on nursing, health, and diversity; comprehensive midterm and final examinations; and a healthy lifestyle project.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: BIOL 129, BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 225 Health: Introduction to Illness (3) Designed to explore the illness component of health, with emphasis on the pathophysiological and psychosocial aspects.

NURS 225**NURS 225 Pathophysiology (3)**

NURS 225 is designed to explore the illness component of health, with emphasis on the pathophysiological and psychosocial aspects. The required 3-credit course is a foundational course for all succeeding nursing courses. Upon completion of this course, the student will be able to identify knowledge from nursing and contributing disciplines as a foundation for the understanding of illness; describe selected theories of stress and adaptation; identify basic pathophysiological and psychosocial aspects of illness; relate common manifestations of illness to the underlying pathophysiological and psychosocial processes; identify physical environmental factors associated with the development of illness; recognize the significance of research to the evidence base of nursing practice related to illness; recognize the different pathological changes related to human variation and lifespan. Teaching strategies include lecture, audiovisual, case studies/discussion. Enrollment is limited to sophomore level nursing students. The course is offered each spring semester and successful completion is required prior to advancing to the Junior level nursing courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: BIOL 129, BIOL 141, NURS 215, NURS 351 ; prerequisite or concurrent:MICRB 106, MICRB 107, CHEM 101 orCHEM 110, CHEM 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 225 Pathophysiology (3) Designed to explore the illness component of health with emphasis on the pathophysiological and psychosocial aspects.

NURS 225**NURS 225 Pathophysiology (3)**

NURS 225 is designed to explore the illness component of health, with emphasis on the pathophysiological and psychosocial aspects. The required 3-credit course is a foundational course for all succeeding nursing courses. Upon completion of this course, the student will be able to identify knowledge from nursing and contributing disciplines as a foundation for the understanding of illness; describe selected theories of stress and adaptation; identify basic pathophysiological and psychosocial aspects of illness; relate common manifestations of illness to the underlying pathophysiological and psychosocial processes; identify physical environmental factors associated with the development of illness; recognize the significance of research to the evidence base of nursing practice related to illness; recognize the different pathological changes related to human variation and lifespan. Teaching strategies include lecture, audiovisual, case studies/discussion. Enrollment is limited to sophomore level nursing students. The course is offered each spring semester and successful completion is required prior to advancing to the Junior level nursing courses.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 250, NURS 251, BIOL 129, BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 230 Health: Nursing Process (4) Analysis of the nursing process and introduction to clinical competencies and psychosocial skills.

NURS 230**NURS 230 Introduction to Fundamentals of Nursing (4)**

NURS 230 incorporates the analysis of the nursing process and introduction to clinical competencies and psychosocial skills. Students demonstrate beginning skills in utilizing the nursing process in the clinical setting to meet basic physical and psychosocial individual client needs. Upon completion of the course, students will be able to describe the characteristics of each step of the nursing process; demonstrate beginning skills in utilizing the nursing process in the clinical setting to meet basic physical and psychosocial individual client needs; demonstrate safe and competent performance of basic psychomotor nursing skills; demonstrate the ability to practice the principles of health and safety; perform basic interviewing techniques in collecting health status data; demonstrate communication skills that enable the student to establish appropriate interpersonal relationships; recognize variables influencing health status; recognize the psychosocial needs of individuals including basic needs related to loss, grief and the death experience; demonstrate a personal professional philosophy which addresses the individuality, dignity, values, beliefs, and culture of all clients; recognize the significance of evidence based practice as the basis for the use of the nursing process; recognize the importance of health teaching and health promotion across the life span; identify purposes and functions of appropriate community resources. Teaching strategies include lecture, discussion, audiovisuals, clinical experience, simulation laboratory demonstration and practice, self-learning medication and math mathematics packet. The course is offered each spring semester with an enrollment of approximately 120 nursing students divided into clinical sections limited to 10 students each.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 230 Introduction to the Fundamentals of Nursing (4) Introduction to the nursing process, clinical competencies and psychosocial skills.

NURS 230**NURS 230 Introduction to Fundamentals of Nursing (4)**

NURS 230 incorporates the analysis of the nursing process and introduction to clinical competencies and psychosocial skills. Students demonstrate beginning skills in utilizing the nursing process in the clinical setting to meet basic physical and psychosocial individual client needs. Upon completion of the course, students will be able to describe the characteristics of each step of the nursing process; demonstrate beginning skills in utilizing the nursing process in the clinical setting to meet basic physical and psychosocial individual client needs; demonstrate safe and competent performance of basic psychomotor nursing skills; demonstrate the ability to practice the principles of health and safety; perform basic interviewing techniques in collecting health status data; demonstrate communication skills that enable the student to establish appropriate interpersonal relationships; recognize variables influencing health status; recognize the psychosocial needs of individuals including basic needs related to loss, grief and the death experience; demonstrate a personal professional philosophy which addresses the individuality, dignity, values, beliefs, and culture of all clients; recognize the significance of evidence based practice as the basis for the use of the nursing process; recognize the importance of health teaching and health promotion across the life span; identify purposes and functions of appropriate community resources. Teaching strategies include lecture, discussion, audiovisuals, clinical experience, simulation laboratory demonstration and practice, self-learning medication and math mathematics packet. The course is offered each spring semester with an enrollment of approximately 120 nursing students divided into clinical sections limited to 10 students each.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 250, NURS 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 245 (GS) Violence and the Impact on Society (3) Interdisciplinary discussion of violence, its perpetrators, victims and its impact on society as well as possible solutions for violence reduction.

Violence and the Impact on Society (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 250 (US) Professional Role Dev I: Intro to Professional Issues in Nursing Practice and Nursing Informatics (2) Introduction to professional nursing practice and health-related issues emphasizing application of nursing informatics.

NURS 250 Professional Role Dev I: Intro to Professional Issues in Nursing Practice and Nursing Informatics (2) (US)

NURS 250US is the first course in the baccalaureate nursing program and introduces the students to the profession of nursing, the science of nursing and the use of information technology in health care. Designed to explore the wellness component of health and the role that informatics plays in the planning and delivery of health care. Upon completion of the course, the student will be able to meet the following course objectives: identify concepts of health and wellness that contribute to a foundation for nursing practice; discuss the influence of diversity on health care delivery systems and utilization of services; identify the roles of the professional nurse in the delivery of health care to patients, families, communities and populations; define elements that contribute to professional, evidence-based nursing practice; describe nursing theory and its relationship to the implementation of the nursing process; describe nursing informatics and its applications in the planning and delivery of health care; demonstrate beginning competency in utilizing information technology/nursing informatics in selected areas of nursing practice (e.g. research, patient care); apply concepts of ethical and legal considerations to the use of information technology/nursing informatics in health care. The concepts of diversity and cultural competence are emphasized and integrated within each major topic discussed. Teaching strategies emphasize inquiry-based learning, competency in informatics and promote critical thinking and include lecture, selected readings, exploration of internet sites on health and nursing, case studies, small group activities, group discussions, audiovisuals, role playing, journaling, self-reflection, and field trips. Enrollment is limited to sophomore-level nursing students. The course is offered fall semester.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 129, BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 251 Health Assessment (3) Designed to broaden the student's knowledge and skills in health assessment and physical examination across the lifespan.

NURS 251 Health Assessment (3)

NURS 251 is designed to broaden the student’s knowledge and skills in health assessment. The course enables the student to learn the methods of interviewing patients for completing a health history and the tools and techniques necessary to conduct a physical examination. Upon completion of this course, the student will be able to identify psychosocial, cultural and developmental factors affecting the health assessment process; demonstrate appropriate communication and interviewing techniques (including the use of new technology) with clients of all ages to facilitate the health assessment; demonstrate the ability to obtain a holistic, systematic and comprehensive health history and assessment; promote an environment of safety and caring to maximize client care outcomes; participate in education and activities that would promote cultural competency in nursing assessment; document the health history and current health status and the physical exam according to accepted standards; demonstrate competency in the use of inspection, palpation, percussion and auscultation when performing physical examination; demonstrate the ability to recognize and interpret signs of normal and abnormal health assessment findings; demonstrate critical thinking in the analysis of physical findings; demonstrate the ability to assess risk and promote security and safety in the clinical environment; recognize and document health assessment variations in clients throughout the life span. Teaching strategies include lecture, discussion, demonstration, hands-on practice, audiovisuals, simulation laboratory experiences. NURS 251 is the first required clinical course; is offered each fall semester; and is limited to nursing students. Clinical experience with sections of 14 students is conducted in the Simulation Laboratory where students receive the individualized attention to facilitate learning the techniques of physical assessment. Annual enrollment is approximately 120 students who must successfully complete the course to progress in the nursing program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 129, BIOL 141 ; orNURS 111 andNURS 112 for Associate Degree Majors; or eligibility for NURN major for RNs.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 297A Learning and Testing Strategies for Nursing Students (1) Assisting nursing students to evaluate personal current study habits, Learning styles, time allocation for class preparation/test taking effectiveness.

Learning and Testing Strategies for Nursing Students (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 2NURS Major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 301 Nursing Care of Client through the Adult Life Span requiring Medical Intervention (4) Practice and delivery of therapeutic nursing care to the adult patient in a variety of primarily medical settings.

NURS 301 Nursing Care of the Adult Client Requiring Medical-Surgical Intervention (4)

NURS 301 focuses on nursing care of adult client requiring medical-surgical intervention including. The course is placed in the junior year and is considered a beginning level medical-surgical course. Upon completion of this course, the student will be able to assess risks and promote the health and safety of the adult client throughout the lifespan; formulate nursing actions that are based on scientific principles and concepts from contributing disciplines in caring for the adult client to maximize outcomes; recognize pathophysiological and pharmacological aspects related to the nursing care of the adult medical surgical client; recognize the impact of stress on the adult client to incorporate health promotional and health educational activities; demonstrate the ability to communicate effectively across the health care delivery system; promote factors that create a culture of safety and caring for the adult medical-surgical client; utilize assessment data and technology to plan, implement and evaluate interventions specific to the health of the adult client; practice legal, ethical and professional accountability in the delivery of care to the adult client; demonstrate the ability to practice in a holistic, culturally competent and caring manner; demonstrate the ability to utilize evidence based practice and technology to assess and critically respond to the needs of the adult client; demonstrate with guidance the role of the professional nurse in caring for the adult client. Teaching strategies include lectures, discussions, audiovisuals, clinical experiences, and simulation laboratory. Clinical sections of 8-10 students spend 90 hours (2 credits) caring for medical surgical adult clients. Enrollment is approximately 120 nursing students split between University Park and Hershey Medical Center Campus and is offered fall semester of the junior year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 300H Honors Seminar in Nursing (3-12) Seminar activities on selected topics in nursing.

NURS 300H Honors Seminar in Nursing (3-12)

NURS 300H is an honors seminar course designed to follow the introduction to nursing research course for honor students only. Each class session focuses on a different element of the honors thesis proposal. Objectives for the course include: discussion of the role of health care research in the development of disciplinary knowledge; evaluation of researchable problems generated from clinical practice and existing literature; critiquing proposals for clinical studies; describing the ethical issues involved in clinical research, with emphasis on investigator responsibilities and participant's rights; discussing selected research designs used for clinical research; analyzing opportunities for replication of clinical studies; critiquing sampling techniques used in clinical research ; and analyzing strengths and weaknesses of data collection techniques commonly used in clinical research. The course is taught in the spring semester only and is open only to nursing honor students. Teaching strategies include lecture, student presentations, handouts, individual conferences, and written research consent forms and proposals. Evaluation criteria of the course include a critique, protection of human subject packet preparation, class participation, and at the end of this course, students will be expected to have a fully developed honors thesis proposal. Proposals will be evaluated on how convincing the argument is for the proposed research (literature review and identified knowledge gaps), the logical procession of the thinking, the clarity of the writing, and the significance of the proposed research to nursing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 admission to the Honors Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 301 Nursing Care of the Adult Client Requiring Medical-Surgical Intervention (4) Therapeutic nursing care of the adult client in a variety of primarily medical-surgical settings.

NURS 301 Nursing Care of the Adult Client Requiring Medical-Surgical Intervention (4)

NURS 301 focuses on nursing care of adult client requiring medical-surgical intervention including. The course is placed in the junior year and is considered a beginning level medical-surgical course. Upon completion of this course, the student will be able to assess risks and promote the health and safety of the adult client throughout the lifespan; formulate nursing actions that are based on scientific principles and concepts from contributing disciplines in caring for the adult client to maximize outcomes; recognize pathophysiological and pharmacological aspects related to the nursing care of the adult medical surgical client; recognize the impact of stress on the adult client to incorporate health promotional and health educational activities; demonstrate the ability to communicate effectively across the health care delivery system; promote factors that create a culture of safety and caring for the adult medical-surgical client; utilize assessment data and technology to plan, implement and evaluate interventions specific to the health of the adult client; practice legal, ethical and professional accountability in the delivery of care to the adult client; demonstrate the ability to practice in a holistic, culturally competent and caring manner; demonstrate the ability to utilize evidence based practice and technology to assess and critically respond to the needs of the adult client; demonstrate with guidance the role of the professional nurse in caring for the adult client. Teaching strategies include lectures, discussions, audiovisuals, clinical experiences, and simulation laboratory. Clinical sections of 8-10 students spend 90 hours (2 credits) caring for medical surgical adult clients. Enrollment is approximately 120 nursing students split between University Park and Hershey Medical Center Campus and is offered fall semester of the junior year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 302 Nursing Care of the Client through the Adult Life Span requiring Surgical Intervention (4) Practice and delivery of therapeutic nursing care to the adult patient in a variety of primarily surgical settings.

NURS 302 Nursing Care of the Client through the Adult Life Span requiring Surgical Intervention (4)

NURS 302-Focuses on nursing care of clients through the adult life span requiring surgical intervention. The course is usually paired with a companion course that focuses on nursing care for adult clients requiring medical intervention and is placed in the student's third year of study. The course follows the study of pathophysiology and the fundamental skills of nursing that are taught in the student's second year. The course emphasizes the knowledge of growth and development and appropriate interpersonal skills in responding to the needs of the adult client. The course provides the student with an opportunity to assess health patterns of adult clients that require surgical intervention related to the respiratory, cardiovascular, neurological, gastrointestinal, endocrine, orthopedic/musculoskeletal, and genitourinary systems based on developmental, cultural, and environmental factors. Students develop and implement a plan of care that integrates nursing strategies, health teaching, and research during the perioperative period and evaluates the care making appropriate recommendations and referrals to members of the health care team. Evaluation methods typically include scheduled examinations, scholarly papers, assessment of preparatory clinical written work, and criteria based mid-term and final clinical performance evaluations. The course consists of classroom and clinical evaluation, with students completing nursing actions for adult clients in a variety of acute care settings. The course is offered each Fall and Spring semester with enrollment in clinical sections limited to 10 students per section. Upon completion of this course, the student will be able to: 1. Utilize knowledge of growth and development of the adult client in nursing practice. 2. Demonstrate appropriate interpersonal skills in support and responding to the needs of the adult client. 3. Assess health patterns of the adult based on the developmental process, cultural sensitivity, and environmental factors. 4. Implement a plan of care using appropriate skills and based on the right of dignity of the clients. 5. Recognize knowledge-driven care as a basis for integrating nursing strategies, health teaching, and research. 6. Evaluate the plan of care and make appropriate recommendations and referrals.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 303 Clinical Application of Laboratory Tests (1) A study of the background, meaning, and nursing implications of laboratory test results.

NURS 303 Clinical Application of Laboratory Tests (1)

NURS 303 is a study of the background, meaning, and nursing implications of laboratory test results. It is designed to assist the nursing student in comprehending the patient's laboratory results in a clinical setting. Lab values are correlated to patient's condition and physiology of the disease process. Physical assessment data are compared to the various blood and urine lab test results also. Students are evaluated through written examination and the interpretation of case study scenarios. The course is offered in the spring semester and is open to all nursing students who have completed the introductory nursing course at the 200 level. Enrollment is not limited. The course objectives follow.

Upon completion of this course, the student will be able to:
a. Identify important clinical implications associated with a wide variety of blood and urine tests.
b. Correlate lab data with physical assessment findings and other indicators of patient status.
c. Recognize constellations of changes that may precede deterioration in clinical status.
d. Discriminate between changes in lab values that require immediate reporting to the physician and those changes that do not require immediate reporting.
e. Synthesize laboratory test results with assessment findings and pathophysiology and identify appropriate nursing actions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 304 Concepts of Pain Management (1) Nursing management of clients experiencing a variety of types of pain.

NURS 304 Concepts of Pain Management (1)

NURS 304 is an introductory course designed to build upon the nursing student's knowledge of pain achieved in the 200 level nursing courses. Pain is a multifaceted experience and often a difficult concept to comprehend. Traditionally, Health Care Providers have under-medicated clients for pain and generally have several misconceptions concerning the treatment of pain. NURS 304, therefore, concerns the nursing management of clients experiencing a variety of types of pain and provides the student an increased awareness of the pain experience. Key components of NURS 304 are distinguishing acute from chronic pain, the physiology of pain, the difficulty in assessing and treating pain, and the role the nurse plays in the management of a patient's pain. Both pharmacological and non-pharmacological methods of pain control are discussed and by describing the traditional and non-traditional methods of pain control, the student gains a new insight into a complicated concept currently considered the "5th Vital Sign." Students are evaluated through written methods, such as examination and/or papers. The course is offered during the spring semester and enrollment is open to any nursing student who has completed the 200 level nursing courses. The course objectives are as follows.

Upon completion of this course, the student will be able to:
a. Describe theories of pain from a historical perspective.
b. List barriers to effective pain management.
c. Identify sequelae of unmanaged pain.
d. Discuss basic mechanisms underlying the pain experience.
c. Delineate the role of the nurse as a pain manager in a variety of settings.
f. Apply key concepts of pharmacological pain management to clinical scenarios.
g. Identify non-pharmacological interventions for pain management.
h. Discuss pain management approaches for special populations.
i. Describe strategies for implementation of pain management programs within organizations and facilities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 305 Introduction to Pharmacological Concepts (3) Study of basic concepts of pharmacology and relevant nursing implications.

NURS 305 Introduction to Pharmacological Concepts (3)

NURS 305 is the introduction to pharmacological concepts and identifies the pharmacodynamics of major classifications of drugs. Prototypes or original drug models from which subsequent types arise are summarized. This course is closely linked to pathophysiology (a prerequisite) as most medications are administered based on a pathophysiologic condition. Pharmacologic principles covered in the course have practical application for students administering medications to clients in the clinical setting during the junior and senior years. Upon completion of this course, the student will be able to identify the measures taken in the United States to ensure drug safety; describe the process of drug development and evaluation; describe the methods of drug standardization; differentiate official and unofficial drug information sources; recognize the legal aspects and nursing responsibilities relative to the administration of drugs to ensure client safety; identify the pharmacodynamics of major classifications of drugs; recognize characteristics and nursing implications of the various types of pharmaceutical preparations and identify research related to pharmacology which influences nursing practice. Teaching strategies include videos, lectures, handouts and power point slides. Enrollment is limited to junior level nursing students or special permission from the instructor for non-nursing majors. The course is offered yearly during the fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230 ; or approval of program
Concurrent: NURS 301 NURS 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 306 Nursing Care of Children and Adolescents (3) Common health problems and nursing intervention for children and adolescents.

NURS 306 Nursing Care of Children and Adolescents (3)

NURS 306 focuses on common health problems and nursing intervention for children and adolescents. Upon completion of this course, the student will be able to formulate nursing actions that are based on scientific principles and concepts from contributing disciplines in caring for children and adolescents to maximize client care outcomes; develop interpersonal skills in responding in a humanistic manner to the unique needs of children, adolescents, and their families; recognize pathophysiological and pharmacological aspects related to the nursing care of the adult medical surgical client; assess the health needs of diverse populations of children and adolescents based on an understanding of the developmental, psychosocial, environmental, and cultural variables with an emphasis on health promotion; evaluate nursing care in a variety of settings to meet the health needs of children of various ages; utilize assessment data and technology to plan, implement, and evaluate interventions specific to the health care needs relevant to the characteristics of the child and adolescent client in interaction with the personal and suprapersonal environments; evaluate nursing care in a variety of settings to meet the health needs of children of various ages and promote healthy lifestyles; collaborate with colleagues in nursing and other health professions to promote the well being of children and adolescents in a variety of settings including the community; relate relevant research findings to child health nursing practice; practice legal, ethical and professional accountability in the delivery of child health care; participate in activities that advance personal and professional development, cultural competency, and the professional specialty of pediatric nursing and promote factors that create a culture of safety and caring for children and adolescents. Teaching strategies include lecture, discussion, audiovisuals, hands-on clinical care, laboratory simulation experiences. Emphasis is placed on delivery of safe and competent nursing care. Clinical sections of 8-10 students spend 45 hours caring for child/adolescent clients in a variety of settings (clinics, day care centers, elementary schools, and hospitals). Enrollment is approximately 120 nursing students (split between UP and HMC) and the course is offered each spring semester of the junior year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230, NURS 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 310 Nursing Care of the Elderly (4) Nursing concerns and intervention in promoting the health of the elderly.

NURS 310**NURS 310 Therapeutic Nursing Care of the Older Adult Client in a Variety of Settings (3)**

NURS 310 focuses on nursing concerns and interventions in promoting the health of older clients. Upon completion of the course, the student will be able to utilize knowledge about aging from nursing and contributing disciplines as a foundation for nursing practice with the older adult client; recognize pathophysiological and pharmacological aspects related to the nursing care of the older adult client; demonstrate progressive development of communication skills including technology which supports the health care needs of the older adult client; promote factors that create a culture of safety and caring for the older adult client; utilize assessment data and technology to plan, implement, and evaluate interventions specific to the health of the older adult client; evaluate nursing care in a variety of settings to meet the health needs of the older adult client and promote healthy lifestyles; communicate pertinent client information, plan of care, and evaluation of goals to staff, instructors and other members of the health team; apply evidence based practice to maximize client outcomes in health promotional and educational activities for the older adult client; demonstrate with guidance the role of the professional nurse in caring for the older adult client; participate in activities that advance the personal and professional development, cultural competency in the professional specialty of gerontological nursing; practice legal, ethical and professional accountability in the delivery of care to the older adult client; recognize the importance of interdisciplinary care in meeting the bio-psycho-social needs of patients and families receiving end-of-life care. Teaching strategies include lecture, discussion, hands-on clinical care and simulation laboratory experiences. Clinical sections of 8-10 students spend 45 hours caring for clients in nursing homes and community settings with the focus on environmental assessment, individual health teaching and group health teaching. The course is offered fall semester and enrollment is approximately 120 nursing student (60 at UP and 60 at HMC).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 310 Therapeutic Nursing Care of the Older Adult Client in a Variety of Settings (3) Nursing concerns and intervention in promoting the health of the older adult.

NURS 310**NURS 310 Therapeutic Nursing Care of the Older Adult Client in a Variety of Settings (3)**

NURS 310 focuses on nursing concerns and interventions in promoting the health of older clients. Upon completion of the course, the student will be able to utilize knowledge about aging from nursing and contributing disciplines as a foundation for nursing practice with the older adult client; recognize pathophysiological and pharmacological aspects related to the nursing care of the older adult client; demonstrate progressive development of communication skills including technology which supports the health care needs of the older adult client; promote factors that create a culture of safety and caring for the older adult client; utilize assessment data and technology to plan, implement, and evaluate interventions specific to the health of the older adult client; evaluate nursing care in a variety of settings to meet the health needs of the older adult client and promote healthy lifestyles; communicate pertinent client information, plan of care, and evaluation of goals to staff, instructors and other members of the health team; apply evidence based practice to maximize client outcomes in health promotional and educational activities for the older adult client; demonstrate with guidance the role of the professional nurse in caring for the older adult client; participate in activities that advance the personal and professional development, cultural competency in the professional specialty of gerontological nursing; practice legal, ethical and professional accountability in the delivery of care to the older adult client; recognize the importance of interdisciplinary care in meeting the bio-psycho-social needs of patients and families receiving end-of-life care. Teaching strategies include lecture, discussion, hands-on clinical care and simulation laboratory experiences. Clinical sections of 8-10 students spend 45 hours caring for clients in nursing homes and community settings with the focus on environmental assessment, individual health teaching and group health teaching. The course is offered fall semester and enrollment is approximately 120 nursing student (60 at UP and 60 at HMC).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 320 Nursing Care of the Childbearing Family and Gynecological Client (3) Therapeutic nursing care of the chilbearing family and gynecological client.

NURS 320**NURS 320 Nursing Care of the Child Bearing Family and Gynecological Client (3)**

NURS 320 focuses on providing therapeutic nursing care of child-bearing family and gynecological client. Upon completion of this course, the student will be able to utilize knowledge from nursing and contributing disciplines related to reproductive health concerns, life events and health alterations of the child bearing family and gynecological client to maximize client care outcomes; recognize pathophysiological and pharmacological aspects related to the nursing care of the child bearing and gynecological client; demonstrate progressive development of communication skills including technology which supports the child bearing family and gynecological client; promote factors that create a culture of safety and caring for the child bearing family and gynecological client; assess the reproductive health of the child bearing family and gynecological client within the context of the developmental process and the personal and suprapersonal environments; utilize assessment data and technology to plan, implement, and evaluate interventions specific to the health of the child bearing family and gynecological client; evaluate nursing care in a variety of settings to meet the health needs of the child bearing family and promote healthy lifestyles; communicate pertinent client information, plan of care, and evaluation of goals to staff, instructors and other members of the health team; apply evidence based practice to maximize client outcomes in health promotional and educational activities for the child bearing family and gynecological client; demonstrate with guidance the role of the professional nurse in caring for child bearing families and gynecological client; participate in activities that advance the personal and professional development and cultural competency in the professional specialty of obstetric and gynecological nursing; practice legal, ethical and professional accountability in the delivery of care to the child bearing family and gynecological patient. Teaching strategies include lecture, clinical experiences and laboratory simulation, discussion, post clinical conferences, audiovisuals-slides and case studies. The course is offered spring semester of the junior year with an approximate enrollment of 120 nursing students (split between UP and HMC) and with clinical sections limited to 10 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 225, NURS 230, NURS 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 320 Nursing Care of Young Adults (4) Methods of and practice in the delivery of therapeutic nursing care to young adults in the childbearing phase of life.

NURS 320**NURS 320 Nursing Care of the Child Bearing Family and Gynecological Client (3)**

NURS 320 focuses on providing therapeutic nursing care of child-bearing family and gynecological client. Upon completion of this course, the student will be able to utilize knowledge from nursing and contributing disciplines related to reproductive health concerns, life events and health alterations of the child bearing family and gynecological client to maximize client care outcomes; recognize pathophysiological and pharmacological aspects related to the nursing care of the child bearing and gynecological client; demonstrate progressive development of communication skills including technology which supports the child bearing family and gynecological client; promote factors that create a culture of safety and caring for the child bearing family and gynecological client; assess the reproductive health of the child bearing family and gynecological client within the context of the developmental process and the personal and suprapersonal environments; utilize assessment data and technology to plan, implement, and evaluate interventions specific to the health of the child bearing family and gynecological client; evaluate nursing care in a variety of settings to meet the health needs of the child bearing family and promote healthy lifestyles; communicate pertinent client information, plan of care, and evaluation of goals to staff, instructors and other members of the health team; apply evidence based practice to maximize client outcomes in health promotional and educational activities for the child bearing family and gynecological client; demonstrate with guidance the role of the professional nurse in caring for child bearing families and gynecological client; participate in activities that advance the personal and professional development and cultural competency in the professional specialty of obstetric and gynecological nursing; practice legal, ethical and professional accountability in the delivery of care to the child bearing family and gynecological patient. Teaching strategies include lecture, clinical experiences and laboratory simulation, discussion, post clinical conferences, audiovisuals-slides and case studies. The course is offered spring semester of the junior year with an approximate enrollment of 120 nursing students (split between UP and HMC) and with clinical sections limited to 10 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 215, NURS 225, NURS 230, NURS 351 ; prerequisite or concurrent:NURS 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 350 Professional Role Development II: Ethics, Legal and Genetic Issues (2) The study of the interaction of ethical, legal, and genetic concepts as they apply to current health care practice.

NURS 350 Professional Role Development II: Ethics, Legal and Genetic Issues (2)

NURS 350 is the second of three professional role development courses and addresses the interaction of ethical, legal and genetic concepts as they apply to current health care practice. Upon completion of the course the student will be able to define the fundamental ethical theories; define and integrate into evidence based practice the basic ethical concepts as they relate to nursing; state the American Nurses' Association Code of Ethics for Nurses; demonstrate ethical behaviors such as honesty, integrity, responsibility, and dependability in clinical practice and everyday life; define and describe the concepts of standards of care and scope of practice; analyze nurse practice acts as they pertain to licensure and scope of practice; define the concepts of negligence verses malpractice; define and distinguish between the concepts of informed consent, patient self-determination, right of refusal, and advance directives (such as living wills, durable power of attorney, and do not resuscitate orders); analyze the role of advocacy from an ethical and legal perspective; communicate effectively (including the use of new technologies) with patients and families regarding legal, ethical, and genetic issues; describe the concept of confidentiality from ethical and legal perspectives; identify the impact genetics has played in the practice of health care; describe the historical to current research findings in genetics that have or may change health care practice guidelines; identify the role ethics, legal issues, and genetics plays in providing health care to culturally sensitive populations; analyze and discuss historical and current biomedical dilemmas utilizing various ethical, legal and genetic perspectives. Teaching strategies include lecture, discussion, audiovisuals, small group activities, role- playing and group presentations. The course is offered spring semester and enrollment is limited to nursing majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: NURS 305

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 351 Health Assessment (3) Designed to broaden the student's knowledge and skills in health assessment and physical examination across the lifespan.

NURS 351

NURS 351 Health Assessment (3)

NURS 351 is designed to broaden the student’s knowledge and skills in health assessment. It is a 3 credit course taught in the Fall semester of the student’s second (sophomore) year of the BS Program and is the first clinical nursing course. The course enables the student to learn the methods of interviewing patients for completing a health history and the tools and techniques necessary to conduct a physical examination. These are the basic tools needed to advance to the next clinical course in the sequencing of courses in the nursing program. Upon completion of this course, the student will be able to: Identify psychosocial, cultural and developmental factors affecting the health assessment process; utilize appropriate communication and interviewing techniques to facilitate the health assessment; gather health history and current health status in a thorough and systematic manner, document the health history and current health status, and the physical exam according to the accepted standards, utilize inspection, palpation, percussion, and auscultation effectively, recognize normal parameters of the health assessment, demonstrate competency in performing the physical examination; and demonstrate critical thinking in the analysis of physical findings. Course evaluation criteria include examinations, a typed lab project of a complete physical exam, including history, and a return demonstration of a physical assessment on a lab partner. NURS 351 is offered during the Fall semester only, with an annual enrollment of approximately 120 students. Clinical sections of 16 students each are conducted in the Nursing Laboratory so students can receive the attention necessary to learn the techniques of physical assessment.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 111, NURS 112 (for Associate Degree Majors); or eligibility for NURN major
Concurrent: NURS 215

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 357 Introduction to Nursing Informatics (3) An introduction to nursing informatics focusing on technology applications to the nursing profession.

Introduction to Nursing Informatics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 301, NURS 306, NURS 310, NURS 320 ; or eligibility for NURN major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 390 (US) Transition and the Professional Nursing Role (3) Transition to baccalaureate education and professional nursing practice, emphasizing leadership, management, and issues influencing nursing education and practice.

NURS 390 Transition and the Professional Nursing Role (2) (US)

NURS 390 is the first nursing course that the registered nurse (RN) student completes. The course's intent is to set the groundwork for transition of the RN to baccalaureate education and professional nursing practice. With the emphasis being on leadership, management, and issues influencing nursing education and practice, the RN has the foundation on which to build nursing expertise as nursing courses progress. The course prerequisite is a current and valid RN license. Teaching strategies include: lecture, discussion, audiovisuals, self-assessment, reflective analysis, critical thinking/problem solving, computer assignments and active/collaborative learning. Evaluation of the course is by grading of written assignments, presentations, and testing. The course is offered in fall, spring or summer semesters of the junior year with a projected enrollment of 10 - 15 students, and is a prerequisite to other nursing courses. Upon completion of this course, the student will be able to: 1. Explain the processes inherent in successful transition to the role of the baccalaureate repared nurse. 2. Analyze the influences that impact role development and nursing practice, especially self-regulation and accountability. 3. Appraise the health care environment as it relates to nursing roles and nursing practice. 4. Measure the impact of nursing theory and research on baccalaureate level nursing practice. 5. Evaluate the importance of nursing research to nursing practice and the legislative arena. 6. Critically analyze issues that influence nursing education and practice today and in the future.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: eligibiity for NURN major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 400 Professional Role Development (3) Implications of nursing leadership for the professional nurse. Study of leadership roles and various styles of nursing management.

NURS 400 Professional Role Development (3)

Instructional, educational, and course objectives: This is the capstone course for the Nursing Program. Students will (a) analyze influences that impact on role development and nursing practice; (b) recognize the significance of power and politics to the advancement of the nursing profession; (c) identify principles of assertive behavior in professional settings; (d) relate the health care environment to client wellbeing utilizing leadership theory; (e) analyze the health care environment in order to facilitate professional practice; (f) evaluate the impact on nursing involvement on legislative change; (g) assess the nursing profession's responsibility for self-regulation and accountability; (h) analyze current issues in professional nursing; (i) apply theoretical concepts of nursing leadership in a clinical setting. Students will spend 40 hours practicing in a clinical setting. In that setting they will be responsible for assessing, planning, implementing and evaluating the care of a group of patients. Students will utilize principles of assertive behavior as they interact with other members of the health care team. They will also have the opportunity to employ delegation skills as they manage the care of individual patients.

Evaluation methods: Students must achieve a letter grade of C or better (based on School of Nursing grading scale) in both theory and clinical components in order to pass the course and progress in the nursing program. Methods of evaluation may include, but are not limited to, a mid-semester exam and cumulative final exam, a portfolio of student accomplishments graded on a pass/fail basis, a standardized end of program comprehensive examination. The clinical credit hour will be graded on a pass/fail basis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 401 (IL) Concepts of Health (3) Exploration of current and ancient concepts of health and their respective modes of intervention.

Concepts of Health (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: PSYCH 100 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 402 (US;IL) Holistic Health (3) Examination of emerging conceptualizations of health and therapy based on a holistic view of human beings.

Holistic Health (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 403 School Health and Emergency Care of Children and Adolescents (3) Techniques for higher-level care for school health and emergency situations and application-based education.

NURS 403 School Health and Emergency Care of Children and Adolescents (3)

This course is a part of the school nurse series and will provide participants with advanced techniques for school health professionals that respond to health and emergency situations. The topics covered will include abdominal, genitourinary, head, musculoskeletal, and sports-related injuries. Students also will review shock, respiratory, neurologic, psychological and behavioral emergencies, and a wide array of issues facing students with special needs. Additionally, the participant will review disaster planning, preparation, and response activities. The course will review major medical and accidental situations facing the school nurse including the inter-agency coordination with emergency response systems and community entities. Students will learn what to include in a report for the communication center and emergency medical services. Skills stations for orthopedic injuries, trauma, and medical situations will allow students to practice skills and receive immediate feedback. Students will participate in application based education that utilizes case studies to pull the concepts together. Students will be asked to provide return demonstration for skills reviewed in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 129, BIOL 141, HD FS 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 404 Cardiac Dysrhythmias: Interpretation, Treatment, and Nursing Management (1) An introductory course with a focus on dysrhythmia recognition and interpretation of abnormal 12-lead electrocardiograms (EKG, ECG).

NURS 404 Cardiac Dysrhythmias: Interpretation, Treatment, and Nursing Management

NURS 404 (Cardiac Dysrhythmias: Interpretation, Treatment, and Nursing Mangagement) is an introductory course in dysrhythmia recognition and interpretation of normal and abnormal rhythm strips and 12-lead electrocardiograms. The course involves integration of electrophysiology principles, anatomy, physiology, and arrhythmogenesis in interpretation of dysrhythmias. The diagnosis, medical treatment, and nursing management will be incorporated through case study analysis. Evaluation of course content will be done through exams, in class worksheets, and case study analysis. The class is open to nursing and non-nursing majors desiring introductory understanding of cardiac dysrhythmias. NURS 404 is a good course for nursing majors interested in critical care and non-nursing majors interested in emergency medical services associated with any major (e.g., Kinesiology). The class is offered fall and/or spring semester with enrollment limited (20 students) to allow interactive hands-on interpretation of dysrhythmias.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BIOL 141, BIOL 129 or equivalent or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 405 Nursing Care of the Adult Client with Complex Health Problems (4) In-depth study of care of patients with acute and complex health problems, utilizing nursing theory and practice.

NURS 405 Nursing Care of the Adult Client with Complex Health Problems (4)

NURS 405 focuses on nursing care of adult clients with acute and complex health problems related to all major systems of the body. The emphasis is on enhancing critical thinking skills necessary for making sound nursing judgments and the demonstration of self-direction in providing nursing care for clients with complex problems. Nursing strategies developed by the student consider the developmental stage, psychological needs, cultural sensitivity, and the critical care environment. The course is placed in the fourth year of study, after the student has completed courses dealing with basic adult health issues. Evaluation methods typically include scheduled examinations, scholarly papers, assessment of preparatory clinical written work, and criteria based mid-term and final clinical performance evaluations. Grading criteria includes both classroom and clinical evaluations, with students completing nursing actions for adult clients in a variety of acute care settings. The course is offered each Fall and Spring semester with enrollment in clinical sections limited to 10 students per section. Upon completion of this course, the student will be able to: 1. Integrate knowledge from nursing and contributing disciplines in practicing nursing in complex situations. 2. Demonstrate interpersonal skills to support and guide clients, their families, and significant others in selection of appropriate health patterns. 3. Utilize the nursing process in a competent manner in meeting the comprehensive nursing care requirements of adult clients appropriate to health patterns demonstrated by those clients and their families/significant others within complex environments. 4. Collaborate with colleagues from nursing and related disciplines using empirical and theoretical resources when defining nursing care priorities and determining nursing actions. 5. Utilize knowledge-driven care to develop nursing strategies and health teaching based on developmental stages of the adult, cultural sensitivity, and the acute care/critical care environment. 6. Collaborate with clients and/or their families to define nursing care, identifying interrelationships and selecting priorities of care giving value to the rights and preferences of the client and his/her significant others. 7. Integrate the mental health needs for self-expression, psychological comfort and personal growth to promote desirable health patterns of adult clients and their family or significant others. 8. Hypothesize possible solutions to problems in acute/critical clinical areas suitable for nursing research. 9. Demonstrate increasing self-direction in providing nursing care for clients with altered health patterns in complex environments. 10. Demonstrate the role of professional nurse as a client advocate and change agent. 11. Identify the legal and ethical responsibilities of the professional nurse in safeguarding the rights of clients in complex environments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 405B Nursing Care of the Adult Client with Complex Health Problems: Part B (4) In-depth study of care of patients with acute and complex health problems, utilizing evidence based practice.

NURS 405B - Nursing Care of the Adult Client with Complex Health Problems: Part B (4)

NURS 405B focuses on nursing care of adult clients with acute and complex health problems related to all major systems of the body. The emphasis is on enhancing critical thinking skills necessary for making sound nursing judgments and the demonstration of self-direction in providing nursing care for clients with complex medical surgical problems. Upon completion of this course, the student will be able to: Synthesize knowledge from nursing and contributing discipline to maximize client care outcomes; Recognize pathophysiological and pharmacological aspects related to the nursing care of the adult client; Demonstrate the ability to communicate effectively including the use of technology with patients, families and the health care team; Promote factors that create a culture of safety and caring for the adult client; Demonstrate the ability to perform a comprehensive and systematic assessment and take appropriate nursing actions for the client with complex health problems; Collaborate with colleagues from nursing and related disciplines using empirical and theoretical resources when defining nursing care priorities and determining nursing actions; Utilize assessment data and technology to plan, implement, and evaluate interventions specific to the complex health problems of the adult client; Participate in activities that advance the personal ain the professional specialty of adult medical-surgical nursing; Practice legal, ethical and professional accountability in the delivery of care to the adult medical-surgical client; Apply evidence based practice to maximize client outcomes in health promotional and educational activities for the complex health needs of the adult client; Demonstrate current and relevant knowledge of the social, health, behavioral and psychological sciences that can be applied to nursing practice for the adult client; Demonstrate increasing self direction and confidence in providing nursing care for the adult client with complex health needs; Demonstrate the role of professional nurse as a client advocate; Demonstrate the ability to assess risk and actively promote the well being, safety, and security (patients and coworkers) in the work environment; Demonstrate the ability with guidance to lead and coordinate a team, delegating care appropriately and safely; Demonstrate the ability to respond appropriately to the emotional, psychological and spiritual needs of the adult client with complex care needs. Teaching strategies include lecture, discussion, laboratory simulation and clinical experiences. The course is offered fall semester with approximately 120 students enrolled (60 at UP and 60 at HMC) with clinical sections limited to 10 students per section.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: NURS 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 405A Nursing Care of the Adult Client with Complex Health Problems: Part A (4) In-depth study of care of patients with acute and complex health problems, utilizing evidence based practice.

NURS 405A - Nursing Care of the Adult Client with Complex Health Problems: Part A (4)

NURS 405A focuses on nursing care of adult clients with acute and complex health problems related to all major systems of the body. Upon completion of this course, the student will be able to synthesize knowledge from nursing and contributing discipline to maximize client care outcomes; recognize pathophysiological and pharmacological aspects related to the nursing care of the adult client; demonstrate the ability to communicate effectively including the use of technology with patients, families and the health care team; promote factors that create a culture of safety and caring for the adult client; demonstrate the ability to perform a comprehensive and systematic assessment and take appropriate nursing actions for the client with complex health problems; collaborate with colleagues from nursing and related disciplines using empirical and theoretical resources when defining nursing care priorities and determining nursing actions; utilize assessment data and technology to plan, implement, and evaluate interventions specific to the complex health problems of the adult client; participate in activities that advance the personal and professional developmental and cultural competency in the professional specialty of adult medical-surgical nursing; practice legal, ethical and professional accountability in the delivery of care to the adult medical-surgical client; apply evidence based practice to maximize client outcomes in health promotional and educational activities for the complex health needs of the adult client; demonstrate current and relevant knowledge of the social, health, behavioral and psychological sciences that can be applied to nursing practice for the adult client; demonstrate increasing self direction and confidence in providing nursing care for the adult client with complex health needs; demonstrate the role of professional nurse as a client advocate; demonstrate the ability to assess risk and actively promote the well being, safety, and security (patients and coworkers) in the work environment; demonstrate the ability with guidance to lead and coordinate a team, delegating care appropriately and safely; demonstrate the ability to respond appropriately to the emotional, psychological and spiritual needs of the adult client with complex care needs.
Teaching strategies include lecture, discussion, laboratory simulation and clinical experiences. Evaluation methods include examinations, scholarly papers, simulation laboratory experiences, preclinical preparatory written work, and mid-course and final clinical performance evaluations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 406 Nursing Care of Children and Adolescents (4) Common health problems and nursing intervention for children and adolescents.

NURS 406 Nursing Care of Children and Adolescents (4)

NURS 406 provides students an opportunity to investigate common health problems of children, to learn basic nursing assessment and psychomotor skills, as well as, to practice interpersonal skills. Students integrate principles drawn from nursing and related disciplines, apply knowledge of socioeconomic, spiritual and cultural factors, incorporate ethical and legal principles, and utilize all steps of the nursing process in the nursing care of children and adolescents. Clinical experiences are scheduled in a variety of settings, which include clinics, day care centers, elementary schools, and hospital settings with children who have a variety of health maintenance and/or acute and chronic health needs. Students learn basic components of health maintenance in children and adolescents; apply principles of teaching/learning to meet health needs; learn communication skills appropriate to the developmental level of the child; and apply concepts related to the child's growth and development as well as anatomy and physiology to identify norms and deviations in the health status of children. Evaluation methods include scheduled examinations, scholarly papers, assessment of preparatory clinical written work, and criteria based mid-term and final clinical performance evaluations. Emphasis is placed on student clinical preparation and the delivery of safe and competent nursing care. The course is offered in the fall and spring semesters at the Hershey and Danville campuses. Due to restricted enrollment, the School of Nursing assigns the campus location and the semester in which students enroll in this course. Upon completion of this course, the student will be able to: 1. Formulate nursing actions that are based on scientific principles and concepts from contributing disciplines in caring for children and adolescents. 2. Develop interpersonal skills in responding in a humanistic manner to the unique needs of children, adolescents, and their families. 3. Assess the health needs of children and adolescents based on an understanding of the developmental, psychosocial, environmental, and cultural variables with an emphasis on health promotion. 4. Evaluate nursing care in a variety of settings to meet the health needs of children of various ages. 5. Collaborate with colleagues in nursing and other health professions to promote the well being of children and adolescents. 6. Relate relevant research findings to child health nursing practice. 7. Practice accountability in the delivery of child health care. 8. Participate in activities that advance personal and professional development and the professional specialty of pediatric nursing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 408 Clinical Application of Pharmacological Concepts (1) Study of the application of pharmacological concepts to the clinical setting.

NURS 408 Clinical Application of Pharmacological Concepts (1)

NURS 408 is an elective course designed to provide the interested student an in-depth review of pharmacology. The application of pharmacological concepts in relation to the clinical setting is a primary focus of the course. The various drug classes are discussed with emphasis placed on care of the patient while administering different types of medications. Discussion of pharmacological principles and patient care requires knowledge and integration of anatomy, physiology, pathophysiology, and medical and nursing treatments for various disorders. NURS 408 provides an excellent review of medication classes as related to medical condition in preparation of the nursing student taking the NCLEX licensure examination upon graduation. The student is evaluated by written examination and/or case study interpretation. NURS 408 is placed in the spring semester and is open to all nursing students who have successfully completed administering medications in the 300 level nursing courses and are concurrently enrolled in the 400 level nursing courses. Enrollment is not limited in numbers. Course objectives are as follows.

Upon completion of this course, the student will be able to:
a. Categorize commonly used medications by major classifications of drugs.
b. Predict classifications of medications given to specific clinical conditions.
c. Develop patient teaching plans relevant to medication administration.
d. Discuss research related to pharmacology which influences nursing practice.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 407 Drugs of Abuse and Mental Health Issues (3) Examines the health care needs across the lifespan of clients who have an alcohol or other drug disorder.

NURS 407 Drugs of Abuse and Mental Health Issues (3)

NURS 407 is an elective course which examines the issue of substance abuse in today's society. It looks closely into the health care needs across the lifespan of clients who have an alcohol or other drug disorder in combination with a psychiatric disorder. Pharmacological, behavioral, biological, and sociocultural characteristics, along with factors and patterns of addiction, are discussed and then how these factors and characteristics relate to mental illnesses are further explored. The different classes of habit-forming drugs are covered and various treatment options are examined. The student is evaluated by written examination, research project, and/or community focus logs. This is an elective course placed in the spring semester and available to both nursing and non-nursing students in related fields. The course objectives follow.

Upon completion of this course, the student will be able to:
a. Know the difference between pharmacological and behavioral definitions of addiction.
b. Understand the biological basis of drug action and addiction.
c. Understand the co-morbidity of major mental disorders and drug abuse issues.
d. Understand the sociocultural factors of drug use and abuse.
e. Describe and discuss the main characteristics of alcohol abuse, treatment, and recovery.
f. Describe and discuss the main characteristics of stimulant abuse, treatment and recovery.
g. Describe and discuss the main characteristics of marijuana and nicotine abuse and treatment.
h. Describe and discuess the main characteristics of hallucinogen and inhalant abuse and treatment.
i. Describe and discuss the use and abuse of prescription drugs.
j. Understand the concept of Dual Diagnoses-the simultaneous existence of an alcohol and other drug disorder with a psychiatric disorder.
k. Analyze how the use of drugs by an individual with a mental illness complicates treatment and recovery.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BB H 143 orPSYCH 100 or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 409 Introduction to Forensic Nursing (3) Provides an introduction to the forensic health sciences, forensic nursing, and the nursing role in the scientific investigation of violence.

NURS 409 Introduction to Forensic Nursing (3)

NURS 409 is an elective course describing the role of the nurse in the forensic sciences. It is designed to provide the interested student an in-depth study of nursing forensics and provides an introduction to the forensic health sciences, clinical forensic nursing, and the nursing role in the scientific investigation of violence. NURS 409 describes the principles and philosophy of forensic nursing in acute care and community settings and the roles of the forensic science professional and advanced practice forensic nurse are explored. The students are evaluated through case study interpretation, papers, and written examination. The topics included in NURS 409 require the student to have a basic understanding of nursing skills and the professional role of the nurse, therefore, NURS 409 is placed in the spring semester and all Junior-Senior level nursing students are eligible to enroll for it. Course enrollment is not limited. The course also provides an excellent opportunity for the nursing student to collaborate with Sociology/ Criminal Justice in order to obtain a minor in forensics. The course objectives follow.

Upon completion of this course, the student will be able to:
a. Describe the scope of the practice of the advanced practice forensic health professional.
b. Identify and analyze current forensic science and nursing issues and trends.
c. Identify the role of the advanced practice forensic health professional/ forensic nurse in the holistic care of victims of trauma, perpetrators of human violence, and families of both.
d. Describe the role of the advanced practice forensic nurse in the development of protocols and standards for professional practice.
e. Verbalize the connection between advanced practice theories with forensic nursing content while integrating forensic roles into various advanced practice arenas.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 215, NURS 225, NURS 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 415 (US;IL) Community and Family Health Nursing--Concepts and Applications (4) Health promotion concepts to meet the health care needs of multicultural families and groups in community health nursing practice.

NURS 415 Community and Family Health Nursing--Concepts and Applications (4)
(US;IL)

NURS 415 US;IL focuses on nursing care of clients in the community and the family. This course allows students to work independently providing and improving health care of population groups within a diverse society. Upon completion of this course, the student will be able to synthesize knowledge from nursing, public health, family, and community theory as a foundation for culturally congruent community health nursing practice; utilize the nursing process and principles of primary, secondary, and tertiary prevention that are culturally appropriate in the care of community based clients who differ in terms of age, developmental stage, health beliefs values and practices; demonstrate interpersonal skills necessary for collaboration with and among culturally diverse consumers, community agencies, health professionals, and health related resources in the community; demonstrate the management and safety of client, family, and community care through appropriate use of concepts of leadership, case management, and group process; demonstrate understanding of epidemiological methods in gathering, analyzing, and utilizing data and be able to apply to diverse populations in the community; use coherent comprehensive, culturally sensitive and age appropriate communication in oral and written form; analyze biostatistical/epidemiological data and nursing evidence-based research findings to improve/enhance the delivery of nursing care to diverse populations in the community; identify recommended health screenings and immunizations and health promotional strategies throughout the life span; analyze the impact of culture as a significant influence on the health perceptions, interpretations, and behaviors of diverse groups; demonstrate the ability to perform comprehensive and risk assessments, to make critical decisions, and to take appropriate nursing actions in the area of community health; demonstrates the ability to practice the principles of health and safety in a caring manner to maximize client care outcomes across the lifespan.
Teaching strategies include lecture, audiovisuals, student presentations, discussion, clinical experiences, guest speakers, laboratory simulation and clinical experiences in varied clinical settings where the students are responsible for assessing, planning, implementing, and evaluating the care of families within the context of a community. Students have the opportunity to analyze the impact of culture on health perceptions, interpretations, and behaviors of diverse groups. The course is offered fall and spring semester of the senior year with approximately 120 students (60 at UP and 60 at HMC enrolled in clinical sections limited to 10 students per section.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 415 (US;IL) Community and Family Health Nursing (4) Therapeutic nursing care and health promotion concepts to families, groups and populations in the community.

NURS 415 Community and Family Health Nursing--Concepts and Applications (4) (US;IL)

NURS 415 US;IL focuses on nursing care of clients in the community and the family. This course allows students to work independently providing and improving health care of population groups within a diverse society. Upon completion of this course, the student will be able to synthesize knowledge from nursing, public health, family, and community theory as a foundation for culturally congruent community health nursing practice; utilize the nursing process and principles of primary, secondary, and tertiary prevention that are culturally appropriate in the care of community based clients who differ in terms of age, developmental stage, health beliefs values and practices; demonstrate interpersonal skills necessary for collaboration with and among culturally diverse consumers, community agencies, health professionals, and health related resources in the community; demonstrate the management and safety of client, family, and community care through appropriate use of concepts of leadership, case management, and group process; demonstrate understanding of epidemiological methods in gathering, analyzing, and utilizing data and be able to apply to diverse populations in the community; use coherent comprehensive, culturally sensitive and age appropriate communication in oral and written form; analyze biostatistical/epidemiological data and nursing evidence-based research findings to improve/enhance the delivery of nursing care to diverse populations in the community; identify recommended health screenings and immunizations and health promotional strategies throughout the life span; analyze the impact of culture as a significant influence on the health perceptions, interpretations, and behaviors of diverse groups; demonstrate the ability to perform comprehensive and risk assessments, to make critical decisions, and to take appropriate nursing actions in the area of community health; demonstrates the ability to practice the principles of health and safety in a caring manner to maximize client care outcomes across the lifespan.
Teaching strategies include lecture, audiovisuals, student presentations, discussion, clinical experiences, guest speakers, laboratory simulation and clinical experiences in varied clinical settings where the students are responsible for assessing, planning, implementing, and evaluating the care of families within the context of a community. Students have the opportunity to analyze the impact of culture on health perceptions, interpretations, and behaviors of diverse groups. The course is offered fall and spring semester of the senior year with approximately 120 students (60 at UP and 60 at HMC enrolled in clinical sections limited to 10 students per section.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 417 (US;IL) Family and Community Health Concepts (4) Study of the concepts of family and community based nursing care emphasizing multicultural influences on health practices.

NURS 417 Family and Community Health Concepts (4)
(US;IL)

Upon completion of the course the student will be able to (a) Synthesize knowledge from nursing, public health, family, and community theory as a foundation for culturally congruent community health nursing practice that is sensitive to race, religion, gender, disability and sexual orientation; (b) Utilize the nursing process and principles of primary, secondary and tertiary prevention that are culturally appropriate in the care of community based clients who differ in terms of health beliefs, values, and practices; (c) Develop skill in the use of independent/interdependent nursing actions to deliver care to clients across the life span; (d) Demonstrate the management of client, family, and community care through appropriate use of concepts of leadership, case management and group process; (e) Describe collaboration at the collegial level with nurses and other members of the health care team to provide continuity of care through culturally appropriate communication, consultation, and referral; (f) Use coherent, comprehensive and culturally sensitive communication in oral and written form; (g) Analyze biostatistical/epidemiological data and nursing research findings to improve/enhance the delivery of nursing care to diverse populations in the community; (h) Analyze the impact of culture as a significant influence on the health perceptions, interpretations, and behaviors of diverse groups.

Students will spend 40 hours practicing in a clinical setting. In that setting they will be responsible for assessing, planning, implementing and evaluating the care of families within the context of a community. Students will have the opportunity to analyze the impact of culture on health perceptions, interpretations, and behaviors of diverse groups.

Evaluation methods: Students will be evaluated both theoretically and clinically by use of the following: (a) Guided study of complex family and community health patterns using collaboration case analysis; (b) Case findings and analysis; (c) Direct care to culturally diverse families in the community setting.

Relationship/linkage of course to other courses: This course applies and integrates family and community nursing concepts to culturally diverse clients in the community. It is offered at the senior level and incorporates previously learned theoretical and clinical nursing knowledge with an appreciation for how diversity influences the health care behaviors of families and communities as they relate to the health care system.

Relationship of course to major: This senior level nursing course is one of the components of the Advanced Standing Option. It is a required course that provides students with the opportunity to develop skill in delivery of health services to globally diverse populations across the life span. It is also designed to increase the student's knowledge base related to the community based client including relationships, lifestyle and kinship patterns. Lastly, it provides an arena for community health planning for diverse populations.

Special facilities required to teach the course: The clinical arena which will be used to teach this course includes but is not limited to high risk populations in the community, senior or special housing projects, prisons and missions.

Frequency of offering an enrollment: The course will be offered every semester and enrollment varies from 10 to 20 students.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 390 and current and valid RN license; Prerequisite or concurrent:NURS 457

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 418 Application of Family and Community Health Concepts (3) Application of family and community health concepts in a specialized practice setting.

NURS 418 Application of Family and Community Health Concepts (3)

NURS 418 focuses on the application of family and community health concepts in a community nursing practice setting. Course prerequisites include Introduction to Computing and Nursing Informatics, Transition and The Professional Nursing Role, and Family and Community Health Concepts. The student selects a community clinical nursing practice site and a clinical nursing preceptor in collaboration with the course faculty. Based on course objectives, the student, in collaboration with course faculty and clinical nursing preceptor develops clinical nursing practice objectives specific to the chosen clinical nursing practice site. Evaluation of the course is by grading of written assignments and achievement of clinical nursing practice objectives. The course is offered in fall and/or spring semester of the senior year. Upon completion of this course, the student will be able to: 1. Synthesize and apply the nursing process in the care of community-based clients using the principles of primary, secondary, and tertiary prevention. 2. Demonstrate professional growth by providing nursing care to clients across the life span in an independent/interdependent manner. 3. Demonstrate management of client care through appropriate use of concepts of leadership, case management, and group process with clients, families, colleagues, and the multidisciplinary team. 4. Function on a collegial level in collaborating with nurses and other members of the health team to provide continuity of care through appropriate communication, consultation, and referral. 5. Act to facilitate needed change in areas affecting the provision of nursing care to individuals, families, groups, and the community. 6. Demonstrate the ability to communicate coherently, comprehensively, and systematically in oral and written form. 7. Apply both biostatistical/epidemiological and nursing research methods and findings to improve/enhance the delivery of nursing care in the community. Perform psychosocial and psychomotor skills using competence and judgment appropriate to the provision of nursing care to clients in the community.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 200W, NURS 351, NURS 390, NURS 417, NURS 457 current and valid RN license; Prerequisite or concurrent:NURS 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 420 Mental Health Nursing (4) Emphasizes the clinical application of mental health theory in nursing care of patients with acute and chronic mental health problems.

NURS 420**NURS 420 Mental Health Nursing (4)**

NURS 420 focuses on care of clients experiencing mental health problems and emphasizes the clinical application of mental health theory in nursing care of patients with acute and chronic mental health problems. Upon completion of this course, the student will be able to synthesize knowledge from nursing and the social, health and behavioral sciences to describe the nature of mental adaptations throughout the lifespan; demonstrate effective therapeutic communication skills when dealing with clients, groups and families experiencing maladaptive responses to stress; assess the strengths and weaknesses of the client and family in the context of a group and community environment; demonstrate the ability to perform comprehensive and risk assessments, to make critical decisions, and to take appropriate nursing actions in the area of psychiatric mental health; utilize the nursing process as related to the Standards of Psychiatric and Mental Health Nursing practice; collaborate with nursing colleagues, mental health professionals and consumers in the practice of psychiatric mental health nursing; analyze individual and societal forces that effect nursing research and evidence based practice in the area of psychiatric mental health nursing; demonstrate the knowledge of self needed to be an effective therapeutic agent and a client advocate; demonstrate culturally competency and the ability to provide holistic psychiatric mental health nursing care; perform the principles of psychiatric mental health and safety in a caring, nonjudgmental manner; demonstrate a current and relevant knowledge base of legal and ethical issues that can be applied to psychiatric mental health nursing; identify and support mental health promotion and mental health educational activities to maximize client care outcomes and evaluate psychiatric mental health nursing as a professional specialty. Teaching Strategies include lecture, process recordings, discussion, selected readings, audiovisuals, laboratory simulation and clinical experiences. NURS 420 is offered fall and spring semesters with an annual enrollment of approximately 120 students (60 at UP and 60 at HMC) with clinical sections limited to 10 students each.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 205, NURS 301, NURS 302, NURS 310, NURS 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 420 Mental Health Nursing (4) Emphasizes clinical application of mental health theory in nursing care of patients with acute and chronic mental health problems.

NURS 420**NURS 420 Mental Health Nursing (4)**

NURS 420 focuses on care of clients experiencing mental health problems and emphasizes the clinical application of mental health theory in nursing care of patients with acute and chronic mental health problems. Upon completion of this course, the student will be able to synthesize knowledge from nursing and the social, health and behavioral sciences to describe the nature of mental adaptations throughout the lifespan; demonstrate effective therapeutic communication skills when dealing with clients, groups and families experiencing maladaptive responses to stress; assess the strengths and weaknesses of the client and family in the context of a group and community environment; demonstrate the ability to perform comprehensive and risk assessments, to make critical decisions, and to take appropriate nursing actions in the area of psychiatric mental health; utilize the nursing process as related to the Standards of Psychiatric and Mental Health Nursing practice; collaborate with nursing colleagues, mental health professionals and consumers in the practice of psychiatric mental health nursing; analyze individual and societal forces that effect nursing research and evidence based practice in the area of psychiatric mental health nursing; demonstrate the knowledge of self needed to be an effective therapeutic agent and a client advocate; demonstrate culturally competency and the ability to provide holistic psychiatric mental health nursing care; perform the principles of psychiatric mental health and safety in a caring, nonjudgmental manner; demonstrate a current and relevant knowledge base of legal and ethical issues that can be applied to psychiatric mental health nursing; identify and support mental health promotion and mental health educational activities to maximize client care outcomes and evaluate psychiatric mental health nursing as a professional specialty. Teaching Strategies include lecture, process recordings, discussion, selected readings, audiovisuals, laboratory simulation and clinical experiences. NURS 420 is offered fall and spring semesters with an annual enrollment of approximately 120 students (60 at UP and 60 at HMC) with clinical sections limited to 10 students each.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 425 School Health Nursing (3) Study and experience with the roles and responsibilities of the school health nurse.

School Health Nursing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 415

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 431 Data Management for Nurse Managers (3) Analysis of information systems to manage nursing service organizations; includes financial management, the budgeting processes, and productivity measurement.

NURS 431 Data Management for Nurse Managers (3)

NURS 431 is the second of four courses included in the nursing management series, which focuses on leadership and management in nursing. NURS 431 includes a study of information systems and financial aspects of managing health care organizations and patient care delivery. Topics covered in the course include: Information systems in health care, Electronic medical record, Security and portability of health care information. Topics related to budget and finance include, operating and capital budget management, nurse staffing systems and productivity. Lab activities enable students to develop proficiencies with spreadsheet software. The course is offered in traditional classroom instruction, on-line through ANGEL at selected campus sites and through World Campus. Course evaluation criteria may include examination, case studies, and student projects or presentations as assigned by the faculty. Upon completion of all 4 courses, students receive a certificate of completion of the Nursing Management Series from the school of nursing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 430 Organization and Administration for the Nurse Manager (3) Introduction to organizational theory and principles of practice in the administration of nursing services and patient care.

NURS 430 Organization and Administration for the Nurse Manager (3)

NURS 430 is the first of four courses included in the nursing management series, which focuses on leadership and management in nursing. NURS 430 includes a study of the history of American management and the influences on management styles and approaches. Topics covered in the course includes: Leadership theory, Change theory, Health care organizational structure and functions, Legal and Ethical issues, Nursing Management structure, function, and roles, Power and politics; Communication; and Nursing care delivery systems. The course is offered in traditional classroom instruction, on-line through ANGEL at selected campus sites and through World Campus. Course evaluation criteria may include examination, case studies, and student projects or presentations as assigned by the faculty. Upon completion of all 4 courses, students receive a certificate of completion of the Nursing Management Series from the school of nursing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 432 Nursing Management of Human Resources (3) Human resource management and related factors in nursing service organizations.

NURS 432 Nursing Management of Human Resources (3)

NURS 432 is the third of four courses included in the nursing management series, which focuses on leadership and management in nursing. NURS 432 includes a study of human resource management with an emphasis on application to nursing and health care organizations. Topics covered in the course include: Employment laws, hiring, termination and managing staff turnover, conflict management, staff development and productivity, organized labor and unions, the impaired nurse, and discussion of nursing standards, ethics, delegation and the nursing shortage. The course is offered in traditional classroom instruction, on-line through ANGEL at selected campus sites and through World Campus. Course evaluation criteria may include examinations, case studies, and student projects or presentations as assigned by the faculty. Upon completion of all 4 courses, students receive a certificate of completion of the Nursing Management Series from the school of nursing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 440 Trauma/Critical Care Nursing (3) Focuses on the impact of and the nursing care of persons experiencing acute trauma and/or critical illness.

NURS 440 Trauma/Critical Care Nursing (3)

NURS 440 is designed as an introductory study of the impact of like-threatening physical problems across the life-span utilizing the nursing process. The course focuses on problems encountered in the hospital critical care setting and is a nursing elective. Upon completion of this course, the student will be able to meet the following objectives: Integrate knowledge from nursing and related disciplines into case study format for persons with life-threatening illnesses; Explore practice, ethical, legal and interpersonal dimensions within the critical care setting. Identify problems for nursing critical care research. Study the most common illnesses in the critical care setting for the neurological, respiratory, cardiac, renal, gastro-intestinal, trauma and multiple system organ failure systems. Students incorporate academic learning with some case study review to simulate the critical care setting. Success in the course is evaluated by in-class examinations, assigned research readings, and written critiques. NURS 440 is offered in the spring semester only, with an average enrollment of 40 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 or approval of nursing program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 433 Seminar for Nurse Managers (3) Course focuses on the application of management principles in the role of the nurse manager.

NURS 433 Seminar for Nurse Managers (3)

NURS 433 is the fourth of four courses included in the nursing management series, which focuses on leadership and management in nursing. NURS 433 is designed to allow the student to explore issues that challenges individuals in the nurse manager role. Designed with a seminar approach the student will study the following topics: The future of nursing leadership, mentoring, networking, stress management for the nurse manager and avoiding burnout, managing patient care quality and regulatory compliance, and implementing change. Students also complete a field observational study with a nurse manager or nurse executive in a health care organization. It is recommended that students complete at least one of the previous nursing management (NURS 430, NURS 431, NURS 432) courses prior to enrolling in this course. The course is offered in traditional classroom instruction, on-line through ANGEL at selected campus sites and through World Campus. Course evaluation criteria may include examinations, case studies, and student projects or presentations as assigned by the faculty. Upon completion of all 4 courses, students receive a certificate of completion of the Nursing Management Series from the school of nursing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 301, NURS 302, NURS 310, NURS 320 ; or current and valid RN license for RN to BS majors

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 450A Professional Role Development III: Leadership and Management (2) Study of leadership roles and various styles of nursing management and their implications for the professional nurse.

NURS 450A - Professional Role Development III: Leadership and Management (2)

NURS 450A is the senior level professional role development course that focuses on delegation of care, leadership and management. Upon completion of the course, the student will be able to analyze influences which impact on role development and nursing practice; recognize the significance of professional, ethical, regulatory and legal codes within the context of nursing practice; recognize nursing skills necessary to respond to the client's needs throughout the life span including end of life issues; recognize current and relevant knowledge of leadership and management theory as it relates to the health care environment; recognize current and relevant knowledge of ethical, legal, national and international policies as it relates to the health care environment; demonstrates current knowledge of nursing research and modern technologies to recognize nursing care that is rigorous and evidence based; assess the nursing profession's responsibility for self-regulation and accountability in order to maximize client care outcomes; demonstrates the ability to promote, support, and facilitate the health, well being, and comfort of vulnerable populations as to enhance the quality of service delivery; recognize the principles of leadership, accountability and delegation that promote the well being, safety and security of patients and coworkers; recognize and promote the ability to communicate effectively (including the use of technology) with patients, families, social groups and the health care team; demonstrates increased awareness of the nurse generalist role and the value of life- long learning. Teaching strategies include lecture, audiovisuals, student presentations, discussion, guest speakers, simulation and role-playing. The course is offered each fall semester with approximately 120 students enrolled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 450B Professional Role Development III: Clinical Capstone (3) Senior level clinical capstone course that emphasizes the integration and application of theory and evidence based practice.

NURS 450B Professional Role Development III: Clinical Capstone (3)

NURS 450B is the clinical capstone course for the Nursing Program. Students will spend 135 hours practicing in a clinical setting, where they will be responsible for assessing, planning, implementing and evaluating the care of clients. Students will have the opportunity to employ management and delegation skills in the care of clients. Upon completion of this course, the student will be able to demonstrate the ability to practice in a holistic, culturally competent and caring manner; demonstrate the ability to practice within the context of professional, ethical, regulatory and legal codes of nursing practice; demonstrate the ability to promote, support, and facilitate the health, well being, and comfort of vulnerable populations so as to enhance the quality of service delivery; demonstrate the ability to perform comprehensive and systematic assessments and take appropriate actions; demonstrate the ability to utilize evidence based practice and modern technologies to assess and respond appropriately to patient needs; utilize nursing skills to provide optimum care and to practice principles of health and safety in a caring, nonjudgmental manner; utilize nursing skills to respond to a person’s needs throughout the life span, i.e. life choices, disability, and end of life issues; demonstrate current and relevant knowledge of the social, health, and behavioral sciences that can be applied to nursing practice; demonstrate current and relevant knowledge of ethical, legal, national, and international policies that can be applied to nursing practice; demonstrate current knowledge of nursing research to provide nursing care that is rigorous and evidence based; demonstrate the ability to communicate effectively (including the use of technology) with patients, families, social groups and the health care team; identify, manages and support health promotion and health educational activities to optimize patient safety and well being; demonstrate the ability to lead and coordinate a team, delegating care appropriately; demonstrate the ability to assess risk and actively promote the well being, safety, and security (patients and coworkers) in the work environment; demonstrate increased confidence in the nurse generalist role and in the value of life-long learning.
Teaching strategies include laboratory simulation and clinical experiences and pre and post clinical seminars. The course is offered each spring semester and is a one on one preceptor based clinical experience.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: NURS 450A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 457 Introduction to Computing and Nursing Informatics (3) An introduction to computers and nursing informatics focusing on applications to the nursing profession.

NURS 457 Introduction to Nursing Informatics (3)

Nursing professionals are knowledge workers who are information dependent. As healthcare continues to evolve in an increasingly competitive information marketplace, healthcare professionals, the knowledge workers, must be well prepared to make significant contributions by harnessing and using appropriate, timely information. Nursing informatics (NI) is defined as the synthesis of principles from nursing science, information science, computer science and cognitive science to manage and enhance the healthcare data, information, knowledge and wisdom to promote accurate and safe patient care and to enhance the evolution of professional nursing practice. Nurses as knowledge workers must be equipped to understand this evolving specialty, nursing informatics, in order to begin to harness and use the technological tools currently available and those that are emerging for managing the vast amount of healthcare data and information generated daily. This course is intended to develop technologic competencies that will carry over as new health care technologies emerge. Students will explore and assess their personal competencies and develop goals for future learning. The course will introduce students to clinical information management tools such as standardized terminologies and electronic health records; data warehouses, data marts and data mining; clinical information systems and clinical decision support systems. The course will also cover principles of information security and confidentiality and the ethical use of private healthcare information. The use of informatics to support patient education, promote public health and support remote delivery via telehealth is also emphasized. Students will also explore nursing informatics tools that support nursing administration and nursing research. Finally, students will explore the role of a nurse informaticist and nursing informatics as an advanced practice specialty. The course is limited to NURN majors, is taught each semester and clinical sections are limited to 20-25 students per section (based on computer lab facility availability).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008 Ending: Fall 2010
Prerequisite: NURS 225, NURS 301, NURS 302, NURS 310 andNURS 320 ; or eligibility for NURN major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 452 (US) (BB H 452, WMNST 452) Women's Health Issues (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.

Women's Health Issues (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BIOL 141 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 458 Ethical Challenges in Healthcare Informatics (3) A case based collaboratory designed for the exploration and analysis of the ethical dilemmas facing healthcare informatics practitioners.

Ethical Challenges in Healthcare Informatics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 457

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 459 Legal and Professional Issues in School Nursing (3) Legal and professional issues of school nurses and delivery impact of health care in school environment.

NURS 459 Legal and Professional Issues in School Nursing (3)

This course is part of the school nurse series. This course encompasses the synthesis and analysis of the legal and professional issues faced by school nurses and other professionals in the school setting. Strategies on the legal and professional delivery of health care in the school environment are integral to the course. Objectives include: explore legal and ethical issues influencing school nursing practice; analyze attributes of the legal and professional issues faced by school nurses and other professionals; develop strategies for addressing school nursing, interdisciplinary or health care issues; analyze issues that impact the resolution of special problems in school-age populations; identify resources and management strategies available to the school nurse and other professionals in meeting the needs of at risk school-aged populations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: PSYCH 100 orSOC 001 orHD FS 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 463 Compassionate Counseling for Children/Adolescents Dealing with Dying, Death, Other Life Crises (3)
Compassionate Counseling for Children and Adolescents Dealing with Dying, Death, and Other Life Crises.

NURS 463 Compassionate Counseling for Children/Adolescents Dealing with Dying, Death, Other Life Crises (3)

This course is part of the school nurse series. The school nurse series is anticipated to be offered in the summers throughout PA by Penn State Outreach: Professional and Organizational Development and the School of Nursing as an outreach mission. This course explores the complex issues involving death in today's world as faced by children and adolescents. Content includes: counseling skills for nurses; child and adolescent development in the understanding of dying, death, and other life crises; exploring dying, death, and crises that are present in the lives of children and adolescents in the modern world; discussions of risks of death in the modern world including suicide, accidents, disasters, violence, war, and communicable diseases; description of death rituals and how societies cope with dying and death; identifying effective strategies to assist children and adolescents in coping with dying, death, and other life crises. The societal and school issues that affect not only an individual student but the milieu of the school and other students, parents, teachers, advisers, and administrators are inherent in the content. This course expands knowledge and interventions for those working with children and adolescents in the school setting. Presentations and examinations compose the evaluative methods.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: PSYCH 100 orSOC 001 orHD FS 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 465 Health Concepts for Adults with Complex Health Care Needs (3) In-depth study and application of the theoretical principles and roles of adult clients and families with complex healthcare needs.

NURS 465 Health Concepts for Adults with Complex Health Care Needs (3)

NURS 465 focuses on the application of those concepts that relate to the adult high-risk client, family, or significant other in a complex health care setting. Course prerequisites include Introduction to Computing and Nursing Informatics and Transition and The Professional Nursing Role. The student selects a clinical nursing practice experience related to complex health care of the adult high-risk client and, based on course objectives, develops clinical practice objectives in collaboration with the course faculty. Evaluation of the course is by grading of written assignments and achievement of clinical nursing practice objectives. The course is offered in fall and/or spring semesters of the senior year. Upon completion of this course, the student will be able to: 1. Integrate theory and knowledge of nursing and related disciplines as a basis for professional nursing practice with adult high-risk clients. 2. Demonstrate interpersonal skills to support and guide clients/families/significant others in the selection of appropriate health patterns. 3. Utilize the nursing process to analyze complex adult high-risk situations occurring in acute care, transitional care, and/or community settings. 4. Apply critical thinking skills to clinical nursing practice situations involving the high-risk client/families/significant others. 5. Collaborate with colleagues in the design, implementation, and evaluation of nursing interventions. 6. Demonstrate in the clinical nursing practice setting the role of the professional nurse as case manager, change agent, advocate and researcher with the adult high-risk client/families/ significant others. 7. Demonstrate a comprehensive understanding of opportunities for clinical nursing research with the adult high-risk client/families/significant others. 8. Demonstrate nursing practice within the legal and ethical guidelines for professional nursing practice with the adult high-risk client.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 390 and current and valid RN license; Prerequisite or concurrent:NURS 457

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 464 (US;IL) Dying and Death (3) Explores attitudes toward death and dying; concept of grief; responsibilities to the dying person and the family.

Dying and Death (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: PSYCH 100 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 466 Application of Adult Health Concepts (4) Application of the theoretical principles and roles of adult health nursing to clients and families in clinical settings.

Application of Adult Health Concepts (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: NURS 465

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 475 Integrated Concepts in Nursing Practice (3) Project-based capstone course for application of nursing concepts to health promotion/disease prevention in populations.

NURS 475 Integrated Concepts in Nursing Practice (3)

NURS 475 is a project-based capstone clinical course with a focus on the application of nursing concepts. The course is designed to provide opportunity for students to synthesize and apply the art and science of nursing to health promotion and disease prevention in culturally diverse populations in varied clinical settings of the global community. Upon completion of this course, the student will be able to synthesize knowledge from nursing and related sciences for application to evidence based nursing practice; interpret legislative and regulatory processes relevant to the capstone project; collaborate with members of the health team to provide continuity of care through appropriate communication, consultation, and referral; communicate effectively using written, verbal, nonverbal and emerging technology methods; apply biostatistical, epidemiological, and research findings to enhance the delivery of evidence based nursing care; provide evidence based nursing care that contributes to safe and high quality patient outcomes within healthcare Microsystems; participate in the development and implementation of theory- based and a population-focused health promotion project; facilitate change in the healthcare microsystems affecting the provision of nursing care to diverse populations throughout the lifespan; demonstrate accountability in the delivery of professional nursing care; and integrate the concept of life-long learning into professional nursing practice. Teaching strategies include: seminar discussions, population-based nursing practice project and preceptored nursing practicum. NURS 475 is the final nursing course and contrives to craft future nursing career goals for RN to BS students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: NURS 417 ; and current and valid RN license

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 492 Emergency Care and Safety (3) A comprehensive first aid course designed to provide knowledge of prehospital emergency care at the First Responder level.

NURS 492 Emergency Care and Safety (3)

NURS 492 is a comprehensive emergency care and safety course that incorporates basic first aid skills and knowledge and advanced topics such as oxygen therapy, hazardous materials, farm/rural incidents, disaster planning, incident command, triage, and mass casualty incidents. The course includes discussion of infectious diseases and the standard precautions utilized by rescuers to prevent the transmission of disease. Critical thinking and decision-making skills are utilized throughout NURS 492 in practical exercises using various scenarios to enhance the rescuers response in emergency situations. Students are evaluated by written examination and practical skill testing. Cards in First Aid/Emergency Care and CPR for the Healthcare Provider/Professional CPR will be issued to the student upon successful completion of the course. NURS 492 is a complimentary course to NURS 203, which is a basic first aid/community CPR general education elective course designed for the non-nursing major who is required to have first aid/CPR certification for their course of study. NURS 492 provides the student an alternative to NURS 203 by providing emergency care at a higher level of training. NURS 492 is an excellent course for nursing students with advanced health care knowledge, community health care providers (i.e., school nurses), and any non-nursing major interested in emergency medical services (i.e., Kinesiology). NURS 492 is offered fall and/or spring semesters and enrollment is limited to 30 students. The course objectives follow.

Upon completion of this course, the student will be able to:
a. Recognize and state signs and symptoms of both non-urgent and life-threatening illnesses and injuries.
b. Demonstrate an ability to treat injuries and illness until Emergency Medical Service (EMS) help arrives by utilizing critical thinking skills to make correct decisions, integrate knowledge and improvise materials as necessary.
c. Demonstrate the correct procedure of CPR for the Adult, Child, and Infant victim of cardiac arrest, including Obstructed Airway.
d. Recognize the special cultural and technical barriers of providing first aid in a rural setting and a farm environment.
e. Demonstrate an awareness of hazardous materials at a first responder level of competency.
f. Demonstrate appropriate triage decisions in single or multiple person accidents.
g. Demonstrate an awareness of primary and secondary prevention of trauma, especially with farming incidents.
h. Demonstrate an awareness of safety by conducting a safety inspection of the home or work place.
i. Design and plan a shelter for victims in the event of a man-made or natural disaster.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: BIOL 141, BIOL 129 or equivalent or approval of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 494H Honors Thesis (1-6) Independent honors research project related to student's interests directed by faculty supervisor and culminating in production of thesis.

Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: approval of honors thesis adviser

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 495 Nursing study in Specialized Setting (1-12) Designed to provide student with in-depth study and practice in clinical specialty area of choice.

Nursing study in Specialized Setting (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 496A Asthma Awareness in a Rural Setting (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Asthma Awareness in a Rural Setting (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 496B Focused Study of Nursing--Common Health Problems and Patient Care (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Focused Study of Nursing--Common Health Problems and Patient Care (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497A Medication Update & Health Teaching Interventions for School Nurses (1) Pharmacologic concepts relevant to treatment of acute/chronic conditions encountered in school nursing. Each unit includes specific health teaching interventions.

Medication Update & Health Teaching Interventions for School Nurses (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497A Relational Aggression in the Health Care Workforce (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Relational Aggression in the Health Care Workforce (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497B The Process of Patient Education in Nursing (3) Explore relevance of patient education in health care settings.

The Process of Patient Education in Nursing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: NURS 230 and/or approval of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497B Relational Aggression in the Healthcare Setting (3) Explores issues of relational aggression in healthcare workforce with specific focus on nursing profession. Examine research/impact of this problem.

Relational Aggression in the Healthcare Setting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PSYCH 100 ; NURN NURS or 2NURS majors only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497C Psychotropic Drugs and Children/Adolescents (1) Study of psychotropic drugs that are used to treat children and adolescents; classifications, idications, actions, adverse reactions and school implications.

Psychotropic Drugs and Children/Adolescents (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: RN license or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497E Client Education Strategies for Nurses and Other Health Care Providers (3) Explores current and emerging roles of client education in the knowledge era.

Client Education Strategies for Nurses and Other Health Care Providers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: NURS 230, PSYCH 100 orSOC 001 orHD FS 129 or permission of faculty for RN students

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 497D Perioperative Nursing (4) Comprehensive introduction to fundamental principles and practices of the Operating Room Nurse when managing the care of the surgical patient.

Perioperative Nursing (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010
Prerequisite: RN License

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nursing (NURS)

NURS 499 (IL) Foreign Study--Nursing (1-9) Study of nursing issues in a foreign country.

Foreign Study--Nursing (1-9)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 100 (GHA) Contemporary Nutrition Concerns (1.5) Interpretation of nutrition principles in relation to contemporary problems in selecting a diet to promote a healthy lifestyle. Students who have received credit for NUTR 151 or NUTR 251 may not schedule this course.

NUTR 100 Contemporary Nutrition Concerns (1)
(GHA)

This course will present the basic principles of nutrition so that students may be better prepared to evaluate nutrition related issues in the media and to make informed choices about dietary in takes in order to promote a healthful lifestyle. Information about the several classes of nutrients (proteins, carbohydrates, fat, vitamins, and minerals) and the physiological processes used to digest, absorb, and utilize them is presented and related to such topics as maintenance of ideal body weight, improvement in physical performance, and the role of nutrients in various disease states such as heart-disease, cancer, and osteoporosis. Students are instructed in ways to obtain information about food and nutrition through training in reading foods labels and accessing quality information from electronic and print media. In order to provide relevance to the individual, each student will collect information about his or her diet by keeping a diet record and will use a software program to compare intakes with dietary recommendations. Several other assignments will allow students to use this information to compare their diets to recommendations for fiber intake, to plan a program to accomplish weight gain or loss, to estimate their energy expenditure and to consider ways they might modify their diet to accomplish some stated goal (e.g. increase iron status or decrease salt intake). Students will be evaluated based on two midterm examinations and a final examination and on the quality of the diet project and the other assignments. Percentage distribution of the grades would likely be: 20% for each of the midterms, 30% for the final, and 30% for the various projects. This course is intended for non-nutrition major students and will fulfill 1. 5. credits of the Health and Physical Activity (GHA) requirement of general education. The course is offered each semester, including summer sessions, at University Park. Typical enrollment would be approximately 200 students in each of three sections per semester during regular, sessions.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 115 Theory of Exercise and Nutrition for Weight Control (1) Nutrition application for responsible weight control.

Theory of Exercise and Nutrition for Weight Control (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Concurrent: ESACT 115

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 119 Elementary Foods (3) Basic principles and fundamental processes underlying food preparation. For non-nutrition majors only.

Elementary Foods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 120 Food Preparation (3) Scientific principles of basic food preparation, with an emphasis on the physical and chemical aspects.

Food Preparation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 170 Careers in Nutrition (1) Nutrition professionals describe career paths and opportunities for graduates in applied and science options; strategies for making effective career decisions.

Careers in Nutrition (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 151 Nutrition Component of the Food Service System (3) Introduction to basic nutrition principles and their application in a food service system. Students who have taken NUTR 251 may not schedule this course.

Nutrition Component of the Food Service System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 251 (GHA) Introductory Principles of Nutrition (3) The nutrients: food sources and physiological functions as related to human growth and well-being throughout life; current nutrition issues. Students who have passed NUTR 151 may not schedule this course.

NUTR 251 Introductory Principles of Nutrition (3) (GHA)

Introductory Principles of Nutrition is a 3-credit course offered on the University Park campus every semester plus summers in multiple sections ranging in size from 100 to 300 students, at locations other than University Park, enrollments are typically less. This course is designed for nutrition majors and non-majors to provide a broad understanding of general principles of nutrition. Concepts covered on most essential nutrients include: digestion, absorption, transport, function, and food sources. Additionally, major health issues related to some nutrients which are of public health concern in the U. S. are discussed in more detail giving insight into cause, treatment and prevention. Of major importance to students' lives are health and nutrition implication of overweight, heart disease, bone health, and energy balance as affected by diet and physical activity. Lastly, understanding of nutritional needs throughout the life span is introduced, with emphasis on pregnancy, lactation, and infant nutrition. All of these concepts at this introductory level are important for students in the major so that they are prepared for upper division courses. Application of knowledge to personal health is accomplished through a series of 5 to 8 assignments and activities. Students record and analyze their own food intake for three days by using software that is purchased with the text. Students then assess these records using dietary guidelines, nutrition standards, and the food guide pyramid. Students work individually and sometimes in small groups to critically evaluate their food behaviors; then they make decisions to formulate dietary plans which may reduce their risks for chronic diseases later in life. For another assignment, students perform a short assessment of their own weight status as compared to national standards profiling healthy weights'. The last assignment has them design a nutritionally sound diet with their particular food preferences and habits in mind. The course is evaluated through multiple choice exams, having some questions designed as, case studies and involving problem solving. Assignments include the diet and weight status self-assessment process described above, which includes some short essays. An additional assignment on the use of internet sites for reliable nutrition information gathering is required. These assignments promote active learning, analyzing and evaluating, making critical judgments, and using current technologies. Approximately 75-80% of the points are associated with the examinations; the balance of the points are from the various projects.

General Education: GHA
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 230 (HIST 230, S T S 230) American Food System: History, Technology and Culture (3) A cultural analysis of the evolution of U.S. agricultural production and food consumption patterns, the food industry and food marketing.

American Food System: History, Technology and Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 252 Diet Therapy and Nutrition Care in Disease (4) Principles of nutrition care to meet therapeutic needs, inpatient care, and rehabilitation.

Diet Therapy and Nutrition Care in Disease (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: NUTR 151 orNUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 253 Nutrition Care of the Elderly (3) Introduction to the psychosocial, nutritional, and physiological needs of the elderly with emphasis on the delivery of nutrition care.

Nutrition Care of the Elderly (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: NUTR 151 orNUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 281 (D S M 281) Facilitated Discussion in Community Dietetics (2) Principles and methods of designing, implementing, and evaluating facilitated discussion to provide effective nutrition education.

Facilitated Discussion in Community Dietetics (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: D S M 280

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 280 (D S M 280) Current Issues in Community Dietetics (3) Current issues impacting community dietetics programs with emphasis on the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Current Issues in Community Dietetics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: D S M 195

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 358 Assessment of Nutritional Status (2) Introduction to purpose, methods, and scientific basis for assessment of nutritional status in total health care for individuals and groups.

Assessment of Nutritional Status (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: NUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 359 Nutrition Assessment Theory and Practice (2) Introduction to purpose, methods, and scientific basis for assessment of nutritional status and use of tools in a practice setting.

Nutrition Assessment Theory and Practice (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: NUTR 151 orNUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 360 Disseminating Nutrition Information (3) Theory and practice of providing nutrition information across the lifespan. Open only to Health and Human Development majors.

Disseminating Nutrition Information (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: NUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 370 Profession of Dietetics (1) Introduction to the profession of dietetics including laws, regulations and standards affecting practice, and preparation for post-baccalaureate degree training.

Profession of Dietetics (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: senior standing in Nutrition or Hotel Restaurant and Institutional Management

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 375 Nutrition Peer Education Training (2) To train students accepted into the HealthWorks Peer Education Program, to provide reliable nutrition information to their peers.

NUTR 375 Nutrition Peer Education Training (2)

This course has been designed to prepare students, who have been accepted in the nutrition component of the HealthWorks peer education program, for nutrition outreach and education opportunities on the Penn State Campus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: NUTR 251 . Prerequisite or concurrent:NUTR 360

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 380 Leadership Principles in Nutrition Services (3) Issues impacting delivery of nutrition services in health care environments, including, health care systems, management theories, decisions making, and leadership.

NUTR 380 Leadership Principles in Nutrition Services (3)

Leadership Principles in Nutrition Services is a 3-credit course offered fall semesters with enrollment of up to 60 students. The course is designed to provide students with the conceptual foundation of how nutrition services are provided in today's health care environment and the skills necessary to manage them effectively. The educational objectives are that students will be able to: 1) identify trends in the world that could impact health care generally and nutrition services specifically; 2) identify and explain common theories of management, including quality management; 3) compare and contrast different health care delivery systems and how they influence nutrition services; 4) understand the rationale of evidence based medicine and its influence on the development of practice guidelines for nutrition services; 5) explain how credentials and licenses are developed, their role in health care systems, and those associated with nutrition services; 6) understand how reimbursement of nutrition services is determined and methods used to enhance funding; 7) develop a basic knowledge of the principles, roles, and skills necessary to be an effective leader, such as motivation, managing change and time management. Students fulfill the educational requirement of the course by attending class, completing readings, participating in class discussions, writing assignments and a group presentation. Student evaluation will be based on examination, class participation, and the completion of writing and presentation assignments. Examinations may include information from lecture notes, reading assignments, and class assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: NUTR 100 orNUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 386 Managing Quality in Food and Nutrition Services (3) Application and integration of management theory to quality attainment in food and nutrition services.

NUTR 386 Managing Quality in Food and Nutrition Services (3)

This course is designed to foster the integration of management principles in the profession of dietetics. Emphasis is placed on quality attainment, fiscal decision making/problem solving, strategic planning, and marketing of dietetic services. The three domains necessary for dietetic students to master include clinical nutrition, community nutrition, as well as management. Although each of these domains have very unique characteristics skills learned in this course are transferrable to all areas of dietetics. In this capstone management course students will be able to:

- Apply quality attainment and control principles in food and nutrition services
- Develop personal and professional perceptions of effective leadership in dietetics services.
- Determine costs of services and operations
- Interpret financial data with emphasis on identifying and correcting problematic areas in health care settings.
- Develop several types of budgets, including operating, capital, and flexible.
- Demonstrated the importance of the strategic planning process, including vision and mission statement writing.
- Develop a basic knowledge of principles and skills necessary in human resource management and their unique application in food and nutrition services.
- Acquire an understanding of the service marketing concepts applied in a variety of nutrition and food settings.
- Demonstrate an appreciation of the importance of kitchen equipment layout and design and their relationship to efficient production and service in delivery of nutrition services.
- Develop a business plan for a business or service in the nutrition field incorporating key operating indicators for marketing and financial objectives

Students are prepared to take this course after completing quantity food courses and Serv Safe training. Skills learned in the prerequisite courses will assist student in understanding the intricacies of managing quality in food service facilities. Due to the application aspect of the course, problem based learning will be the major method of evaluating the students' critical thinking skills. Students will work in groups of 3-4 over the course of the semester. Individually, students will write a business plan for a business or service in the nutrition field as their final evaluation of mastery of the material. This course will be offered fall and spring semesters at the University Park Campus of Penn State with a class enrollment of 40-60 students. A computer lab will be utilized approximately 10-12 times during the semester for problem based learning activities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: HRIM 329
Concurrent: HRIM 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 395 Nutrition Field Experience (1-6) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity is required.

Nutrition Field Experience (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: NUTR 251 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 400 Introduction to Nutrition Counseling (1) No description.

Introduction to Nutrition Counseling (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: NUTR 358 . Prerequisite or concurrent:NUTR 446

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 401 Nutrition Clinic Practicum (1-3) To provide qualified nutrition students with the opportunity to practically apply nutrition counseling skills in a supervised environment.

NUTR 401 Nutrition Clinic Practicum (1-3)

This course is designed to provide qualified nutrition students with the practical application of nutrition counseling skills, in an outpatient setting, under the supervision of a registered dietitian. The Nutrition Clinic offers counseling services to university students, faculty and staff with health concerns such as: cardiovascular disease, diabetes, weight control, vegetarianism, fitness, and eating disorders.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: NUTR 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 421 (US;IL) Food Culture and Health Trends (3) Social-political, historic, and geographic roots of food patterns, featuring specific cuisine areas and nutritional disease patterns; includes foods laboratory.

NUTR 421 Food, Culture, and Health Trends (3)
(US;IL)

Food, Culture, and Health Trends is a survey of the development of cuisine, and of ethnicity and health patterns as they are expressed through food and cuisine. This is also a laboratory course, where each week representative foods from diverse cultures are experienced, prepared by the students into dishes representative of the cuisine, and then consumed. The first third of the course follows the development of food patterns from hunter gathering and agricultural development though trade, conquest, and the globalization of foods. The second two thirds examines particular cuisine clusters as they have affected US food patterns. The course focuses on the physical, historical, social-political, and cultural factors that affect food choice in a specific area, such as geography, colonization, trade, migration, slavery, and religion. The nutritional outcomes of today's cultural food patterns, specifically the epidemiology of nutrition-related diseases, is another focus, particularly how cultural groups adjust to the US diet. The objectives of the course are to create an appreciation and understanding of the diverse origins, changing nature, and strengths of traditional cuisines, the nutritional problems arising from cuisine transitions, and a respect for the role of food in cultural expression. This course provides the cultural awareness needed by dietitians and any student of food and culture to participate in dietary exploration and change. Evaluation methods include weekly essay quizzes, laboratory participation and performance, 5 group activities, 2 essay tests, and a group library, web and informant based evaluation of one culture's cuisine. Two sections are offered each Spring Semester. Enrollment is limited to 36 students per section.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: NUTR 119 orNUTR 120;NUTR 151 orNUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 430 (IL) (S T S 430) Global Food Strategies: Problems and Prospects for Reducing World Hunger (3) Technological, social, and political solutions to providing basic food needs; food resources, population, and the environment; current issues.

NUTR (S T S) 430 Global Food Strategies: Problems and Prospects for Reducing World Hunger (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Global Food Strategies examines opportunities for the world's poor to improve their health, nutrition, and physical environment by focusing on their own cultural strengths and organization, reassessing the opportunities within their environment, evaluating the appropriateness of new and old technologies, and gaining a renewed respect for their own abilities. Measures of appropriateness used throughout the course are ecological sustainability and cultural sensitivity. Approximately one third of the course focuses on the historical basis of underdevelopment up to and including the post-modern era. Topics include economic colonization, the industrialization of agriculture, the impacts of globalization, trade priorities and debt loads on the poor, population and ecological issues; and a critique of the economics of scarcity. The second two thirds focuses on micro-strategies for poverty alleviation. Topics include culturally-appropriate people centered development women's empowerment needs including microlending (small loans), the prospects and rationales for biological agriculture vs. industrialized agriculture, successful models of health and population control, the impact of American consumerism, and ecological footprint analysis. The goals of the course are to 1) awaken the student's interest in hunger and poverty issues and the cultural dimensions of poverty, 2) acquaint the student with viable and sustainable strategies for hunger and poverty alleviation for the very poor, and 3) enable the student to understand enough about globalism that he/she can critically analyze and evaluate international affairs articles in national newspapers. The classes integrate lecture information with films that help with the visualization of poverty problems and prospects, readings, current events, and small group discussion around issues and case studies. Readings are drawn from development classics and from a wide range of recent literature on poverty and change. Evaluation includes student responses to three essay tests posed by the instructor over the semester, and journal keeping. The class project is designed to promote citizenship/leadership skills. Students will make a contract to perform a particular citizen action relating to hunger and poverty alleviation, which they will describe in an oral report and written format. Participation is evaluated. The class is offered fall semester only. Enrollment is limited to 60 students.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 445 Nutrient Metabolism I (3) Nutrients, their sources, metabolism, interrelationships and requirements with focus on carbohydrates, lipids, and proteins.

Nutrient Metabolism I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: B M B 211, BIOL 141, NUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 451 Nutrition throughout the Life Cycle (3) Application of basic principles of nutrition to nutritional and physiological needs throughout the life cycle from prenatal to aging.

Nutrition throughout the Life Cycle (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: NUTR 358, NUTR 445 . Prerequisite or concurrent:NUTR 446

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 446 Nutrient Metabolism II (3) Continuation of NUTR 445; nutrients, their sources, metabolism, inter- relationships and requirements with focus on vitamins and minerals.

Nutrient Metabolism II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: NUTR 445

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 452 Nutritional Aspects of Disease (3) Disturbances in metabolism related to human disease processes; principles of nutrition in therapy.

Nutritional Aspects of Disease (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: NUTR 446

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 454 Laboratory Methods in Nutrition (3) Research and clinical methods for study of nutritional phenomena, interpretation of data in relation to various nutritional and physiological states.

Laboratory Methods in Nutrition (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: or concurrent:NUTR 446

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 453 Diet in Disease (3) Nutrient and energy controlled diet programs. Implications for nutrition counseling and education.

Diet in Disease (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: or concurrent:NUTR 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 456 Community Nutrition (2) Programs and policies of nutrition-related activities of community agencies; factors pertinent to nutrition education.

Community Nutrition (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992
Prerequisite: NUTR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 490W Nutrition Seminar (3) Use of selected materials from the scientific literature to prepare a term paper and an oral report.

Nutrition Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: or concurrent:NUTR 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 494H Senior Honors Thesis (1-6) Independent study related to a student's interests directed by a faculty supervisor and culminating in the production of a thesis.

Senior Honors Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: approval of honors thesis advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 495 Advanced Field Experience in Nutrition (1-6) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity is required.

Advanced Field Experience in Nutrition (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: NUTR 456

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 497G (S T S 497G) Community Food Security (3) Through active learning, students explore how communities can reshape food systems, increasing access to wholesome food while increasing economic opportunities.

Community Food Security (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Nutrition (NUTR)

NUTR 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 100 Structural Foundations of Occupational Therapy (1) An overview of the structural foundations of the occupational therapy profession.

O T 100 Structural Foundations of Occupational Therapy (1)

This course is required within the accredited occupational therapy assistant program major. The focus of the course is to provide students with the structural foundations of the profession. These form the basis for the subsequent occupational therapy courses. Topics will include: history and philosophy of occupational therapy, O T and O T A role delineation, educational requirements, OT practice settings, licensure and certification, professional associations, health and safety, computer skills, and medical terminology. In addition to the class time, Level I fieldwork is required for the course. Evaluation methods will include: written examinations and graded written assignments. Enrollment is open to any student.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 100S Structural Foundations of Occupational Therapy (1) An overview of the structural foundations of the occupational therapy profession.

Structural Foundations of Occupational Therapy (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 100S Structural Foundations of Occupational Therapy (1) An overview of the structural foundations of the occupational therapy profession.

Structural Foundations of Occupational Therapy (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 101 Conceptual Foundations of Occupational Therapy Practice (3) An overview of the conceptual foundations of occupational therapy practice. Observation of therapists in treatment settings.

O T 101 Conceptual Foundations of Occupational Therapy Practice (3)

This course is required within the ACOTE accredited occupational therapy assistant program major. The focus of the course is to provide students with the conceptual foundations of the profession. These foundations form the basis for subsequent occupational therapy courses and are expanded upon in those courses. Topics will include: clinical reasoning, diversity issues, ethics and conflict management, occupation, models of O T, the Practice Framework, principles of management, and occupational therapy literature. In addition to the class time, Level I Fieldwork is required. Evaluation methods will include: written examination, graded written/oral assignments, fieldwork performance assessment. Enrollment is limited to students admitted to the 20T major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: O T 100 or current

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 103 (US) Occupational Performance Across the Life Span (3) Analysis of occupations from birth to death including descriptions of occupational performance and factors which influence performance.

O T 103 Occupational Performance Across the Life Span (3)

The focus of this course is an in-depth understanding of occupations across the life span. Students engage in an analysis of occupations including: activities of daily living, instrumental activities of daily living, education, work, play, leisure, and social participation. Specific descriptors are used to discuss occupational performance from the perspective of the Occupational Therapy Practice Framework. Areas which influence performance skills and patterns are studied and applied. Topics include: areas of occupations engaged in by individuals from birth to death; performance skills and patterns, context, activity demands, and client factors which impact occupational performance, definitions of grading, adapting, and analyzing occupational performance to support meaningful and socially relevant participation in day-to-day occupations. This course is required in the accredited 2OT major and provides the foundation for understanding and applying the concepts related to occupations within the occupational therapy assistant intervention courses which follow. Evaluation methods include: written examination, and graded written/oral assignments. Enrollment is limited to students admitted to the 2OT major.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: O T 100, O T 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 105W Activity Analysis: Group Interaction Skills (3) Group interaction observed and analyzed. Activities to facilitate and enhance interactions practiced.

Activity Analysis: Group Interaction Skills (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: O T 101, PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 107 Activity Analysis: Assistive Technologies and Methods of Adaptation (3) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.

Activity Analysis: Assistive Technologies and Methods of Adaptation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 107L Activity Analysis: Assistive Technologies and Methods of Adaptation (3) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.

Activity Analysis: Assistive Technologies and Methods of Adaptation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 107H Activity Analysis: Assistive Technologies and Methods of Adaptation (3) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.

Activity Analysis: Assistive Technologies and Methods of Adaptation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: O T 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 107P Activity Analysis: Assistive Technologies and Methods of Adaptation (0) Assistive technologies and methods of adaptation analyzed; selection criteria, methodologies, proper use, and precautions presented.

Activity Analysis: Assistive Technologies and Methods of Adaptation (0)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 201 Documentation Skills for OTA Students (3) Instruction and practice in documentation of occupational therapy intervention utilizing selected formats.

O T 201 Documentation Skills for OTA Students (3)

O T 201 provides intense instruction in occupational therapy documentation with particular emphasis on the narrative and subjective/objective/assessment/plan (SOAP) formats. Course objectives include demonstrating the ability to utilize medical terminology and approved abbreviations in documentation reports, identify parts of a SOAP note, utilize narrative or SOAP format, write a concise medical note to document occupational therapy intervention, progress or discharge of a client. Student learning will take place in a classroom setting as well as through written assignments, peer critique, research of documentation requirements in specific contexts, and individual writing critique sessions with the course instructor. Evaluation of student performance will include writing assignments, other required course learning activities, and through written exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: O T 100, O T 101 or consent of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 202 Occupational Therapy for Developmental Disabilities (3) Occupational therapy assessments, interventions, documentation for pediatric/developmental disability practice, observation and practice of techniques in treatment settings.

Occupational Therapy for Developmental Disabilities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: HD FS 129, O T 103, O T 105, O T 107

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 206 Occupational Therapy for Physical Disabilities (3) Occupational therapy evaluation, intervention, documentation methods for physical disabilities, observation of therapists in treatment settings.

Occupational Therapy for Physical Disabilities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 129, BIOL 141, BIOL 142, O T 103, O T 107

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 204 Occupational Therapy for Psychosocial Dysfunctions (3) Occupational therapy evaluation, intervention, documentation, methods for psychosocial dysfunctions. Observation of therapists in treatment settings.

Occupational Therapy for Psychosocial Dysfunctions (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: HD FS 129, O T 103, O T 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 295A Field Experience in Occupational Therapy I (6) Part I of supervised experience in select occupational therapy settings in the role of an occupational therapy assistant; seminars included.

Field Experience in Occupational Therapy I (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008
Prerequisite: satisfactory completion of all didactic course work

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 295B Field Experience in Occupational Therapy II (6) Part II of supervised experience in select occupational therapy settings in the role of an occupational therapy assistant; seminars included.

Field Experience in Occupational Therapy II (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: successful completion of all didactic course work and successful completion of OT 295A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 401 Conceptual Foundations of Occupational Therapy and Occupational Adaptations (2) Analysis of philosophies and frames of reference for occupational therapy practice, emphasizing occupational functioning, the adaptation process, and occupational environments. Occupational Therapy majors only.

Conceptual Foundations of Occupational Therapy and Occupational Adaptations (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 384 Human Kinesiology for Occupational Performance (3) Theory and application of anatomical, neuromuscular, and mechanical fundamentals of human stability, motion, and force in relation to occupational performance.

Human Kinesiology for Occupational Performance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 129, BIOL 141, BIOL 142

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 402 Neuroscience Foundations of Occupational Functioning (4) The course will examine neuroanatomical, neurochemical, and neurophysiological functions affecting sensorimotor, cognitive, and effective domains of human performance. Occupational Therapy majors only.

Neuroscience Foundations of Occupational Functioning (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: BIOL 129, BIOL 141, BIOL 142

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 404 Sensory and Perceptual Components of Occupational Adaptation and Performance (3) Adaptive, dysadaptive, and homeostatic sensory and perceptual skills across the life span; theory and application of related occupational therapy evaluation.

Sensory and Perceptual Components of Occupational Adaptation and Performance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 403 Motor Components of Occupational Adaptation and Performance (3) Analysis of adaptive, homeostatic, and dysadaptive motor patterns across the life span; theory and application of related occupational therapy assessment.

Motor Components of Occupational Adaptation and Performance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 405 Cognitive and Psychosocial Components of Occuppational Adaptation and Performance (4) Adaptive, dysadaptive, and homeostatic cognitive and psychosocial skills across the life span; theory and application of related occupational therapy evaluation.

Cognitive and Psychosocial Components of Occuppational Adaptation and Performance (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 402

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 407 Occupational Challenges of Older Children and Adolescents (3) Conditions interfering with occupational functioning of older children and adolescents; theory, evaluation, program design, and treatment for facilitating occupational adaptation.

Occupational Challenges of Older Children and Adolescents (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 406 Occupational Challenges of Infants and Young Children (3) Conditions interfering with occupational functioning of infants and young children; theory, evaluation, program design, and treatment for facilitating occupational adaptation.

Occupational Challenges of Infants and Young Children (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 408 Occupational Challenges of Adults (4) Conditions interfering with occupational functioning of adults; theory, evaluation, program design, and treatment for facilitating occupational adaptation.

Occupational Challenges of Adults (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 410 Environmental and Technological Influences on Occupational Adaptation and Performance (3) Impact of occupational environments on functioning and technological adaptation for mastery over the environment.

Environmental and Technological Influences on Occupational Adaptation and Performance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 409 Occupational Challenges of Older Adults (4) Conditions interfering with occupational functioning of older adults; theory, evaluation, program design, and treatment for facilitating occupational adaptation.

Occupational Challenges of Older Adults (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 403, O T 404, O T 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 411 Occupational Therapy Management and Professional Ethics (3) Ethical, managerial, fiscal, and legal responsibilities of program administration, supervision, practice, delivery, and professional development.

Occupational Therapy Management and Professional Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 412W Introduction to Research (3) Introduction to quantitative and qualitative research process relative to occupational therapy.

Introduction to Research (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: O T 407, O T 408, O T 409;STAT 200 orSTAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 495B Fieldwork Level II Part 1 (6) Three month practical educational experience facilitating clinical reasoning and application of professional knowledge, behaviors, values, and skills.

Fieldwork Level II Part 1 (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: completion of O T 495A and all didactic course work

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 495A Level I Fieldwork Experience (1 per semester, maximum of 3) Practicum in 3 of 5 areas: occupational therapy evaluation procedures; environmental and technological adaptation; program design; management issues; selected topics.

Level I Fieldwork Experience (1 per semester, maximum of 3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: concurrent with occupational therapy didactic course work

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 495C Fieldwork Level II Part 2 (6) Three month practical educational experience facilitating clinical reasoning and application of professional knowledge, behaviors, values, and skills.

Fieldwork Level II Part 2 (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: successful completing of O T 495B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Occupational Therapy (O T)

O T 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Operations and Information Systems Management (OISM)

OISM 401W Statistics and Quality Control (3) Statistical methods for measurement and improvement of quality; topics include statistical inference, process control, and design.

Statistics and Quality Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 110 orMATH 140;SCM 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 001 First-Year Seminar Abington (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Abington (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 002 First-Year Seminar Agricultural Science (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Agricultural Science (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 003 First-Year Seminar Altoona (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Altoona (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 004 First-Year Seminar Arts and Architecture (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Arts and Architecture (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 005 First-Year Seminar Berks (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Berks (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 006 First-Year Seminar Business (1-3) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

PSU 006 First Year Seminar in Business Administration (1-3 credits)

This course is designed to assist students in examining several areas of the college transition: awareness of self and others; career exploration; majors offered in the Smeal College; and current issues in business. The skills learned in this course will be presented as life-long skills, applicable in the university setting and the corporate environment. The nature of the course requires cooperation, participation, and interaction. This course facilitates learning through experience, lectures and class discussion.

The course contains assignments dealing with:
1). Leadership
2). Ethics
3). Celebrating Diversity
4). Diversity in the Workplace
5). Community Service
6). Major and Career Exploration
7). Time Management and Goal Setting
8). Business Case Study

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 006T First-Year Seminar Business (1-3) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Business (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 007 First-Year Seminar Behrend (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Behrend (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 008 First-Year Seminar University College (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar University College (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 008S First-Year Seminar University College (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar University College (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 008T First-Year Seminar Univeristy College (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Univeristy College (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 009T First-Year Seminar Communications (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

PSU 009T First-Year Seminar Communications (1)

PSU 009T is a theme-based seminar, which satisfies the University's First-Year Seminar requirement and introduces Scholars to University life and the resources at Penn State.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 009 First-Year Seminar Communications (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Communications (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 010 First-Year Seminar Earth and Mineral Sciences (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Earth and Mineral Sciences (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 011 First-Year Seminar Education (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Education (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 012 First-Year Seminar Engineering (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Engineering (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 013 First-Year Seminar Capital (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Capital (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 014 First-Year Seminar Health and Human Development (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Health and Human Development (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 015 First-Year Seminar Liberal Arts (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Liberal Arts (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 016 First-Year Seminar Science (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

First-Year Seminar Science (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Penn State First-Year Seminar (PSU)

PSU 017 First-Year Seminar College of Information Sciences and Technology (1) Facilitate student's adjustment to the high expectations, demanding workload, increased academic liberties, and other aspects of the transition to college life.

PSU 017 First-Year Seminar College of Information Sciences and Technology (1)

This course will help students be successful in the College of Information Sciences and Technology (IST) at Penn State University. It involves two elements: how to be a successful learner in general; and how to explore the academic challenges of the information sciences and related technologies. Through lectures, class discussions, assignments, and guest presentations students learn what it takes to be successful in college. Through a group project they learn what IST is about, the majors in the College, the learning formats that they will encounter, and what is expected of them as students and citizens in the College. More broadly, this course is centered on learning: learning about learning and learning about what it means to be a student in IST.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 382 Seminar (1) Discussions and presentations of current problems and literature as related to technological and economic aspects of the petroleum industry.

Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 020 Introductory Petroleum Engineering (3) Introduction to fluid transfer operations of the earth; production of petroleum, natural gas, and water; storage of natural gas. Covers conservation implications.

Introductory Petroleum Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 405 Rock and Fluid Properties (3) Reservoir rock properties, rock and fluid properties (interaction between rock and fluids), flow behavior in reservoir, and fluid properties.

P N G 405 Rock and Fluid Properties (3)

The objective of this course is to introduce students to basic reservoir rock and fluid properties. The course is divided into three sections: rock properties, rock and fluid properties (interaction between rock and fluids), and fluid properties. In the rock properties, Lithology of Reservoirs, Porosity and Permeability of Rocks, Darcy's Law, and Distribution of Rock Properties are discussed. In Rock and Fluid Properties Section, Existence of Multi-phases, Saturation, Wettability, Capillary Pressure, Effective and Relative Permeability, concepts are covered. Fluid properties topics include Phase Behavior of Single and Multi Component Systems, Compositional and Black-Oil models, Solution Gas-Oil Ratios, Formation Volume Factor, Compressibility, Density, Viscosity, and Interfacial Tension. This is also the first course that Petroleum and Natural Gas Engineering students take in the major. Therefore, an introduction to petroleum and natural gas engineering is also made.

This course is a pre-requisite for most of the Petroleum and Natural Gas Engineering major courses. It is an elective course for majors such as Environmental Systems Engineering. It is offered every Fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 406 Rock and Fluid Laboratory (1) Systematic study of oil reservoir rocks and fluids; their interrelation applied to petroleum engineering.

Rock and Fluid Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 211
Concurrent: P N G 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 410 Applied Reservoir Engineering (3) Analysis and prediction of reservoir performance by use of material balance and steady and nonsteady state flow equations.

Applied Reservoir Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: P N G 405, P N G 406, PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 420 Applied Reservoir Analysis and Secondary Recovery (4) Application of material balance equations/transient flow solutions to water influx problems; displacement theory as it applies to design/behavior of flooding.

P N G 420 Applied Reservoir Analysis and Secondary Recovery (4)

This course addresses two major issues in petroleum engineering: water influx and water flooding. The displacement of oil or gas by water is a complicated physical process that has a great impact on recovery efficiencies. The first objective of the course is to merge the material balance method and transient flow solutions for the aquifer into one analysis tool for understanding and predicting water influx cases. Several analytical and numerical methods are presented including: linear and radial diffusion equation solutions, super position, Hurst simplified, Schilthuis and Hurst modified. The material is followed by an analysis and design project that focuses on a field in the Gulf of Mexico.

The second objective of the course is to understand the fundamentals of displacement theory and practice. The extension of the Buckley and Leverett water flooding theory is presented for three-phase flow. Three-phase relative permeabilities are determined from experimental data. Several geometrical patterns are discussed in the course including: five spots, staggered line drive, direct line drive, four spots, seven spots, and nine spots. The efficiency of each pattern is determined. Strategies for selecting a pattern for special cases are presented. The behavior of each pattern with time, including oil recover, is an integral part of the course.

The students use our computational facility throughout the course. They write material balance models and use large reservoir simulators for studying water influx cases.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: P N G 410;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 411 Introduction to Petroleum and Natural Gas Extraction (1) Introduction to the design and implementation of the systems used in the extraction of oil and gas. Not intended for petroleum and natural gas engineering majors.

Introduction to Petroleum and Natural Gas Extraction (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 425 Principles of Well Testing and Evaluation (3) Mathematical basis for pressure analysis. Theory and practice of pressure testing techniques.

Principles of Well Testing and Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MATH 251, P N G 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 440W Formation Evaluation (3) Study of those methods used to evaluate the engineering properties of oil and gas bearing reservoir formations.

Formation Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: P N G 405, P N G 406

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 430 Reservoir Modeling (3) The numerical simulation of petroleum reservoir processes by the use of models; scaling criteria and network flow.

Reservoir Modeling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: MATH 251, P N G 410;CMPSC 201 orCMPSC 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 450 Drilling Design and Production Engineering (3) Design and analysis of oil-field drilling operations and equipment.

Drilling Design and Production Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: C E 360, E MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 475 Petroleum Engineering Design (3) Design and selection of mechanical components used in the production of fluids from subsurface reservoirs.

Petroleum Engineering Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: E MCH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 451 Oil Well Drilling Laboratory (1) Practice in well-control procedures. Measurement of drilling fluid properties.

Oil Well Drilling Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: C E 360, E MCH 210
Concurrent: P N G 450

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 480 Production Process Engineering (3) Analysis and evaluation of surface production processes, fluid separation, storage, measurement, treating, custody transfer, transmission, disposal, corrosion, and other operations.

Production Process Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: C E 360;M E 201 orM E 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 482 Production Engineering Laboratory (1) Measurement and analyses of the physical and chemical properties of hydrocarbon fluid systems in a production environment.

Production Engineering Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: C E 360;M E 201 orM E 300
Concurrent: P N G 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 486 Tertiary Oil Recovery Methods (3) Presentation of theory of tertiary methods of oil recovery, current field applications, future engineering potential.

Tertiary Oil Recovery Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 489 Engineering Evaluation of Oil and Gas Properties (3) Application of present worth and rate-of-return analysis; reserve calculations; decline curve analysis; uncertainty and risk analysis to engineering project design and evaluation.

P N G 489 Engineering Evaluation of Oil and Gas Properties (3)

The objective of this course is to introduce to students the application of present worth and rate-of-return analysis to problems peculiar to oil and gas evaluation. The course is divided into four sections: introduction to present worth and rate-of-return analysis; the calculation of oil and gas reserves; the analysis of decline curves; and the application of uncertainty and risk analysis to engineering project design and evaluation. This course is the first course of a four-course sequence (P N G 489, 490, 491, 492) that culminates in a capstone engineering design project and is intended to be taken during the first semester of the junior year. As such the application of these principles elucidated above to engineering design will be emphasized.

This course is a pre-requisite for most of the Petroleum and Natural Gas Engineering Major Courses. It is an elective course for majors such as Environmental Systems Engineering. It will be offered every Fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002 Ending: Summer 2010
Prerequisite: ECON 002
Concurrent: P N G 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 489 Engineering Evaluation of Oil and Gas Properties (3) Application of present worth and rate-of-return analysis; reserve calculations; decline curve analysis; uncertainty and risk analysis to engineering project design and evaluation.

P N G 489 Engineering Evaluation of Oil and Gas Properties (3)

The objective of this course is to introduce to students the application of present worth and rate-of-return analysis to problems peculiar to oil and gas evaluation. The course is divided into four sections: introduction to present worth and rate-of-return analysis; the calculation of oil and gas reserves; the analysis of decline curves; and the application of uncertainty and risk analysis to engineering project design and evaluation. This course is the first course of a four-course sequence (P N G 489, 490, 491, 492) that culminates in a capstone engineering design project and is intended to be taken during the first semester of the junior year. As such the application of these principles elucidated above to engineering design will be emphasized.

This course is a pre-requisite for most of the Petroleum and Natural Gas Engineering Major Courses. It is an elective course for majors such as Environmental Systems Engineering. It will be offered every Fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: ECON 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 490 Introduction to Petroleum Engineering Design (1) Introduction to the concepts of engineering design as applied to petroleum and natural gas projects.

P N G 490 Introduction to Petroleum Engineering Design (1)

The course is designed to provide students with the opportunity to acquire technical data, analyze them and use them to solve petroleum and natural gas engineering systems. It is the first course in a three-course sequence in engineering design as applied to petroleum and natural gas systems that will extend over three semesters. Petroleum, and Natural Gas Engineering students begin formal courses in their major during the first semester of their junior year. With the introduction of this offering, students will begin in a timely fashion (during the second semester of the Junior year), the application of this knowledge to engineering design. Course material will include the analysis of data and the definition, measurement and application of risk to project design.

The class will be divided into teams and students will be evaluated on the basis of their contribution to the team effort. All reports and presentations will be presented to the class as a product of the team.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: ECON 002, P N G 405, P N G 489

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 491 Reservoir Engineering Design (1) Application of the concepts of reservoir and drilling engineering to petroleum engineering design projects.

P N G 491 Reservoir Engineering Design (1)

Engineering design by definition is the integration of knowledge and skills acquired through experience, reading and formal instruction into a final product, the design. To that end, this course is the second course of a 3-course, 3-semester, sequence that will result in a comprehensive capstone-engineering project. As such, P N G 491 will utilize the knowledge gained from P N G 405, 410, 450 and 489 to the project design initiated in P N G 490. Course materials will include introduction to the simulator, development of the computer model, and the use of history match in design.

The class will be divided into teams and students will be evaluated on the basis of their contribution to the team effort. All reports and presentations will be presented to the class as a product of the team.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: ECON 002, P N G 410, P N G 450, P N G 490

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 492 Petroleum Engineering Capstone Design (1) Integration of petroleum and natural gas engineering concepts to project design.

P N G 492 Petroleum Engineering Capstone Design (1)

Engineering design by definition is the integration of knowledge and skills acquired through experience, reading and formal instruction into a final product, the design. To that end, this course is the third course of a 3-course, 3-semester, sequence that will result in a comprehensive capstone-engineering project. As such, P N G 492 will utilize the knowledge gained from three semesters of formal instruction to the project design initiated in P N G 490 and continued on in P N G 491. Course material will include the application of spreadsheet programming to petroleum and natural gas project design and its use in project economic analysis and risk analysis.

The class will be divided into teams and students will be evaluated on the basis of their contribution to the team effort. All reports and presentations will be presented to the class as a product of the team.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: P N G 491

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 494 Thesis (1-6) A problem in petroleum engineering involving review of the literature and experimental data obtained in the field or laboratory.

Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 494H Thesis (1-6) A problem in petroleum engineering involving review of the literature and experimental data obtained in the field or laboratory.

Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Petroleum and Natural Gas Engineering (P N G)

P N G 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 001 (GH) Basic Problems of Philosophy (3) Introduction to central philosophical themes, including the mind/body problem, the existence of God, ethical problems, the nature of reality.

PHIL 001 Basic Problems of Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides a critical introduction to, and overview of, fundamental philosophical problems. It includes an examination of historical and contemporary thought through in-class presentation, readings, discussions, and student writings. In this way, students will gain an understanding of diverse and often competing perspectives on basic human problems. These perspectives have shaped cultures and continue to influence thought and practice around the world today. Students will examine diverse viewpoints that will allow them to understand a wide range of views and challenge them to defend their own positions. This course involves active use of writing, speaking, and group projects. It provides opportunities for gathering information, analyzing problems, and synthesizing diverse perspectives. Finally, PHIL 001 allows students to link theory to their own lives and daily practice.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 002 (GH) Philosophy, Politics, and Social Theory (3) Examines relations between political and social organizations, the justification and limits of the state, and issues concerning individuality and community.

PHIL 002 Philosophy, Politics, and Social Theory (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an introduction to central political and social theories as well as assumptions which underlie contemporary political and social structures and which shape the contemporary cultural environment. The course will discuss the ideas of central social and political philosophers, the broader historical and cultural context in which they work and worked, and the nature of the relations and influences between the two. Students will develop an appreciation of the nature of political and social values in the context of conflicting political visions as well as the critical skills with which to examine them. They will be graded on a collaborative annotated bibliography project, a collaborative position paper, evaluations of peer papers, and a comprehensive final exam. PHIL 002 satisfies the GH requirement and is geared towards non-Philosophy majors. It may be used to fulfill minor requirements in philosophy. This course is offered once a year with an enrollment of 150 to 200 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 005 (GH) Philosophy, Art, and Film (3) Explores relations between images and reality, representation and culture, and beauty and politics through film, artworks, and aesthetic theories.

PHIL 005 Philosophy, Art, and Film (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

PHIL 005 provides a critical introduction to fundamental issues concerning the nature of art in general and film in particular, the nature of aesthetic experience, and the role of art and film in cultural criticism. This course has no prerequisites and assumes no background in philosophy; it would make an excellent introduction to philosophy for students interested in art, film, representation, and creativity. It includes an examination of historical and contemporary thought through films and videos, in-class presentations, readings, discussions, and student writings. These activities will allow students to gain an understanding of diverse, often competing, perspectives on basic human problems and the great influence of film and images in contemporary life. Students will examine diverse viewpoints that will allow them to understand a wide range of views and challenge them to defend their own positions. This course involves active use of writing, speaking, and group projects. It provides opportunities for gathering information, analyzing problems, synthesizing diverse perspectives, and developing one's own thought and the reasons for it by linking theory to practice.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 003 (GH) Persons, Moral Values and the Good Life (3) Major ethical positions and assumptions regarding questions of freedom, choice, obligation, and conflicts in contemporary moral conduct, values, and reasoning.

PHIL 003 Persons, Moral Values and the Good Life (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course offers students a broad, coherent overview of moral issues, moral reasoning, and, questions concerning a good life. It emphasizes the thought of major, influential figures and their works. The course also allows students to apply to contemporary ethical issues the theories espoused by these figures. Students will compare, contrast, and critically assess competing theories of persons and goodness, their assumptions and background world views, and their implications for practice. Students will be graded on the basis of tests, papers and a comprehensive final exam. PHIL 003 satisfies the GH requirement and is geared towards non-Philosophy majors. It may be used to fulfill minor requirements in philosophy. This course will be offered once a year with an enrollment of 25 to 240 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 006 (GH;IL) (CMLIT 006) Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.

PHIL (CMLIT) 006 Philosophy and Literature in Western Culture (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce students to the various interpretive approaches to literature and philosophy. The class will explore key philosophic themes as these are exhibited in imaginative literature, and in doing so will practice both philosophical interpretation of literature and literary treatment of philosophy. The central themes of this course could include, for example, self-knowledge and self-deception; self-isolation, alienation and community; conflict of moral responsibilities; the use and abuse of language; the meaning of art; the ideal of a "simple life;" normalcy and madness. The class will ask such questions as what counts as literature, what purpose it serves, what is the relationship between literature and ideology, and whether a text can be considered independently from what the author wanted to say in it. Students may be graded by a variety of methods, including exams, papers, and individual and group projects. One example might be a collaborative annotated bibliography project, a collaborative position paper, individual evaluations of position papers, and a comprehensive final exam. This course is a non-major General Education Humanities course. It may be used to fulfill minor requirements in philosophy. This course may be used to fulfill an additional-course requirement in either the minor or the major in Comparative Literature, although it is geared primarily towards non-majors. This course will be offered once a year with an enrollment of 25-200 students depending on location. This course deals with literature and philosophy in the western tradition, and thus helps to complete the range of our other courses on western literature, such as Comparative Literature 001 and 002 (survey courses of Western Literature to the Renaissance, and Western Literature since the Renaissance), and Comparative Literature 401W and 402W (upper level chronological courses on Western Literature). This course differs from those however, by its strong emphasis on philosophical texts.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 006S (GH;IL) Philosophy and Literature in Western Culture (3) Explores fundamental issues of human existence through the traditions of western literature and philosophy.

Philosophy and Literature in Western Culture (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 008 (GH) (WMNST 008) Philosophy and Feminism (3) Explores diverse feminist philosophies of culture and knowledge, and examines gender's role in accounts of reality, truth, morality, and justice.

PHIL (WMNST) 008 Philosophy and Feminism (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course familiarizes students with concepts and problems of feminist philosophies. It seeks to examine the feminist critique of theories of knowledge and power, as well as the cultural, political, and linguistic implications of this critique. Students will be expected to evaluate existing epistemological assumptions, social organization, the character of power, and language from the vantage of contemporary feminism and its historical context. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. WMST/PHIL 008 satisfies the GH requirement and is geared towards non-Philosophy majors. It may be used to fulfill the minor requirement in philosophy. This course is offered once a year with an enrollment of 25-200 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 007 (GH;IL) Asian Philosophy (3) Introduction to philosophical, moral, and aesthetic teachings of Asian traditions such as Hinduism, Buddhism (including Zen), Taoism, Confucianism, and Shintoism.

PHIL 007 Asian Philosophies (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This class is an introduction to the major intellectual philosophical traditions of Asia: Hinduism, Buddhism and Zen Buddhism, Jainism, Confucianism and Neo-Confucianism, Taoism, and Korean thought. The course introduces students to Asian thought through careful study of major, representative texts and authors of each of these traditions. In addition, the course seeks to identify parallels and differences between Asian thought and Western philosophy, and also seeks to explore the intercultural and interdisciplinary vitality of Asian thought today.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 009 (GH;US) Philosophy, Race, and Diversity (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.

PHIL 009 Philosophy, Race, and Diversity (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the diverse philosophical concepts and problems regarding race. It covers writings dealing specifically with critiques of the dominant theories and definitions of racial identity, thereby providing an introduction to the diversity of ethical and social approaches to questions concerning race. This course is designed to satisfy the criteria for a humanities course with a focus on diversity (General Education Humanities and Diversity Focused). In particular, it is designed to be an offering in the humanities insofar as it: (1) develops a broad, coherent overview of the meaning of cultural diversity itself (including a clarification of the conceptions of culture, race, gender, nationality, and pluralism); (2) stresses the writings of major theorists from both the traditional canon of Western thought and diverse traditions, most prominently African-America, Latin-American, Asian American, and Native American traditions; (3) helps students develop the skills to interpret and to assess the nature, forms, and place of human values in our multi-cultural world; (4) fosters a deeper appreciation of and more critical attitude toward the ultimate ends of human action; (5) offers ample opportunities to engage in comparative philosophy and, allied with these, numerous challenges to communicate clearly, think logically, and evaluate critically the positions and perspectives being compared; (6) meets fully the stated objectives of general humanities education by providing students with texts occupying a central place in one or more human cultures and, then, by working through these texts in a careful and critical manner (such a process of working through these texts being also one of thinking critically and imaginatively about the questions posed by the texts, moreover one of being invited or even forced to integrate various perspectives). As a diversity focused course, PHIL 009 will carefully treat the philosophical issues of pluralism, universalism, diversity, and community. It will also pay careful attention to the diverse philosophies of different cultural communities. The conflicts between cultural localism and global economics will receive critical attention. In particular, this course will: (1) focus initially on ethnicity and race, then on gender and globalism; (2) encourage students to develop an understanding of the intellectual and ethical backgrounds and assumptions of other traditions and peoples; (3) help students develop a truly global, pluralistic, and multi-cultural viewpoint; and (4) explore the intellectual history of groups identified by ethnicity, race, gender, and religion. Students will be graded on a collaborative annotated bibliography project, a collaborative position paper, individual evaluations of position papers, and a comprehensive final exam. The course is intended as a General Education Humanities and Intercultural/International competency course and as such may serve as an historical overview of race and diversity in philosophy as well as an introduction to critical thinking about topical issues. This course may provide introductory material for courses in anthropology, political science, sociology, philosophy, and so on. More importantly, it may encourage students to think more carefully and critically about the questions raised in this course and their manifestation in social and political life. The course is a non-major General Education Humanities and Intercultural course intended for non-philosophy majors. It may be used to fulfill minor requirements in philosophy. PHIL 009 will be offered once per year with 150-200 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 009U (GH;US) Philosophy, Race, and Diversity (3) Critically examines the significance of race and cultural diversity for, and in, understandings of reality, knowledge, truth, morality, and justice.

Philosophy, Race, and Diversity (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 010 (GH) Critical Thinking (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.

PHIL 010 Critical Thinking (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to bring students to a critical awareness of the function of argumentation in the various forms it takes, both in the academic realm of logic, as well as the everyday world of television, newspapers, and other forms of communication. Students will examine how arguments are constructed and the means that are used to make an argument convincing. They will learn to critically analyze arguments in order to detect careless language use and fallacies. They will also learn various types of arguments. Students will be graded on weekly problem-solving homework assignments and re-writes, collaborative fallacy presentations, a mid-term exam, and a comprehensive final exam. PHIL 010 satisfies the GH requirement and it may be used to fulfill minor requirements in philosophy. This course is offered once a year with an enrollment of 25-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 010S (GH) Critical Thinking (3) Discussion of the validity, soundness, and fallacies of everyday language use and reasoning; informal logic; and manipulative arguments and propaganda.

Critical Thinking (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 011 (GH) Philosophy, Science, and Truth (3) Examines the philosophical foundations of natural scientific inquiry, knowledge, objectivity, and the relation of scientific truth to common sense.

PHIL 011 Philosophy, Science, and Truth (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course familiarizes students with concepts and problems in the philosophy of science and scientific method, with a view towards problems of truth and the philosophical foundations of scientific inquiry. The course develops students' abilities to reason inductively as well as deductively and to examine the nature of reasoning and its role in scientific inquiry. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 01 1 satisfies the GH requirement and is geared towards non-Philosophy majors. It may be used to fulfill the minor requirements in philosophy. This course is offered once a year with an enrollment of 25-200 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 012 (GQ) Symbolic Logic (3) Formal logical structures of propositions and arguments; mechanical tests and proof techniques for logically necessary truth and deductive validity.

Symbolic Logic (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 013 (GH) Philosophy, Nature, and the Environment (3) Studies competing historical and contemporary conceptions of nature, their philosophical foundations, and their implications for environmental problems and public policy.

PHIL 013 Philosophy, Nature, and the Environment (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course familiarizes students with concepts regarding the central and very old philosophical problem of describing and understanding nature and the place of human beings in it. This philosophical discourse has evolved in the past 25 years into a firm sub-discipline of philosophy itself, usually under the title of "Environmental Philosophy" or "Philosophy of nature." The discipline addresses a complex of crucial problems of contemporary society, politics, and ethics revolving around the relation of human beings and the environment. Students will learn the various and conflicting views on nature and the environment, and they will develop the ability to critically navigate these various positions as well as the assumptions underlying the contemporary environmental debate. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 013 satisfies the GH requirement and is geared towards non-Philosophy majors. It may be used to fulfill minor requirements in philosophy. This course is offered once a year with an enrollment of 50-200 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 014 (GH;US) Philosophy of Love and Sex (3) Explores Western theories and attitudes concerning intimacy and examines various ethical issues involving love and sex.

PHIL 014 Philosophy of Love and Sex (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

An examination of theories and attitudes concerning love and sexuality that have been prevalent in the Western world. Course topics will include philosophical and theological conceptions of sex and love and ethical issues related to these topics, including monogamy, same-sex marriage, cultural differences, pornography, and consent. The course will focus on contemporary US beliefs and practices examined through the lens of the different beliefs and practices concerning intimacy within the cultures of the US. The lens of gender, race/ethnicity, and sexual orientation will be ongoing themes of the class and included in all topics. The course has no prerequisites and assumes no background in philosophy. It is an excellent introductory course for students interested in learning the skills of doing philosophy. The course will focus on linked ethical issues that will be investigated through readings, essays, and group projects and are designed to encourage students to cultivate ethical awareness and inquiry by understanding and investigating diverse viewpoints and developing a richer understanding of their own positions. The course will provide opportunities for gathering information, analyzing arguments, synthesizing diverse viewpoints, and developing a richer understanding of and support for one's own beliefs and practices. Students will be evaluated based on class participation, short essays, examinations, and group presentations. The course will serve as a GH and GI requirement and it may be used to fulfill minor requirements in philosophy. The course will be offered once a year with 25-250 seats per offering.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 083S (GH) First-Year Seminar in Philosophy (3) Critical introduction to philosophical issues in ethics, social and political theory, religion, art, metaphysics, and epistemology.

PHIL 083S First-Year Seminar in Philosophy (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

First-Year Seminars in Philosophy provide critical introductions to fundamental philosophical issues and problems. Each first-year seminar develops a broad overview of historical and contemporary thought through readings, discussions, and student writings. In this way, students will gain an understanding of important figures, ideas, problems, and theories that have shaped and have continued to influence thought and practice around the world. Students will examine diverse viewpoints that will allow them to understand a wide range of views and challenge them to defend their own positions. First-year seminars involve active use of writing, speaking, and group projects. They provide opportunities for gathering information, analyzing problems, and synthesizing diverse perspectives. Finally, each first year seminar in philosophy allows students to link theory to their own lives.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 098 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 100 (GH) The Meaning of Human Existence (3) Explores differing views of the significance of human life, the meaning of freedom, and the way to a meaningful life.

PHIL 100 The Meaning of Human Existence (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is primarily for non-Philosophy majors and for students considering a major in Philosophy. It is designed to evoke disciplined reflection on basic philosophical questions which are often raised in an unmethodical and uninformed way. It will attempt to approach philosophical thinking from the perspective of everyday concerns, rather than from the various readings which will be done for the course. The general question of the meaning of human existence will furnish a rubric under which philosophical ideas and evaluations enter into ordinary life. The course will offer the opportunity to look at a variety of ways in which human beings have addressed the issues involved in the question of the meaning of life. The philosophical figures whose works will be examined include de Beauvoir, Freud, Marcel, Marcuse, Jaspers, and Sartre. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL100 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 101 (GH) Pragmatism and American Philosophy (3) An introduction to American thought and its relation to American culture, with a focus on the development of pragmatism.

PHIL 101 Pragmatism and American Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for philosophy majors. (The analogous course for majors is PHIL 401.) Phil 101 is designed to familiarize students with introductory concepts, problems, and history of the American philosophical tradition. The course will explore basic themes in American thought such as nature, God, experience, democracy, progress and process, truth and meaning, focusing especially on the pragmatist philosophers. The course will examine the ways in which American philosophy develops its unique paths as distinct from the European tradition and what this legacy means today. Students will be expected to critically evaluate the problems raised by these philosophers as well as their influences on American society, politics, and culture. One of the principal goals is to enable students to understand better this rich philosophical tradition - for many students, their own heritage - and its place as both formative of and critical of the contemporary American philosophical, social, moral, religious, and aesthetic landscape. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 101 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in philosophy. This course will be offered once a year with an enrollment of 35 to 50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 102 (GH) Existentialism and European Philosophy (3) Introduction to European philosophy and issues of life, death, meaning, and absurdity, with a focus on existentialism and its development.

PHIL 102 Existentialism and European Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for philosophy majors. (The analogous course for majors is PHIL 402.) PHIL 102 introduces students to European philosophy over the past two hundred years. The course begins with the overview of major philosophical themes and developments, and then examines these developments in existentialism, philosophical literature, and postmodernism. The course will focus on metaphysical, moral, and social issues concerning the nature of reality, the nature of the self, the basis of values, and the relations between individuality and community. Students will critically consider these issues in required comparison/contrast papers, a position paper, a collaborative project, and a comprehensive final exam. This course serves as an introduction to the discipline and prepares students for further study in the history of philosophy. PHIL 102 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in philosophy. It is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 103 (GH) Introduction to Ethics (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.

PHIL 103 Introduction to Ethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for philosophy majors. (The analogous course for majors is PHIL 418: Ethics.) PHIL 103 introduces students to the major aspects of ethics: the natures of ethical reasoning, the major ethical traditions and their similarities and contrasts, as well as enduring ethical issues that link theory to practice in critical ways. This is an introductory course and addresses issues that any student, no matter what major, will face. Students will be graded on quizzes, re-writing and expanding quizzes, a collaborative project, and a comprehensive final exam. PHIL 103 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in philosophy. This course is offered once a year with an enrollment of 25-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 103W (GH) Introduction to Ethics (3) Ethical theory about virtue, duty, autonomy, and life quality applied to moral problems, including character, violence, oppression, abortion, and suicide.

Introduction to Ethics (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 105 (GH) Introduction to Philosophy of Law and Legal Ethics (3) Historical and contemporary philosophies of law; concepts of responsibility, property, rights, and justice; and ethical issues in legal practice.

PHIL 105 Introduction to Philosophy of Law and Legal Ethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for philosophy majors. (The analogous course for majors is PHIL 405: Philosophy of Law.) PHIL 105 will provide students with a critical overview of central positions and figures in philosophy of law and teach students interpretative and critically evaluative methods for distinguishing and attempting to resolve philosophical problems within these positions. This course will investigate the history of philosophy of law and the diverse views of human nature inherent to central philosophical positions. The course will examine the relations between human values, ethics, and law as well as how these relations affect the organization of broader social, political, and religious institutions. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 105 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in philosophy. This course is offered once a year with an enrollment of 25 to 100 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 106 (GH) Introduction to Business Ethics (3) Studies ethical foundations of business and ethical problems in business practices such as advertising, international trade, labor relations, and marketing.

PHIL 106 Introduction to Business Ethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for philosophy majors. (The analogous course for majors is PHIL 406: Business Ethics). PHIL 106 will teach students central philosophical and ethical problems in the history of business practices. It will investigate the nature of business and business practices, their relation to the human condition more generally, and their relation to and effect on human values. The course will develop a student's critical skills in evaluating both the assumptions and the philosophical foundations and justifications for business and economic systems, the relation between morality and specific business practices, and central positions and figures in the history of philosophical analysis of these questions. Historical figures will include Aristotle, Hume, Adam Smith, Mill, Marx, Hayek, and Keynes. The course will investigate business as a central feature of modern society and culture, how it evolved, and the philosophical implications for contemporary society and human values. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 106 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 107 (GH) (S T S 107) Introduction to Philosophy of Technology (3) The character of technology; its relation to human values; philosophical assumptions in its development; and how it transforms the world.

PHIL (S T S) 107 Introduction to Philosophy of Technology (3) (GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to the Philosophy of Technology" surveys a number of recent thinkers on the meaning of technology, its role in our and other societies, and critiques of its effects. Through readings of classic works on philosophy of technology as well as investigations of contemporary media reports and representations of technology, the course will engage your thought about what technology "means" to you and the values embedded in it. This course meets the broad general education needs of students from the humanities, social sciences, engineering, agriculture, as well as professional tracks such as business and pre-law. As technology is increasingly fundamental to our modern way of life in all its aspects, this course gets students asking question about why we do what we do with technology and how it affects us, others around us, and the environment. Required readings typically include collections of essays ranging in reading level from popular journalism to mass-market fiction to historical analyses of technological change and in-depth philosophical investigations of the concept of technology. Classroom time will be organized around lecture, regular classroom discussion, and a number of student-led debates. Evaluation will be based upon short writings, a small research paper, a midterm, and a final. The course meets the requirement for General Education in the Humanities (GH). Crosslisted with both S T S and PHIL it compliments other S T S courses (notably, S T S 101 and 233) and is a pre-requisite for S T S/ Phil 407. The course is offered biannually and is capped at 40 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 108 (GH) Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.

PHIL 108 Introduction to Social and Political Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 408: Social and Political Philosophy.) PHIL 108 will critically examine central philosophical positions, ideologies, and figures in the history of social and political philosophy, their relation to contemporary society, politics, and culture, and the significance of social and political philosophy for human values. The course will investigate the nature of political and social philosophies and systems of social and political practice towards providing students with a greater critical understanding of the nature of social and political organization, their effects on human values, and the traditional philosophical problem of what constitutes the good society. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 108 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course will be offered once a year with an enrollment of 35 to 50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 108H (GH) Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.

Introduction to Social and Political Philosophy (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 108W (GH) Introduction to Social and Political Philosophy (3) Critical introduction to political authority, rights, justice, community, inequality, power, pluralism, and other contemporary, social, and political issues.

Introduction to Social and Political Philosophy (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 109 (GH) Introduction to Aesthetics (3) Examines the nature of art and aesthetic experience, art's relation to beauty and truth, and the nature of creativity.

PHIL 109 Introduction to Aesthetics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 409: Aesthetics). Phil 109 is designed to introduce students to the various problems surrounding the philosophical treatment of the various arts. Aesthetics, or the philosophy of art, is a systematic exploration of aesthetic experience, creativity, various theories of beauty, and principles on which criticism of the arts (including literature) can be based. This is a special field of philosophy which focuses on the arts and the creative process, but which, for some thinkers, involves many links to other aspects of human existence, including the political and various metaphysical questions about being and human being. The objective will be to give students a good grounding in these various problems and to expose them to important perspectives and approaches to these problems and to the question of the place of art (as the arts generally) in human existence. Emphasis will be placed on both historical and perspectival sweep in the course and, as a result, the students should leave the course with an enriched understanding of the nature of the arts, of the creative process itself, and of the place both play in being human. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 109 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 109H (GH) Introduction to Aesthetics (3) Examines the nature of art and aesthetic experience, art's relation to beauty and truth, and the nature of creativity.

Introduction to Aesthetics (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 110 (GH) Introduction to Philosophy of Science (3) Examines science's assumptions about knowledge and reality, the relation between science and culture, and the nature of scientific progress.

PHIL 110 Introduction to Philosophy of Science (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors (and in this case for Science majors as well), as well as for others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 410: Philosophy of Science). PHIL 110 is designed to give students a coherent presentation of science's assumptions about knowledge and reality, the relation between science and culture, and the nature of scientific progress. Historical foundations of science will be addressed as well as contemporary theories and issues, as the class examines the following topics: the relation between physics, mathematics, and philosophy; the nature of reality; the nature of knowledge; the nature of causality; the nature of scientific progress, and the nature of hypothesis in natural science. Students will be required to critically examine and evaluate the positions, relations, and theories addressed in class. They will be graded on class discussion, exams, a collaborative web project, and a final paper. PHIL 110 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 113 (GH) Introduction to Philosophy of Literature (3) Examines philosophical ideas in literature, literary forms in philosophies, style and genre, and relation of philosophy, literature, writing, and culture.

PHIL 113 Introduction to Philosophy of Literature (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 413.) PHIL 113 will provide a critical overview of the relation between philosophy and literature, philosophical literature, and literary philosophy, discussing specific historical figures, movements, and theories on the topic. The course will seek to provide students with an understanding of the nature of philosophical aesthetic values in literary expression, as well as ideological expressions within literature. It will investigate the nature of philosophical writing and of literary writing in order to critically interpret and assess their differences and similarities as representative of the nature of the human values and the human condition. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 113 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements. This course will be offered once a year with an enrollment of 35 to 50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 115 (GH) Introduction to Philosophy and Education (3) Examines the nature and goals of education, the philosophical foundations of educational theories, and their economic, political, and cultural implications.

PHIL 115 Introduction to Philosophy and Education (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 415: Philosophy of Education.) PHIL 115 provides students with a critical survey of philosophies of education and philosophical conceptions of the relations between knowledge, truth, experience, and human values. The course will consider the historical contexts from which philosophical theories about education have arisen and their ideological political, social, and economic - implications. In addition, it will develop a student's critical skills regarding self-education and the development of education in contemporary society towards a greater understanding of the philosophical problems that underlie differing philosophical views of education. Students will be graded on a collaborative annotated bibliography project, a collaborative position paper, evaluations of peer papers, and a comprehensive final exam. PHIL 115 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 116 (GH) Introduction to Philosophy of Social Science (3) Examines the philosophical foundations of the social sciences, focusing on issues of methodology, quantification, objectivity, and value-neutrality.

PHIL 116 Introduction to Philosophy of Social Sceince (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 416: Philosophy of Social Science.) PHIL 116 will provide a critical historical survey of philosophical work on social science, its relation to science, and its value for philosophy. The course will examine key figures in philosophy of social science and develop the student's understanding of the significance of the rise of this area of philosophy, in addition to its central problems, questions, and contributions to further understanding of the human condition. Additionally, the course will seek to develop the student's critical reasoning skills in approaching the subject matter, interpreting and evaluating it, and developing possible solutions to philosophical problems. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 116 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements of Philosophy. This course is offered once a year with an enrollment of 25-100 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 117 (GH) Introduction to Philosophy of Mathematics (3) Central philosophical issues regarding mathematics, including the reality of numbers, set theory, truth and content, and realism/anti-realism in mathematics.

PHIL 117 Introduction to Philosophy of Mathematics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 417: Philosophy of Mathematics.) PHIL 117 will provide an overview - both historical and contemporary - of philosophy of mathematics and will investigate central problems of the philosophy of mathematics. The course will examine the nature of thought, knowledge, and the relation of both nature and human reason to mathematics. It will investigate metaphysical problems associated with concepts of mathematics in order to assess the relation between the human condition and the nature of mathematical discovery or construction. Students will be graded on quizzes, re-writing and expanding quizzes, a collaborative project and paper, and a comprehensive final exam. PHIL 117 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 118 (GH) Introduction to Environmental Philosophy (3) Considers the moral status of the environment and applies ethical theory to issues such as preservation, hunger, pollution, and sustainability.

PHIL 118 Introduction to Environmental Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 418: Environmental Ethics.) PHIL 118 will provide an historical and contemporary survey of differing views of the relation of humans and nature, and of environmental problems and human development. The course will provide a critical examination of differing conceptions of value in regard to nature and differing conceptions of human values and the human condition more generally. The course will investigate how different social, economic, and political ideologies and systems affect the human relation to nature, and how the ethical problems that arise from such systems may be critically evaluated and potentially resolved. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 118 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in Philosophy. This course will be offered every other year with an enrollment of 25-100 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 119 (GH) Ethical Leadership (3) Introduction to philosophical theories of ethics and leadership. Uses literary and biographical texts in developing skills of application.

Ethical Leadership (3)

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 120 (GH) Introduction to Philosophy of Economics (3) Studies philosophical issues such as individualism and preference, behavior and choice, and history and politics in economic systems and theories.

PHIL 120 Introduction to Philosophy of Economics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take Philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 420). PHIL 120 will provide a critical historical survey of philosophy of economics, economic ideologies, and the relations between economics and various (ethical, epistemological, metaphysical) aspects of philosophy. It will study the theories of key figures in the history of philosophy of economics, the historical context in which they work or worked, and their significance for contemporary socioeconomic structures and relations. These figures include Aristotle, Smith, Ricardo, Mill, Marx, Durkheim, Weber, Pareto, Weblen, Schumpeter, Thurow. The student will be encouraged to develop analytical and critical skills towards an understanding of the discipline and of our place in economic history. Students will be graded on quizzes, re-writing and expanding quizzes, a collaborative research project and paper, and a comprehensive final exam. PHIL 120 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 123 (GH) Introduction to Ethics in Media and Journalism (3) Studies ethical problems, human values, and politics in differing media forms and the ways media shape such problems and values.

PHIL 123 Introduction to Ethics in Media and Journalism (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 423.) PHIL 123 will provide a critical survey of media and journalism ethics and media philosophy towards developing the student's critical media literacy and understanding of central ethical problems in the media and journalism. The course will develop an analytical comprehension of the complex relations between society and culture, the media, and philosophical and ethical problems. It will consider philosophical questions of truth, knowledge, interpretation and evaluation, and the role media culture plays in the formation of truth and knowledge in addition to specific ethical case studies. The thought of major, influential figures and their works will be emphasized, such as Hobbes, Hegel, Marx, Jefferson, Dewey, Habermas, Adorno, McLuhan, and Beauchamp. Additionally, the course shall develop the student's understanding of the relation between contemporary technological society and changing human values. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 123 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in Philosophy. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 122 (GH) Introduction to Philosophy of History (3) Examines methodological foundations and interpretations of history, the objectivity of history, and the issue of history as design or chance.

PHIL 122 Introduction to Philosophy of History (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 422.) PHIL 122 will provide a critical survey of key problems, concepts, ideologies, and figures in the history of philosophy of history, and encourage and develop the student's analytical and critical interpretation and evaluation of the theses presented. The course will study key questions regarding the human past and the potentiality of the human future as reflective of the human condition more broadly. It develops a broad, coherent overview of the nature and philosophical status of history and the philosophical assumptions and issues in the practice of history. It also emphasizes the thought of major, influential figures and their works, such as Hume, Vico, Hegel, Marx, Mill, Rickert, Dilthey, Croce, Collingwood, Mandelbaum, Hempel, and Randall. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 122 satisfies the GH requirement and it may be used to fulfill the major and/or minor requirements in Philosophy. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 124 (GH) Introduction to Philosophy of Religion (3) Explores the meaning of religious belief and experience, the existence of God, ideas of spirituality, and the question of immortality.

PHIL 124 Introduction to Philosophy of Religion (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses. (The analogous course for majors is PHIL 424: Philosophy of Religion). PHIL 124 is designed to give students a coherent overview of the various dimensions of religion elucidated when religion is examined from a philosophical perspective. Topics explored in class will include religious belief, religious experience and spirituality, arguments for the existence of God, contemporary philosophical problems in their relation to religion, religion and science, as well as religion and the future. The class will also examine the differences between Western, Eastern, and other conceptions of religion and spirituality. Major historical authors and their works will be examined, including Anselm, Aquinas, Confucius, Descartes, Lao Tse, and Peirce. Students will be required to compare and contrast differing perspectives towards religion, as well as to critically evaluate these positions. The class will also be oriented towards making relevant connections between historical and contemporary views and issues. Students will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 124 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 125 (GH) Introduction to Theories of Knowledge (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth, conception, perception, and interpretation.

PHIL 125 Introduction to Theories of Knowledge (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 425) PHIL 125 will provide a critical survey of key concepts, problems, and figures in the history of epistemology and in contemporary studies in theory of knowledge. The course will develop the student's analytical and critical skills through studying the foundations and justifications of knowledge, knowledge claims, and the very nature of knowledge and belief fundamental to all human endeavor. This class develops a broad, coherent overview of fundamental issues of belief, knowledge, truth, justification, and inquiry. It emphasizes the thought of major, influential figures and their works, such as Plato, Aristotle, Descartes, Spinoza, Locke, Kant, Kierkegaard, Wiftgenstein, Peirce, and Heidegger. Students will be graded on quizzes, re-writing and expanding quizzes, a collaborative research project and paper, and a comprehensive final exam. PHIL 125 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 126 (GH) Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.

PHIL 126 Introduction to Metaphysics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. [The analogous course for majors is PHIL 426]. PHIL 126 will provide a critical survey of key concepts, problems, and figures in the history of metaphysics and in contemporary studies in metaphysics and anti-metaphysical views. The course will develop the student's analytical and critical skills through studying the foundations of accepted belief regarding the nature of reality, being, life, mind, and God, and different philosophical arguments regarding the nature of these metaphysical questions. The thought of major, influential figures and their works will be emphasized, such as Plato, Aristotle, Aquinas, Ockham, Descartes, Locke, Kant, Hegel, Kierkegaard, Jams, Husserl, and Merleau-Ponty. Students will be encouraged to articulate their own views in response to diverse metaphysical positions as well as life itself. Students will be graded on quizzes, re-writing and expanding quizzes, a collaborative research project and paper, and a comprehensive final exam. PHIL 126 fulfills the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 125W (GH) Introduction to Theories of Knowledge (3) Historical and contemporary views on the foundations and conditions of knowledge, belief, justification, and truth, conception, perception, and interpretation.

Introduction to Theories of Knowledge (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 126H (GH) Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.

Introduction to Metaphysics (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 126W (GH) Introduction to Metaphysics (3) Explores the nature of being and reality, the problem of free will and the mind/body problem, identity, and causality.

Introduction to Metaphysics (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 127 (GH) Introduction to Philosophy of Mind (3) Problems and concepts of mind and consciousness including mind-brain identification, the nature of subjectivity, identity, and artificial intelligence.

PHIL 127 Introduction to Philosophy of Mind (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The course will provide a critical survey of key concepts, problems, and figures in the history of philosophy of mind and in contemporary studies in philosophy of mind. The course will develop analytical and critical skills through study of basic principles and logical evaluation of arguments in philosophy of mind. As a general education humanities course, this class develops a broad, coherent overview of the nature of mind, the relation of the mental to the physical, and the relations between scientific and philosophical approaches to the nature of mind; emphasizes the thought of major, influential figures and their works, such as Descartes, Locke, Kant, Hegel, Dewey, Heidegger, Wiftgenstein, Ryle, Searle, Armstrong, and Denneft; develops competence in interpretation and critical assessment of human values and their place in human subjectivity, self-identity, and intentional experience, and considers the relation of these values to cognitive experience and structures. Students will be graded on participation, three comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 127 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered once a year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 129 (GH) Introduction to Philosophy of Language (3) Studies the nature of meaning in language, how we acquire language, communication, signs, and language as descriptive of reality.

PHIL 129 Introduction to Philosophy of Language (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses rather than for Philosophy majors. (The analogous course for majors is PHIL 429.) PHIL 129 will provide a critical survey of key concepts, problems, and figures in the history of philosophy of language and in contemporary studies in linguistic philosophy. The course will develop the student's analytical and critical skills through study of the philosophical and logical foundations of language systems and the role of language problems in relation to philosophical problems. Students will be encouraged to use the linguistic and logical tools they study in the course in evaluating the content of the arguments presented. As a general education humanities course, this class develops a broad, coherent overview of the nature of language, the philosophical assumptions and methodological commitments involved in theories of language, and the relation of language to reality. The class emphasizes the thought of major, influential figures and their works, such as Plato, Aristotle, Locke, Berkeley, Herder, Cassirer, Peirce, Carnay, Wittgenstein, Austin, Searle, and Rorty. Students will be graded on participation, three comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 129 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 132 (GH) (RL ST 131) Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.

PHIL 132 (RL ST 131) Introduction to Bioethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The course, as other 100-level Religious Studies Program and Philosophy courses, is intended for Liberal Arts majors and others likely to take Religious Studies and Philosophy courses rather than for Religious Studies majors. This course will provide a critical survey of key concepts, problems, and figures in the short history of bioethics and in contemporary studies and possible future directions. The course will develop the student's analytical and critical skills through study of different views on the nature of life and what experimentation with life-forms morally entails. The course will examine the increasingly techno-scientific definition of the nature of life and the human condition and evaluate such arguments and positions of practice in regard to opposing views of life as inherently sacred. It will investigate the extent and breadth of moral arguments in regard to differing life forms and consider the rights of humans and non-human animals. Students will be graded on participation, case study analyses, a group presentation, and a final paper. PHIL 132/RL ST 131 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy and Religious Studies. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 131 (GH) Introduction to Agricultural Ethics (3) Includes the study of animal rights, international development, environmental sustainability, biotechnology, social policy and justice, and agrarian community.

PHIL 131 Introduction to Agricultural Ethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The course, as with other 100-level philosophy department courses, is intended for Liberal Arts majors and others likely to take philosophy courses, rather than for Philosophy majors. (The analogous course for majors is PHIL 431.) PHIL 131 will provide a critical survey of key concepts, problems, and figures in the history of agrarian thought and agricultural ethics and in contemporary studies. The course will develop the student's analytical and critical skills through evaluation of both the diversity of philosophical positions and ethical problems. Students will examine the conflicts of values inherent to the practice of agriculture in post-industrial societies and agrarian societies, and will be encouraged to formulate their own well-reasoned views regarding ethical problems of agriculture. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. PHIL 131 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 132S (GH) Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.

PHIL 132S Introduction to Bioethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The course, as other 100-level Religious Studies Program and Philosophy courses, is intended for Liberal Arts majors and others likely to take Religious Studies and Philosophy courses rather than for Religious Studies majors. This course will provide a critical survey of key concepts, problems, and figures in the short history of bioethics and in contemporary studies and possible future directions. The course will develop the student's analytical and critical skills through study of different views on the nature of life and what experimentation with life-forms morally entails. The course will examine the increasingly techno-scientific definition of the nature of life and the human condition and evaluate such arguments and positions of practice in regard to opposing views of life as inherently sacred. It will investigate the extent and breadth of moral arguments in regard to differing life forms and consider the rights of humans and non-human animals. Students will be graded on participation, case study analyses, a group presentation, and a final paper. PHIL 132/RL ST 131 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy and Religious Studies. This course is offered every other year with an enrollment of 35-50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 198 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 199 (IL) Foreign Study--Philosophy (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Philosophy (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 200 (GH) (CAMS 200) Ancient Philosophy (3) Examines the thought and influence of major Western thinkers from the pre-Socratics to the neo-Platonists, emphasizing Plato and Aristotle.

PHIL (CAMS) 200 Ancient Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

PHIL (CAMS) 200 satisfies the GH requirement. As part of the history of philosophy sequence required of undergraduate philosophy majors, this course is designed to present students with a survey of ancient Western Philosophy beginning with the pre-Socratics, continuing with Plato (Socrates), Aristotle, and the post-Aristotelians, and concluding with neo-Platonists and early Christians. Emphasis will be placed on Plato and Aristotle. The class will examine the historical and cultural foundations from which ancient Western philosophy grew, and will explore issues which were focal points of ancient philosophy, such as the nature of reality, change, permanence, truth, form, and matter. Students will critically consider these issues in required comparison/contrast papers, a position paper, a collaborative project, and a comprehensive final exam. Students will also be evaluated on class participation. The course is prerequisite to Philosophy 400-level courses and it will be offered once a year with an enrollment of 35 students. For students studying ancient languages, particularly Greek, this course will offer an important exposure to the interpretation of philosophical text. For Classical and Ancient Mediterranean Studies majors, PHIL/CAMS fulfills the requirement under Supporting Courses for three credits in Greek or Roman literature and language, civilization, or archaeology; and it also fulfills the requirement for six credits for study at any level from an approved list in the general field of Classics and Ancient Mediterranean Studies.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 201 (GH) Medieval Philosophy (3) Examines the thought and influence of major Western thinkers from the fourth to the fifteenth centuries, emphasizing Augustine and Aquinas.

PHIL 201 Medieval Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

As part of the history of philosophy sequence required of undergraduate Philosophy majors, this course is designed to examine the movements of thought and major thinkers from the fourth to the fifteenth centuries. The course will begin by studying the historical and philosophical foundations of Medieval thought through an examination of philosophical problems from Ancient Philosophy. It will proceed to a study of Augustine, Islamic Philosophy, Jewish Philosophy, Aquinas, Ockham, and Duns Scotus. Students will be required to critically analyze the texts of the philosophers studied in class, as well as to compare, contrast, and critically evaluate the ideas of these thinkers. They will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 201 satisfies the GH requirement, it may be used to fulfill the minor requirements in Philosophy, and it is a prerequisite to the 400-level courses. It will be offered once a year with an enrollment of 35 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 202 (GH) Modern Philosophy (3) Examines the thought and influence of major Western thinkers from Descartes to Kant, emphasizing rationalism and empiricism, and critical philosophy.

PHIL 202 Modern Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

As part of the history of philosophy sequence required of undergraduate philosophy majors, this course is designed to examine the thought and influence of the major Western thinkers of Modern Philosophy: Hobbes, Descartes, Leibniz, Spinoza, Locke, Hume, and Kant. The historical, philosophical, and political foundations of this philosophical era will be examined, as well as topics that were prominent intellectually during this time, such as causality, the relation between mind and body, how we come to know things and the degree of certainty we can attribute to our knowledge, and whether or not we can prove God's existence. Students will be required to critically analyze the texts of the philosophers studied in class, as well as to compare, contrast, and critically evaluate the ideas of these thinkers. They will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 202 satisfies the GH requirement, it may be used to fulfill the minor requirements in Philosophy, and it is a prerequisite to the 400-level courses. This course will be offered once a year with an enrollment of 35 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 203 (GH) Nineteenth Century Philosophy (3) Examines the thought and influence of major Western thinkers from Hegel to Nietzsche, including Marx, Kierkegaard, and Schopenhauer.

Phil 203 19th Century Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

As part of the history of philosophy sequence required of undergraduate philosophy majors, this course provides an overview of the central currents of 19th-century philosophy. This course in combination with the others of the sequence allows a consistent approach to history of philosophy. This historical sequence will comprise the core of all philosophy major options. As a general education humanities course, this class: 1) develops a broad, coherent overview of the historical development of western philosophy in the 19th century, and the philosophical problems, methods, and results of this development; 2) emphasizes the thought of major influential figures and their works, such as Hegel, Marx, Kierkegaard, Schopenhauer, Nietzsche, Mill, and Bergson; 3) develops competence in interpretation and critical assessment of human values and their place in theory and practice as set both in philosophically and historically central views that span all areas of philosophical thought; 4) leads the students to appreciate and think critically about the ends of human action and final, non-instrumental, aesthetic values in moral, political, and aesthetic experience (including attention to the metaphysical and epistemological foundations of this experience) as set both in the work of major philosophers of the 19th century; 5) teaches students how to communicate clearly, think logically, and evaluate critically by providing them a critical survey of philosophical theories that are both important in the historical development of western thought and important for understanding continuing and contemporary philosophical issues today; and 6) meets fully all its stated humanities general education objectives by providing students with texts that occupy a central role in the humanities, requiring careful oral and written analysis of these texts, developing abilities to think critically and imaginatively about the issues in these texts, and leading students to integrate course material with other humanities subjects such as literature, foreign languages, history, religion, social and political theory, philosophy of science. Students will be graded on participation, three comparison/contrast papers, one position paper, one collaborative presentation, and a comprehensive final exam. PHIL 203 satisfies the GH requirement, it may be used to fulfill the minor requirements in Philosophy and it is a prerequisite to the 400-level courses. This course will be offered once a year with an enrollment of 35 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 204 (GH) Twentieth Century Philosophy (3) Examines the thought and influence of major Western thinkers of the century, including pragmatists, phenomenologists, existentialists, critical theorists, and feminists.

PHIL 204 20th Century Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

As part of the history of philosophy sequence required of undergraduate philosophy majors, this course provides an overview of the central currents of 20th-century philosophy. This course in combination with the others of the sequence allows a consistent approach to history of philosophy. This historical sequence will comprise the core, of all philosophy major options. As a general education humanities course, this class: 1) develops a broad, coherent overview of the historical development of western philosophy in the 20th century, and the philosophical problems, methods, and results of this developments; 2) emphasizes the thought of major, influential figures and their works, such as Peirce, James, Dewey, Frege, Moore, Russell, Carney, Wiftgenstein, Hussel, Heidegger, Sartre, Merleau-Ponty, debeauvoir, Addams, Stanton, Rich, Chodorow, MacKinnon, lrigaray, Horikeimer, Adorno, Habermas; 3) develops competence in interpretation and critical assessment of human values and their place in theory and practice as set forth in philosophically and historically central views that span all areas of philosophical thought; 4) leads the students to appreciate and think critically about the ends of human action and final, non-instrumental, aesthetic values in moral, political, and aesthetic experience (including attention to the metaphysical and epistemological foundations of this experience) as set forth in the work of major philosophers of the 19th century; 5) teaches students how to communicate clearly, think logically, and evaluate critically by providing them a critical survey of philosophical theories that are both important in the historical development of western thought and important for understanding continuing and contemporary philosophical issues today; and, 6) meets fully all its stated humanities general education objectives by providing students with texts that occupy a central role in the humanities, requiring careful oral and written analysis of these texts, developing abilities to think critically and imaginatively about the issues in these texts, and leading students to integrate course material with other humanities subjects such as literature, foreign languages, history religion, social and political theory, philosophy of science. Students will be graded on participation, three comparison/contrast papers, one position paper, one collaborative project, an a comprehensive final exam. PHIL 204 satisfies the GH requirement, it may be used to fulfill the minor requirements in Philosophy, and it is a prerequisite to the 400-level courses. This course will be offered once a year with an enrollment of 35 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 208 (GH) Contemporary Philosophy (3) Recent trends in philosophical thought and culture, hybrid philosophies, and the philosophical landscape of the future.

PHIL 208 Contemporary Philosophy (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

As part of the history of philosophy sequence required of undergraduate philosophy majors, this course is designed to examine recent trends in philosophical thought and culture, hybrid philosophies, and the philosophical landscape of the future. The class will be divided according to the following areas of contemporary thought: Postmodernism, Analytic Thought (the realism/anti-realism debate), neo-Pragmatism, Beyond Postmodernism, Feminism and Science. Students will be required to critically analyze the texts of the philosophers studied in class, as well as to compare, contrast, and critically evaluate the ideas of these thinkers. They will be graded on participation, comparison/contrast papers, a position paper, a collaborative presentation, and a comprehensive final exam. PHIL 208 satisfies the GH requirement, it may be used to fulfill the minor requirements in Philosophy, and it is a prerequisite to the 400-level courses. This course will be offered every other year with an enrollment of 35 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 212 (GQ) Symbolic Logic (3) The logic of propositions, relations, and quantification; the nature and properties of formal systems. Intended primarily for science-oriented students.

Symbolic Logic (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 233 (GH) (S T S 233) Ethics and the Design of Technology (3) Ethics and individual and group decision-making in the design of technology including design projects and specific attention to institutional ethics.

PHIL (S T S) 233 Ethics and The Design of Technology (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Technology has been around nearly as long as humans have been around. Humans have always created artifacts and artificial environments to aid us in our survival and to help fulfill our needs and desires. Moreover, today technology is all pervasive, transforming and conditioning our social and political relations, our cultural understanding of ourselves, and our relationship with other animals and the natural environment. Yet not much thought has been expended upon the meaning of technology, particularly in its moral dimensions. This course takes several steps to correct this deficiency. Because technologies can have far reaching effects well beyond the domain of their immediate application, the role of designers is crucial in deciding whether we take an intelligent or unintelligent approach to technology. All technologies exist to serve one human need or another. Designers make important choices concerning the creation, development, and deployment of many if not most technological innovations. Consequently, the task of the designer is an ethical one. Our goal is twofold: First, we will try to broaden our moral imaginations by taking into account the wider ranging effects that technologies have in order to reveal the moral significance of design choices. Second, we will examine the process of design itself, particularly in the way that the design process is similar to ethical reasoning in general. It is hoped that by accomplishing these two tasks, we will be empowered as designers, customers, citizens, and future employers to make choices that better fulfill the moral task of technological innovation. Two means will be used to achieve our course goals. Much of the time will be spent thinking about and discussing the various impacts that particular technologies have upon the social, cultural, and political lives of human beings and upon the natural environment. To facilitate thoughtful discussion, we will read a number of authors, writing short papers in preparation for critical discussion in class. In this way we will be better prepared to discuss and think about the issues at hand by having had the chance to organize our thoughts in advance. The second means is aimed at putting our ideas into practice by working in teams on several design projects. These design projects will require the integration of readings, discussion, and research and their synthesis to solve a design problem. Student teams will work cooperatively on these projects and make oral progress reports as well as final written and oral reports.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 221 (GH) Philosophy of Science (3) An inquiry into the form and function of concepts, laws, theories, and into the character of scientific explanation and prediction.

PHIL 221 Philosophy of Science (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

PHIL 221 provides an introduction to the modern and contemporary theories of space, time, matter, and to scientific methodology more broadly. The course presents these concepts via their historical development. An awareness of the historical background forms the basis for a critical and philosophical understanding of mathematical physics and, again, scientific methodology. The main texts may include: Galileo, On the World Systems, A. Einstein, Relativitv: The Special and the General Theory, and B. Hoffmann, The Strange Story of the Quantum. Students will be evaluated on participation, case study analysis, case study group presentation and response, and final paper. PHIL 221 satisfies the GH requirement, and may be used to fulfill major and minor requirements in Philosophy. It will be offered once a year with an enrollment of 50 students.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 280H (GH) (FD SC 280H) Food, Values, and Health (3) The perceived relatinship between food and health, emphasizing the conceptual nature of both; and how values contribute to the relationship.

Food, Values, and Health (3)

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 297A Beatles Music & Philosophy (3) This course will introduce students to concepts from philosophy through an examination of the music of the Beatles. In some instances this involves a philosophical examination of Beatles songs. In other instances, the course will consider how the Beatles themselves consciously advanced their own philosophical ideas.

Beatles Music & Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 298 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 300H Honors Course in Philosophy (3-12) Honors program of intensive individual or group study in one of the areas or issues of philosophy.

Honors Course in Philosophy (3-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2001
Prerequisite: fifth-semester standing all-University average of B approval by Departmental Honors Advisor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 398 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 399 (IL) Foreign Study--Philosophy (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Philosophy (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 401 (AM ST 421) American Philosophy (3) Survey of key figures and movements in American thought including the Transcendentalists, the Pragmatists, and contemporary developments.

American Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy or 6 credits of philosophy at the 200-level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 402 European Philosophy (3 per semester, maximum of 6) Survey of key figures and movements of Europe, including phenomenology, existentialism, structuralism and post-structuralism, and critical theory.

European Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: PHIL 102 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 403 Environmental Ethics (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.

Environmental Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 103 or 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 405 Philosophy of Law (3) Examines philosophical views of the nature of law, legal ethics, law and society through questions regarding definition, interpretation, and institutions.

Philosophy of Law (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 105 or 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 407 (S T S 407) Technology and Human Values (3) Interrelationships of twentieth-century technological change and human values. Emphasis on the social and ethical aspects of technological progress.

Technology and Human Values (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 107 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 406 Business Ethics (3) Examines the moral justification of business practices and economic systems through critical analyses of case studies and applied ethical theories.

Business Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 408 Social and Political Philosophy (3) Historical and philosophical foundations of political organization, authority, justice, and contemporary issues of rights, community, and culture.

Social and Political Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits in philosophy including PHIL 108 and one 200-level philosophy course; two 200-level philosophy courses or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 408W Social and Political Philosophy (3) Historical and philosophical foundations of political organization, authority, and justice, and contemporary issues of rights, community, and culture.

Social and Political Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits in philosophy including PHIL 108 or 6 credits at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 409 Aesthetics (3) Studies concepts of beauty, truth, value, representation, production and reproduction, and reality through philosophical theory and works of art.

Aesthetics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 109 or 6 credits of philosophy at the 200 level or 3 credits of art or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 410 Philosophy of Science (3) Historical and contemporary foundational and methodological issues such as causality, relativity and epistemological relativism, teleology, and the nature of reality.

Philosophy of Science (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 110 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 412 Philosophical Logic (3) The character of thought in terms of truth properties, modality, reference, relations between propositions, and theories of argument and inference.

Philosophical Logic (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 012 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 413 Philosophy of Literature (3) Discusses truth, belief, illusion, imagination and creativity through philosophical literature, as well as problems of philosophical writing.

Philosophy of Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 113 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 415 Philosophy of Education (3) Philosophical foundations of education, the nature of learning and the educated individual, and education's political, social, and economic relations.

Philosophy of Education (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 115 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 416 Philosophy of Social Science (3) Examines the philosophical nature and foundations of methodology, structures and objects, value-neutrality and objectivity in the social sciences.

Philosophy of Social Science (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 116 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 417 Philosophy of Mathematics (3) Examines the historical foundations of mathematics, modern developments of logicism, formalism, and intuitionism, and the contemporary realism/ anti-realism debate.

Philosophy of Mathematics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 117 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 418 Ethics (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.

Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 103 or 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 418W Ethics (3) Examines ethical theories, justice, rights, community, and human values revolving around such issues as preservation, conservation, pollution, sustainability, and population.

Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 103 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 420 Philosophy of Economics (3) Studies the historical philosophical foundations of economic theory, questions of normativity, feasibility, choice, contracts, and politics in economic theory.

Philosophy of Economics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 120 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 422 Philosophy of History (3) Philosophical investigation of history as content and knowledge, objectivity and relativism in historical analysis, historical laws, interpretation, explanation and narrativity.

Philosophy of History (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 122 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 423 Philosophy, Media, and Society (3) Examines philosophical and ethical questions of communication, culture, information, ideology, and political and social organization through the forms of media.

Philosophy, Media, and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 424 Philosophy of Religion (3) Examines the relation between faith and reason, the nature of religious experience, the problem of evil, the existence of God.

Philosophy of Religion (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 124 or 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 425 Epistemology (3) The nature of cognition and perception, the conditions of experience, and the justification and truth of belief.

Epistemology (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999
Prerequisite: 9 credits of philosophy includingPHIL 125 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 425W Epistemology (3) The nature of cognition and perception, the conditions of experience, and the justification and truth of belief.

Epistemology (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 125 or 6 credits of philosophy at the 200 level; in addition toENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 426 Metaphysics (3 per semester, maximum of 6) Examines the nature of reality, the existence of freedom, and the nature of matter, mind, and values.

Metaphysics (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 126 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 427 Philosophy of Mind (3) Investigates problems of mind from the standpoint of traditional metaphysical views, modern scientific psychology, neuroscience, and artificial intelligence.

Philosophy of Mind (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 127 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 426W Metaphysics (3) Examines the nature of reality, the existence of freedom, and the nature of matter, mind, and values.

Metaphysics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits in philosophy includingPHIL 126 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 429 Philosophy of Language (3) The nature of language through philosophical discussion of meaning, semantics, pragmatics, the relation between language and mind, and ordinary language.

Philosophy of Language (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 129 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 431 Philosophy and Agriculture (3) Studies philosophical and ethical questions regarding agriculture, politics, and policy, including food safety, environment, international development, community, and sustainability.

Philosophy and Agriculture (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 433 (S T S 433) Ethics in Science and Engineering (3) Ethical issues arising in the practice of science and engineering and their philosophical analysis.

Ethics in Science and Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 432 (S T S 432) Medical and Health Care Ethics (3) Examines ethical, political, and social issues in the research, implementation, and practice of medicine, medical technologies, and healthcare.

Medical and Health Care Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 434H (HIST 424H, J ST 424H, RL ST 424H) Monotheism and the Birth of the West (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.

PHIL 434H (J ST 424H, HIST 424H, RL ST 424H) Monotheism and the Birth of the West (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Learn about the formation of Western culture, while learning to analyze the texts and other evidence about its formation from a critical, rather than naive, viewpoint. The idea of monotheism probably arose very early, and was even briefly implemented as a state cultic policy in Egypt in the 14th century BCE. Why, then, did it take another seven centuries to become widespread--appearing in ancient Judah, Babylon, and Ionia almost simultaneously? To answer this question, the course focuses on several developments, through the medium of primary texts and archaeology: the shift from a state hinterland based in extensive agriculture and household processing to one organized for intensive agriculture and industrial processing the rise of recognizably modern science; the promotion of individuation and an international elite culture in the context of Assyrian and Babylonian imperial ambitions; the development of the historical and archaeological arts in the context of archaizing in order to reinvent local traditions; and the socialization of monotheism and of democracy. Students will be evaluated on their discussion of the textual evidence as well as on reports in class and a final paper. This is the sole honors course treating the birth of the West. It expands on knowledge acquired in courses listed as prerequisites and in ANTH/CAMS 012; CAMS 044; ANTH/CAMS 133; CAMS/PHIL 200; HIST 100; HIST/J ST 102; PHIL 200, and enriches the student experience in CAMS 400, CAMS 440, and CAMS 480; HIST 402; J ST 411; PHIL 437; PHIL 453, and PHIL 461. This course counts toward the major in Jewish Studies, History, Religious Studies and toward the minor in Jewish Studies and Religious Studies. This course will be offered once every other year with 35 seats per offering.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002
Prerequisite: CAMS 004, CAMS 110, CAMS 120 orHIST 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 435 (S T S 435) The Interrelation of Science, Philosophy, and Religion (3) The historical and transformative interactions between science and Western philosophical and religious views of nature, humanity, and God.

The Interrelation of Science, Philosophy, and Religion (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 437 (IL) World Philosophies and Cultures (3) Philosophical traditions, problems, and authors in African, Asian, Middle- Eastern, Native American, or other non-Western cultures and intellectual traditions.

World Philosophies and Cultures (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 437H (IL) World Philosophies and Cultures (3) Philosophical traditions, problems, and authors in African, Asian, Middle- Eastern, Native American, or other non-Western cultures and intellectual traditions.

World Philosophies and Cultures (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 439 (IL) Asian Philosophies and Issues (3) Exploration of the traditions, problems, and authors of one or more of the philosophical systems of Buddhism, Hinduism, Taoism, and Confucianism.

Asian Philosophies and Issues (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: PHIL 007 9 credits in philosophy including PHIL 007 or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 438 (WMNST 438) Feminist Philosophy (3) Examines the central currents of feminist philosophy, selected problems and concepts regarding difference, gender and sex, identity, and political culture.

Feminist Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy at the 200-level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 453 Topics in Ancient Philosophy (3 per semester, maximum of 6) Examines the philosophy of central figures in ancient philosophy from the pre-Socratics to the post-Aristotelians and Neoplatonists.

Topics in Ancient Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 200 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 454 Topics in Medieval Philosophy (3 per semester, maximum of 6) Topics include major medieval philosophical theories of God, soul, nature, universes, political society, ethics, and logic.

Topics in Medieval Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 201 and one other 200 level philosophy course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 456 Topics in Nineteenth Century Philosophy (3 per semester, maximum of 6) Hegel to Nietzsche, including nature and spirit, history and human nature, ideology and morality.

Topics in Nineteenth Century Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 455 Topics in Modern Philosophy (3 per semester, maximum of 6) Descartes to Kant, including mind and reality, space and time, God and nature, morality and autonomy.

Topics in Modern Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 457 Topics in Twentieth Century Philosophy (3 per semester, maximum of 6) Topics in the philosophy of figures such as Husseri, James, Russell, Wittgenstein, Heidegger, Merleau-Ponty, and Dewey.

Topics in Twentieth Century Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007
Prerequisite: 9 credits of philosophy includingPHIL 204 or 6 credits of philosophy at the 200 level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 460 (US;IL) (AAA S 460) African American Philosophy (3) Major works by African American Philosophers, on topics of race, freedom, citizenship, nationhood, law and society.

PHIL (AAA S) 460 African American Philosophy (3)
(US;IL)

African American philosophers and social activists have produced important texts that both take their place in the philosophical canon and revise the canon and indeed how we understand the practice of philosophy. This course surveys twentieth century African American philosophy, from Du Bois's Souls of Black Folk and Dusk of Dawn, to King's Why We Can't Wait, to Davis's Women, Race and Class, to Boxill's Blacks and Social Justice. The books refer back to both liberal democratic and socialist philosophical treatises, as well as theological and jurisprudential writings, in order to construct new conceptions of race, citizenship, freedom, the rule of law. Moreover, they are all grounded in the concrete, problematic situation of African Americans in twentieth century America, so that they raise with special urgency the question of how philosophical reflection can address social change. In classroom debate, students will rediscover and critically examine how the history of racial strife and reconciliation affects local, national and international civic life. One constant feature of this course is that white students and students of color become aware of differing perspectives that are hard to reconcile; this helps them to re-examine their own social identities and those of their classmates. When the course is team-taught (with one white faculty member and one faculty member of color) the same dynamic occurs between the instructor: watching them reconcile their views in discussion and pedagogy helps the students as well. It is hoped that this course will often or always be team-taught.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: AAA S 100 orPHIL 009 and 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 458 Topics in Contemporary Philosophy (3 per semester, maximum of 6) Topics in the philosophy of contemporary figures such as Foucault, Habermas, Rorty, Derrida, Rawls, Davidson, and MacIntyre.

Topics in Contemporary Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 208 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 461 Plato (3 per semester, maximum of 6) Examines the metaphysics, epistemology, politics, aesthetics, and moral theory of this central figure in the history of philosophy.

Plato (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 200 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 462 Aristotle (3 per semester, maximum of 6) Epistemology, metaphysics, natural science, moral and political theory of this central figure in the history of philosophy.

Aristotle (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1999
Prerequisite: 9 credits of philosophy includingPHIL 200 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 464 Augustine (3 per semester, maximum of 6) Examines Augustine's philosophy and religious thought regarding God, friendship, evil, free will, community, creation, memory and time, meaning and truth.

Augustine (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 201 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 465 Aquinas (3 per semester, maximum of 6) Examines Aquinas' philosophy, political and moral theory regarding knowledge and existence of God, faith, truth, nature, logic, and the soul.

Aquinas (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 201 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 468 (J ST 468) Modern Jewish Philosophy (3) Explores the major figures in modern Jewish philosophy and their influences on contemporary philosophy.

PHIL (J ST) 468 Modern Jewish Philosophy (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The primary objective of this course is to encourage students to have a reflective stance on Jewish thought. Students will learn what comprises Jewish thought and how it is distinguished from theology. They will learn what role religion plays in philosophical thought and what is at stake for a philosophy that emerges from a particular religion. This course will give students perspective on how Judaism links to other philosophical movements, for example, the enlightenment of the modern period. It will enable to think about Judaism from a theoretical perspective, adding a new dimension to what they might study from historical, sociological, or literary viewpoints. Some questions we will consider include: In what ways does it converge/diverge, with the philosophical strains that influence it? In what ways have particular events in history shaped Judaic thinking? Does Judaism, or Judaic thinking, have an essence? If so, what is it? What does Judaism mean for the Jews, and what does it mean for others? And finally, what role does mysticism have in the play between religion and philosophy? Students will be evaluated by written work (short papers and a longer seminar paper) and a class presentation.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: one course in Philosophy and/or Jewish Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 470 Rationalism (3 per semester, maximum of 6) Examines the epistemological emphasis on reason over experience in rationalist philosophers such as Descartes, Leibniz, and Spinoza.

Rationalism (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits in philosophy includingPHIL 202 and 3 other credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 471 Empiricism (3 per semester, maximum of 6) Examines the epistemological emphasis on experience over reason in empiricist philosophers such as Locke, Hume, Berkeley, and contemporary philosophers.

Empiricism (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 472 Enlightenment (3 per semester, maximum of 6) Examines Enlightenment views on reason, history, individuals, belief, and science through study of Locke, Voltaire, Diderot, Kant, and their critics.

Enlightenment (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits in philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 474 Kant (3 per semester, maximum of 6) Critical examination of the metaphysics, epistemology, aesthetics, legal and moral philosophy, and influence of Immanuel Kant.

Kant (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits in philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 473 German Idealism (3 per semester, maximum of 6) Critically examines the philosophy of central German idealists, including Kant, Fichte, Schelling, and Hegel, and its impact on later philosophy.

German Idealism (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 202 orPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 475 Fichte and Schelling (3 per semester, maximum of 6) The transformation of post-Kantian idealism before Hegel through Fichte's and Schelling's works on nature, history, reason, morality, and spirit.

Fichte and Schelling (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 476 Hegel (3 per semester, maximum of 6) Critical examination of the metaphysics, moral theory, epistemology, and philosophy of history of this central figure of 19th-century philosophy.

Hegel (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 477 Kierkegaard (3 per semester, maximum of 6) Studies this 19th-century thinker's ideas on ethical and aesthetic values, despair and selfhood, institutions and individuals, reality, and faith.

Kierkegaard (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 478 (J ST 478, RL ST 478) Ethics After the Holocaust (3) Explores the philosophical effects of the Holocaust for thinking about the primary question: Is ethics possible?

PHIL (J ST/RL ST) 478 Ethics After the Holocaust (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an examination of ethical theories before the Holocaust and how those theories have failed, philosophically and empirically. Course topics will include the history of ethical theory, the nature and problem of evil, goodness and suffering, witnessing and testimony, and the promise of an ethics. This course provides students with philosophical approaches to the issues that emerge out of the events of the Holocaust. The course will help students expand their knowledge of the events of the Holocaust through a philosophical approach that does not merely expose them to what happened, but asks them to think about the implications of what happened: most specifically, how do we understand ethical life, if it cannot stop or confront evil? This course provides students with the philosophical approaches to the issues that emerge out of the events of the Holocaust. It will encourage them to think critically, write effectively and express their thoughts logically. Student evaluation will be based on weekly reaction papers, group presentations, and a final seminar paper. This course covers material in the history of philosophy, contemporary philosophy, and writings pertaining to the Holocaust in various forms (historical, literary documentary, and so forth). It provides links to other major areas in the history of philosophy, postmodernism, ethics, philosophy of religion, and Jewish history. It will be offered every other year.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005
Prerequisite: one course in Jewish Studies or Philosophy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 479 Critical Theory (3 per semester, maximum of 6) Examines the ontology, political and social thought of the Frankfurt School from Horkheimer and Adorno to Marcuse and Habermas.

Critical Theory (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 481 Nietzsche (3 per semester, maximum of 6) Friedrich Nietzsche's basic ideas, including master and slave morality, the will to power, eternal recurrence, genealogical inquiry, and naturalism.

Nietzsche (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 480 Marx (3 per semester, maximum of 6) Examines the evolution of Marx's economic, social, and political thought, and metaphysics, and their transformations by later Marxist thinkers.

Marx (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 482 Peirce (3 per semester, maximum of 6) Examination of Peirce's system of the sciences, with an emphasis on his categories, pragmatism and pragmaticism, semiotic, and cosmology.

Peirce (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 401 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 484 Husserl (3 per semester, maximum of 6) Examines Husserl's phenomenology from the early to later works including his studies of essences, intentionality, intersubjectivity, and the life-world.

Husserl (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 202, PHIL 203 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 483 James (3 per semester, maximum of 6) James' psychology, pluralistic metaphysics, theories of truth and meaning, radical empiricism, and idea of religious experience.

James (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 401 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 485 Heidegger (3 per semester, maximum of 6) Studies Heidegger's metaphysical thought from his early to later works regarding being, history, subjectivity, aesthetics, language, and his influence.

Heidegger (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 402 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 487 Analytic Philosophy (3 per semester, maximum of 6) Analytic philosophy's founding by Frege, Russell, Moore, Wittgenstein; and its contemporary development by Quine, Kripke, Dummett, and Davidson.

Analytic Philosophy (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 orPHIL 204 along with 3 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 486 Wittgenstein (3 per semester, maximum of 6) Examines Wittgenstein's early and late work, including logical atomism, meaning, language games, forms of life, and the private-language argument.

Wittgenstein (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy includingPHIL 204 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 488 Post-Structuralism (3 per semester, maximum of 6) Studies concepts of power, desire, subjectivity, and difference through the work of thinkers including Lacan, Foucault, Derrida, Deleuze, and Lyotard.

Post-Structuralism (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1998
Prerequisite: 9 credits of philosophy including eitherPHIL 203 orPHIL 204 and 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 490 Dewey (3 per semester, maximum of 6) Critically examines the metaphysics, epistemology, ethics, logic, aesthetics, education theory, and social and political philosophy of this major American pragmatist.

Dewey (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 401 or 6 credits of philosophy at the 200-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 492 Foucault (3 per semester, maximum of 6) Foucault's critique of history, methodological archaeology and genealogy, studies of madness and sexuality, and theory of knowledge, power, and subjectivity.

Foucault (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 402 or 6 credits of philosophy at the 200-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 491 Merleau-Ponty (3 per semester, maximum of 6) Merleau-Ponty's phenomenological anti-dualism through his studies on the body and the flesh, aesthetics, political philosophy, and late ontology.

Merleau-Ponty (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 402 or 6 credits of philosophy at the 200-level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 493 Phenomenology and Hermeneutics (3 per semester, maximum of 6) Studies major figures and issues in phenomenology and hermeneutics, focussing on the work of Husserl, Gadamer, Heidegger, Merleau-Ponty, and Levinas.

Phenomenology and Hermeneutics (3 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1998
Prerequisite: 9 credits of philosophy includingPHIL 202 andPHIL 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 497A Critical Philosophy of Race (3) This course is specifically to be offered in conjunction with the conference, "Critical Philosophy of Race: Intersections with Culture, Ethnicity, and Nationality Beyond the Black/White Binary", November 11-13, 2010, University Park, PA, to bring together established and emerging scholars to explore new dimensions in the critical philosopy of race.

Critical Philosophy of Race (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 498 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Philosophy (PHIL)

PHIL 499 (IL) Foreign Study--Philosophy (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Philosophy (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 100 (GA) Introduction to Photography (3) An introduction to the aesthetics, history, and science of photography including practical and critical approaches to the art of photography.

PHOTO 100 Introduction to Photography (3)
(GA)

PHOTO 100 is an introduction to the aesthetics, history, and science of photography including practical and critical approaches to the art of photography for beginning students.

The course will introduce students to photography as an art form and as an important medium in commercial applications, news and journalism, science, and industry. The course will look at photography in a social/historical context and showcase the work of important photographers. The course will examine the impact of technological, economic, and cultural forces on photography and, in turn, the role that it plays in our daily life, culture, and society.

The course will also expose students to the various styles and techniques used in making photographs and give them the opportunity to gain experience and practical know-how in creating their own photographs. Through the process of assembling and critically examining "galleries" of their own work and the work of others, they will be encouraged to develop a more informed critical point of view about photography as an art and important form of human expression.

Grading will be based on three photographic assignments that will account for 50% of the semester grade. In addition, there will be four exams (on photographic history, aesthetics, technical aspects of photography, and image manipulation) that will account for 40% of the semester grade. The remaining 10% of the semester grade will be based on participation in class critiques.

Students will be required to have access to a digital camera and the internet.

PHOTO 100 will be offered in the fall and spring semesters each year.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 200 Photo Studio I (3) A beginning level course that explores the fundamentals of photography.

PHOTO 200 Photo Studio I (3)

PHOTO 200 is a beginning level course focused on the aesthetics and practical application of photography. Employing lectures, demonstrations and hands-on photographic assignments, it concentrates on teaching basic photographic techniques. Digital and film camera use, imaging software, basic digital scanning, digital printing methods, and basic darkroom practice are covered. A digital camera and access to a 35mm film camera is required.

Grading is based on the quality of work in required creative projects (70%) and tests/quizzes (30%).

PHOTO 200 will be offered fall and spring semesters.

PHOTO 100 is the prerequisite for PHOTO 200.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: PHOTO 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 201 (ART H 250) A Chronological Survey of Photography (3) A survey of photography's place and influence in a social, cultural, and historical context.

PHOTO 201 A Chronological Survey of Photography (3)

PHOTO 201 explores the role played by photography over time in providing understanding and insight in a social, cultural, and historical context of the impact of the development of the photographic medium and its effect on social, political, cultural and technological events. Emphasis will be given to understanding the context that surrounds the scientific and aesthetic development of photography. This is a survey of the chronology of events in western culture that transpires from the inception of photography until the year 2000. It includes the influences and outcomes of photographers and those associated with the medium on our culture. Emphasis will be placed on the influence of photography on the world around it, and significant events and individuals in the development of the medium as a vital art form. The structure of the course will consist of research and discussion of events and individuals that characterized years selected for examination. Each week one or two decades of western culture will be highlighted. Although the thrust of research will relate to photographic subject matter, the events studied will span the culture. We will explore the development of art, literature, music, and photography, as well as, historic landmarks, and the events that have shaped present society. Each week a selection of visual material will be presented highlighting selected events, students will read literature from the period of discussion, significant pieces of music will be introduced, and accounts of periodic events will be surveyed.

Each week, a group of students will be assigned to research at least one decade. Each student will gather information about a significant figure or event that occurred in the course of a given period. The student will be expected to prepare a short paper and give a five-minute oral presentation about his/her assigned year, historical figure or event. As each student presents, the chronology of events becomes clear and the multiple threads of history weaves a brilliant tapestry of our culture. For the final presentation the student will prepare a ten-page research paper about a historical figure or event.

Students will be graded on the quality of the weekly oral presentations and the demonstrated level of commitment to research. Another significant part of their grade will be derided from the length of committed scholarship given to the ten-page term paper. Students must exhibit a level of originality, clarity, and insight. The student must demonstrate the capacity for the assimilation of facts and events relative to their subject and demonstrate how their subject relates to other events that occurred around the same time of their event. Toward this end students will be encouraged to work together to illustrate the interconnection of the chronology. Assessments will be rendered as follows: PHOTO 201 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 210 Introduction to Architectural Photography (2) Exploration of approaches to photographing architectural interiors, exteriors, and architectural models.

Introduction to Architectural Photography (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: Students in Architecture or by permission of the program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 296A Creative Technique (3) Student will focus on techniques for shooting, editing, and printing photographically based compositions. Studio lighting, digital manipulation, and digital output will be covered.

Creative Technique (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 300 Photo Studio II (4) An intermediate course that explores advanced processes and applications in digital photography, digital image processing, and photographic inkjet printing.

PHOTO 300 Photo Studio II (4)

PHOTO 300 is an intermediate course in the aesthetics, processes, and practical applications of digital photography, digital image processing, and photographic inkjet printing.

A digital camera is required.

Students will employ digital photographic applications and techniques to create images and expand their personal photographic vision. The course will help students to:
1. Gain a deeper understanding of the medium of digital photography artistically, critically, and as a technical process.
2. Explore the potential of the medium's ability to express ideas in new ways.
3. Understand advanced digital camera methods.
4. Learn advanced skills in the use and application of Adobe Photoshop.
5. Learn high quality film and object scanning procedures.
6. Learn to make photographic quality color archival inkjet prints and develop critical color awareness.

Grading is based on the quality of work in required creative projects (80%) and presentations / participation in formal critique sessions / tests-quizzes (20%).

The final course grade will be dropped one full grade for each absence or late submission beginning with the second late submission or absence.

The prerequisite for PHOTO 300 is PHOTO 200.

PHOTO 300 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: PHOTO 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 400 Digital Photography in the Studio (4) Concepts and technology of the digital photography studio; large format digital cameras, electronic studio lighting and digital printing.

PHOTO 400 Digital Photography in the Studio (4)

PHOTO 400 is a wholly digital, in-depth course in photography that explores the visual, technical, and creative application of digital photographic technologies in a studio setting.

Students will employ digital photographic applications and techniques to create images and expand their personal photographic vision. The course will help students to:

1. Gain a deeper understanding of the medium of digital photography artistically, critically, and as a technical process.
2. Explore the potential of the medium's ability to express ideas in new ways
3. Master the fundamental studio practices and technologies of digital photography
o Professional large format digital view cameras
o Professional electronic studio lighting
o Adobe Photoshop
o Digital printing
o DVD-CD-Rom storage
o Presentation and distribution utilizing the World Wide Web

PHOTO 400 follows a workshop/critique format. A collaborative team approach is utilized to enhance students' abilities in working together to solve creative problems. Students will have to think critically, develop strategies to solve problems, and engage in class critiques as a normal expectation of the course.

Grading is based on the quality of work in required creative projects (80%) and participation in formal critique sessions (20%). The final course grade will be dropped one full grade for each absence or late submission beginning with the second late submission or absence.

PHOTO 400 will be offered spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: PHOTO 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 402 Photographic Narratives (4 per semester/maximum of 8) The development of a photographic project that leads to the creation of a handmade book.

PHOTO 402 Photographic Narratives (4 per semester/maximum of 8)

PHOTO 402 is a project course in photography focused on the construction of a handmade book that features a student's photographs as the central content of that book. The course gives the student the opportunity to choose a subject and explore it through photographic means over an extended period of time, in this case, an entire semester. Emphasis is placed on the quality of photography and the organization of those photographs in a book for their display.

Students will be evaluated on their abilities to understand the medium through classroom instruction. Evaluation will also be determined by a student's imaginative capabilities through visualization and through the completion of a series of finished pieces.

The prerequisite to PHOTO 402 is PHOTO 200.

PHOTO 402 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: PHOTO 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 401 New Materials and Methods in Applied Digital Imaging (4 per semester) Advanced course where student teams use digital photography, video, and scanning to present story ideas using World Wide Web and gallery exhibition.

PHOTO 401 New Materials and Methods in Applied Digital Imaging (4)

PHOTO 401 is an in-depth course that explores new methods in the creation and presentation of images using the latest technologies.

The course will help students to:
1. Gain a deeper understanding of the medium of digital imaging aesthetically, critically, and as a technical process.
2. Explore the potential of expressing ideas in new ways with both still images and video.
3. Experiment with new methods of image making that is unique to digital technologies.
4. Gain practical experience that has direct professional application.

Grading is based on the quality of work in required creative projects (80%) and participation in formal critique sessions (20%).

The prerequisite to PHOTO 401 is PHOTO 200.

PHOTO 401 will be offered fall semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: PHOTO 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 403 Photo Assemblage (4) Collage making through collecting and assembling found materials, including photography; origins of photographic manipulation and contemporary uses.

PHOTO 403 Photo Assemblage (4)

PHOTO 403 focuses on collage making through collecting and assembling found materials, including photographs. The course will cover the origins of photographic manipulation and contemporary uses.

Students will be evaluated on their abilities to understand the medium through classroom instruction. Evaluation will also be determined by a student's imaginative capabilities through visualization, and through the pleasure of craft completing a series of finished pieces.

PHOTO 403 will be offered spring semester.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 405 Creative Projects in Photography (4 per semester/maximum of 8) Special individual problems related to photographic vision.

PHOTO 405 Creative Projects in Photography (4 per semester/maximum of 8)

PHOTO 405 is a project course in photography designed to challenge students and engage them in photographic assignments that expand their personal and individual vision.

Projects may be developed using either digital or photochemical process (or a combination of the two) and may be organized as either group or individual assignments.

PHOTO 405 will be offered fall and spring semesters.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2006
Prerequisite: PHOTO 201, PHOTO 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 410 Photographing Motion and Athletic Events (2) A practicum course in photographing sports and athletic events.

Photographing Motion and Athletic Events (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: PHOTO 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Photography (PHOTO)

PHOTO 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Science (PH SC)

PH SC 007 Physical Science (3) Development of physics, including modern physical concepts and their relationship to the careers of physical scientists. May not be scheduled by students who have received credit for Phys. 100, 201, 215, or 221.

Physical Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Science (PH SC)

PH SC 280 Experimental Design (4) Fundamental statistics, design of experiments and statistical process control with applications to laboratory or manufacturing processes.

PH SC 280 Experimental Design (4)

This course is designed to provide students with a background in fundamental statistics, design of experiments and statistical process control. Students are expected to attain a clear understanding of the principles of statistics and probability relevant to design of experiments (DOE) and statistical process control (SPC). Students are expected to learn the fundamentals of DOE and SPC. Students are expected to apply these principles and fundamentals to actual process or product data from companies for the continuous improvement of products and processes to increase productivity, decrease cost and remain competitive. Students are expected to utilize the scientific calculator and the personal computer as tools for problem solving. Students are expected to improve their professional skills of problem-solving, communications and teamwork. The emphasis of the course is to introduce applications to laboratory or manufacturing processes and to give the students experience with continuous improvement methods.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Science (PH SC)

PH SC 410 Quantum Mechanics of Atoms, Molecules, and Solids (3) The physical concepts underlying the properties of materials are covered. Quantum mechanics is applied to problems in atomic, molecular, and solid- state physics.

PH SC 410 Quantum Mechanics of Atoms, Molecules, and Solids (3)

This course provides an introduction to atomic, molecular, and solid state physics. Quantum mechanics is developed as the language for describing a large variety of atomic, molecular, and solid state phenomena. Topics will include multielectron atoms, the electronic, vibrational, and rotational spectra of diatomic molecules, and the band theory of solids. Quantum statistics is applied to phonons, photons, and an electron gas. Lasers and Bose-Einstein condensation are introduced. Scattering theory, molecular dynamics, and magnetic proper-ties of solids are covered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Science (PH SC)

PH SC 440 Applied Solid State and Optical Processes (3) This course covers the solid state physics and material science prerequisite to understand today microelectronic and optoelectronic devices.

PH SC 440 Applied Solid State of Optical Processes (3)

Solid state materials and devices underlie much of the technological advances of the past several decades. A fundamental understanding of the principles of the solid state (both electronic and optic) has become prerequisite to any full participation in these contemporary technologies. Emphasis will be placed on developing a physical intuition over mathematical elegance, although a reasonable level of mathematical rigor is required. A second course in the sequence, PH SC 450, will build on the material developed in this course by applying the gained to the understanding of specific micro- and nano-devices. The course will build upon basic, solid state material science, including aspects of the crystalline state, amorphous semiconductors, glasses and solid state solutions. Electrical and thermal conduction in solids and associated phenomenology will be included. Knowledge of elementary quantum mechanics is expected for understanding the particle wave states of the electron, prerequisite to the discussions on bonding and band theory in solids. The section on semiconductors details the evolution from Bloch states to band strictures and energy gaps as applied to various devices. Both group IV and III/V semiconductors are discussed in considerable detail, providing balanced emphasis on electronic and optoelectronic aspects. Optical processes are included after a discussion of the pn junction and carrier generation mechanisms have been discussed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: PHYS 237, PH SC 410 orPHYS 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Science (PH SC)

PH SC 450 Micro-and Nanodevices (3) This course provides a overview of the microelectronic, optoelectronic and micro mechanical devices and operating principles behind today's micro and nanoscale technology.

PH SC 450 Micro-and Nanodevices (3)

This course is intended to provide such an overview of today's micro and nanoscale devices and the technologies behind them. This course will apply many of the fundamental principles discussed in both 410 and 440. Through this course the student will develop: an understanding of the micro- and nanodevices used in today's technology; an appreciation for the increasing importance of micro miniaturization in today's technology. an ability to access web based literature for remaining current on recent innovations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: PH SC 440 permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 100 Physical Therapist Assistant--Introduction (3) Orientation to the field of physical therapy, historical background of the profession, professional ethics, medical terminology, and patient care techniques.

P T 100 Physical Therapist Assistant - Introduction (3)

This course is a general introduction into the field of physical therapy. The definition, role and function of the physical therapist, physical therapist assistant, and other health care providers as members of the health care team will be covered. The history of physical therapy and the physical therapist assistant will be reviewed. The organization of the physical therapy department and the health care team will be detailed. Each student will be expected to recognize and understand the professional code of ethics and standards that apply to the practice of a physical therapist assistant. *The Guide to Physical Therapist Practice* will be introduced. Documentation, medical vocabulary and abbreviations commonly used in physical therapy will be studied. The health professional as a student, clinician, and person will be examined. Laboratory topics include an introduction to body mechanics, gait and transfer training, vital signs, aseptic and positioning techniques. Cognitive and psychomotor skills will be assessed through written examination as well as practical examinations and competencies.

This course is a prerequisite for P T 150, P T 160, P T 202, P T 203, P T 205, P T 270, and P T 384. The course is offered once per calendar year. Expected enrollment is 20 - 45 students, with a limit of 15 students in a given lab section.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 101 Introduction to Computer Skills for the PTA (1) Introduction to basic computer skills for the physical therapist assistant.

P T 101 Introduction to Computer Skills for the PTA (1)

The focus of P T 101 is to familiarize Physical Therapist Assistant students with basic computer skills that will be used throughout the five-semester Physical Therapist Assistant curriculum. The course objectives include criterion based assessment of basic computer skills, mastery of computer keyboarding, word processing, file management, online library resources, digital graphics, Power Point presentations, web page development, web page publication, and use of medical related software. The course will be taught in the computer lab. Students will create a Power Point presentation, a personal web page, and demonstrate proficiency in use of computers to complete written assignments. Evaluation of student performance will be based on attendance, completion of all criterion and assignments. This course is offered in the first half of the Fall semester. This class will be limited to 12 - 16 students per section. This is an optional PTA course, which may be taken to satisfy the elective requirements of the Physical Therapist Assistant program. Tom Glumac developed this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 101S Introduction to Computer Skills for the PTA (1) Introduction to basic computer skills for the physical therapist assistant.

Introduction to Computer Skills for the PTA (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 150 Physical Therapist Assistant Procedures I (2) General considerations for basic physical therapy modalities including their indications, contraindications, skill development and practical application.

P T 150 Physical Therapist Assistant Procedures I (2)

This course is an introductory study of the general principles for applying and treating with the use of massage, radiant heat, conductive heat, hydrotherapy, cryotherapy, and intermittent compression. The course is designed to give the PTA student a working knowledge in the application and theory of physical agents, in order to enhance the rehabilitation process. These treatment methods will be discussed and practiced in relation to the overall clinical management of patients and their specific disorders. Cognitive and psychomotor skills will be assessed through written examination, as well as practical examinations and competencies. At some campuses, traction, ultrasound, continuous passive motion, ultraviolet, diathermy, aquatic therapy, and other physical agents will also be studied and practiced.

This course is the first course of the Procedures series and is a prerequisite for P T 250, P T 260, P T 395E and P T 280W. Prerequisites for this course are a C or better in the P T 1 00, BIOL 141, BIOL 142 and P T 384 courses. The course is offered once per calendar year at each campus. Expected enrollment is 20-45 students, with a limit of 15 students in a given lab section.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100, BIOL 141, BIOL 142, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 160 Therapeutic Exercise I (3) Introduction to the principles of exercise in the treatment of disease and injury.

P T 160 Therapeutic Exercise I (3)

This course provides an introduction to the principles of exercise and measurement for the interventions utilized in the management of disease and injury. Each student will be expected to understand their role in the implementation of various therapeutic exercise programs and tests and measures. The course may include, but is not limited to, some or all of the following topics: goniometry, manual muscle testing, arthrokinematics, osteokinematics, aerobic/anaerobic exercise, proprioceptive neuromuscular facilitation, muscle stretching techniques, and/or cardiopulmonary treatment. Indications and contraindications for the various forms of range of motion exercises and equipment will be incorporated in the protocols presented in this course. Cognitive and psychomotor skills will be assessed through written examination as well as practical examinations and competencies. Prerequisites for this course include a grade of C or better in: BIOL 129, BIOL 141, BIOL 142, P T 100, P T 384.This course should prepare students for higher level courses within the PTA curriculum and is a prerequisite for P T 250, P T 260, P T280W, and P T 395E. P T 160 will be offered once per calendar year and expected enrollment is 20-45 students (PTA), with a maximum of 15 students per lab.

Class size, frequenty of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 129, BIOL 141, BIOL 142, P T 100, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 201 Licensure Preparation for the PTA (1) Preparation for the national PTA licensure examination.

P T 201 Licensure Preparation for the PTA (1)

This course is an elective course for PTA students, in preparation for the national licensure examination. The course will consist of a review of the entire PTA curriculum through the use of licensure examination practice tests. The course will also include practice sessions with the computerized licensure tests. A review of strategies for succeeding on multiple choice tests will be presented. Prerequisites for this course are a C or better in the P T 100 and P T 384 courses.

Class size, frequency of offering, and evaluation methods will vary by location and instructor, For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100 andP T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 202 Pediatric PT (1) A study of physical therapy as it applies to pediatric patients.

P T 202 Pediatric PT (1)

This course is an elective course for those Physical Therapists Assistant students interested in further study in pediatric physical therapy. The course will focus on various conditions affecting children, which may include cerebral palsy, spina bifida, and Down syndrome. The students will be given the opportunity to learn about pediatric physical therapy in lecture/discussion sessions and/or laboratory settings, some of which will take place at PSMA and some which may take place at other locations where they will observe children with various disabilities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: P T 100, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 204 Seminar in Physical Therapy (1) Specialized physical therapy topics investigated in the framework of clinic visitations and presentations by clinical experts.

P T 204 Seminar in Physical Therapy (1)

The purpose of P T 204 is to provide Physical Therapist Assistant students with an opportunity to explore special topics in physical therapy. The format of the course will be seminar based. The course will consist of a series of presentations led by faculty or outside lecturers and may involve travel to hospitals and clinics. Evaluation of student performance will be based on attendance, completion of all criterion and assignments. This course will typically be offered in the last semester of classroom instruction, before the students begin their final clinical affiliations. This class will be limited to 12-16 students per section. This is an optional PTA course, which may be taken to satisfy the elective requirements of the PTA program. Prerequisites for this course are a C or better in the P T 100 and P T 384 courses.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100 andP T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 203 The Rehabilitation of the Lower Extremity Amputee (1) Students will be introduced to the rehabilitation process involved with a patient who has a lower extremity amputation.

P T 203 The Rehabilitation of the Lower Extremity Amputee (1)

The students will be introduced to the rehabilitation process involved with a patient who has a lower extremity amputation. Course objectives include identifying the reasons for lower extremity amputations, understanding pre and post - operative care of the amputee, being familiar with various feet, sockets, knees and suspensions of a prosthesis, explaining the different characteristics between various levels of lower extremity amputations, understanding the importance of skin care and proper footwear for contralateral limb, and demonstrating an understanding of an appropriate therapeutic exercise program for a patient with a lower extremity amputation. To achieve these objectives, students will be involved in lectures, small group discussions, and laboratory experiences with amputee patients, and utilization of information/research from the library and Internet resources. Students will obtain "hands-on" laboratory experiences with people who have lower extremity amputations. Evaluation of the student's performance will be based on class attendance, class participation and class project/presentation. The course will expand on the general amputee information presented in the current Physical Therapists Assistant curriculum. Frequency of offering will depend on student interest, faculty availability and campus preference, but can be up to once an academic year. Frequency is at the discretion of each individual campus. Enrollment will vary due to the above stated circumstances.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: P T 100, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 205 Human Musculature (1-2) Comprehensive review of Human Musculature.

P T 205 Human Musculature (1)

This course is an elective course for those PTA students interested in a review of human musculature. The course is designed to provide advanced students with a comprehensive review of the human muscles including identification of the muscles, their actions, insertions, origins, and innervations. Students will be graded on preparation, participation, class attendance, and completion of self-assessments. Prerequisites for this course are a C or better in the P T 100, P T 384 and BIOL 129 courses.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 100, P T 384 andBIOL 129

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 250 Physical Therapist Assistant--Procedures II (4) General considerations for advanced physical therapy modalities including their indications, contraindications, skill development and practical application.

P T 250 Physical Therapist Assistant Procedures II (4)

This course is a comprehensive study of electrical modalities in Physical Therapy. Concepts of nocioception and neuromuscular excitation will be discussed and introduced to the student. The course is designed to give the PTA student a working knowledge in the application and theory of electrical modalities and physical properties to enhance the rehabilitation process. These treatment methods will be discussed and practiced in relation to the overall clinical management of patients and their specific disorders. Cognitive and psychomotor skills will be assessed through written examination, as well as practical examinations/competencies. At some campuses, ultraviolet and other physical agents will also be studied and practiced.

This course is the second course in Procedures and covers the more advanced modalities and principles. Prerequisites for this course include a grade of C or better in: P T 150, P T 160, P T 270, P T 384, P T 395E, and P T 395W are required prerequisites. This course is a prerequisite for: P T 395E, P T 395F, and P T 395G. The course is offered once per calendar year at each campus. Expected enrollment is 20-45 students, with a limit of 15 students in a given lab section.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 150, P T 160, P T 270, P T 384, P T 395E, P T 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 260 Therapeutic Exercise--II (3) Advanced principles of exercise in the treatment of disease and injury.

P T 260 Therapeutic Exercise II (3)

Advanced principles and application of exercise in the treatment of disease and injury will be explored. Verbal and non-verbal communication and their role in patient education approaches will be addressed. Students will learn concepts and skills necessary to promote healing through exercise and will be able to apply these skills appropriately for a variety of populations. Topics of instruction may include but are not limited to: pre/post-surgical interventions, orthopedics, women's health, cardiopulmonary, postural dysfunction, pediatrics, geriatrics, occupational medicine, muscle stretching and strengthening, and other specific topics. Integration of all techniques and didactic material presented in other courses is required. Cognitive and psychomotor skills will be assessed through written examination as well as practical examinations and competencies. Prerequisites: a grade of C or better in BIOL 141, BIOL 142, P T150, P T 160, P T 270, P T 384, P T 395E, and P T 395W. This course should prepare students for higher level courses within the PTA curriculum and is a prerequisite for P T 395F and 395G. P T 260 will be offered once per calendar year and expected enrollment is 20-45 PTA students, with a maximum of 15 students per lab.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check with the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384, P T 395E, P T 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 270 Pathophysiology (3) Introduction to medical and post-operative conditions and/or disease states most frequently treated by physical therapy modalities.

P T 270 Pathophysiology (3)

This course is an introduction to the study of diseases and those conditions most often treated by Physical Therapy methods. Basic signs, symptoms, causes, and processes of disease and conditions will be covered. The course is designed to give the PTA student a working knowledge of the physiology of disease states in order to prepare the student to think and speak intelligently with patients and other health professionals regarding diseases and conditions commonly seen in physical therapy and their diagnoses, progression, and treatments. Areas of study in the course may include, but are not limited to, the history of pathophysiology, diagnostic methods, infection and healing, metaplasia, mental health, genetic and congenital disorders, and disorders of the following systems: cardiovascular, respiratory, musculoskeletal, nervous, integumentary, endocrine, blood and lymphatics. The student's knowledge of pathophysiology will be assessed in the course using any or all of the following tools: written examination, student presentations, written term papers, special projects and assignments. This course is a prerequisite for P T 250, P T 260, P T 280, P T 280W, and P T 395E. Prerequisites for this course are a C or better grade in the BIOL 141, BIOL 142 and P T 100 and P T 384 courses. The course is offered once per calendar year at each campus. Expected enrollment is 20-45 students.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 100, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 270W Pathophysiology (3) Introduction to the study of disease and those conditions most often treated by physical therapy methods; basic signs, symptoms, and causes of disease and conditions will be covered.

P T 270W Pahtophysiology (3)

This course is an introduction to the study of diseases and those conditions most often treated by Physical Therapy methods. Basic signs, symptoms, causes, and processes of disease and conditions will be covered. The course is designed to give the PTA student a working knowledge of the physiology of disease states in order to prepare the student to think and speak intelligently with patients and other health professionals regarding diseases and conditions commonly seen in physical therapy and their diagnoses, progression, and treatments. Areas of study in the course may include, but are not limited to, the history of pathophysiology, diagnostic methods, infection and healing, metaplasia, mental health, genetic and congenital disorders, and disorders of the following systems: cardiovascular, respiratory, musculoskeletal, nervous, integumentary, endocrine, blood and lymphatics. The student's knowledge of pathophysiology will be assessed in the course using any or all of the following tools: written examination, student presentations, written term papers, special projects and assignments. This course is a prerequisite for P T 250, P T 260, P T 280, P T 280W, and P T 395E. Prerequisites for this course are a grade of C or better in BIOL 141, BIOL 142 and P T 1 00 and P T 384 courses. The course is offered once per calendar year at each campus. Expected enrollment is 20-45 students.

This is a writing intensive course that will include instructor written evaluation and feedback of student's writing. The student writing will be specific to the Physical Therapy discipline and include multiple and varied assignments. Writing will be a factor in the final grade for this course.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 100, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 270A (IL) Pathophysiology (3) Introduction to medical and post-operative conditions and/or disease states most frequently treated by physical therapy modalities.

Pathophysiology (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 100, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 280 Rehabilitation (4) Examination of techniques and laboratory experiences in rehabilitation techniques for the physically challenged.

P T 280 Rehabilitation (4)

Students will learn and develop skills in the rehabilitation treatment of patients with diseases or conditions frequently seen in physical therapy. Students are expected to be able to recognize normal and abnormal gait patterns of patients diagnosed with the diseases/ conditions studied. In the laboratory sessions, students practice mobility skills as they related to the pathologies studied. Students learn to treat patients in the orthopedic, neurological and pediatric populations. To achieve these objectives, students will be involved in lectures, laboratory activities, audiovisual material, and utilization of information from professional literature. Attainment of educational objectives will be determined via written exams and laboratory practical exams. Basic principles utilized in this course have been learned in P T 100. The anatomical and neurological foundations have been presented in BIOL 129 and P T 270. Instruction of patients in and the performance of rehabilitation activities are a foundation in physical therapy.

Prerequisites for this course are a C or better grade in BIOL 141, BIOL 142, P T 150, P T 160, P T 270 and P T 384. This course is a prerequisite for P T 395F and P T 395G. This course is offered once per calendar year and may be offered in two parts over the course of two semesters. Expected enrollment is 20-45 students, with a limit of 15 students in a given lab section.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 280W Rehabilitation (4) Examination of techniques and laboratory experiences in rehabilitation techniques for the physically challenged.

P T 280W Rehabilitation (4)

Students will learn and develop skills in the rehabilitation treatment of patients with diseases or conditions frequently seen in physical therapy. Students are expected to be able to recognize normal and abnormal gait patterns of patients diagnosed with the diseases/conditions studied. In the laboratory sessions, students practice mobility skills as they related to the pathologies studied. Students learn to treat patients in the orthopedic and neurological populations. To achieve these objectives, students will be involved in lectures, laboratory activities, audiovisual material, and utilization of information from professional literature. Attainment of educational objectives will be determined via written exams and laboratory practical exams. Basic principles utilized in this course have been learned in P T 100. The anatomical and neurological foundations have been presented in BIOL 129 and P T 270. Instruction of patients in and the performance of rehabilitation activities are a foundation in physical therapy.

This is a writing intensive course that will include instructor written evaluation and feedback of student's writing. The student writing will be specific to the Physical Therapy discipline and include multiple and varied assignments. Writing will be a factor in the final grade for this course.

Prerequisites for this course are a grade of C or better in BIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384, and P T 395. This course is a prerequisite for P T 395F and P T 395G. This course is offered once per calendar year and may be offered in two parts over the course of two semesters. Expected enrollment is 20-45 students, with a limit of 15 students in a given lab section.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 150, P T 160, P T 270, P T 384, P T 395E

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 384 Applied Kinesiology (4) Study of anatomical structure, body movement. Characteristic muscle action and motion will be analyzed in relation to physical therapy context.

P T 384 Applied Kinesiology (4)

The focus of P T 384, Applied Kinesiology, is to incorporate anatomical structure of the human body, principles of biomechanics, kinetics, and kinematics with the study of human motion and mobility. Areas of instruction may include but are not limited to: origins, insertions, actions, and innervations of muscles of the upper extremity, lower extremity, head, neck, and trunk; examination and assessment of the muscles of the extremities and axial skeleton; concentric, eccentric, and isometric muscle contractions- closed and open kinetic chains; active and passive insufficiency of muscles, arthro- and osteokinematics; normal gait and posture; manual muscle testing; and the forces involved in moving the human body. To achieve these objectives, students will be involved in lectures, small group discussions, laboratory experiences, and the utilization of information/research from the library and Internet resources. Students will obtain "hands-on" laboratory experiences including surface anatomy and examination and assessment techniques in the Physical Therapy Lab. Evaluation of student performance will be based on a combination of all or some of the following: written examinations, laboratory practical examinations/competencies, in-class and/or on-line quizzes, student projects and presentations, and written assignments. The prerequisite courses for P T 384 are a grade of C or better in BIOL 129, BIOL 141, BIOL 142, and P T 100. Students are expected to enter P T 384 with a basic knowledge of human anatomy and the basic principles of physical therapy. The course should prepare students for any higher-level PT course offered in the PTA curriculum. P T 384 is a prerequisite for P T 150, P T 160, P T 202, P T 203, P T 205, P T 250, P T 260, P T 270, P T 270W, P T 280, P T 280W, P T 395E, P T 395F, P T 395G, and 395W. P T 384 will be offered once per calendar year and expected enrollment is 20-45 PTA students, with maximum of 15 students per lab section.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details, check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 129, BIOL 141, BIOL 142, P T 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 395E Physical Therapist Assistant--Practicum I (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist.

P T 395E Physical Therapist Assistant - Practicum I (4)

P T 395E is the practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist. Course expectations include, but are not limited to: understanding and adhering to the Code of Ethics, following departmental policies, presenting with appropriate dress and appearance, being punctual and reliable, respecting patient confidentiality, treating all personnel with respect, showing positive attitude and enthusiasm towards the profession and exhibiting adaptability. Course objectives include, but are not limited to: demonstrate appropriate verbal, non-verbal and written communication, implement treatment programs as outlined in the plan of care, and demonstrate appropriate treatment techniques as learned in the classroom. To achieve these objectives students will be in a clinical setting under the direct supervision of a physical therapist. Evaluation of student performance will be based on a combination of the clinical instructor's evaluation and the Academic Coordinator of Clinical Education's evaluation. Prerequisites for this course are a grade of C or better in P T 150, P T 160, P T 250, P T 260, P T 270 or P T 270W, P T 384. This course is required for P T 250, P T 260, P T 280W, P T 395F, P T 395G.

This course is offered once per calendar year at each campus. Expected enrollment is 20-45 students.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 150, P T 160, P T 250, P T 260, P T 270 orP T 270W, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 395F Physical Therapist Assistant--Practicum II (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a registered physical therapist.

P T 395F Physical Therapist Assistant - Practicum II (4)

P T 395F is the practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist. Course expectations include, but are not limited to: understanding and adhering to the Code of Ethics, following departmental policies, presenting with appropriate dress and appearance, being punctual and reliable, respecting patient confidentiality, treating all personnel with respect, showing positive attitude and enthusiasm towards the profession and exhibiting adaptability. Course objectives include, but are not limited to: demonstrate appropriate verbal, non-verbal and written communication, implement treatment programs as outlined in the plan of care, and demonstrate appropriate treatment techniques as learned in the classroom. To achieve these objectives students will be in a clinical setting under the direct supervision of a physical therapist. Evaluation of student performance will be based on a combination of the clinical instructor's evaluation and the Academic Coordinator of Clinical Education's evaluation. Prerequisites for this course are a grade of C or better in P T 250, P T 260, P T 280 or P T 280W, P T 395E or P T 395W.

This course is offered once per calendar year at each campus. Expected enrollment is 20-45 students.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 250, P T 260, P T 280, P T 280W, P T 395E orP T 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 395G Physical Therapist Assistant--Practicum III (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a registered physical therapist.

P T 395G Physical Therapist Assistant - Practicum III (4)

P T 395G is the practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist. Course expectations include, but are not limited to: understanding and adhering to the Code of Ethics, following departmental policies, presenting with appropriate dress and appearance, being punctual and reliable, respecting patient confidentiality, treating all personnel with respect, showing positive attitude and enthusiasm towards the profession and exhibiting adaptability. Course objectives include, but are not limited to: demonstrate appropriate verbal, non-verbal and written communication, implement treatment programs as outlined in the plan of care, and demonstrate appropriate treatment techniques as learned in the classroom. To achieve these objectives students will be in a clinical setting under the direct supervision of a physical therapist. Evaluation of student performance will be based on a combination of the clinical instructor's evaluation and the Academic Coordinator of Clinical Education's evaluation. Prerequisites for this course are a grade of C or better in P T 250, P T 260, P T 280 or P T 280W, P T 395E or P T 395W.

This course is offered once per calendar year at each campus. Expected enrollment is 20-45 students.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inP T 250, P T 260, P T 280, P T 280W, P T 395E orP T 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physical Therapy (P T)

P T 395W Physical Therapist Assistant--Practicum I (4) The practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist.

P T 395W Physical Therapist Assistant - Practicum I (4)

P T 395W is the practice of physical therapist assistant skills in a clinical setting under the direct supervision of a physical therapist. Course expectations include, but are not limited to: understanding and adhering to the Code of Ethics, following departmental policies, presenting with appropriate dress and appearance, being punctual and reliable, respecting patient confidentiality, treating all personnel with respect, showing positive attitude and enthusiasm towards the profession and exhibiting adaptability. Course objectives include, but are not limited to: demonstrate appropriate verbal, non-verbal and written communication, implement treatment programs as outlined in the plan of care, and demonstrate appropriate treatment techniques as learned in the classroom. To achieve these objectives students will be in a clinical setting under the direct supervision of a physical therapist. Evaluation of student’s performance will be based on a combination of the clinical instructor's evaluation and the Academic Coordinator of Clinical Education's evaluation. Prerequisites for this course are a grade of C or better in BIOL 141, BIOL 142, P T 384. This course is required for P T 250, P T 260, P 395F, P T 395G. This course is offered once per calendar year at each campus. Expected enrollment is 20-45 students.

This is a writing intensive course that will include instructor written evaluation and feedback of student's writing. The student writing will be specific to the Physical Therapy discipline and include multiple and varied assignments. Writing will be a factor in the final grade for this course.

Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: a grade of C or better inBIOL 141, BIOL 142, P T 384

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 001 (GN) The Science of Physics (3) Historical development and significance of major concepts, with emphasis on the nature of physics and its role in modern life. (For students in non-mathematical fields.)

PHYS 001 The Science of Physics (3)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to the basic concepts of physics at a conceptual level for students in non-technical majors. Provides a broad survey of the history, concepts, and applications of physics including topics such as classical mechanics in one- and two-dimensions, Newton's laws of motion, work and energy, momentum, rotational motion, vibration, sound, and waves, heat and the laws of thermodynamics, electricity and magnetism, including simple electrical circuits, and topics in 20th century physics, including relativity and quantum mechanics. Course objectives include the development of an understanding of the scientific method, its application to physics problems of historical interest, as well as to modern applications; providing an appreciation of the historical role played by physics in the development of modern science, its role in important cultural and societal issues, and in understanding the basic laws of nature, as applied to everyday experience, natural phenomena, or applications technologies (old and new); the development of scientific literacy, to help motivate the many connections of physics to other fundamental scientific fields and applications disciplines; providing experience in problem solving and the conceptual understanding of physics, and emphasizing the recurring role of a few important concepts, cutting across many scientific disciplines, such as the fundamental laws of classical mechanics, the basic laws of thermodynamics (including conservation of energy), as well as applications of modern quantum theory.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 150 (GN) Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.

PHYS 150 Technical Physics I (3)
(GN)

PHYS 150, Technical Physics I, provides an algebra-based introduction to mechanics, heat, wave motion, and sound exemplifying scientific method and leading toward an understanding of technical applications. It is the first course in a two-course sequence with PHYS 151 surveying all of physics. It includes topics such as measurement, dimensional analysis, systems of units, describing motion in one dimension, scalars and vectors, describing motion in two and three dimensions, projectile motion, circular motion, particle dynamics via Newton's Laws of Motion, forces, work and energy, momentum, systems of particles, collisions, rotational motion of rigid bodies, torque, moment of inertia, static equilibrium, mechanical advantage, mechanical properties of materials, fluids, vibrations, wave motion, sound, temperature, heat, thermodynamics, and heat transfer.

Students attend two lecture/recitation classes and one two-hour laboratory/activity period per week. Classes emphasize conceptualizing the basic ideas, terminology, and principles of the physical phenomena of nature; their quantitative expression through algebra and trigonometry; their relation to applications in science and technology; and their use in quantitative problem solving. Both computer-based and traditional lab exercises and activities illustrate class material and scientific method while giving students experience with a variety of measuring tools and the general principles of measurement, including the analysis of error. Students work collaboratively in small groups to plan their measurements, collect and analyze data (often using modern computer hardware and software), make judgments based on their results, and communicate their efforts and conclusions in a written lab/activity report.

The prerequisite for this course is 1 1/2 units of algebra. Prerequisite or Concurrent: MATH 021, 081. It is a prerequisite for PHYS 151 and is a required course for many engineering technology programs. It is offered at least once per academic year at all Penn State locations with engineering technology programs. Class size varies up to about 40 students per lecture section and 21 to 24 students per lab/activity section.

Course evaluation is based on a combination of regular homework assignments and/or quizzes, written lab/activity reports, two or three exams, and a final exam.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2007
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent:MATH 021, MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 150L (GN) Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.

PHYS 150L Technical Physics I (3)
(GN)

PHYS 150L, Technical Physics I, provides an algebra-based introduction to mechanics, heat, wave motion, and sound exemplifying scientific method and leading toward an understanding of technical applications. It is the first course in a two-course sequence with PHYS 151 surveying all of physics. It includes topics such as measurement, dimensional analysis, systems of units, describing motion in one dimension, scalars and vectors, describing motion in two and three dimensions, projectile motion, circular motion, particle dynamics via Newton's Laws of Motion, forces, work and energy, momentum, systems of particles, collisions, rotational motion of rigid bodies, torque, moment of inertia, static equilibrium, mechanical advantage, mechanical properties of materials, fluids, vibrations, wave motion, sound, temperature, heat, thermodynamics, and heat transfer.

Students attend two lecture/recitation classes and one two-hour laboratory/activity period per week. Classes emphasize conceptualizing the basic ideas, terminology, and principles of the physical phenomena of nature; their quantitative expression through algebra and trigonometry; their relation to applications in science and technology; and their use in quantitative problem solving. Both computer-based and traditional lab exercises and activities illustrate class material and scientific method while giving students experience with a variety of measuring tools and the general principles of measurement, including the analysis of error. Students work collaboratively in small groups to plan their measurements, collect and analyze data (often using modern computer hardware and software), make judgments based on their results, and communicate their efforts and conclusions in a written lab/activity report.

The prerequisite for this course is 1 1/2 units of algebra. Prerequisite or Concurrent: MATH 021, 081. It is a prerequisite for PHYS 151 and is a required course for many engineering technology programs. It is offered at least once per academic year at all Penn State locations with engineering technology programs. Class size varies up to about 40 students per lecture section and 21 to 24 students per lab/activity section.

Course evaluation is based on a combination of regular homework assignments and/or quizzes, written lab/activity reports, two or three exams, and a final exam.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 150P (GN) Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.

PHYS 150P Technical Physics I (3)
(GN)

PHYS 150P, Technical Physics I, provides an algebra-based introduction to mechanics, heat, wave motion, and sound exemplifying scientific method and leading toward an understanding of technical applications. It is the first course in a two-course sequence with PHYS 151 surveying all of physics. It includes topics such as measurement, dimensional analysis, systems of units, describing motion in one dimension, scalars and vectors, describing motion in two and three dimensions, projectile motion, circular motion, particle dynamics via Newton's Laws of Motion, forces, work and energy, momentum, systems of particles, collisions, rotational motion of rigid bodies, torque, moment of inertia, static equilibrium, mechanical advantage, mechanical properties of materials, fluids, vibrations, wave motion, sound, temperature, heat, thermodynamics, and heat transfer.

Students attend two lecture/recitation classes and one two-hour laboratory/activity period per week. Classes emphasize conceptualizing the basic ideas, terminology, and principles of the physical phenomena of nature; their quantitative expression through algebra and trigonometry; their relation to applications in science and technology; and their use in quantitative problem solving. Both computer-based and traditional lab exercises and activities illustrate class material and scientific method while giving students experience with a variety of measuring tools and the general principles of measurement, including the analysis of error. Students work collaboratively in small groups to plan their measurements, collect and analyze data (often using modern computer hardware and software), make judgments based on their results, and communicate their efforts and conclusions in a written lab/activity report.

The prerequisite for this course is 1 1/2 units of algebra. Prerequisite or Concurrent: MATH 021, 081. It is a prerequisite for PHYS 151 and is a required course for many engineering technology programs. It is offered at least once per academic year at all Penn State locations with engineering technology programs. Class size varies up to about 40 students per lecture section and 21 to 24 students per lab/activity section.

Course evaluation is based on a combination of regular homework assignments and/or quizzes, written lab/activity reports, two or three exams, and a final exam.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 150S (GN) Technical Physics I (3) Elementary treatment of topics in mechanics, heat, wave motion, and sound leading toward an understanding of technical applications.

Technical Physics I (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 1 1/2 units of algebra. Prerequisite or concurrent:MATH 021, MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 151 (GN) Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.

PHYS 151 Technical Physics II (3)
(GN)

PHYS 151, Technical Physics, provides an algebra-based introduction to electricity, light, and modern physics exemplifying scientific method and leading toward an understanding of technical applications. It is the second course in a two-course sequence with PHYS 150 surveying all of physics. It includes topics such as electric charge, electric force, electric field, electric potential difference, capacitance, cathode-ray tube, electric current, Ohm's Law, batteries, direct current circuits, resistors, ammeters, voltmeters, magnetic force, magnetic field, electromagnetic induction, motors, generators, transformers, inductors, alternating current circuits, electromagnetic waves, light, reflection, refraction, interference, diffraction, atomic physics, atoms in combination, and the nucleus.

Students attend two lecture/recitation classes and one two-hour laboratory/activity period per week. Classes emphasize conceptualizing the basic ideas, terminology, and principles of the physical phenomena of nature; their quantitative expression through algebra and trigonometry; their relation to applications in science and technology; and their use in quantitative problem solving. Both computer-based and traditional lab exercises and activities illustrate class material and scientific method while giving students experience with a variety of measuring tools and the general principles of measurement, including the analysis of error. Students work collaboratively in small groups to plan their measurements, collect and analyze data (often using modern computer hardware and software), make judgments based on their results, and communicate their efforts and conclusions in a written lab/activity report.

The prerequisite for this course is PHYS 150. It is a required course for many engineering technology programs. It is offered at least once per academic year at all Penn State locations with engineering technology programs. Class size varies up to about 80 students per lecture section and 24 students per lab/activity section.

Course evaluation is based on a combination of regular homework assignments and/or quizzes, written lab/activity reports, two or three exams, and a final exam.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2001
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 151P Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.

PHYS 151P Technical Physics II (3)
(GN)

PHYS 151, Technical Physics, provides an algebra-based introduction to electricity, light, and modern physics exemplifying scientific method and leading toward an understanding of technical applications. It is the second course in a two-course sequence with PHYS 150 surveying all of physics. It includes topics such as electric charge, electric force, electric field, electric potential difference, capacitance, cathode-ray tube, electric current, Ohm's Law, batteries, direct current circuits, resistors, ammeters, voltmeters, magnetic force, magnetic field, electromagnetic induction, motors, generators, transformers, inductors, alternating current circuits, electromagnetic waves, light, reflection, refraction, interference, diffraction, atomic physics, atoms in combination, and the nucleus.

Students attend two lecture/recitation classes and one two-hour laboratory/activity period per week. Classes emphasize conceptualizing the basic ideas, terminology, and principles of the physical phenomena of nature; their quantitative expression through algebra and trigonometry; their relation to applications in science and technology; and their use in quantitative problem solving. Both computer-based and traditional lab exercises and activities illustrate class material and scientific method while giving students experience with a variety of measuring tools and the general principles of measurement, including the analysis of error. Students work collaboratively in small groups to plan their measurements, collect and analyze data (often using modern computer hardware and software), make judgments based on their results, and communicate their efforts and conclusions in a written lab/activity report.

The prerequisite for this course is PHYS 150. It is a required course for many engineering technology programs. It is offered at least once per academic year at all Penn State locations with engineering technology programs. Class size varies up to about 80 students per lecture section and 24 students per lab/activity section.

Course evaluation is based on a combination of regular homework assignments and/or quizzes, written lab/activity reports, two or three exams, and a final exam.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 151L (GN) Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.

PHYS 151L Technical Physics II (3)
(GN)

PHYS 151, Technical Physics, provides an algebra-based introduction to electricity, light, and modern physics exemplifying scientific method and leading toward an understanding of technical applications. It is the second course in a two-course sequence with PHYS 150 surveying all of physics. It includes topics such as electric charge, electric force, electric field, electric potential difference, capacitance, cathode-ray tube, electric current, Ohm's Law, batteries, direct current circuits, resistors, ammeters, voltmeters, magnetic force, magnetic field, electromagnetic induction, motors, generators, transformers, inductors, alternating current circuits, electromagnetic waves, light, reflection, refraction, interference, diffraction, atomic physics, atoms in combination, and the nucleus.

Students attend two lecture/recitation classes and one two-hour laboratory/activity period per week. Classes emphasize conceptualizing the basic ideas, terminology, and principles of the physical phenomena of nature; their quantitative expression through algebra and trigonometry; their relation to applications in science and technology; and their use in quantitative problem solving. Both computer-based and traditional lab exercises and activities illustrate class material and scientific method while giving students experience with a variety of measuring tools and the general principles of measurement, including the analysis of error. Students work collaboratively in small groups to plan their measurements, collect and analyze data (often using modern computer hardware and software), make judgments based on their results, and communicate their efforts and conclusions in a written lab/activity report.

The prerequisite for this course is PHYS 150. It is a required course for many engineering technology programs. It is offered at least once per academic year at all Penn State locations with engineering technology programs. Class size varies up to about 80 students per lecture section and 24 students per lab/activity section.

Course evaluation is based on a combination of regular homework assignments and/or quizzes, written lab/activity reports, two or three exams, and a final exam.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2001
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 151S (GN) Technical Physics II (3) Elementary treatment of topics in electricity, light, and modern physics leading toward an understanding of technical applications.

Technical Physics II (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 205 Introduction to Nanoscience Seminar (1) Introductory nanoscience seminar required of Behrend College students for preparation for capstone courses E SC 211-216.

PHYS 205 Introduction to Nanoscience Seminar (1)

PHYS 205 is a one-credit seminar course to be taken primarily by students intending to complete the Nanoscience Minor at Penn State Erie, The Behrend College. It will prepare students for the nanofabrication courses that are offered at Penn State's Nanofabrication Facility, and which are a part of the minor requirements. Student participation will include reporting on an article from the news or popular press about nanoscience or technology. The course will be offered once a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, MATH 140, PHYS 211 orPHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 211H (GN) General Physics: Mechanics (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.

General Physics: Mechanics (4)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Concurrent: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 211 (GN) General Physics: Mechanics (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.

PHYS 211 General Physics: Mechanics (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to classical mechanics, including such topics as: measurement, dimensional analysis, motion in one-dimension, vectors, motion in 2 and 3 dimensions, relative and circular motion, force and dynamics, Newton's Laws, friction, kinetic energy, work, potential energy, energy conservation, systems of particles, center of mass and momentum, elastic and inelastic collisions, rotation (moments of inertia), rolling motion, torque, angular momentum, static equilibrium, gravitational force and Kepler's laws, gravitational potential energy, oscillations, waves (transverse and longitudinal, superposition of waves).

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools. The course is an important prerequisite for later work in many science and engineering disciplines.

The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 1999

Concurrent: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 211L (GN) General Physics: Mechanics (0-4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation. NOTE: UP offers for 0 credits; Altoona offers for 4 credits.

PHYS 211L General Physics: Mechanics (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to classical mechanics, including such topics as: measurement, dimensional analysis, motion in one-dimension, vectors, motion in 2 and 3 dimensions, relative and circular motion, force and dynamics, Newton's Laws, friction, kinetic energy, work, potential energy, energy conservation, systems of particles, center of mass and momentum, elastic and inelastic collisions, rotation (moments of inertia), rolling motion, torque, angular momentum, static equilibrium, gravitational force and Kepler's laws, gravitational potential energy, oscillations, waves (transverse and longitudinal, superposition of waves).

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools. The course is an important prerequisite for later work in many science and engineering disciplines.

The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2000

Concurrent: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 211P General Physics: Mechanics (0) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.

PHYS 211P General Physics: Mechanics (4)
(GN)

Calculus-based introduction to classical mechanics, including such topics as: measurement, dimensional analysis, motion in one-dimension, vectors, motion in 2 and 3 dimensions, relative and circular motion, force and dynamics, Newton's Laws, friction, kinetic energy, work, potential energy, energy conservation, systems of particles, center of mass and momentum, elastic and inelastic collisions, rotation (moments of inertia), rolling motion, torque, angular momentum, static equilibrium, gravitational force and Kepler's laws, gravitational potential energy, oscillations, waves (transverse and longitudinal, superposition of waves).

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools. The course is an important prerequisite for later work in many science and engineering disciplines.

The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Concurrent: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 212 (GN) General Physics: Electricity and Magnetism (4) Calculus-based study of the basic concepts of electricity and magnetism.

PHYS 212 General Physics: Electricity and Magnetism (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to classical electricity and magnetism, including such topics as, electric charge and electric fields, Gauss's law, electric potential, capacitance, current, resistance, and circuits, magnetic fields, and fields due to currents, induction and inductance, magnetism of matter, Maxwell's equations, and electromagnetic oscillations.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 211R (GN) General Physics: Mechanics (4) Calculus-based study of the basic concepts of mechanics: motion, force, Newton's laws, energy, collisions, and rotation.

PHYS 211R General Physics: Mechanics (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to classical mechanics, including such topics as: measurement, dimensional analysis, motion in one-dimension, vectors, motion in 2 and 3 dimensions, relative and circular motion, force and dynamics, Newton's Laws, friction, kinetic energy, work, potential energy, energy conservation, systems of particles, center of mass and momentum, elastic and inelastic collisions, rotation (moments of inertia), rolling motion, torque, angular momentum, static equilibrium, gravitational force and Kepler's laws, gravitational potential energy, oscillations, waves (transverse and longitudinal, superposition of waves).

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools. The course is an important prerequisite for later work in many science and engineering disciplines.

The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 1999

Concurrent: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 212H (GN) General Physics: Electricity and Magnetism (4) Calculus-based study of the basic concepts of electricity and magnetism.

General Physics: Electricity and Magnetism (4)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 212P General Physics: Electricity and Magnetism (0) Calculus-based study of the basic concepts of electricity and magnetism.

PHYS 212P General Physics: Electricity and Magnetism (4)
(GN)

Calculus-based introduction to classical electricity and magnetism, including such topics as, electric charge and electric fields, Gauss's law, electric potential, capacitance, current, resistance, and circuits, magnetic fields, and fields due to currents, induction and inductance, magnetism of matter, Maxwell's equations, and electromagnetic oscillations.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 212L (GN) General Physics: Electricity and Magnetism (0-4) Calculus-based study of the basic concepts of electricity and magnetism. NOTE: UP offers for 0 credits; Altoona offers for 4 credits.

PHYS 212L General Physics: Electricity and Magnetism (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to classical electricity and magnetism, including such topics as, electric charge and electric fields, Gauss's law, electric potential, capacitance, current, resistance, and circuits, magnetic fields, and fields due to currents, induction and inductance, magnetism of matter, Maxwell's equations, and electromagnetic oscillations.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2000
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 212R (GN) General Physics: Electricity and Magnetism (4) Calculus-based study of the basic concepts of electricity and magnetism.

PHYS 212R General Physics: Electricity and Magnetism (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to classical electricity and magnetism, including such topics as, electric charge and electric fields, Gauss's law, electric potential, capacitance, current, resistance, and circuits, magnetic fields, and fields due to currents, induction and inductance, magnetism of matter, Maxwell's equations, and electromagnetic oscillations.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend two lectures, one recitation session, and one two-hour lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2000
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 213L (GN) General Physics: Fluids and Thermal Physics (0) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.

PHYS 213L General Physics: Fluids and Thermal Physics (2)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to the basic concepts of fluids and sound, heat, kinetic theory, and entropy, including such topics as: fluid mechanics and motion, sound Waves: speed, harmonic waves, intensity, temperature and heat: thermal expansion, heat capacity, conduction and radiation, kinetic theory of gases: First Law of Thermodynamics, internal energy of a gas, heat capacities, adiabatic expansion, entropy and the Second Law: concept of equilibrium and entropy, heat engines, efficiency of heat engines and refrigerators, introduction to statistical mechanics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend one lecture and one two-hour recitation/lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course, will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 213 (GN) General Physics: Fluids and Thermal Physics (2) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.

PHYS 213 General Physics: Fluids and Thermal Physics (2)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to the basic concepts of fluids and sound, heat, kinetic theory, and entropy, including such topics as: fluid mechanics and motion, sound Waves: speed, harmonic waves, intensity, temperature and heat: thermal expansion, heat capacity, conduction and radiation, kinetic theory of gases: First Law of Thermodynamics, internal energy of a gas, heat capacities, adiabatic expansion, entropy and the Second Law: concept of equilibrium and entropy, heat engines, efficiency of heat engines and refrigerators, introduction to statistical mechanics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend one lecture and one two-hour recitation/lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course, will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 213R (GN) General Physics: Fluids and Thermal Physics (2) Calculus-based study of the basic concepts of fluids and sound, heat, kinetic theory, and entropy.

PHYS 213R General Physics: Fluids and Thermal Physics (2)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to the basic concepts of fluids and sound, heat, kinetic theory, and entropy, including such topics as: fluid mechanics and motion, sound Waves: speed, harmonic waves, intensity, temperature and heat: thermal expansion, heat capacity, conduction and radiation, kinetic theory of gases: First Law of Thermodynamics, internal energy of a gas, heat capacities, adiabatic expansion, entropy and the Second Law: concept of equilibrium and entropy, heat engines, efficiency of heat engines and refrigerators, introduction to statistical mechanics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend one lecture and one two-hour recitation/lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period. Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course, will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 1999
Prerequisite: MATH 140, PHYS 211
Concurrent: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 214 (GN) General Physics: Wave Motion and Quantum Physics (2) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.

PHYS 214 General Physics: Wave Motion and Quantum Physics (2) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter, including such topics as: electromagnetic waves: Poynting Vector, polarization and reflection, geometrical optics: mirrors, refraction, lenses, optical instruments, interference and diffraction, photons and matter waves, energy quantization, structure of matter: hydrogen atom, conduction of electrons in solids, and nuclear physics and nuclear energy.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend one lecture and one two-hour recitation/lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2004
Prerequisite: MATH 141, PHYS 211 andPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 214L (GN) General Physics: Wave Motion and Quantum Physics (0) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.

PHYS 214L General Physics: Wave Motion and Quantum Physics (2) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter, including such topics as: electromagnetic waves: Poynting Vector, polarization and reflection, geometrical optics: mirrors, refraction, lenses, optical instruments, interference and diffraction, photons and matter waves, energy quantization, structure of matter: hydrogen atom, conduction of electrons in solids, and nuclear physics and nuclear energy.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend one lecture and one two-hour recitation/lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2004
Prerequisite: MATH 141, PHYS 211 andPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 214R (GN) General Physics: Wave Motion and Quantum Physics (2) Calculus-based study of the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter.

PHYS 214R General Physics: Wave Motion and Quantum Physics (2) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Calculus-based introduction to the basic concepts of wave motion, geometrical optics, interference phenomena, photons, wave mechanics, and the structure of matter, including such topics as: electromagnetic waves: Poynting Vector, polarization and reflection, geometrical optics: mirrors, refraction, lenses, optical instruments, interference and diffraction, photons and matter waves, energy quantization, structure of matter: hydrogen atom, conduction of electrons in solids, and nuclear physics and nuclear energy.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications, and to enhance their conceptual understanding of physical laws. Students attend one lecture and one two-hour recitation/lab/activity period per week. Use of a combination of computer-based and traditional lab exercises is expected and collaborative learning exercises will be used in both lab and recitation settings. The introduction of data acquisition and analysis methods (often making use of modern computer tools) will be stressed in the laboratory/activity period.

Course evaluation is based on a combination of regular homework sets and/or quizzes, reports from the lab/activity period, midterm and final exams and other evaluative tools.

The course is an important prerequisite for later work in many science and engineering disciplines. The course will be offered (at UP campus) during Fall, Winter, and Summer sessions.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2004
Prerequisite: MATH 141, PHYS 211 andPHYS 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 230 Introduction to Relativity (3) Introduction to special and general relativity including space-time diagrams and relativistic kinematics, length contraction, time dilation, equivalence principles, curved space and cosmology.

PHYS 230 Introduction to Relativity (3)

This course is designed for science or engineering students who have successfully completed calculus-based physics courses through electricity and magnetism (PHYS 212), and differential and integral calculus (MATH 140 and 141). Co-requisites of linear algebra (MATH 220) and vector calculus (MATH 230 or 231) are required. This course should provide the student with a mathematical and physical understanding of relativity theory beyond that which one encounters in semi-popular treatments of the subject. The mathematical skills which this course will develop, e.g. tensors and tensor analysis, should be especially useful to students in a wide range of science and engineering fields from computer science to physics and electrical engineering.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: PHYS 212, MATH 141 . Prerequisite or concurrent:MATH 220, MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 237 Introduction to Modern Physics (3) Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.

PHYS 237 Introduction to Modern Physics (3)

A broad survey of post-classical physics, taken by physics and other science and engineering students. Required of all physics majors, it is typically taken in the fourth-semester. The course covers much of the modern physics curriculum including topics such as special relativity, the concepts and mathematical formalism of quantum mechanics, both in one- and three-dimensional model systems, and the applications of quantum theory to topics ranging from atomic/molecular, nuclear, particle, and condensed matter physics to astrophysics.

The course is a prerequisite for a junior-senior course in quantum mechanics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212
Concurrent: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 237H Introduction to Modern Physics (3) Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.

Introduction to Modern Physics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: PHYS 212
Concurrent: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 237L Introduction to Modern Physics (3) Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.

PHYS 237L Introduction to Modern Physics (3)

A broad survey of post-classical physics, taken by physics and other science and engineering students. Required of all physics majors, it is typically taken in the fourth-semester. The course covers much of the modern physics curriculum including topics such as special relativity, the concepts and mathematical formalism of quantum mechanics, both in one- and three-dimensional model systems, and the applications of quantum theory to topics ranging from atomic/molecular, nuclear, particle, and condensed matter physics to astrophysics.

The course is a prerequisite for a junior-senior course in quantum mechanics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212
Concurrent: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 237R Introduction to Modern Physics Relativity and quantum theory applied to selected topics in atomic, molecular, solid state, and nuclear physics.

PHYS 237R Introduction to Modern Physics (3)

A broad survey of post-classical physics, taken by physics and other science and engineering students. Required of all physics majors, it is typically taken in the fourth-semester. The course covers much of the modern physics curriculum including topics such as special relativity, the concepts and mathematical formalism of quantum mechanics, both in one- and three-dimensional model systems, and the applications of quantum theory to topics ranging from atomic/molecular, nuclear, particle, and condensed matter physics to astrophysics.

The course is a prerequisite for a junior-senior course in quantum mechanics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212
Concurrent: PHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 250L (GN) Introductory Physics I (0-4) Selected topics in mechanics, heat, and sound.

PHYS 250L Introductory Physics I (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical mechanics, including such topics as one- and two-dimensional motion, vectors, relative and circular motion, force and dynamics, Newton's laws of motion, work and kinetic energy, potential energy and energy conservation, momentum, rotational motion and angular velocity, static equilibrium and properties of materials, static and moving fluids, vibrations, simple harmonic motion, general properties of waves, sound and human hearing, temperature and kinetic theory, heat and calorimetry, and the basic laws of thermodynamics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities especially as applied to physical systems. The mathematical prerequisites for this course (and the subsequent PHYS 251) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a prerequisite for the second semester continuation, PHYS 251.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2010
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 250 (GN) Introductory Physics I (4) Selected topics in mechanics, heat, and sound.

PHYS 250 Introductory Physics I (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical mechanics, including such topics as one- and two-dimensional motion, vectors, relative and circular motion, force and dynamics, Newton's laws of motion, work and kinetic energy, potential energy and energy conservation, momentum, rotational motion and angular velocity, static equilibrium and properties of materials, static and moving fluids, vibrations, simple harmonic motion, general properties of waves, sound and human hearing, temperature and kinetic theory, heat and calorimetry, and the basic laws of thermodynamics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities especially as applied to physical systems. The mathematical prerequisites for this course (and the subsequent PHYS 251) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a prerequisite for the second semester continuation, PHYS 251.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 250P (GN) Introductory Physics I (0) Selected topics in mechanics, heat, and sound.

PHYS 250P Introductory Physics I (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical mechanics, including such topics as one- and two-dimensional motion, vectors, relative and circular motion, force and dynamics, Newton's laws of motion, work and kinetic energy, potential energy and energy conservation, momentum, rotational motion and angular velocity, static equilibrium and properties of materials, static and moving fluids, vibrations, simple harmonic motion, general properties of waves, sound and human hearing, temperature and kinetic theory, heat and calorimetry, and the basic laws of thermodynamics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities especially as applied to physical systems. The mathematical prerequisites for this course (and the subsequent PHYS 251) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a prerequisite for the second semester continuation, PHYS 251.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 250R (GN) Introductory Physics I (4) Selected topics in mechanics, heat, and sound.

PHYS 250R Introductory Physics I (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical mechanics, including such topics as one- and two-dimensional motion, vectors, relative and circular motion, force and dynamics, Newton's laws of motion, work and kinetic energy, potential energy and energy conservation, momentum, rotational motion and angular velocity, static equilibrium and properties of materials, static and moving fluids, vibrations, simple harmonic motion, general properties of waves, sound and human hearing, temperature and kinetic theory, heat and calorimetry, and the basic laws of thermodynamics.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities especially as applied to physical systems. The mathematical prerequisites for this course (and the subsequent PHYS 251) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a prerequisite for the second semester continuation, PHYS 251.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002
Prerequisite: MATH 022, MATH 026 ; orMATH 040 ; orMATH 041 or satisfactory performance on the mathematics proficiency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 251 (GN) Introductory Physics II (4) Selected topics in light, electricity, and magnetism.

PHYS 251 Introductory Physics II (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical electricity and magnetism, optics, and areas of modern physics, including such topics electric charge and fields, electrical potential and energy, electric currents and resistance, direct current (DC) circuits, magnetism, electromagnetic induction and applications to devices, electromagnetic waves, light and geometrical optics, wave nature of light, basic optical instruments (microscopes, telescopes, etc.), basics of quantum mechanics, applications of quantum theory to atoms, molecules, and solids, nuclear physics and radioactivity, applications of nuclear energy and radiation.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities, especially as applied to physical systems. The mathematical prerequisites for this course (and the prerequisite PHYS 250) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a continuation of the first-semester course, the newly renumbered PHYS 250.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 251L (GN) Introductory Physics II (4) Selected topics in light, electricity, and magnetism.

PHYS 251L Introductory Physics II (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical electricity and magnetism, optics, and areas of modern physics, including such topics electric charge and fields, electrical potential and energy, electric currents and resistance, direct current (DC) circuits, magnetism, electromagnetic induction and applications to devices, electromagnetic waves, light and geometrical optics, wave nature of light, basic optical instruments (microscopes, telescopes, etc.), basics of quantum mechanics, applications of quantum theory to atoms, molecules, and solids, nuclear physics and radioactivity, applications of nuclear energy and radiation.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities, especially as applied to physical systems. The mathematical prerequisites for this course (and the prerequisites PHYS 250) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a continuation of the first-semester course (PHYS 250).

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002 Ending: Summer 2010
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 251P (GN) Introductory Physics II (0) Selected topics in light, electricity, and magnetism.

PHYS 251P Introductory Physics II (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical electricity and magnetism, optics, and areas of modern physics, including such topics electric charge and fields, electrical potential and energy, electric currents and resistance, direct current (DC) circuits, magnetism, electromagnetic induction and applications to devices, electromagnetic waves, light and geometrical optics, wave nature of light, basic optical instruments (microscopes, telescopes, etc.), basics of quantum mechanics, applications of quantum theory to atoms, molecules, and solids, nuclear physics and radioactivity, applications of nuclear energy and radiation.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities, especially as applied to physical systems. The mathematical prerequisites for this course (and the prerequisites PHYS 250) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a continuation of the first-semester course (PHYS 250).

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 251L (GN) Introductory Physics II (0-4) Selected topics in light, electricity, and magnetism.

PHYS 251L Introductory Physics II (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical electricity and magnetism, optics, and areas of modern physics, including such topics electric charge and fields, electrical potential and energy, electric currents and resistance, direct current (DC) circuits, magnetism, electromagnetic induction and applications to devices, electromagnetic waves, light and geometrical optics, wave nature of light, basic optical instruments (microscopes, telescopes, etc.), basics of quantum mechanics, applications of quantum theory to atoms, molecules, and solids, nuclear physics and radioactivity, applications of nuclear energy and radiation.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities, especially as applied to physical systems. The mathematical prerequisites for this course (and the prerequisites PHYS 250) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a continuation of the first-semester course (PHYS 250).

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 251R (GN) Introductory Physics II (4) Selected topics in light, electricity, and magnetism.

PHYS 251R Introductory Physics II (4)
(GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Algebra-based introduction to classical electricity and magnetism, optics, and areas of modern physics, including such topics electric charge and fields, electrical potential and energy, electric currents and resistance, direct current (DC) circuits, magnetism, electromagnetic induction and applications to devices, electromagnetic waves, light and geometrical optics, wave nature of light, basic optical instruments (microscopes, telescopes, etc.), basics of quantum mechanics, applications of quantum theory to atoms, molecules, and solids, nuclear physics and radioactivity, applications of nuclear energy and radiation.

This course is designed to provide students with a working knowledge of the elementary physics principles mentioned above, as well as their applications to everyday phenomena and to the life sciences, to enhance their conceptual understanding of physical laws, and to increase their problem solving abilities, especially as applied to physical systems. The mathematical prerequisites for this course (and the prerequisites PHYS 250) are mathematics at the level of algebra and trigonometry, demonstrated by suitable coursework or demonstration of satisfactory performance on the mathematical proficiency exam. Students attend two lectures, one recitation session, and a two-hour lab/activity per week. Students perform laboratory experiments, discuss their results, and write up their conclusions in weekly lab reports. Course evaluation is based on a combination of homework, quizzes, lab reports, midterm and final exams, and other evaluative tools. The course is a continuation of the first-semester course (PHYS 250).

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2002
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 251S (GN) Introductory Physics II (4) Selected topics in light, electricity, and magnetism.

Introductory Physics II (4)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 255 (GN) Physics of Music and Speech (3) Descriptive study of vibration and sound waves, hearing and speech, musical instruments, physical bases of harmony and scales.

Physics of Music and Speech (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 400 Intermediate Electricity and Magnetism I (3) Electrostatics, steady-state magnetic field; electrical and magnetic properties of matter; Maxwell's equations, boundary-value problems, and wave propagation.

PHYS 400 Intermediate Electricity and Magnetism I (3)

A second undergraduate course in electricity and magnetism, required of all physics majors who typically take it in their fifth/sixth-semester. The course includes a review of vector calculus, and in-depth discussions of electrostatics, magnetostatics, time varying electric and magnetic fields, and electromagnetic waves. Students are encouraged to take the MATH 405 and 406 sequence while they are in Physics 400.

This course is a prerequisite only for Physics 401 which is a second-semester extension.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251;MATH 230 orMATH 231;PHYS 212, PHYS 213 andPHYS 214
Concurrent: MATH 230 OR MATH 231 ; PHYS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 402 Electronics for Scientists (4) Circuit and network theory; active devices; amplifiers; introduction to digital electronics; noise theory.

PHYS 402 Electronics for Scientists (4)

A junior-senior theory/laboratory course providing a survey of modern electronics from a data acquisition and analysis point of view. One of several possible lab-based courses taken by physics majors in several options to satisfy a lab requirement, typically taken by physics majors in their senior year. This course is very useful for students interested in experimental research work and includes examples such as digital data acquisition, the lab study of various electronic devices, fast Fourier transform methods and other topics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251;PHYS 212, PHYS 213 andPHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 401 Intermediate Electricity and Magnetism II (3) Electromagnetic wave propagation in media, wave guides, dipole radiation, electrodynamics of charged particles, special theory of relativity, special topics.

Intermediate Electricity and Magnetism II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: PHYS 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 406 Subatomic Physics (3) Introductory treatment of elementary particles, fundamental strong and electroweak interactions, nuclear structure, accelerators, particle detection, nuclear astrophysics.

Subatomic Physics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: PHYS 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 410 Introduction to Quantum Mechanics I (3-4) Basic postulates; Schrodinger wave equation; stationary states; variational method; scattering in one dimension; orbital angular momentum; hydrogen atom; numerical methods.

Introduction to Quantum Mechanics I (3-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 250 orMATH 251;MATH 230 orMATH 231;PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 412 Solid State Physics I (3) Crystal symmetry, x-ray structure analysis, lattice vibrations, thermal properties, free electron transport theory, elementary one-electron quantum theory of solids.

Solid State Physics I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: MATH 230 orMATH 231
Concurrent: PHYS 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 411 Introduction to Quantum Mechanics II (3) General theory of angular momentum; approximation methods; scattering theory; radiation theory; applications to atomic, molecular, condensed matter, nuclear and particle physics.

Introduction to Quantum Mechanics II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: PHYS 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 413 Solid State Physics II (3) Quantum theory of electronic and optical properties of solids, semiconductors, dielectrics, magnetic properties, crystal imperfections, low- temperature effects, and superconductivity.

Solid State Physics II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: PHYS 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 414 Solid State Physics (3) Crystal structure; reciprocal lattice; X-ray diffraction; lattice vibrations; thermal properties; free electron gas model; energy bands; semiconductors; magnetism.

Solid State Physics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 230, PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 419 (MATH 419) Theoretical Mechanics (3) Principles of Newtonian, Lagrangian, and Hamiltonian mechanics of particles with applications to vibrations, rotations, orbital motion, and collisions.

PHYS (MATH) 419 Theoretical Mechanics (3)

A second course in classical mechanics, required of all physics majors who typically take it in their 5th or 6th semester. The course includes a review of relevant mathematics, detailed discussions of advanced topics in Newtonian mechanics, introductions to Lagrangian and Hamiltonian dynamics, and applications to such forced oscillations, orbital motion, vibrational motion and normal modes, rigid body motion, and collisions.

It is a prerequisite for Physics 461, which is a second semester extension. It is also a valuable background for most 400-level physics courses, especially Physics 410.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251;PHYS 212, PHYS 213 andPHYS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 420 Thermal Physics (3) Basic postulates of statistical mechanics and thermodynamics, microscopic quantum states and macroscopic parameters; partition functions; Maxwell- Boltzmann and quantum statistics.

Thermal Physics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 230 orMATH 231;MATH 250 orMATH 251;PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 421W Research Methods in Physics (3) Methodology focusing on the theory of measurement and experiment design.

Research Methods in Physics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 443 Intermediate Acoustics (3) Vibration and simple vibrating systems, sound wave propagation, acoustic instruments, recent developments.

PHYS 443 Intermediate Acoustics (3)

An intermediate acoustics course, used as an elective by Physics majors in many options and used as a requirement by Physics majors in the Acoustics option. Building on classical wave theory learned in the 200-level introductory sequence, this course discusses such topics as the mathematical foundations of wave equations, basic acoustic systems, acoustics in fluids, attenuation and the fluctuation-dissipation theorem, and acoustical radiation and scattering. The emphasis is on the basics of mathematical and physical acoustics rather on applied acoustics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999
Prerequisite: MATH 251, PHYS 212, PHYS 213 andPHYS 214 ; orPHYS 203 orPHYS 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 444 Topics in Contemporary Physics (2) Modern research topics and career opportunities in physics; employment, graduate education, and tailoring the physics curriculum to meet career goals.

PHYS 444 Topics in Contemporary Physics (2)

A course required of all Physics majors, designed to be taken in the Spring semester of the junior year. Introduces students to modern research areas in physics at Penn State and elsewhere. Provides background on career choices available with an undergraduate physics degree, including employment opportunities, planning for graduate study, and tailoring the physics curriculum to meet career goals. The course structure is typically comprised of talks by Penn State faculty, outside visitors, students panels, and other information speakers, with students writing short and long reports using the class presentations discussions, and research from outside sources (research journals, internet, etc.) as background material.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 237 and 3 credits of physics at the 400 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 445 Nanoscience Seminar (1) Advanced nanoscience seminar required of Behrend College students for completion of the nanoscience minor.

PHYS 445 Nanoscience Seminar (1)

PHYS 445 is a one-credit seminar course to be taken exclusively by students intending to complete the Nanoscience Minor at Behrend College. It serves as the culminating course for students in the Nanoscience Minor. The students will integrate information from their major fields of study to choose and explore topics related to nanoscience. The course will be offered once a year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112, E SC 211, E SC 212, E SC 213, E SC 214, E SC 215, E SC 216, MATH 140, PHYS 211 orPHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 457 Experimental Physics (1-3) Selected experiments in various fields of physics.

PHYS 457 Experimental Physics (1-3)

An intermediate laboratory course, required of all Physics majors and taken by other students, typically in their junior/senior years, this course provides an introduction to modern laboratory techniques and instrumentation used in research labs. Typical 'short' experiments include X-ray diffraction, Compton scattering, velocity of light determination, high-temperature superconductors, Raman scattering, Hall effect, scanning tunneling microscopy (STM), and many others, as well as long experiments. This three-credit course also serves as the writing intensive course at the 400-level for most physics majors. One- and two-credit versions of 457 (without the writing-intensive component) are taken by science and education students outside of physics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212 rPHYS 213, PHYS 214 andPHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 446 The Year in Physics: A Seminar on the Latest Research (1) Discussion recent research in physics.

The Year in Physics: A Seminar on the Latest Research (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 211

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 457W Experimental Physics (3) Selected experiments in various fields in physics.

PHYS 457W Experimental Physics (3)

An intermediate laboratory course, required of all Physics majors and taken by other students, typically in their junior/senior years, this course provides an introduction to modern laboratory techniques and instrumentation used in research labs. Typical 'short' experiments include X-ray diffraction, Compton scattering, velocity of light determination, high-temperature superconductors, Raman scattering, Hall effect, scanning tunneling microscopy (STM), and many others, as well as long experiments. This three-credit course also serves as the writing-intensive course at the 400-level for most Physics majors. One- and two-credit versions of Physics 457 (without the writing-intensive component) are taken by science and education students outside of Physics.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212, PHYS 213, PHYS 214 andPHYS 237

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 461 (MATH 461) Theoretical Mechanics (3) Continuation of Math.(Phys.) 419. Theoretical treatment of dynamics of a rigid body, theory of elasticity, aggregates of particles, wave motion, mechanics of fluids.

Theoretical Mechanics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986
Prerequisite: MATH 419

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 458 Intermediate Optics (4) Geometrical and physical optics: theory of lens systems, aberrations, apertures, interference, diffraction, polarization.

PHYS 458 Intermediate Optics (4)

An intermediate optics course which builds on the wave and optics used in the 200-level introductory course, this course (which includes a lab component) focuses on physical and geometrical optics, propagation of light and its interaction with matter, polarization, interference, and diffraction. Optical components such as lenses, mirrors, prisms, fiber optics, spectrometers, and interferometers are discussed and employed. The laboratory component includes a number of 1-2 period experiments designed to illustrate the principles of applied geometrical and physical optics. Longer (5 period) experiments are also included which utilize modern, computer-controlled multi-channel detection systems and are applied to such systems as thin-film optics and the optics of semi-conductors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 212, PHYS 213, PHYS 214;MATH 250 orMATH 251;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 462 Applications of Physics in Medicine (3) Applications of physics in human physiology and in instrumentation for medical diagnosis and treatment.

PHYS 462 Applications of Physics in Medicine (3)

This course is a general survey of applications of physics in understanding the physiology of the human body--for example, the function of the eye, ear, and electrical conduction. Physical principles behind diagnostic medical measurement are covered, including imaging modalities: X-ray, nuclear, magnetic resonance, and ultrasound. Treatment applications such as laser surgery and radiation therapy are also covered. The course is appropriate for students intending work in a health profession.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2002
Prerequisite: PHYS 211, PHYS 212, PHYS 213 andPHYS 214 ; orPHYS 250, PHYS 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 479 (MATH 479) Special and General Relativity (3) Mathematical description, physical concepts, and experimental tests of special and general relativity.

PHYS (MATH) 479 Special and General Relativity (3)

This course is intended as an elective course (within the undergraduate Physics program) for Physics majors to be taken in their senior year. Intended to be cross-listed with MATH, it can also be used in support of a Mathematics minor and, in some options, within the Math program as a program elective as well. The course significantly expands upon the introduction to Special Relativity (SR) seen in PHYS 237, including discussions of experimental tests of SR and applications to relativistic mechanics. It then introduces students to the mathematical machinery required to understand General Relativity (GR), starting with the description of curved spacetimes and geodesics. It discusses solutions to the Einstein equations and surveys the classic tests which established the validity of General Relativity. It concludes with applications of GR in such areas as black hold physics, the generation and detection of gravitational waves, other topics (such as cosmology, relativistic astrophysics, etc.).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PHYS 237, PHYS 400, PHYS 419;MATH 250 orMATH 251;MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 494H Physics Research Project (1-12) Investigation of an original research problem, including a literature search. Preparation of a formal thesis is optional.

Physics Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 494 Physics Research Project (1-12) Investigation of an original research problem, including a literature search. Preparation of a formal thesis is optional.

Physics Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Physics (PHYS)

PHYS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 120 (GN) The Fungal Jungle: A Mycological Safari From Truffles to Slime Molds (3) Students will learn about the world of fungi and the many ways it impacts their lives.

PPATH 120 The Fungal Jungle: A Mycological Safari From Truffles to Slime Molds (3) (GN)

Fungi are a fascinating group of organisms that we encounter in everyday life. Apart from the mushrooms in our pizza or mold in our bathtub, fungi are important plant pathogens that severely interfere with agricultural production, cause diseases in humans and insects, and have a major role in ecosystems. The aim of this course is to introduce students to the world of Fungi and review the important functions of fungi in human society. We will discuss examples that students are familiar with in an attempt to bring fungi closer to them and will have several class activities and visits. This course is intended to be an introductory science course to non-science majors and will provide important general science knowledge as well as specific details about fungal biology.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 300 (GN) Horticultural Crop Diseases (3) Diseases of horticultural crops are examined stressing their cause, diagnosis, control and national and international importance.

PPATH 300 Horticultural Crop Diseases (2) (GN)

Diseases of horticultural crops are examined stressing their cause, diagnosis, control and understanding the roles they play in national and international trade and bio-security concerns. The biology of plant diseases involving a broad range of biotic and abiotic plant pathogens will be discussed. The objectives are that the student completing the course will 1) be able to describe the causes of plant diseases in general and horticultural crop diseases in particular; 2) be able to explain the interactions that occur among the plant, the environment, and biotic and abiotic agents during disease development; 3) have the ability to diagnose and explain the management of key diseases of horticultural crops; and 4) be able to describe the economic and social impact that plant diseases have on horticultural crops, including how the world trade of these crops can result in the global spread of pathogens important to other agricultural crops and native plants in the environment. A once-a-week, 2 hour laboratory will stress practical aspects of identifying diseases and plant pathogens and gaining experience in selecting appropriate disease control practices. The course is recommended for majors in horticulture and urban forestry but is appropriate for everyone interested in growing plants for enjoyment or profit or in maintaining the health of horticultural crops. This course provides an introduction to plant pathology in general and can be followed by more in-depth courses in plant-microbe interactions, mycology, nematology, phytobacteriology, air pollution impacts on terrestrial ecology, or forest pathology. Enrollment is expected to be between 25 and 50 students. It will be offered every Fall semester. Students will be evaluated based on a term paper with a topic of the student’s choosing as well as short essays and objective answer questions on quizzes, exams, and a final exam.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in a biological science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 318 Diseases of Forest and Shade Trees (2) Introduction to diagnosis and control of forest and shade tree diseases.

Diseases of Forest and Shade Trees (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 405 Microbe-Plant Interactions: Plant Disease and Biological Control (3) Survey of microbe-plant interactions causing plant disease, mechanisms of pathogenesis, disease control, and microbial and molecular biological control strategies.

Microbe-Plant Interactions: Plant Disease and Biological Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 412 Turfgrass Disease Management (3) Introduction to biology of turfgrass pathogens and management of cool- and warn-season turfgrass disease.

PPATH 412 Turfgrass Disease Management (3)

This course will provide an introduction to concepts of disease processes in plants and biology of plant pathogens, principles of turfgrass disease diagnosis based on symptom development, recognition of signs and microscopic structures of the pathogens, environmental and cultural management factors influencing disease development, significance of pathogen life cycle in disease epidemic development, and integrated turfgrass disease management practices for root and foliar disease. Disease of various turf types for golf courses, residential lawns, landscapes, and athletic fields will be discussed. Disease topics will include diseases that commonly occur in winter, disease that develop in spring and persist into summer, and disease that initiate in summer and remain active until late fall in most regions of North America. A number of non-infectious disorders of turf caused by extreme environmental conditions and improper cultural practices will also be discussed.

Students will be evaluated by the use of two hour exams and a final exam.

The course will be offered fall semester with an expected enrollment of 55 to 60 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: TURF 230, TURF 235, CHEM 101 orCHEM 110, BIOL 127

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 416 Plant Virology: Molecules to Populations (3) A exploration of the molecular biology and population dynamics of the virus-plant interaction.

PPATH 416 Plant Virology: Molecules to Populations (3)

This will be the departmental foundation course for plant viruses, one of the four major pathogen groups. The course will entail an exploration of the history, nature, cause, socioeconomics, symptomatology, physiology, diagnosis, ecology, epidemiology, and control of viral diseases on plants. Special emphases will be placed on the nomenclature taxonomy, replication, and evolution of plant viruses, molecular biology of the virus-plant interaction, replication, virus-like agents (viroids & prions), natural and genetically engineered disease resistance, virus-vector relationship, and population dynamics.

Grade assignment will be based on student performance involving written examinations, special projects, and an oral presentation.

The course will be offered in the fall semester of odd years and with an enrollment limit of 24 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: BIOL 110, BIOL 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 417 Phytobacteriology (3) Lecture and lab coverage of how bacteria cause plant diseases.

PPATH 417 Phytobacteriology (3)

This course covers the genetic, molecular, and physical, and physiological mechanisms of bacterial pathogenesis in plants. We will examine how the tools of microbiology are used to deduce the pathogenic mechanisms behind various plant diseases caused by bacteria. Topics include: motility; attachment; evasion of host defense; toxins; enzymes and proteins; biofilms; and bacterial communication. Readings include research and review articles. The course includes weekly hands-on laboratory activities that cover handling bacteria, isolating bacteria from plants, monitoring bacterial growth in plants, monitoring plant symptoms, and the genetic control of bacterial and plant interactions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: BIOL 110;BIOL 222 orBIOL 322;B M B 211 orMICRB 201 orMICRB 251 orB M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 419 Plant Nematology (2) The biology of plant pathogenic nematodes, the diseases they cause, and their control.

PPATH 419 Plant Nematology (2)

The course provides a comprehensive overview of important plant-parasitic nematodes causing economic damage to food, fiber and ornamental crops. Major topics include, identification, taxonomy, biology, ecology, plant-nematode interactions, symptomology and nematode management. The laboratory portion of the course provides hands-on experience extracting nematodes from soil and plants and preparing them for microscopic examination. The course will provide students with sufficient background information to make a preliminary nematode disease diagnosis and control recommendations. The course will also present a broad overview of other important nematode groups found in the soil including free-living, predatory and entomopathogenic forms. Throughout the course, students will be introduced to important scientific literature on nematodes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: BIOL 110, BIOL 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 427 Mycotoxins: Effects of Fungal Toxins on Human and Animal Health (3) Description and history of mycotoxicoses. Mycotoxin formation, occurrence, control, economic and social impacts, and regulatory issues.

PPATH 427 Mycotoxins: Effects of Fungal Toxins on Human and Animal Health (3)

This course will provide a comprehensive overview of the multi-disciplinary subject of mycotoxicology. Mycotoxins are chemicals produced by fungi that are toxic to humans and animals. Students will become familiar with the history and description of mycotoxins and mycotoxicoses, formation of mycotoxins, biology of mycotoxigenic fungi, methods of mycotoxin analysis, fate of mycotoxins in food processing, management and prevention of mycotoxins, regulations, and economic and social impacts. This course is appropriate for students who wish to learn more about fungi beyond the introductory level, as well as for those with interests in animal science and husbandry. The subject of mycotoxicology involves most aspects of the agriculture-food system so students of food science, crop and soil science, entomology and plant pathology will find relevant topics in mycotoxicology. Biology and microbiology students especially those with interests in plant-associated microbes and ecology will also benefit from this course. Course format will be two lectures per week and one period of discussion that will include laboratory activities, field trips, case study discussions, and student presentations. Students will be evaluated by a midterm exam, final exam, research paper, oral presentation on the research topic and participation in class discussion. The course will be offered each spring semester with an anticipated enrollment of 20 students per semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 110 orBIOL 011 andBIOL 012;CHEM 112, CHEM 113 ; course can also be taken with approval of the department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 425 (BIOL 425) Biology of Fungi (4) A survey of the biological diversity of fungi, stressing evolution, ecology, disease, morphology, life histories, and importance to humans.

PPATH (BIOL) 425 Biology of Fungi (4)

This course is a hands-on survey of fungal diversity, covering a wide variety of topics in fungal biology: phylogenetics, morphology, ecology, evolution, population biology, fungi as food, fungi as sources of toxins, ethnomycology, fungi as agents of plant and animal disease, fungi as sources of pharmaceuticals, and industrial uses. All fungi will be discussed, from mushrooms and other fleshy fungi to molds to slime molds. The laboratory portion of the course will center mostly around handling and manipulating freshly collected and living fungi and microscopic analysis of their major features. Field trips will include an all-day Saturday trip to a forest to collect and observe fungi, a similar afternoon field trip, and a demonstration trip to Penn State's mushroom production facility. Participation in a weekend field trip coordinated with other Universities (e.g., SUNY ESF's Peck Foray) will be optional. Students will come out of the course with a broad base of knowledge about fungi and their diversity and the ability to handle them in the laboratory and observe them using the microscope. Grades will be based on exams and a semester-long project. The course is designed for any undergraduate at the fifth semester or beyond or graduate student majoring in the basic (e.g., organismal, ecological, evolutionary, molecular) or applied (agricultural, medical) biological sciences after having completed at least six credits in one of these areas.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: fifth-semester or graduate standing in a biological sciences major with six credits completed in the major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 430 (E R M 430) Air Pollution Impacts to Terrestrial Ecosystems (3) An overview of direct and indirect effects of air pollution on terrestrial plants and ecosystems.

PPATH (E R M) 430 Air Pollution Impacts to Terrestrial Ecosystems (3)

Pollutant sources, transport, meteorology, and temporal and spatial trends of pollution dispersion and deposition are introduced. An overview is presented of the direct and indirect effects of air pollutants on terrestrial ecosystems with an emphasis on plant life. The effects of ozone, sulfur dioxide, nitrogen oxides, particulate matter, halogens, and combined pollutants leading to acidic atmospheric depositions are presented. Emphasis is placed on air pollutants as plant pathogens leading to symptoms and eventual long-term accumulative effects to entire ecosystems. Methods of diagnostics, factors affecting plant response, ecosystem decline and resiliency, pest interactions, assessment of loss and cost/benefit analysis leading to abatement follows. Final parts of the course include perspectives of public awareness, development of National Ambient Air Quality Standards, compliance prevention of significant deterioration, and the Clean Air Act reforms of 1990. Evaluations of student performance are made by unannounced quizzes and two scheduled examinations. The course is offered every Spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: BIOL 220W, FOR 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plant Pathology (PPATH)

PPATH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 050 Computer Applications for Plastics Engineering Technology (2) Programming, spreadsheets for the solution of technical problems, internet access for background and support information, formatting professional reports, creating presentations.

PL ET 050 Computer Applications for Plastics Engineering Technology (3)

This course will acquaint first semester students with a variety of computer software programs that will be used in upper level classes. Extensive hands-on laboratory problems are designed to reinforce the lecture. After completing this course, the students should be able to access plastic related information on the Internet, prepare a formal report complete with footnotes or endnotes, create a computer generated technical presentation, import and export data between different software packages, and program technical spreadsheets for solving engineering problems. Student competency will be assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 097 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 197 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 098 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 198 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 206 Plastic Materials and Properties (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics.

Plastic Materials and Properties (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: MCH T 213, PL ET 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 205 Introduction to Plastics (3) Introduction to the plastics industry including fundamental aspects of plastic materials and processing; introduces the chemical influence on mechanical and flow properties of plastic materials.

Introduction to Plastics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MATH 040, MATH 082, MATH 140 . Prerequisite or concurrent:CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 206W Plastic Materials and Properties (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics; writing intensive.

Plastic Materials and Properties (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996 Ending: Fall 2010
Prerequisite: MCH T 213, PL ET 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 206W Plastic Materials and Properties (3) Coverage of the most common commercial plastics including their additives, fillers, and fibers; includes common physical tests used to determine material characteristics; writing intensive.

Plastic Materials and Properties (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: PL ET 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 225 Instrumentation, Control, & Automation for Plastics (2) Instrumentation, control and automation basics & strategies for plastics processing.

PL ET 225 Instrumentation, Control, & Automation for Plastics (2)

This course provides basic foundational knowledge in the circuits, instrumentation and control systems used in plastics processing. The educational objectives are to create a basic understanding of electric circuits, transducers, automation, control systems, and control strategies encountered for a variety of processes. After completing this course, the student should demonstrate a basic understanding of the operation of temperature, force, pressure, position, and flow transducers along with the operation of different types of hard automation and robots used in typical plastics processing applications. The student should also demonstrate an understanding of issues related to interfacing instrumentation and automation systems with processing and monitoring equipment. Finally, the student should demonstrate understanding of basic control strategies such as OPEN LOOP, CLOSED LOOP, ADAPTIVE CONTROL, and PID. Lectures will be reinforced through laboratory exercises. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: MATH 081 ; Prerequisite or concurrent:PL ET 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 222 Introduction to Plastics Processing (4) Introduction to plastic processing methods, materials, tooling, design, and equipment. Safe operation and practices are emphasized.

PL ET 222 Introduction to Plastics Processing (4)

This course provides an introduction to plastics processing and is intended to provide broad foundational knowledge of the different types of plastics processing methods, equipment, and materials. The educational objectives are to develop competency in the determination of potential methods for manufacturing various component designs and the determination of cost effectiveness for the possible process alternatives selected. After completing this course, the student should have a basic understanding of a multitude of plastic processing methods and have knowledge of the interrelationship of part and tool design as it impacts manufacturing. The student should also understand materials and material flow phenomena as it affects processing and should understand the processing and troubleshooting techniques typically found in the industry. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 227 Plastics Processing & Statistical Methods (4) Study of advanced issues in plastics processing, such as design of experiments and SPC/SQC will be covered.

PL ET 227 Plastics Processing & Statistical Methods (4)

The course is intended to give the students the basic tools needed to identify and troubleshoot plastic processing problems. Injection molding will be the primary focus. The course objectives are: to introduce the student to the root cause of injection molding problems both at the start-up of a new mold and during production runs, to identify when a process has changed and to monitor the effects of attempts to improve the process using statistical process control and other statistical methods, to identify and minimize the sources of process variation; to ascertain the capability of measurement systems, and to gain understanding in the use of designed experiments techniques for developing cause and effect information. During the course, students will build upon knowledge gained in earlier courses in plastics materials and plastics processing. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 205, PL ET 222 ; Prerequisite or concurrent:PL ET 225

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 232 Introduction to Part and Tool Design (3) CAD techniques for designing plastic products and related tooling.

PL ET 232 Introduction to Part and Tool Design (3)

This is the introductory course for designing plastic parts using CAD solids modeling techniques. This course builds upon fundamental CAD modeling skills developed during earlier courses and initially focuses on the fundamental techniques needed to construct solids models for thin walled plastic parts. Focus then shifts toward using similar solids and surface modeling techniques for designing molds for plastic parts. The course objective is to provide the basic knowledge to construct solid models of plastic parts and related tooling and to lay the foundation for more advanced plastic part and mold design courses. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EG T 121 Prerequisite or concurrent:PL ET 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 235 Tool Design & Machining (2) Study of the methods used to create the tooling used in plastics fabrication and the methods of maintaining tooling.

PL ET 235 Tool Design & Machining (2)

This course will provide the students with an understanding of the construction methods and materials used in the creation of plastics tooling. Various methods of mold manufacture are introduced along with the fabrication practices needed to permit successful mold operation. The course concludes with a study of the materials used in mold construction and plastics tooling preventative maintenance practices. The course objective is to provide the knowledge needed to properly design parts for manufacturability. Students will also learn how to set up a system to maintain tooling to reduce catastrophic failures. Through the lab portion of this class, the students will obtain hands-on experience in the actual construction methods. This course uses knowledge gained in earlier plastics materials and processing courses to guide tooling design and fabrication decisions. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 222 ; Prerequisite or concurrent:PL ET 232

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 297 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 310 Orientation to Plastics Industry (3) Introduction to the various plastic resin groups and related production processes.

Orientation to Plastics Industry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 304 Plastic Material Properties and Applications (3) Synthesis, polymerization, and characterization of thermoplastic and thermoset polymeric materials.

PL ET 304 Plastic Material Properties and Applications (3)

This course studies the fabrication of polymers and macromolecules. Current commercial techniques are covered in detail and encompass the reactions and processes currently being used in the plastics industry today. Also covered is the technology for creating different grades of polymers by using various fillers, additives, and blends to create variations within the known polymers. This is supplemented by laboratory exercises that draw together theory and practice.

Polymer synthesis is a key link between the atoms present before they become a part of a polymer molecule and the molded article, the end produce of the molding operation. The course objective is to establish a basic knowledge of these processes to enable a deeper understanding of the capabilities of molding, designing, and the performance of polymer articles. Students will be able to start with a handful of carbon atoms, a synthesis procedure, and an injection molding machine, and understand what affects the polymer at each stage, rather than being limited to understanding a given molding process. It will allow students to adapt to industrial needs and the push towards a scientific approach to problem solving, rather than acting as traditional molding machine processors. Students will also be able to correlate the polymerization process to the performance derived in plastics processes and molded articles. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 206W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 323 Packaging Processes (3) In-depth studies and laboratory experiments will be conducted on processes such as blow molding, thermoforming, extrusion and other packaging processes.

PL ET 323 Packaging Processes (3)

In this course the student will learn about plastic packaging processes of blow molding, thermoforming, extrusion. Other minor processes will be presented. The course objectives are to develop student proficiencies in identifying the polymer material requirements for each process, in identifying the mold design and construction techniques for each process, and knowing how plastic packaging processes differ from injection molding. The laboratory will include experiments that show the advantages of each process and to develop student competency in running equipment for each process explored. The students shall also develop competency in conducting elementary process troubleshooting for each process. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 225, PL ET 227, PL ET 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 330 Advanced Tooling & Rheology (4) Tooling design strategies are developed considering a material's physical and rheological influences on processing and part formation.

PL ET 330 Advanced Tooling & Rheology (4)

This course is intended to allow the student to develop an understanding of the critical relationship between the physical and rheological properties of plastic materials and their influence upon processing and part formation. The course objective is to establish this relationship since it is the basis of establishing tooling design strategies for optimizing part quality, moldability, and productivity. Upon completing the course, the student will have proficiency in the use of injection molding analysis software (Moldflow) and be able to develop strategies for its efficient and effective application. The software is used as a means to accelerate and enhance the students understanding of the injection molding process. Students will learn how software usage can be interwoven with knowledge of polymer melt rheology, shrinkage, warpage, residual stresses and their relationship to tooling to enable proper process and molded part design. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 206W, PL ET 227, PL ET 232, PL ET 235, PHYS 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 340 Mold Design and Process Strategies (3) Overview of mold design and the development of strategies and techniques integrating CAD and CAE technologies for optimizing part quality, moldability, and productivity.

Mold Design and Process Strategies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: EG T 121, PL ET 206

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 345 Heat Transfer (2) Fundamentals of heat transfer including conduction, convection, and radiation.

PL ET 345 Heat Transfer (2)

The course is intended to allow the student to develop the ability to conceptually evaluate heat transfer problems, and solve practical problems that might be encountered in the plastics industry including those that relate to energy management in plastic materials or processes. The course objectives are accomplished by establishing the concepts of the three principle mechanisms of heat transfer, solving plastics related problems illustrative of each mechanism, and reinforcing theoretical concepts learned through the use of simulation software and hands-on laboratory experiments. During this course students will build upon the knowledge gained in an earlier course in the thermal and fluid sciences. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: PL ET 366

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 350 Design of Plastic Parts (4) Designing plastic parts utilizing CAD, FEA, and CAE technologies for the design and for structural, dimensional, and process evaluation and optimization.

PL ET 350 Design of Plastic Parts (4)

The educational object of this course is to develop knowledge in the process of designing plastic parts and products. The course focuses on the critical relationship between the part design and the plastic material, tooling and the specific manufacturing methods used to produce the part. Use of CAE technologies are used for enhancing concurrent engineering strategies and evaluating manufacturability of a design. The course develops special design guidelines to accommodate plastic material characteristics and production requirements. The course also addresses issues of assembly and decoration of plastic parts. Upon completing the course students will demonstrate competency in relating how engineering properties of plastic materials and their unique characteristics relate to product design. This includes understanding visoelasticity and the effects of time, strain, rate, temperature and environment on plastic materials and the product. During this course students will build upon the knowledge gained in previous courses on strength of materials, plastic materials, part and tool design and finite element methods. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40-50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MCH T 213, PL ET 232, PL ET 304, PL ET 330 . Prerequisite or concurrent:MET 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 370 Advanced Processing (3) In-depth studies and laboratory experiments will be conducted on processes such as blow molding, rotational molding, thermoforming, compression molding, calendaring, and various assembly operations.

Advanced Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 366 Fluid and Thermal Sciences (3) Fundamentals of thermodynamic principles, fluid statics, and fluid dynamics.

PL ET 366 Fluid and Thermal Sciences (3)

This course is intended to develop the student's ability to conceptually evaluate thermal or fluid problems, and solve practical problems that might be encountered in the plastics industry. The course objectives are: to introduce the fundamentals of thermodynamic behavior by defining pertinent material properties that define an equilibrium state based on temperature and pressure, to study internal energy, enthalpy, and the specific heats of liquids, solids, and gases, including ideal gas behavior and changes in energy level as a result of phase changes, and to introduce mechanical and electrical work leading to applications of the First Law of Thermodynamics. Other objectives are to study fluid static principles involving submerged body behavior by investigating topics of buoyancy and centers of pressure. Fluid dynamics studies explore the Bernoulli and Energy equations, head losses, and calculation of pump requirements from pressure drop and volumetric flow data. Criteria for determining laminar and turbulent flow are established. Viscosity of fluids and fluid rheology topics are also introduced. Students will apply the lessons learned in a subsequent course on heat transfer. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: MATH 083, PHYS 250, PL ET 222, PL ET 227 . Prerequisite or concurrent:PL ET 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 397 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 400 Plastics Management Issues (3) Study of business management topics as they relate to the plastics industry.

Plastics Management Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: PL ET 350, PL ET 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 400W Plastics Management Issues (3) Study of business management topics as they relate to the plastics industry. Writing intensive.

Plastics Management Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: PL ET 350, PL ET 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 429 Plastics Packaging (3) Introduction to plastics packaging including production methods, economic concerns, aesthetics, color and transparency, environmental concerns, and package lifetimes.

Plastics Packaging (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: PL ET 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 430 Packaging Design & Materials (2) Study of design and materials for plastic packaging including blow molded, thermoformed and extruded products.

PL ET 430 Packaging Design & Materials (2)

This course is intended to acquaint the student with issues related to plastic packaging material selection and packaging design. The course objectives are to establish knowledge in the primary materials used in packaging and how each is used in the design of various packaging systems, to identify how to select materials based on the requirements of the product, to identify the benefits and limitations for each process, to identify key materials and processes for a given type of package, to design robust packaging, and to optimize the product for each process. During the course students will build upon knowledge gained in earlier courses related to plastics packaging processes and plastics part design. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year with an enrollment of 40 to 50 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: Prerequisite or concurrent:PL ET 304, PL ET 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 460 Advanced Computer Applications in Plastics Design (3) Advanced applications of computer-aided design, computer-aided manufacturing, computer-aided engineering, and finite element analysis to plastic product development.

Advanced Computer Applications in Plastics Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: PL ET 350 . Prerequisite or concurrent:PL ET 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 440 Advanced Mold Design Technologies (4) This is the second course in mold design; focuses on mechanical aspects of designing and building a mold; includes CAD, CAM, and CAE technologies.

Advanced Mold Design Technologies (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MCH T 213, MET 306, METBD 366, PL ET 340

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 462 Advanced Injection Molding (3) New and advanced injection molding technoliges, implementing statistical methods such as design of experiments.

PL ET 462 Advanced Injection Molding (3)

This course continues studies in advanced processing and is intended primarily for students with career interests as a process engineer in an injection molding facility. The course objectives are to: establish how to use data collected from a molding process for new machine evaluation, expand knowledge in process monitoring & troubleshooting, perform advanced process modeling, and develop an awareness of computer integrated manufacturing. The student will study new developments in process control and advanced injection molding technologies (such as gas assist, powder injection molding, & microcellular molding). During the course students will build upon knowledge gained in earlier courses in instrumentation and controls, plastics processing, and advanced tooling and rheology. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year as a technical elective with an enrollment of 15 to 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 225, PL ET 227, PL ET 330

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 464 Plastics Failure Analysis (3) Fundamentals of Plastics Materials Process and Design Failure Analysis.

PL ET 464 Plastics Failure Analysis (3)

This course is intended to give the student an introduction to failure analysis for plastic articles. Course objectives are to: provide methods for the identification of common failure problems associated with modern molded plastic parts, perform a causal analysis for each failure type, provide an introduction, instruction, and allow operation of several analytical tools used to establish failure mechanisms, and review the relevant polymer physics and chemistry concepts involved in failure analysis. During the course students will be using concepts studied earlier in plastic material properties and applications. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year as a technical elective with an enrollment of 15 to 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 465 Advanced CAE for Plastics II (3) Advanced Computer-Aided Engineering techniques for plastic part design.

PL ET 465 Advanced CAE for Plastics II (3)

This course focuses on advanced applications of computer-aided design (CAD), computer-aided engineering (CAE), and finite element analysis (FEA) to plastic product development and plastic processes. The course objectives are to: analyze gas-assist injection molding from a design, simulation, and processing perspective; conduct data exchange techniques that reflect industry trends for moving geometry between native CAD systems, use finite element preprocessors, and analytical software packages; conduct an in-depth cooling analysis using mold cooling software and finite element heat transfer techniques; use CAE in the analysis of shrinkage and warpage; and study design optimization software approaches to maximize strength and minimize material investment. Extensive lab time is allotted for hands-on application of material present in the class, and is tied closely to lecture concepts. During the course students will build upon knowledge gained in earlier courses in plastics part design, heat transfer, and finite element methods. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year as a technical elective with an enrollment of 15 to 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PL ET 345, PL ET 350, MET 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 467 Secondary Operations (3) Fundamentals of decoration and assembly methods used in the plastics industry.

Secondary Operations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: Seventh semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 468 Rapid Commercialization (3) Techniques to help get plastic products to market quicker and to build solids and surface modeling skills.

PL ET 468 Rapid Commercialization (3)

The educational objective of this course is to develop the student's ability in using techniques to reduce the time to design a product and get it into production. The course objectives are to enable students to understand how to evaluate the differing points of view of each group during the concurrent engineering of plastic products and to analyze various rapid prototyping and tooling methods to determine their applicability to plastic products. Several simulations packages will be used to show their use in the preliminary design stages. During the course students will be using concepts studied earlier in plastic part design. Student competency is assessed by graded quizzes, examinations, homework, and special assignments. The course is offered once per year as a technical elective with an enrollment of 15 to 20 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: PL ET 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 475 Survey of New Plastics Processing Technologies (3) Study of the latest trends and advances in plastics processing.

Survey of New Plastics Processing Technologies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: PL ET 370, PL ET 440

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 494A Plastics Projects (1-12) Supervised student activities on research and/or design projects identified on an individual or small group basis. A specific title may be used in each instance and will be entered on the student's transcript.

Plastics Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: or concurrent:MET 418, PL ET 350, PL ET 370

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 497 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 497A Plastics Product Development (3) Covers product/business development process, including writing specifications, testing requirements, concept creation and selection, working with industrial design, marketing, and finance.

Plastics Product Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PL ET 350

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 497B (IL) Plastics International Experience (1-6) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Plastics International Experience (1-6)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Plastics Engineering Technology (PL ET)

PL ET 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 001 Beginning Polish (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Polish.

Beginning Polish (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 002 Beginning Polish (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Polish.

Beginning Polish (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2001
Prerequisite: POL 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 003 Beginning Polish (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Polish.

Beginning Polish (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2001
Prerequisite: POL 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 051 Elementary Intensive Polish for Graduate Students I (3) Intensive introduction to Polish: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

POL 051 Elementary Intensive Polish for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Polish. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Polish vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 052 Elementary Intensive Polish for Graduate Students II (3) Intensive introduction to Polish: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

POL 052 Elementary Intensive Polish for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Polish. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Polish vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: POL 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 053 Intermediate Intensive Polish for Graduate Students (3) Continued intensive study of Polish at the intermediate level: reading, writing, speaking, listening, cultural contexts.

POL 053 Intermediate Intensive Polish for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Polish. Continued intensive study of Polish at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: POL 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 100 Polish Culture and Civilization (3) Survey of Polish culture and civilization from 966 to the present.

Polish Culture and Civilization (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Polish (POL)

POL 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 001 (GS) Introduction to American National Government (3) Introduction to development and nature of American political culture, constitutional/structural arrangements, electoral/policy processes; sources of conflict and consensus.

PL SC 001 Introduction to American National Government (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course takes a broad look at American national government and American politics. It begins with a discussion of founding principles and documents and concludes by looking at how government uses its power. Readings and discussions cover the governing institutions-Congress, Executive, and Courts-and the institutions that link the American people to these-political parties, interest groups, and the media. Throughout, contemporary political events are placed in the context of theories, concepts, and arguments presented in class. By the end of the course students should have an understanding of how American national government is organized; a sense of what political scientists do, the types of questions they ask and the methods they employ; and the ability to make more informed choices in the political arena.

Class meets for two lectures and one discussion section each week. The recitation is led by a graduate teaching assistant and is used to review lecture material, do exercises based on the lectures and reading, and discuss current events and course materials. Grading is based upon multiple choice (or identifications) and essay exams, short papers (some based on applying course concepts to New York Times articles), and participation in section. The course is a prerequisite for most upper level American Politics courses. It fulfills a lower level requirement for Political Science majors, and may be used by non-majors to fulfill General Education and Social/Behavioral requirements. It is generally taught every semester.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 002 American Public Policy (3) Examination of selected areas of public policy in America. Analysis of policy content, alternatives, and impact.

American Public Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 003 (GS;IL) Introduction to Comparative Politics (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.

PL SC 003 Introduction to Comparative Politics (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, you will be introduced to the major types of governments in existence today. We will examine several democratic nations, and several dictatorships. We will learn how power is exercised in each major type of government and how different governments grant authority and seek the acceptance and legitimacy of their citizens.

In doing so, we will learn about the variety of ways to organize legislatures and executive branches, the difference between presidential and parliamentary systems, and the varying roles played by the courts and other legal institutions. We will also compare the different ways of holding elections and the different functions of political parties.

In addition, students will gain a better understanding of the history and politics of a small number of nations that will serve as examples throughout the semester. The countries used as examples will vary from semester to semester; however, these will usually include a mix of advanced industrial democracies, developing nations, and communist and former communist governments.

Students will take examinations that include multiple choice, short answer essays, and longer essays. Short projects or a major paper supplement exams. Students are also graded on attendance, participation and oral presentations in weekly recitation sections. The course fulfills one of the lower-division requirements for majors in Political Science and International Politics. For non majors this course may be used to fulfill a general education or Bachelor of Arts social/behavioral science requirement. It will be offered once a year with an enrollment limit of 180.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 003U (GS;IL) Introduction to Comparative Politics (3) Introduction to study of comparative government and politics: normative/ empirical theories; government functions in modern societies; representative structures and processes.

Introduction to Comparative Politics (3)

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 007 (GS) Contemporary Political Ideologies (3) Critical analysis of contemporary political ideologies such as liberalism, conservatism, socialism, anarchism, fascism, feminism, and environmentalism.

PL SC 007 Contemporary Political Ideologies (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Liberalism, conservatism, socialism, anarchism, fascism, feminism, and environmentalism are ideologies which have inspired political movements. Understanding their meaning is an essential aspect of the study of contemporary politics. In this course, we examine the basic principles of these ideologies and assess their power to mobilize people for political action. In the process, we also explore the role of ideology in America today, including the responsibility of democratic citizens to understand how ideology shapes their politics. This course serves as a prerequisite for all 400-level political theory courses. This course fulfills one of the lower division requirements for majors in Political Science. It is taken by nearly all Political Science majors. For non-majors this course will be used to fulfill general education social/behavioral science requirement and bachelor of arts social science requirement. Students will take examinations which include short answer and essay questions. They also trace a basic concept, e.g.,equality, liberty, democracy, across the political ideologies studied. Their final take-home exam compares contrasting meanings of their chosen concept. Participation and group exercises in discussion sections are also graded. PL SC 117 will be offered twice a year with 90 seats per offering.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 014 (GS;IL) International Relations (3) Characteristics of modern nation-states and forces governing their international relations; nationalism; imperialism; diplomacy; current problems of war and peace. Credit will not be given for both this course and INT U 200.

PL SC 014 International Relations (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course has three major goals. First, you should come away from this course with an idea of what the scientific study of Political Science is all about. Second, you should come away from the course knowing some general theories (explanations) for international behavior that you should use when you think about international politics in the future. Third, you will be introduced to a number of important topics in international politics. These include the end of the Cold War, nuclear weapons, international economics, and international development.

Students will take examinations that include short answer and essay questions. Short projects or papers will supplement exams. Students are also graded on attendance, participation and oral presentations in weekly recitation sections. The course fulfills one of the lower-division requirements for majors in political science and international politics. For non-majors this course may be used to fulfill a general education or bachelor of arts social/behavioral science requirement.

It will be offered at least once per academic year with an enrollment limit of 180.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 017 (GS) Introduction to Political Theory (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.

PL SC 017 Introduction to Political Theory (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines how the ideas of selected political theorists have been -- and continue to be--crucial for understanding how best to conduct our political lives. Following an introductory exploration of how political theorists think and write about politics, we will read selected theorists from three historical periods: ancient, modern, and contemporary. Our focus will be how these theorists respond to important questions about politics, including how their answers (and even their questions) change over time. Possible questions include: What are the rights of citizens? What are the purposes of states? When is a regime just? How should we organize authority? How should we participate in politics? What counts as political knowledge? How do knowledge and power interact in politics? Most important, what constitutes a good society and a good life? How can we work toward these? So these questions do not remain abstractions we also consider theoretically informed empirical research. By the end of the course, students have a better understanding of selected political theorists and the normative foundations of contemporary politics. This course serves as a prerequisite for all upper level Political Theory courses. This course fulfills one of the lower division requirements for majors in Political Science. Many Political Science majors and minors take it. For non-majors, this course may be used to fulfill general education requirements or the Bachelor of Arts social--behavioral science requirement. Grading is based on analytical papers and--or journal assignments, essay exams, occasional quizzes, group presentations, and class participation. PL SC 017 is offered once a year with 60 seats per offering.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 017W (GS) Introduction to Political Theory (3) Introduction to basic issues in political theory through analysis of selected major political thinkers.

Introduction to Political Theory (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 020 (GS;IL) Comparative Politics--Western Europe (3) Comparative analysis of political cultures, interest groups, parties, and decision-making processes in principal Western European political systems.

PL SC 020 Comparative Politics-Western Europe (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

The goal of this class is to learn how to compare democratic processes. Therefore, this course is organized by components of political systems rather than individual countries. We will begin with basic information and an overview of organizing principles of modern democracy. Then we will examine the institutional structures of democracies: legislatures, executives, bureaucracies, and federal structures. We will then cover societal interests and social cleavages and the way in which they are organized to influence government. The third section of the course focuses on elections, political parties, party systems, and government formation. Finally, we will examine the effects the rise of the EU on West European governments and their capacity to represent citizens' interests.

Readings in this class will focus on seven countries: France, Britain, Germany, Italy, and Sweden, Netherlands, and Spain. Working in groups students will choose one additional country to study over the course of the semester. Students will use their detailed knowledge of different political systems, from their own study and the readings in the textbook and the web, to assess the larger arguments about how citizens' interests are represented in democratic systems. Evaluation in this course will be based on class participation, quizzes, group projects, and exams. Evaluation methods will vary with instructors. PL SC 20 satisfies the Comparative Politics component of the International Politics Major and the Comparative Politics distribution requirement for the Political Science major. It is recommended for study abroad in Europe. PL SC 20 is a prerequisite for several PL SC 400- level courses. PL SC 20 will be offered once a year with 35 seats per offering.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 022 (GS;IL) Politics of the Developing Areas (3) The impact of colonialism, nationalism, and development policy on the political culture, structure, and transformation of post-colonial regimes.

PL SC 022 Politics of the Developing Areas (3)
(GS;IL)

BA - This course meets the Bachelor of Arts degree requirements.

This course will introduce students to the political and economic development of countries in “developing world.” Upon gaining an exposure to definitional issues, such as the distinction between the developed and developing world, we'll discuss the theoretical lenses that structure our discussion throughout the semester. The course will then turn to the processes and institutions involved with development assistance, the legacy of colonialism, and state building. By the conclusion of the course students should have a stronger understanding of how political and economic dynamics fuel the nexus between domestic and international institutions and how this affects economic and political development. Evaluation will be primarily through examinations. This course is appropriate for potential majors in Political Science and International Politics seeking to satisfy comparative politics requirements and non-majors satisfying general education requirements.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 083S (GS) First-Year Seminar in Political Science (3) Exploration of current topics of interest in political science, international relations, and/or political theory.

PL SC 083S First-Year Seminar in Political Science (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

Every first-year seminar in Political Science focuses on several of the major questions of the field. Many of these questions concern the constitutional arrangements of governments:

What is it that we want governments to do, and what is the ideal government arrangement? Why does every nation (and every state and city) have somewhat different constitutional provisions for legislation, judicial, military and executive functions of government? What can we learn from careful comparisons of different types of government? What is unique to the American system and what are the consequences of this uniqueness?

Other questions concern power: To what extent do wealthy individuals and wealthy organizations have disproportionate power in society? Is this appropriate or not? What is the impact of governmental attempts to limit the influence of the wealthy?

We are also very much interested in the international system: What types of foreign policies and diplomatic strategies reduce the likelihood of war? What is the role of international organizations (such as the UN or World Bank) and multinational corporations in shaping conflicts between nations?

Finally, we are interested in ordinary citizens: Do citizens know enough to formulate rational opinions on public issues? Why are many citizens apathetic? What motivates citizens to support one candidate over another or to favor particular policies and philosophies?

Each first-year seminar will select a special topic of interest and use that topic to explore a subset of these questions in order to provide a challenging introduction to political science. In the course of doing so, each first-year seminar in political science will also introduce students to specialized materials (such as government documents), library resources, and appropriate electronic media. In addition, each seminar will emphasize the standards of evidence, logic, and critical thinking required to develop effective and persuasive reports and oral presentations. Students will write essay exams and one or more written reports on the relevant topic of their own choices. Class participation is required. The course fulfills both a first-year seminar and a general education or Bachelor of Arts social/behavioral science requirement. The course will be offered three times per year with a maximum of 20 seats per offering.

In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 060 (GS;IL) (ANTH 060, J ST 060, SOC 060) Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.

PL SC (ANTH/J ST/SOC) 060 Society and Cultures in Modern Israel (3)
(GS;IL)

This course will review the social, cultural, and political systems in the State of Israel as they have developed and changed since its inception in 1948. The role of immigration, ethnicity, and religion on Israeli society and cultures will be explored along with the non-Israeli cultures that have helped to shape conditions there. The course will look into the diverse social and political institutions of contemporary Israel, examine the borders and geographic features of the region, and discuss who lives there, where they reside, and for which portions of this period. It will examine the wars and tensions between Israel and neighboring Arab states; the status of the Arab/Palestinian minority in Israel; and the growth of Palestinian nationalism. Social conditions in the State of Israel are the result of a unique history. Israelis have absorbed large numbers of immigrants from many parts of the world while engaged in ongoing political and military conflicts. Jewish settlers in Israel/Palestine revitalized a language (Hebrew) and developed unusual collectivistic institutions (e.g., the kibbutz). Israeli nationalism is founded both on secular and religious ideologies. It includes notions of a return from Diaspora and the desire for personal and collective redemption. The study of social processes such as these will provide an opportunity to consider the foundations and functions of nation-states and social systems generally. Materials will include selections from primary texts, official documents, novels, films, and ethnographic materials along with scholarly reviews and essays. Students will be exposed to materials produced from a variety of disciplinary and political perspectives. Through writing assignments, projects, and essay examinations, students will integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies, Sociology, Anthropology, Political Science, and Middle East Studies and will satisfy the IL requirement. It enables those in Jewish Studies to examine the roughly 30% of Jews who reside in Israel, builds upon a current course on Zionism, and provides context for the study of modern Hebrew. It offers an additional international alternative for students in Sociology and Political Studies and a topical area in cultural Anthropology. Students in Middle East Studies will find it worthwhile to study a nation with a significant impact on the region. The course will be offered approximately once a year, and enrollment will be limited to 50 students in order to promote active, engaged learning. Evaluations will be based on papers, a project, short quizzes, and essay examinations.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 083T (GS) First-Year Seminar in Political Science (3) Exploration of current topics of interest in political science, international relations, and/or political theory.

First-Year Seminar in Political Science (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 123 (GS;US;IL) Ethnic and Racial Politics (3) Political movements among United States ethnic and racial groups; government policies on race and ethnicity; comparison to other culturally diverse countries.

PL SC 123 Ethnic and Racial Politics (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Despite many historical predictions that ethnic and racial distinctions would decline over time, recent events in the United States and around the world indicate that ethnic and racial identity remain strongly significant in politics. An analysis of the role race and ethnicity play in politics and government is of major relevance not only in the field of political science, but in several other fields, such as anthropology, sociology, economics, history, linguistics, and religious studies.

By studying ethnic and racial politics, students will learn the various methods by which social groups organize to achieve political goals, how and why opposition usually arises to those goals, and what policies governments can pursue to defuse social tensions. Students will also learn the historical and cultural basis of ethnic identities and the resulting political disputes that result when social groups differentiate themselves from other social groups.

Important to the course will be the use of comparative case studies of the United States to ethnic and racial politics in other countries, such as Canada, Indonesia, and South Africa. Examination of relevant political movements and government policies in these countries will help to determine whether the United States can learn from others or whether others can learn from the United States. The course will also include an international component through the comparative case studies as well as discussion of immigration policy and the role of ethnic groups in U.S. foreign policy.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001 orPL SC 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 110 (GS;US) Rights in America (3) This course explores the historical and contemporary struggles of particular groups within American society to expand their rights.

PL SC 110 Rights in America (3)
(GS;US)

The American political system established in 1787 promised several fundamental things: (1) a social order not based upon aristocracy; (2) the rule of law; and (3) basic unalienable liberty. But some groups were excluded from these. This course explores the historical and contemporary struggles of particular groups within American society to expand their rights. We will explore the efforts of African-Americans, women and other marginalized groups to obtain basic liberty, equal protection and civil rights. As we discuss these groups, political institutions, and American politics we will focus on four overarching questions: (1) what is liberty; (2) why do some groups need to fight for rights; (3) how did the expansion of rights—or "rights creation"—come about; (4) and what is the role of courts in expanding, or not expanding, rights? Our exploration of rights in American will proceed one group at a time (i.e.., African-Americans, women). We will look first at the history of how rights developed for each group and then discuss the implications of this more generally for the state of equal protection and discrimination in the country. At the end of the course, issues that "push" equality claims into a new dimension are considered. These include movements for separatism in race and gender; the debate over reverse discrimination; speech codes; native Americans and peyote; giving personhood status to the fetus; polygamy; and animal rights.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 125 Pennsylvania Government and Politics (3) Pennsylvania political processes; executive, legislative, judicial decision- making, and electoral behavior; selected public policies.

Pennsylvania Government and Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 132 (GS;IL) The Politics of International Intolerance (3) Introductory course emphasizing psychological, historical, and political aspects of global intolerance towards minorities.

PL SC 132 The Politics of International Intolerance (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

PL SC 132 is an introductory survey concerning the social phenomenon of "intolerance" i. e., attitudes or behaviors that seek to exclude or eliminate groups perceived to be different. Here "difference" encompasses such features as nationality, belief, race, gender, or sexual orientation. Often these aspects of the human condition are the targets of majority discrimination or collective violence.

The course presumes the following assumptions:
(1) Intolerant attitudes are not just "another point of view" but also an utterly destructive form of behavior inimical to civilized values.
(2) Few, if any, societies have existed without some forms of intolerance.
(3) The causes of intolerance are usually multi-causal (economic, political, and psychological) and are understood through social science.
(4) "Politics" implies both the ideology and organization of intolerant movements and the relation of such movements to public authorities.

Students should expect fairly extensive readings involving primary source material, analyses of intolerant behavior drawn from different disciplines, and comparison of intolerance phenomena from a global perspective. All examinations are in an essay format and may require synthesis of sources to address specific questions. Each student should be prepared to research an example of intolerance through print and electronic sources. A short paper based on the research should emphasize comparison, analysis, and consequences. The finding may be presented to the class for discussion.

General Education: GS
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 130 (GS;US) American Political Campaigns and Elections (3) Methods and strategies of American political campaigns: polls, political consultants, parties, and the media.

American Political Campaigns and Elections (3)

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 135 (GS) (S T S 135) The Politics of the Ecological Crisis (3) The political implications of the increasing scarcity of many of the world's resources.

PL SC (S T S) 135 The Politics of the Ecological Crisis (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

"The Politics of Scarcity" examines some "big" questions about the prospects for humans in general and democracy in the United States in particular. Much of the reading assumes that our civilization faces the twin problems of increasingly serious shortages of resources and a growing ecological crisis that threatens the basis of life. Further, it argues that these "twin crises" feed upon each other, and that together they pose serious short and long run challenges to survival. Some readings attribute these problems to the dominant values that characterize modern Western society. The course does consider some dissents from this perspective, arguments that things will be just fine. However, it concentrates on problems and predictions of trouble. Thus, the class does not claim to present an evenly balanced assessment. Rather, it recognizes that most of what we learn, read, and see supports the status quo and assumes our civilization and energy-dependent way of life will continue. Consequently it makes sense to emphasize the less frequently argued position that we may be headed for disaster.

The class aspires to appeal to students regardless of major or college -- to scientists, engineers, students of the humanities, and even economists and political scientists. It fulfills the University-wide general education requirement in Social Science. Although it discusses the role of politics in general and the role of the American political system in particular in discussing the "twin crises," it mostly grapples with fundamental questions of value that underlie and guide the play of power in our political system and with how the massive changes now taking place globally both affect and are affected by politics.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 137 United States Intelligence and Policy Making (3) The policy making process in the United States foreign intelligence and security policy; emphasis on the period following World War II.

United States Intelligence and Policy Making (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 150 The North-South Challenge (3) Analysis of issues which separate the Northern and Southern hemispheres, and their importance for U.S. relations with the Third World.

The North-South Challenge (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 140 (GS) Contemporary Controversies in International Relations (3) Contemporary issues of international security presented rigorously using analytical tools of international relations and political science.

PL SC 140 Contemporary Controversies in International Relations (3) (GS)

PL SC 140 investigates international security in the post-Cold War world. It does so by focusing on critical, ongoing, international conflicts and problems. These include the rise of China, resurgence of Russia, and international terrorism. After a brief introduction to key theories and tools of International Relations and some historical context, we will focus on the division of the post-Cold War world into zones of peace (characterized by liberal, free market democracies) and turmoil (characterized by ethno-nationalist, religious, and territorial conflict). The course will also cover a range of related security topics including terrorism, the proliferation of weapons of mass destruction, and instability in the developing world.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 155 Understanding Tyranny (3) Exploration of the rationales, methods, and consequences of highly repressive political regimes through novels, films, and memoirs.

Understanding Tyranny (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 177 (GS) Politics and Government in Washington DC (1-3) The course centers on a Spring Break trip to Washington DC, with students meeting on campus before and after the trip.

PL SC 177 Politics and Government in Washington DC (1-3)

This course centers on a Spring Break trip to Washington DC, where students will meet with their members of Congress, get briefings at foreign embassies and international organizations, meet with leaders of federal government agencies, participate in seminars led by interest groups and political party officials and consultants, and tour government offices and facilities. The class will meet before the trip to discuss the history, culture, and context of politics and government in the capital city of the United States and will continue to meet after the trip so that students can analyze what they have learned about politics and government in Washington as a result of their experiences during the trip. The course is open to and appropriate for students in all majors.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 300H Introduction to Independent Thesis Research (3) Introduction to research design, principles of social science research, and development on honors theses research proposal.

Introduction to Independent Thesis Research (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 301 Introduction to Political Analysis (3) An introduction to the discipline, subject matter, and methods of political science.

Introduction to Political Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001, PL SC 003 orPL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 306H Senior Thesis Writing Workshop (1 per semester, maximum of 3) This seminar supports the writing and editing of senior honors theses.

PL SC 306H Senior Thesis Writing Workshop (1-3)

(BA) This course meets the Bachelor of Arts degree requirements.

This is a workshop for honors students in their senior year writing their thesis in political science. There are no assigned readings or written assignments outside of those necessary for the completion of your thesis. Participants are expected to make progress on their own thesis and to contribute to the collaborative enterprise of discussing thesis progress and problems while critiquing one another's work. Each participant is expected to make progress on their thesis, to collectively discuss and consider the research process during workshop sessions, and come prepared to offer useful feedback and criticism on other participants' research.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 309 Quantitative Political Analysis (3) Data analysis and statistical applications in political research, including data processing; inferential statistics; contingency analysis; correlation and regression; multivariate analysis.

PL SC 309 Quantitative Political Analysis (3)

This course introduces students to the basic statistical techniques used to study politics quantitatively. It can be taken by itself or as the second course in a two course sequence with PL SC 308. It is required for all Liberal Arts Fellows. Students in 309 learn about developing questions suited to empirical research; constructing hypotheses; measuring political concepts; and conducting basic univariate and multivariate analyses. The course includes sections on the basic principles of probability, sampling, and statistical inference so that students can understand and implement statistical techniques for describing and explaining political phenomena. There is also extensive coverage of the use and application of various statistical techniques. Exercises both in and out of class will require students to engage with and apply various social science concepts, and to undertake quantitative analyses of political and policy-relevant data.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2009
Prerequisite: any 3 credits in political science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 308 Introduction to Political Research (3) Introduction to conceptualization, research design, and measurement in political research.

PL SC 308 Introduction to Political Research (3)

This course introduces students to the research process in political science. The course can be taken by itself or as the first in a two course sequence with PL SC 309. It is intended to give political science majors the skills needed to conduct research in political science, or in related fields such as public policy. The course introduces students to the scientific approach to accumulating knowledge, it examines conceptual and theoretical thinking about politics (e.g. understanding what concepts, variables and hypotheses are), it covers different methods of collecting social science data (interviews, surveys, observation, experiments, analysis of documents, etc.) and it provides an introduction to the interpretation of that data. Ethical issues in research are discussed, and students are also introduced to basic statistical concepts. The course typically includes multiple take home and/or in-class assignments that require students to utilize different data collection methods and practice the generation and interpretation of those data.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: any 3 credits in Political Science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 403 The Legislative Process (3) Analysis of the policy process within the legislative system; the effects of environmental factors on policy alternatives and legislative decision making.

The Legislative Process (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001 orPL SC 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 404 Topics in International Politics (3) An examination of the geographical factors underlying and affecting the relationships between states.

Topics in International Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 405 The American Presidency (3) An examination of the selection methods for, and powers of, the American presidency, as well as other chief executives.

The American Presidency (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 410 Game Theory in International Relations (3) Game theoretic approaches to the study of international relations.

PL SC 410 Game Theory in International Relations (3)

This course will investigate the rational choice approach to the study of international relations. This approach views the actions we see in the political arena as resulting from choices that actors, people or states make. We view these choices, in turn, as the results of a decision process that is based on relatively simple, reasonable and innocuous assumptions. The approach can lead to some novel and informative insights into how and why political actions turn out the way they do. It is not, however, without critics and we will consider their positions too. Overall, this class will look at how rational choice may help us understand international relations. This is a core course in the revised International Politics major. It fulfills International Relations distribution requirements in the Political Science and International Politics major. Evaluation will be based on exam and exercises form the text and class presentations. This course will be offered one time per year. Enrollment limit is 35.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2005
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 411W Principles of International Cooperation (3) An exploration of the forces that make conflict, or cooperation, more likely in international relations.

PL SC 411W Principles of International Cooperation (3)

This course explores the forces and conditions that make conflict, or cooperation, more likely in international relations. Since international anarchy prevents actors from trusting one another cooperation should be rare or nonexistent. In spite of the logic and prevalence of such arguments, international cooperation does exist. While there is no definitive explanation for the persistence of cooperation in a world without central authority, we will pursue several arguments about how and why it does emerge. These arguments are based upon characteristics of the international system along with concepts developed principally from game theoretic approaches to the study of politics. By the end of the course students should have a basic grasp of game theory in international relations as well as examples of cooperation and conflict around the world. The game theoretic approach will enable students to understand why countries with often common interests and good intentions nevertheless fail to cooperate. Students will be expected to write essays that demonstrate their mastery of these theoretical constructs and ability to apply them to real world situations about which they have done independent research.
Political Science 411W fulfills the related course requirements for the revised International Politics Major and International Relations and 400 level course requirement for the Political Science major.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 413 The Rise and Fall of the Soviet Union (3) Background, organization, and operation of the Communist Party and the government of the Soviet Union.

The Rise and Fall of the Soviet Union (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits from:PL SC 003, PL SC 014, PL SC 155 orRUS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 412 International Political Economy (3) The transnational politics of trade, investment, aid, raw materials, and the environment; nation-states, multinational corporations, and the U.N.

PL SC 412 International Political Economy (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to the scientific study of international political economy (IPE), an interdisciplinary field related to international politics and international economics. Some exemplary issues IPE addresses include the collective action problem among nation states, the management and openness of international economy, the determinants of foreign economic policies, and the causes and consequences of economic globalization. IPE examines the interaction between politics and economics at the international level as well as between the international and domestic levels, involving various political and economic actors (governments, MNSs, interest groups, as well as individuals). The course aims to develop the analytical skills of students in explaining theoretically international political and economic events.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: ECON 002, ECON 004, ECON 014, I B 303 orBUS 364

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 415 International Organization: Political and Security Functions (3) Theory and evolution of international organization; political and security functions of the United Nations and regional organizations.

International Organization: Political and Security Functions (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 416 International Negotiations (3) The study of international negotiations from a strategic perspective.

PL SC 416 International Negotiations (3)

(BA) This course meets the Bachelor of Arts degree requirements.

While wars attract most of our attention, the vast majority of international disputes are settled by peaceful means. Among the most important of these is negotiation, which occurs at all levels of social life-interpersonal, organizational, national and international . The purpose of this course is to study negotiations from a strategic perspective. We'll look at the roles that reputation, threats, bargaining power and diplomacy play in negotiations and how they players, countries or individuals can take advantage of these and other tools to make it more likely that they will get a good outcome. This course will show you that this can mean not only seeing what the opponent wants, but also what the opponent minimally can accept, and that other issues can be introduced so that less good outcomes on one issue can be traded for better outcomes on others. In order to experience how negotiations occur, students will participate in a political simulation. Often, good and successful negotiators (which are not necessarily the same thing) are able to see things from their opponent's perspective. The class format will also include lecture and discussion. Finally, throughout the semester we will play a game of "Diplomacy" (by Avaolon Hill) for additional credit. This is an upper level international Politics course that follows PL SC 014. It fulfills the international Relations distribution requirements in International Politics or Political Science. Students will be evaluated on examinations, simulation participation and reports, class participation, and papers.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 418 International Relations Theory (3) A survey of traditional and contemporary conceptual frameworks and theoretical approaches for the analysis of international relations.

International Relations Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 417 American Local Government and Administration (3) Organization, powers, functions, and problems of American cities and metropolitan areas; modern trends and developments.

American Local Government and Administration (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 418W International Relations Theory (3) A survey of traditional and contemporary conceptual frameworks and theoretical approaches for the analysis of international relations.

International Relations Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1999
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 419 The Bureaucratic State (3) Overview of structural, technological, decision-making, behavioral, and political subsystems of bureaucracy; emphasis on bureaucratic dynamics within larger environmental, interorganizational contexts.

The Bureaucratic State (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001, PL SC 002 orPUBPL 304W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 422 Comparative Urban Politics (3) Relationships between structure and evolution of city systems and patterns of political behavior.

Comparative Urban Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 003, PL SC 020, PL SC 022 orPL SC 417

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 423 Post-Soviet Politics (3) Aspects of political transition and institutions of the fifteen Soviet successor republics; emphasis on Russia and republican confederation.

Post-Soviet Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 003, PL SC 155 orRUS 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 425 Government and Politics of the American States (3) Comparative analysis of political processes; executive, legislative, and judicial decision making and behavior; examination of systems functioning; selected public policies.

Government and Politics of the American States (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 424 Topics in Comparative Government and Institutions (3) Topics in the comparative analysis of representative contemporary Western and non-Western governmental institutions.

Topics in Comparative Government and Institutions (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: 3 credits fromPL SC 003, PL SC 020, PL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 426 Political Parties and Interest Groups (3) Interest group basis of American politics, analysis of party and group behavior in electoral politics and the policy process.

Political Parties and Interest Groups (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 427 Political Opinion (3) Nature and development of mass attitudes and opinions; political socialization; voting behavior; relation between opinions and public policy.

Political Opinion (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 429 Analysis of Electoral Politics (3) The new politics, its technology, and the strategic perspectives that underlie it.

Analysis of Electoral Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 428 (US;IL) (WMNST 428) Gender and Politics (3) Gender in politics in the United States and around the world; major areas of women and politics research.

PL SC (WMNST) 428 Gender and Politics (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed as an overview to the field of women and politics. It examines the role that women play in politics in the United States and around the world. Students will begin by examining how women are socialized differently from men and how that socialization effects women's political attitudes and participation. Then students will focus on women in different political offices and how their behavior compares to that of their male counterparts. Students will then analyze the women's movement in the United States. Finally, students will turn to different theories of the ideal position of women and men in politics and use those theories to explore the issue of pornography. Students will be evaluated on a final exam, short essays (4 3-5 page essays), class participation, and a research paper (15 pages). This is an advanced course with 6 credits prerequisite in Women's Studies or Political Science. This course fulfills the American Politics and Comparative Politics distribution as well as the advanced course requirement for the Political Science major. It is an elective for a Women's Studies major. It also fulfills an International/Intercultural competency requirement. This course will be offered once a year with 35 seats per offering.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: 3 credits in political science or women's studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 430 Selected Works in the History of Political Theory (3) Detailed examination and analysis of a selected major work, thinker, or tradition in the history of political theory.

Selected Works in the History of Political Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1998
Prerequisite: PL SC 017 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 430W Selected Works in the History of Political Theory (3) Detailed examination and analysis of a selected major work, thinker, or tradition in the history of political theory.

PL SC 430W Selected Works in the History of Political Theory (3)

The course will examine the tradition of "liberal" political philosophy, focusing principally on the social contract tradition in Western political philosophy. We will examine the work of the "classic" social contract theorists -Hobbes, Locke, Rousseau, and Kant - and discuss some more recent variants. We will then consider broad contemporary critiques of this tradition. In particular, we will consider charges of exclusion, parochialism, and biased conceptions of the self allegedly manifested in liberal theories, especially as those charges that center on considerations of race and gender.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: PL SC 017 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 431 Ancient, Medieval, and Renaissance Political Theories (3) Political theories of Plato and Aristotle; selected Greek, Roman, medieval, and Renaissance theorists through Machiavelli.

Ancient, Medieval, and Renaissance Political Theories (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003
Prerequisite: PL SC 017 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 432 Modern and Contemporary Political Theories (3) Political theories of the seventeenth through the twentieth centuries, including Hobbes, Locke, Rousseau, Marx, Mill, Mosca, Weber, and selected theorists.

Modern and Contemporary Political Theories (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003
Prerequisite: PL SC 017 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 433 Political Foundations of the Early American Republic (3) The course introduces students to the major political and philosophical movements that influenced the founders of the early American republic.

PL SC 433 Political Foundations of the Early American Republic (3)

The course introduces students to the major political and philosophical movements that influenced the founders of the early American republic. The first section of the course, set in the ancient world, will examine the earliest experiments in democratic government in both Greece and the Roman Republic. In addition to studying the structure and traditions of ancient governments, students will consider competing theories for why these early democratic experiments ultimately failed. The second section of the course traces the gradual evolution of representative democracy in Britain from the signing of Magna Carta to the quiet subjugation of the monarchy in the 19th Century. Recognizing that the theoretical structures of political power remain somewhat fixed in this period, students will consider how legal precedent can gradually transform seemingly static political institutions. The third section of the course examines American efforts to establish stable representative institutions in the aftermath of the Revolutionary War. Looking back at both ancient and modern constitutional traditions, students will examine how prior democratic experiments heavily influenced the deliberations of the founders both at the Constitutional Convention and in the establishment of the new federal republic.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: PL SC 001 orHIST 020 orPL SC 017

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 434 (IL) (AAA S 434) War and Development in Africa (3) This course will examine the relationship between war and development in sub-Saharan Africa in the post colonial era.

PL SC (AAA S) 434 War and Development in Africa (3) (IL)

This course will examine the relationship between development and war in sub-Saharan Africa in the modern era. Specifically, it will analyze the extent to which the processes of state building, nation building, and international intervention have contributed to the incidence of both civil war and international conflict in Africa. We will begin with a review of several theoretical arguments on the causes of warfare in Africa and then turn to a discussion of theses on African political development. This course complements present offerings in international relations and comparative politics in the PL SC department and can serve as an advanced undergraduate offering in the African Studies concentration in AAAS. The course directly complements our present offerings in international conflict given that we don’t have a regularly offered course that focuses on conflict in a specific region. In addition, it will augment our comparative politics offerings with an examination of prominent issues in comparative politics such as political development, democracy, and modernization. The course will fulfill the IL requirement and encourage students understanding of the historical background as well as the political, economic, and cultural factors that influence African politics. African conflicts are often viewed as “ethnic conflicts” and in this class students have an opportunity to assess the extent to which ethnic, linguistic, or religious factors influence the likelihood of conflict and contribute to development in African states. Students will also be required to write essays evaluating the contribution of a range of theoretical arguments on Africa’s conflicts in order to assess the degree to which cultural more than political or economic factors contribute to their onset. Students will then have the opportunity to conduct more extensive research on a specific African case to develop their analyses further. These exercises will often require that students reevaluate their beliefs about social identities such as race (e.g. in Rwanda the difference between Tutsi and Hutu is often viewed as a “racial” difference between black Africans, which is at odds with most Western conceptions of race). They also require students to challenge stereotypes regarding the subordination of African values in conflicts to a simple concern with “tribe”. Students will gain a broader knowledge and appreciation of the different values, traditions, and cultures evident in Africa and understand how these can both exacerbate and mitigate conflict. Evaluation in the course will consist largely of examination of the students’brief expository essays and larger case studies for which students will be encouraged to conduct original research. The course should be offered biannually with a class limit of about 40 students.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: PL SC 114, PL SC 003, AAA S 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 435 Foundations of American Political Theory (3) Political theories of colonial, revolutionary, and constitutional periods presented through works of selected thinkers and analysis of particular political problems.

Foundations of American Political Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001, PL SC 017 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 435W Foundations of American Political Theory (3) Political theories of the revolutionary and constitutional periods presented through works of selected political thinkers and political issues.

Foundations of American Political Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001, PL SC 017 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 438 National Security Policies (3) Impact of national security on U.S. government and foreign policy; roles and interaction of President, Congress, government agencies, interest groups.

National Security Policies (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001 orPL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 437 War in World Politics (3) Causes, resolution, and consequences of crises and wars; testing theories of conflict using both case and statistical studies.

War in World Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1997
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 439 (CRIMJ 439) The Politics of Terrorism (3) Analysis of political terrorism as a violent alternative for peaceful change and traditional warfare in the nuclear age.

The Politics of Terrorism (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100 orPL SC 014 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 441 Transnational Corporations and Other Organizations in International Relations (3) Analysis of the effects of transnational actor behavior on international relations.

Transnational Corporations and Other Organizations in International Relations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: ECON 333, I B 303, PL SC 014 orBUS 364

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 440 (US;IL) (AAA S 440, I B 440) Globalization and Its Implications (3) This course explores the socioeconomic implications of globalization.

PL SC (AAA S/I B) 440 Globalization and Its Implications (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the socioeconomic implications of globalization and some fundamental changes that have taken place in the global socioeconomic system. The bipolar configuration of global power has been radically altered, market-state relations have been reformulated, and global systems of production and finance have been reorganized.Given these recent changes in the world's structure, globalization as a socioeconomic force is examined with a special emphasis on its implications on social issues, capital-labor relations, the roles of unions and trans-nationals, unemployment issues, poverty and inequality, gender and ethnicity issues, race relations, and democratization around the world. This course also allows students to explore how different countries, communities, social classes, business firms and even institutions are affected differently by globalization. The implications of globalization on Africana communities is given special attention.

The course is organized into three parts: A) The first part of the course attempts to define globalization and identify its essential characteristics in light of social and economic change. This part attempts to answer questions such as what constitutes globalization, how do we know if glonalization is taking place, and what aspects of it are new. B) The second part of the course attempts to assess the implications of the different aspects of globalization (identified in the first part) on many critical social issues, including capital-labor relations, the roles of unions and transnational corporations, problems of unemployment, poverty and inequality, gender, ethnic, and race relations, and democratization. C) The third part of the course examines the implications of globalization to African communities.

This course exposes students to the economic, social, political, and cultural implications of the unfolding global order. It allows them to explore how different countries, communities, social classes, business firms and even institutions are affected differently by globalization. Evaluation will be based on daily attendance, along with a class presentation of a design of a research paper; an actual research paper, a mid-term exam and a final exam.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: AAA S 100 orAAA S 110 orPL SC 003 orPL SC 014 orPL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 442 American Foreign Policy (3) Principles of American foreign policy; processes of policy formulation; roles of the President, Congress, the State Department, and other government agencies.

American Foreign Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 444 Government and the Economy (3) Interactions of governmental and economic activity in American life. Survey of governmental (national, state, local) promotional, regulatory, and ownership policies.

Government and the Economy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: 3 credits in political science or economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 443 (IL) (AAA S 443) Ethnic Conflict in Africa (3) This course explores the various causes and impacts of ethnic conflicts in the African context.

PL SC (AAA S) 443 Ethnic Conflict in Africa (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Ethnic conflict is presently a pervasive worldwide phenomenon. Ethnic groups in various regions of the world contest the terms of their incorporation into the 'nation' state and the world order. Such contests have often erupted into violent conflicts crossing national borders. The objectives of this course are to examine the problems of state building, the evolving nature of the state, and ethnic conflicts in the African context. The course explores the factors that contribute to violent ethnic conflicts and the factors that mitigate such conflicts. The course largely evolves around the following two general questions. What are the most important internal and external factors that cause ethnic conflicts? The second is what political systems and arrangements tend to mitigate or resolve ethnic conflicts? In an effort to deal with these two general questions the course examines a number of case studies from different parts of Africa. The course is organized into three parts. The first part surveys general theories on the causes of ethnic conflicts and how democracy relates to ethnic conflict. The second part examines several case studies from Africa and attempt to construct a general hypothesis on the major causes of ethnic conflicts and how democratization or lack of it impacts the conflicts. The third part examines measures that may contribute in the resolution of ethnic conflicts and enhance the process of state building in Africa. Students in groups of two or three will choose a case and give a class presentation on the most important issues involved in a given conflict.

This course compliments other courses that deal with African politics, politics of developing areas, and social movements. It also supplements courses in African and African American Studies, Sociology, and Political Science that deal with issues of ethnic and race relations, as well as issues of nation building (state building).

This course exposes students to the various internal and external factors that precipitate ethnic conflicts in Africa and the economic, social, and political implications of these conflicts. It allows students to explore how different states attempt to address the problem. Evaluation will be based on attendance (5%), a class presentation of a design of a research paper (10%), a research paper (35%), a mid-term exam (25%) and a final exam (25%). This course will be offered once a year.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2008
Prerequisite: AAA S 100, AAA S 110, PL SC 001, PL SC 003, PL SC 007, PL SC 014, PL SC 017, PL SC 020 orAFRAS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 445Y (US) (AAA S 445Y, LER 445Y) Politics of Affirmative Action (3) Examines history, politics, and economics of the use of special programs to advance racial interests in the U.S.

PL SC (AAA S /LER) 445Y Politics of Affirmative Action (3) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of this course are to introduce students to the relationship between affirmative action and other policies purportedly designed to end racial inequality in the U.S. This course approaches the study of affirmative action in the context of the historic racial discrimination and inequality that Black Americans have faced since the founding of the Nation. The purpose of this course is to help students think about how contemporary and historic affirmative action policies relate to race, concepts racial inequality, the historic and continuing causes for racial inequality, public opinion, American politics and economic thought. The course materials will lead students through scholarly and popular articles, books and video presentations on the topic. It is hoped that students will become familiar with the history of affirmative action from its conception. Students will gain an intimate understanding of affirmative action economic and social outcomes on various racial groups. No prior knowledge is assumed, however a knowledge of civil rights history, quantitative methods, and constitutional law will be useful. The Politics of Affirmative Action satisfies the requirements for major and minor electives for the African American Studies, and major and minor electives for Political Science, and Labor Studies and Industrial Relations. Students are evaluated on the basis of an examination, term paper, class participation and class presentations of papers.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: AAA S 100 level course andPL SC 001 orPL SC 007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 452 Government and Politics of Central Europe (3) Politics and society in the Communist Era, the revolutions of 1989, and problems of adjustment to democracy and market.

Government and Politics of Central Europe (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 003, PL SC 020, PL SC 022 orPL SC 155

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 453 (IL) Political Processes in Underdeveloped Systems (3) Comparative analysis of the political, social, and economic problems characteristic of underdeveloped systems.

Political Processes in Underdeveloped Systems (3)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 003, PL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 454 (IL) (AAA S 454) Government and Politics of Africa (3) Contemporary African politics, institutions, and ideologies; patterns of change, social forces, and nation building in selected African states.

PL SC (AAA S) 454 Government and Politics of Africa (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, we will discuss the current democratization trend in Africa by focusing on the experiences of African countries.

The course is divided into three sections. Part One considers a range of factors that affect politics in Africa. We will discuss in depth the following factors: colonialism, nationalism, the relationship between state and society, ruler-ship, the military, political parties, and economic development. Then, we will consider the experiences of our four cases, to gain a historical background. In part two, we will focus on democratic transitions. We will discuss the factors that enable transitions to occur, as well as the process that transitions follow. Then, we will consider four transitions: two that resulted in the installation of a democratic government (Nigeria in 1979, Sudan in 1986) and two that ended in continued authoritarianism (Angola in 1992, Kenya in 1978). Part three considers the prospects of democracy. We will discuss the probability of a democratic transition occurring in the near future.

The goals of this class are four fold. First, students will gain detailed knowledge about four African countries. Second, we will learn how to compare countries. Third, students will have a better understanding of the democratization process in general, and will be able to explain or predict democratization beyond the four cases discussed in this class. Finally, the experiences of these four countries offer a deeper understanding of what democracy is and provide students with greater flexibility to fulfill requirements in either the African and African American Studies major or the Political Science/International Politics major. PL SC 454 will be offered once per year with 35-50 seats per offering.

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 2005
Prerequisite: 3 credits from:AAA S 110, PL SC 003, PL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 455 Governments and Politics of Western Europe (3) Comparative analysis of political and governmental structures of major West European nations; main functions and processes of such structures.

Governments and Politics of Western Europe (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 003 orPL SC 020

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 457 International Politics of Latin America (3-6) Relationships among the nations of Latin America and the social forces which determine and shape their direction.

International Politics of Latin America (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: HIST 179, PL SC 003, PL SC 014, PL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 456 Politics and Institutions of Latin-American Nations (3) Social forces and processes, governmental institutions, foreign policies of major states of Latin America.

Politics and Institutions of Latin-American Nations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: HIST 179, PL SC 003, PL SC 020 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 458 Government and Politics of East Asia (3-6) Examination of political institutions, democratic and communist revolution, political leadership, political processes of major states of East Asia.

Government and Politics of East Asia (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Summer 1996
Prerequisite: 3 credits fromPL SC 003, PL SC 020, PL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 459 (IL) (AAA S 459) Culture and World Politics (3) Role of culture in world politics.

PL SC (AAA S) 459 Culture and World Politics (3)
(IL)

This course examines the role of culture in world politics through an analysis of the varying dimensions of culture and their respective impact on the likelihood of cooperation and conflict among the state and non-state actors in the global system. Specifically, we examine the impact of culture in terms of social boundaries, political associations and the likelihood of an emergent global culture defined largely in terms of customs and practices related to international trade and economic production. We also examine the role of culture as a mechanism for the dissemination and maintenance of patterns of hierarchy. Integrating these different conceptions of culture, we examine the relationship between culture and foreign policy in the US.

The cultural approach to studying politics complements the institutional and rational choice perspectives that are featured in most of our current offerings in the area of international politics. As a consequence, this course will provide students with an opportunity for a course of study that is representative of the diverse traditions in the discipline.

PL SC 459 satisfies the international relations requirement for the Political Science major and the Supporting Courses requirement for the revised International Politics major. Evaluation is based on examinations, class participation, and frequent essays.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 460 (S T S 460) Science, Technology, and Public Policy (3) The all-pervasive importance of science and technology policy in modern societies and mechanisms and processes by which it is made.

Science, Technology, and Public Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995
Prerequisite: 3 credits in natural sciences or engineering 3 credits in social and behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 462 Marxist and Socialist Political Theory (3) Analysis of major problems and key works in the Marxist and Socialist tradition; dialectical materialism, alienation, class warfare, etc.

Marxist and Socialist Political Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 017, PL SC 007, PL SC 413 orPL SC 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 467 International Relations of the Middle East (3) The international relations of the Middle East, stressing national security policies of regional and outside actors, and major contemporary conflicts.

International Relations of the Middle East (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1985
Prerequisite: PL SC 014 orHIST 181

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 464 (IL) (AAA S 464) Globalization, Extractive Industries, and Conflict in Africa (3) Socioeconomic and environmental impacts of extractive industries in Africa.

PL SC (AAA S) 464 Globalization, Extractive Industries, and Conflicts in Africa (3) (IL)

Globalization has brought increased investments in extractive industries in many African countries. Investments in extractive industries are also likely to continue to increase rather rapidly, given the rising intensity in the competition for African resources, brought about by growing involvement of countries, such as China and India. The terms African countries obtain from corporations for mineral rights have been generally unfavorable. The unfolding competition for African resources brought about by investments from China and India may, however, help African governments to renegotiate the terms of mining concessions corporations to obtain better deals for their resources. Despite the rather poor terms African governments currently have, investments in extractive industries have stimulated economic growth in several countries. Some African countries, including Equatorial Guinea, Botswana, Gabon, Angola, Cameroon, and the Sudan, are experiencing what might be regarded as resource-based economic boom.

Such growth has, however, intensified compulsory acquisition of communal lands by African governments for concessions to extractive industries exposing large numbers of rural communities to evictions form the land they traditionally owned. The expropriations, which purportedly take place for public and development purposes, have led to serious socioeconomic problems, including unemployment and poverty of those evicted from their land, disintegration of traditional institutions of governance, civil wars, communal conflicts, human rights violations, high levels of corruption, and alarming rates of environmental degradation. The conflicts have ravaged many African counties and are likely to continue to occur until mechanisms that allow rural communities to become partners of the transformation are developed. This course examines the socioeconomic and environmental problems associated with land expropriations and extractive industries.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: AAA S 110 or at least one of the following:PL SC 003 orPL SC 014 orPL SC 022

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 470W Legal Brief Writing (3) Writing of legal briefs as practiced in American courts.

Legal Brief Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1998
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 471 American Constitutional Law (3) The origins of judicial review, landmark decisions of the Supreme Court, and their impact on the American form of government.

American Constitutional Law (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 473 American Judicial Behavior (3) Analyzes behavior of judges and other participants in the legal process; examines how and why courts function as policymaking bodies.

American Judicial Behavior (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 472 The American Legal Process (3) Analysis of the roles, procedures, and policies characterizing the American legal system.

The American Legal Process (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 474 Civil Liberties and Due Process (3) Fundamental problems relating to civil liberities and due process.

Civil Liberties and Due Process (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 480W Congress and the Presidency (3) Basic characteristics and processes of the national legislature and executive; roles and interaction of these institutions in the policy process.

Congress and the Presidency (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 481 Global Political Economy (3) This course examines states, markets, power, production, and the relations between the various transnational agents who act in these areas. Students may not receive credit for PL SC 481 and PL SC 412.

PL SC 481 Global Political Economy (3)

Changes in the international system in the 1970s led to increased interest on the part of students of international relations in the political economic processes underlying change. Important debates among scholars in both mainstream theoretical traditions and in critical theory gave rise to International Political Economy as an increasingly visible sub-field in International Relations. This seminar tracks the historical relations between the development of capitalism as an economic system and the emergence and transformation of global politics, using concepts developed in the study of political economy. Seminar discussion, examinations, and a short research paper will be used to evaluate students' learning.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PL SC 014 orINTST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 482 American State and Urban Politics (3) Explores basic characteristics and processes of American state and urban politics; nature of intergovernmental relations involving these governmental levels.

American State and Urban Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 484W The Foreign Policy of Soviet Successor States (3) Relations between Russia and The Newly Independent States (NIS); Russia's relations with selected foreign states and political Institutions; regional impact of the NIS in Baltic, Asian, and Central Asian areas.

The Foreign Policy of Soviet Successor States (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 487 International Law and Organizations (3) Major topics and issues of international law with special attention to institutional arrangements (international organizations) through which that law operates.

PL SC 487 International Law and Organizations (3)

The course is useful in two distinct ways. First, it aids in the understanding of how countries conduct their relations with one another. Second, studying international law-it is a distinct system of law-- helps students to assess whether they might be suited for law school.

The course introduces international law and international governmental organizations (the two are closely linked) and their role in the management of peaceful relations among countries as well as during international conflict. Both the contributions and limitations of international law will be analyzed. International law is viewed both as a body of norms countries feel an obligation to follow and as a means of communication among countries.

Major topics covered include sources of international law, human rights law, environmental law, economic law, law of the sea, and the use of force. There are several hundred major intergovernmental organizations. Several of the most prominent will be discussed including the UN, the WTO, the European Union, the International Labor Organization, and the International Court of Justice.

Examinations are principally of the essay variety although a command of factual information is essential to success in the course. Students also prepare critiques of important international legal cases (many of which have been decided by national courts) and of treaties (the principal modern manifestation of international law).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 003 orPL SC 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 488 Comparative Public Policy (3) Comparative methodology and public policy implementation in postindustrial societies; selected case studies of policy output.

PL SC 488 Comparative Public Policy (3)

Comparative Public Policy is an upper level political science course that includes components of comparative politics, public administration, and descriptive economics. The course presumes that developed industrial democracies confront common challenges in meeting human needs and that policy comparison is worthwhile despite distinctive societies and political cultures. For example, government involvement in the provision of health care varies widely from Britain’s National Health Service to the largely private approach of the United States. Nevertheless all health care systems confront rising technology costs, an ageing population, and rising performance expectations. A primary purpose of the course is to consider the origin and development of individual country programs while assessing the common challenges. Cross national comparison becomes relevant to the course by including some available data on costs, implementation and outcomes. Because the course includes about six distinct areas, e.g., education, taxation, urban planning income support, and overall macroeconomic policy, the course will depict profiles of policymaking in Europe, North America and Japan. Ideally comparison should help students to evaluate the effectiveness of policy choices of a particular country and government.

A second objective of the course will be to examine the national approaches to the relationship between the state and private economic activity. Not only does government expenditure amount to nearly half of some country’s total output, government choices create distinctive legal environments for business activity. Antitrust, health, wage, and consumer regulation offer an excellent point of comparing different incentives for economic activity in the United States and Europe. Apart from policy choices mentioned in the first paragraph, the regulation of economic activity has cumulative results for employment and the distribution of income. This portion of the course is intended to be somewhat more elementary than the first because of the probability that students will be less familiar with its content. The primary objective will be to help students understand the variations among market economies and reasons for their description as “neo-liberal,” “social market,” or “corporatist.”

Finally, the course will examine some current ideas about recent changes in the global economy and their consequences for national policy. Clearly “globalization” has become a matter of political concern owing to its consequences for the creation of wealth, employment, growth and distribution. While the course cannot devote detailed or exclusive to the European Union, Europe’s response to rapid movements in short term capital and investment presents an interesting point of comparison with the United States and Japan. The course should enable students to understand the meaning and criticism of “globalization” as a factor in shaping some national policies.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 489 Public Administration (3) A survey of the major approaches to the management of most governmental agencies.

PL SC 489 Public Administration (3)

Government Management is a three-credit Political Science course that teaches the role and function of bureaucracy. Although some investigation is made about state and local government functions, the primary focus of the course is on the federal bureaucracy. In particular, the course illustrates how the interrelationship between the three branches of government exists using the various federal agencies as functionaries.

The course first examines the basic functions of bureaucratic agencies in the modern world; primarily their distributive, re-distributive and regulatory activities. In addition to these functions, the various external and internal political forces that form the mission of the agencies are examined. Next the internal function of a bureaucracy is examined by highlighting the various roles of the people who comprise a typical large agency. The roles of the political appointee, the career professional, the general civil servant and the union laborer are examined, with the GS system of the federal government used as a guide to show the hierarchy that exists in a large agency.

By highlighting both the functions of a typical agency and examining its role in the larger government structure, and by looking inside the bureaucracy to see the various short and long term roles of the people who comprise those agencies, the student appreciates how large bureaucracies are at the same time always changing, and always staying the same.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 490 Policy Making and Evaluation (3) Advanced analysis of public policy, emphasizing policy evaluation and the factors that determine policy success and failure.

Policy Making and Evaluation (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: PL SC 001, PL SC 002 orPUBPL 304W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 495 Political Science Internship (1-6) Combining experience in government offices, related agencies, or law firms, with appropriate readings and a research paper/report.

Political Science Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: prior consent of supervisor adviser or department head; applicable departmental internship requirements such as satisfactory completion of required 300- or 400-level courses appropriate for the internship program selected

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497B Politics of the European Union (3) The aim of this course is to introduce students to the history, institutions, and politics of the European Union.

Politics of the European Union (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497A International Relations of Africa (3) This course will discuss the role of Africa in the intellectual development of world politics beginning in the 20th century.

International Relations of Africa (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497C Nationalism, Ethnicity & Immigration (3) The course examines the concepts of ethnicity and nationalism and explores their connections to immigration and immigration policy.

Nationalism, Ethnicity & Immigration (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497D Territoriality & Group Conflict in International Relations (3) This course will explore the central theoretical role territory plays in international relations and focus on perspectives that suggest causes.

Territoriality & Group Conflict in International Relations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497E Democratization in Asia (3) This course address the literature on democracy and democratization and then applies it to Asia.

Democratization in Asia (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497F Political Economy of Civil Wars (3) This course examines the recent research about the factors that lead to the onset, duration, and termination of civil wars.

Political Economy of Civil Wars (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497G Dictators and Their Demise (3) This course examines the political economy of authoritarian rule.

Dictators and Their Demise (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497K (IL) South Asian Politics (3) This course will present an overview of the politics of modern South Asia focusing on Afghanistan, India and Pakistan.

South Asian Politics (3)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 497I (PUBPL 497A) Public Affairs Capstone Course (3) This course examines how to objectively examine contentious public policy controversies by relying on essential principles of scientific research.

Public Affairs Capstone Course (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Political Science (PL SC)

PL SC 499 (IL) Foreign Study--Government (1-12) Study, in selected foreign countries, of political institutions.

Foreign Study--Government (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: PL SC 003 3 credits in economics history political science or sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 001 Elementary Portuguese I (4) For beginners. Grammar, with reading and writing of simple Portuguese; oral and aural work stressed.

Elementary Portuguese I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 1987

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 002 Elementary Portuguese II (4) Grammar, reading, and conversation continued; special emphasis on the language, literature, and life of Brazil.

Elementary Portuguese II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 1988
Prerequisite: PORT 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 051 Elementary Intensive Portuguese for Graduate Students I (3) Intensive introduction to Portuguese: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

PORT 051 Elementary Intensive Portuguese for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Portuguese. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Portuguese vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 003 Intermediate Portuguese (4) Grammar, reading, composition, and conversation.

Intermediate Portuguese (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: PORT 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 052 Elementary Intensive Portuguese for Graduate Students II (3) Intensive introduction to Portuguese: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

PORT 052 Elementary Intensive Portuguese for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Portuguese. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Portuguese vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: PORT 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 053 Intermediate Intensive Portuguese for Graduate Students (3) Continued intensive study of Portuguese at the intermediate level: reading, writing, speaking, listening, cultural contexts.

PORT 053 Intermediate Intensive Portuguese for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Portuguese. Continued intensive study of Portuguese at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: PORT 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 187 Portuguese Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Portuguese Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 197 Special topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 405 Advanced Composition and Conversation (3) Intended to strengthen the advanced student's ability to speak, read, and write in modern Brazilian Portuguese.

Advanced Composition and Conversation (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1981
Prerequisite: PORT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 456 Brazilian Literature in English Translation (3) Selected topics in the history of Brazilian literature, supplemented by readings, discussion, and lectures on cultural or literary questions.

Brazilian Literature in English Translation (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 466 Brazilian Literature, The Colonial Era Through Romanticism (3) A survey of the major texts of Brazilian literature from its origins (1500) through its romantic period.

Brazilian Literature, The Colonial Era Through Romanticism (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1991
Prerequisite: PORT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 476 Brazilian Literature, The Modern Era (1880 to the Present) (3) A survey of the major texts of Brazilian literature from romanticism to the present.

Brazilian Literature, The Modern Era (1880 to the Present) (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1991
Prerequisite: PORT 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 480 The Brazilian Novel (3) A survey of the Brazilian novel from its origins to the present.

The Brazilian Novel (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 1993
Prerequisite: PORT 003, PORT 405

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Portuguese (PORT)

PORT 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 083S (GS) First-Year Seminar in Psychology (3) Scientific, societal, and individual implications of contemporary psychological theory.

PSYCH 083S First-Year Seminar in Psychology (3)
(GS;FYS)

(**BA) This course meets the Bachelor of Arts degree requirements.**

Modern science provides perspectives on human beings that may conflict with our intuitive and conventional views of ourselves as individuals capable of free choice and responsibility. These perspectives raise important questions for how we understand ourselves and others: Does brain chemistry govern our moods and motivations? Do our genes determine our abilities? Is the human mind just a kind of computing machine? Views based on the biology of behavior and on the computer metaphor for the mind can be found both in a wide range of academic disciplines, including psychology, anthropology, sociology, biology, neuroscience, medicine, and computer science. Perhaps more important, these perspectives are apparent in the news media, entertainment, and other aspects of popular culture. Biological and technological views of what it means to be human are thus shaping our common-sense understanding of our selves and others.

The goal of this course is to help students to understand the basis of these contemporary scientific views of human beings, and to think critically about the ways in which these views shape human experience. We will read three scholarly but accessible paperbacks (listed below), two that present biological and technological perspectives, and one that provides a critical counterpoint. We will also consider selections from popular media, including news stories, movies, and fiction, to examine the appearance of these perspectives in our contemporary culture. On a more pragmatic level, we will consider ways in which scientific perspectives can help students understand their own learning processes, leading to more effective academic skills.

The class format will be open discussion, and students will be expected to come to class prepared to discuss the assigned readings. Evaluation will be based on 10 short writing assignments, a term paper or take-home final, an in-class presentation, and class participation. Writing assignments will generally require that students apply concepts discussed in class to particular topics, or that they use library and Web resources to find relevant material. In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them including the opportunity to develop relationships with faculty and other students who share their academic interests. This course fulfills the first-year seminar requirement as well as a general education or Bachelor of Arts social/behavioral science requirement.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 100 (GS) Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.

PSYCH 100 Psychology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Psychology is a scholarly discipline, a scientific field, and a professional activity. Its overall focus is the scientific study of behavior and experience, and of associated mental and physiological processes. As a scholarly discipline, psychology represents a major field of study in academic settings, with an emphasis on theories and principles of behavior and experience. As a science, psychology is a domain of research in which investigators analytically and systematically study behavior and experience to develop theories and principles and to understand their application to real-world situations. As a profession, psychology involves the practical application of knowledge, skills, and techniques for enhancing well-being and quality of life, as well as solving or preventing individual and social problems. This course provides an overview of the field of psychology, including research, theory, and application. Specific topics include the biological bases of behavior, sensation and perception, learning, cognition, motivation and emotion, development, social cognition and social influence, personality and individual differences, and mental disorders and therapy. Content is presented through a combination of lectures, readings, and demonstrations. Evaluation is primarily on the basis of objective exams given in class. A major goal of the course is to show how questions within these areas are addressed through empirical research. The course introduces students to theories, research, and procedures used in psychological research and practice. It also promotes thinking about how students can apply this knowledge to enhance their lives. After taking this course students should be able to make more informed decisions about participating in future psychology courses and have a better understanding of psychology as a science and of human behavior. This course serves as a prerequisite for most upper-level psychology courses. It introduces basic concepts covered in more depth in those courses. PSYCH 100 is required for the Psychology majors and minor. PSYCH 100 is offered three times per year. Five to six sections/semester are offered at University Park with 330-370 students per section; other locations and delivery channels may offer smaller sections.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 100H (GS) Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.

Introductory Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 100H (GS) Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.

Introductory Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 100S (GS) Introductory Psychology (3) Introduction to general psychology; principles of human behavior and their applications.

Introductory Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 105 Psychology as a Science and Profession (3) Overview of history and methods of psychology as a science and profession; applications and ethical issues in psychology.

PSYCH 105 Psychology as a Science and Profession (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to introduce Psychology majors and prospective majors to basic principles of research and practice in scientific psychology. The course provides a survey of the subfields of psychology, their history, and their current importance in both academic and applied settings. The focus is on common principles and issues important across these subfields. Students will learn how psychological research is conducted, survey applications of psychological research, consider ethical issues in psychological research and practice, and learn about careers in a variety of subfields in psychology. Students will be evaluated on the basis of multiple-choice exams (75%), in-class activities (10%), and short writing assignments (15%). The course will be required for the Psychology B.A. and Psychology B.S. (all options) majors, but will not be a prerequisite for any other course. The course will be offered each fall and spring semester in large sections of 300-350 students.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 140 Management of Interpersonal Relationships (3) Conceptual framework for enhancing human relationships and applying problem- solving techniques within family, institution, and work situations.

Management of Interpersonal Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 200 Elementary Statistics in Psychology (4) Frequency distributions and graphs; measures of central tendency and variability; normal probability curve; elementary sampling and reliability; correlations; simple regression equations.

PSYCH 200 Elementary Statistics in Psychology (4)
(GQ)

Psychological science is based upon empirical research. Questions about behavior and experience are answered by gathering and analyzing data. In upper-level classes students will be expected to read and understand this research, and many will be expected to design sensible investigations of their own. At the core of these skill sets is the ability to understand and perform statistical analyses, and the ability to evaluate the match between statistical analysis and experimental procedures. This course provides an introduction to descriptive and inferential statistics commonly used in psychology, and introduces hypothesis testing as a method of scientific investigation. In addition, it explores the ways in which the assumptions of statistical tests place constraints on experimental design and, conversely, how the design of experiments can dictate the statistical test appropriate for data analysis. Specific topics include probability theory, measures of variability and central tendency, normal curves, the relation between samples and populations, correlations, and simple regression. Classes may also cover z-tests, t-tests, ANOVA, or other techniques commonly used in psychology. Content is presented through a combination of lectures, readings, and demonstrations. Evaluation is primarily on the basis of objective exams given in class. The course introduces students to quantitative procedures used in psychological research and practice. It also promotes thinking about how students can apply this knowledge to answer self-generated questions. With PSYCH 301W (Basic Research Methods in Psychology) the course provides an excellent two-course sequence to prepare students for upper level courses. After taking this course students should be able to make more informed decisions about majoring in psychology. This course serves as a prerequisite for PSYCH 301W, which itself prerequisite for many some upper-level psychology courses. PSYCH 200 or Stat 200 is required for the Psychology majors and minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: PSYCH 100;MATH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 200 (GQ) Elementary Statistics in Psychology (4) Frequency distributions and graphs; measures of central tendency and variability; normal probability curve; elementary sampling and reliability; correlations; simple regression equations.

PSYCH 200 Elementary Statistics in Psychology (4)
(GQ)

Psychological science is based upon empirical research. Questions about behavior and experience are answered by gathering and analyzing data. In upper-level classes students will be expected to read and understand this research, and many will be expected to design sensible investigations of their own. At the core of these skill sets is the ability to understand and perform statistical analyses, and the ability to evaluate the match between statistical analysis and experimental procedures. This course provides an introduction to descriptive and inferential statistics commonly used in psychology, and introduces hypothesis testing as a method of scientific investigation. In addition, it explores the ways in which the assumptions of statistical tests place constraints on experimental design and, conversely, how the design of experiments can dictate the statistical test appropriate for data analysis. Specific topics include probability theory, measures of variability and central tendency, normal curves, the relation between samples and populations, correlations, and simple regression. Classes may also cover z-tests, t-tests, ANOVA, or other techniques commonly used in psychology. Content is presented through a combination of lectures, readings, and demonstrations. Evaluation is primarily on the basis of objective exams given in class. The course introduces students to quantitative procedures used in psychological research and practice. It also promotes thinking about how students can apply this knowledge to answer self-generated questions. With PSYCH 301W (Basic Research Methods in Psychology) the course provides an excellent two-course sequence to prepare students for upper level courses. After taking this course students should be able to make more informed decisions about majoring in psychology. This course serves as a prerequisite for PSYCH 301W, which itself prerequisite for many some upper-level psychology courses. PSYCH 200 or Stat 200 is required for the Psychology majors and minor.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: PSYCH 100;MATH 021

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 212H (GS) Introduction to Developmental Psychology (3) Developmental principles; physical growth; linguistic, intellectual, emotional, and social development from infancy to maturity.

Introduction to Developmental Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 212 (GS) Introduction to Developmental Psychology (3) Developmental principles; physical growth; linguistic, intellectual, emotional, and social development from infancy to maturity.

PSYCH 212 Introduction to Developmental Psychology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Developmental psychology involves the scientific study of the social, emotional, and intellectual changes that enable progression from infancy to adulthood. As part of a scholarly discipline, scientific field, and professional activity, the overall focus of developmental psychology is the scientific study of age-related changes in emotions, cognitions, language, personality and social relations and the relationships of these changes to familial, peer, and cultural experiences, biological development, and personal efforts to make sense of the social and object worlds. As an important area of psychological science, developmental psychology is a domain of research in which investigators analytically and systematically study behavior and experience to develop theories and principles and to understand their application to real-world situations. As part of a profession, developmental psychology involves the practical application of knowledge, skills, and techniques for enhancing the well-being and quality of life of children, adolescents, and their families, as well as the development of age-relevant solutions to and strategies for the prevention of individual and social problems.

This course provides an overview of the field of developmental psychology, including its history, research methodologies, theories, and applications. Specific topics include the biological bases of development, parent-infant attachment, the development of sensation and perception, cognition and linguistic development, emotional development, moral development, stereotype development, childhood and adolescent psychopathology and its development. Content is presented through a combination of lectures, readings, activities, and demonstrations. Evaluation is primarily on the basis of objective exams given in class.

A major goal of the course is to show how questions within these areas are addressed through empirical research. The course introduces students to theories, research, and procedures used in psychological research and practice. It also promotes thinking about how students can apply this knowledge to enhance their lives. After taking this course students should be able to make more informed decisions about participating in future psychology courses and have a better understanding of human development, psychology as a science, and the importance of developmental psychology to the construction and improvement educational programs and clinical practice. PSYCH 212 may be applied to the requirements of the Psychology BA and Psychology BS majors and of the Psychology minor. The course meets the Social/Behavioral Sciences requirement. This course will be offered three times a year at University Park 330-350. Other locations and delivery channels may offer smaller sections.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 221 (GS) Introduction to Social Psychology (3) Research and theory on topics including interpersonal attraction, aggression, helping, attitudes, attribution, cooperation, competition, and groups, from a psychological perspective.

Introduction to Social Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 230 (GS) (RL ST 236) Introduction to Psychologies of Religion (3) Introduction to major Western psychologies of religion (James, Freud, Jung) and to subsequent extensions of and departures from them.

Introduction to Psychologies of Religion (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 231 (GS;US) Introduction to the Psychology of Gender (3) Psychological study of gender in historical and contemporary perspective. Role of gender in development, self-concept, social relations, and mental health.

PSYCH 231 Introduction to the Psychology of Gender (3)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

After a beginning period of domination by men, the rise of feminism in the 1960s and 1970s in the US gave impetus to the study of women and gender. Through both traditional and feminist research methods, psychologists have sought to clarify what is general among and between women and men, and what may be individualized to specific persons or groups. Conceptions of gender are also examined cross-culturally. Emphasis of study is upon those experiences that are specifically related to gender, such as stereotypes and expectations of femininity, violence against women, economic and work-related constraints, and pregnancy and childbirth. There will be two major evaluation methods used. One will be tests that will assess students' knowledge and understanding of the major concepts, theories, and research findings. The other will be assignments that will provide the opportunity for students to apply, research, analyze, and discuss key areas of the course. Psychology 231 is intended as a basic introduction to the psychology of gender. For PSYBA and PSYBS majors, PSYCH 231 is part of the History/Philosophy/Religion/Diversity group that can be used to meet the requirement of additional courses in four different groups. PSYCH 231 can be used for the Psychology minor. Non-majors may use it to fulfill a general education social/behavioral science and international/intercultural competency selection. This course will be offered once a year with 60 seats per offering.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 232 (GS;US;IL) Cross-Cultural Psychology (3) This course examines how ethnic and cultural background influences patterns of human thought and behavior.

PSYCH 232 Cross-Cultural Psychology (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Cross-cultural psychology investigates the influence of sociocultural factors on human thought and behavior. It will revisit the topics covered in introductory psychology in order to investigate the degree to which the major findings in each subdiscipline are culturally universal and/or culturally specific. The course will reflect the interdisciplinary nature of cross-cultural psychology by examining issues that link psychology to other fields such as anthropology, sociology, economics, and political science. One goal of the course will be to develop an understanding of the problems involved in the design and interpretation of studies comparing ethnic or racial groups, both within and across national boundaries. Students will learn to identify how subtle forms of ethnocentric bias influence both the research questions asked and the conclusions that are reached and will learn ways to identify and avoid such bias. Students will learn to analyze and integrate knowledge from a variety of sources including films, readings, scientific literature and the popular media. Course projects will require them to interact in a respectful and sensitive manner with people of other cultures in person and via the Internet. Students will learn to critically examine their own beliefs as well as the information that they encounter about culture and ethnicity inside and outside of the classroom. They will enhance their oral and written communication skills during class discussions, small group and collaborative exercises and presentations. Topics are covered that have a significant body of cross-cultural research and are directly relevant to students' lives, including issues such as: child-rearing practices around the world, culture-fair intelligence testing, aggression and ethnic conflict, and cultural influences on therapeutic success. By studying psychology from a cross-cultural perspective, students should become more aware of the diversity of the international community and develop an increased understanding and tolerance of attitudes and viewpoints different from their own. Evaluation is conducted using integrative essay exams, completion of readings quizzes, and papers and presentations of case studies and learning activities. The course fulfills general education requirements in the social and behavioral sciences and requirements for intercultural/international competence.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Other Cultures and Social and Behavioral Sciences
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 238 (GS) Introduction to Personality Psychology (3) Past and recent conceptualizations of key issues and root ideas of personality psychology.

PSYCH 238 Introduction to Personality Psychology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Personality psychology involves examining theories of human nature and evaluating them in an empirical fashion. Personality psychology begins with the observation that each person is (to paraphrase Harvard psychologists Kluckhohn and Murray) in certain respects (a) like all other persons, (b) like some other persons, and (c) like no other person. In other words, personality psychology concerns itself with the study of (a) universal aspects of human nature, (b) psychological traits and types, and (c) individual uniqueness. Principal goals of the discipline include constructing descriptive taxonomies of personality, inquiring into the evolutionary and developmental origins of human universals and individual differences, and assessing the impact of personality on the life course.

This course aims to cultivate in students a breadth of understanding through an analysis of some of the major intellectual statements concerning human nature, viz., psychoanalysis, humanism, existentialism, symbolic interactionism, and Darwinism. Questions considered within the course include: How can we determine what might be a part of fundamental human nature? What are the relative contributions of conscious rationality and unconscious irrationality to human behavior? Can human behavior be explained by a finite set of motives? Do explanations in psychology differ in kind from explanations in the natural sciences? Can personality be quantified? How does one distinguish between sincerity, dissembling, and self-deception?

Short-answer examinations and class participation are used to evaluate the degree to which students have successfully comprehended course material. Students should understand why it is difficult for a theorist to create a view of human nature that transcends the theorist's own personality and cultural/historical context, and how empirical research can help overcome these obstacles. Students are to learn how to identify and evaluate the assumptions (either implicit or explicit) about human nature and individual differences that underlie any social or behavioral science. By the end of the course, students should be able to describe the basic tenets of the major theories, to be able to compare and contrast the theories, and to be able to evaluate the strengths and weaknesses of each theory. A good understanding of the course material will prepare students for advanced study in personality theory and measurement, as well providing a useful context for courses in abnormal, clinical, developmental, health, historical/philosophical, industrial/organizational, and social psychology, as well as for courses in other social sciences, certain humanities, and some applied fields such as business which at least tacitly presuppose some view of personality.

Students are evaluated on examinations that include a mixture of short answer and objective questions. Individual instructors may supplement such examinations with other forms of evaluation as appropriate to section size and setting, such as in-class exercises and term papers. PSYCH 238 is an Additional Course in the PSYBA and PSYBS majors and may count toward the Psychology Minor. It may be used to fulfill the Social and Behavorial Sciences requirement. This course will be offered once a year with 25-40 seats per offering at several non-UP locations.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 243 (GS) Introduction to Well-being and Positive Psychology (3) Applying psychological knowledge to develop and maintain effective personal adjustment and well-being and positive social relations.

PSYCH 243 Introduction to Well-being and Positive Psychology(3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

The psychology of personal well-being and adjustment involves the application of the empirically derived principles of psychology to the problems of everyday behavior. As part of a scholarly discipline, scientific field, and professional activity, the overall focus of the course is the study of the psychological process of adapting to, coping with, and managing the problems, challenges, and demands of modern life. As an important area of psychological science, well-being and adjustment is an area of research in which investigators develop and systematically test theories about adjustment. As part of a profession, it involves the application of this empirically gained knowledge to enable people to respond to environmental pressures, both physical and psychological, and to cope with stress.

This course provides an overview of the field of adjustment, including topics such as the way in which personality affects people's pattern of adjustment, the effect of stress on adjustment, the use of coping strategies to deal with stress, the adjustments people make in their social relationships (including how individuals view others, communication, behavior in groups, and intimate relationships, the development of gender roles, the emergence of sexuality, the phases of adult development, transitions in the world of work, and the way in which adjustment influences a person's psychological and physical wellness.

Content is presented through a combination of lectures, readings, active learning activities, and demonstrations. Assessment is based on objective and essay exams taken in class, and on instructional and collaborative writing assignments (which include library and internet research, and a personal journal). Discussion and questions are encouraged in all sections. Along with personal contact, students have the opportunity to communicate with faculty members via e-mail.

After taking this course students should be able to make more informed decisions about participating in future psychology courses and have a better understanding of adjustment psychology as a science, and the importance of adjustment in their own lives.

Students will be evaluated on a combination of examinations, research projects and writing assignments. PSYCH 243 may be applied to the requirements of the Psychology BS and Psychology BA options and to the requirements of the Psychology minor. This course currently meets a General Education requirement in the Social and Behavioral Sciences. It is being offered once a year with 25 seats per offering at several campuses.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 244 (GS) Introduction to the Psychology of Human Factors Engineering (3) Introductory course in engineering/human factors psychology, emphasizing the application of core psychological principles and research to designing products and systems.

PSYCH 244 Introduction to the Psychology of Human Factors Engineering (3)

Human Factors Psychology is an area of psychology where the overall focus is the scientific study of human behavior and how it can be applied to the use, design and development of products and systems. Students will learn basic principles of how people process information, perceive and interact with the world in various circumstances. They will learn how psychologists conduct research on human thought and behavior in an effort to measure peoples' perceptions, attitudes, and behaviors. These basic principles will be illustrated and explored with a series of hands-on activities that relate the material to everyday life.

Topics to be covered include: research design and methods, sensation and perception, memory and language, and social psychology. Psychological principles from these areas will be used to discuss ways to improve the safety of tools and systems, reduce human error and increase user satisfaction. Students will also gain a better understanding of the influence of stress and workload on human performance. A major topic will be ways to develop reliable and valid evaluation techniques for assessing performance, safety and ease of use of systems. In order to design effective systems, individual differences in age, gender and culture must be taken into account. People in different regions of the world have cultural differences that influence the way they perceive the world and process information. These individual differences will be addressed throughout the semester. Topics are presented through a combination of lectures, readings, demonstrations, and in-class activities. Active learning elements such as library/internet research, writing activities, and collaborate learning experiences will be applied. Evaluation is on the basis of content-based quizzes, objective exams, brief written reports of hands-on exercises, and collaborative assignments.

A major goal of the course is to show how questions relating to proper use and design of tools, computers and other systems are addressed through empirical research. The course introduces students to theories, research, and procedures used in psychological research and practice. It also promotes students to think critically about how they can apply this knowledge to enhance their lives. After taking this course students should have more sophisticated knowledge of the relationship between the brain, our thought processes and behavior. They should be able to make more informed decisions about what makes a usable product as well gain a better appreciation of the science and profession of human factors psychology.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: PSYCH 100 or 3 credits of GS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 253 (GS) Introduction to Psychology of Perception (3) Survey of human perception and processing of perceptual information, with some reference to animal literature. Emphasizes vision and audition.

Introduction to Psychology of Perception (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 256 (GS) Introduction to Cognitive Psychology (3) Introduction to study of such higher mental processes as thinking and reasoning, imagery, concept formation, problem solving, and skilled performance.

PSYCH 256 Introduction to Cognitive Psychology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to cognition, an area of psychology that investigates the ways in which we acquire, store, create and use knowledge. Cognition includes a wide range of mental processes that are used every day in almost all human activities. These include attention, perception, memory, imagery, language, problem solving, creativity, and reasoning.

Cognition refers to a theoretical approach in psychology that emphasizes the role of people's knowledge, reasoning, and expectations and this approach has had a broad influence on all areas of psychology. It also involves developing sophisticated methodologies to study processes that are not always observable. Cognitive research can be applied in order to improve mental functioning, e.g., developing programs for improving memory or cognitive rehabilitation for brain injury. It can also be used to address serious societal issues and problems such as understanding how people develop and use stereotypes. Cognitive psychology has applications to many fields including medicine, the legal system, education, and understanding mental disorders. In addition, cognitive psychology is part of the active interdisciplinary field of cognitive science that also includes disciplines such as philosophy, neuroscience and artificial intelligence.

This course provides an overview of the field of cognitive psychology, including its research, theory, and application. Content is presented through a combination of lectures, readings, activities, and demonstrations. A major goal of the course is to show how the major questions in cognition are addressed through empirical research. It also promotes critical thinking and encourages students to apply this knowledge to enhance their lives.

This course is a basic 200-level course for the psychology majors (PSYBA, PSHBA, PSHBS, APSCC, APSYC) at several campuses. It fulfills category c. cognitive/learning and psycholinguistics at University Park and category 3. cognitive/experimental at Penn State Erie, Category b. developmental, cognitive, learning at Berks Lehigh Valley college and the Commonwealth College. It may be used to satisfy the Social Behavioral Sciences requirements. In large sections evaluation will be primarily based on objective, multiple-choice examinations. Individual instructors may supplement such examinations with other forms of evaluation as appropriate to section size and setting. In smaller sections the course evaluation may be supplemented with essay exams, laboratory projects and student presentations. This course will be offered twice a year with 100 to 125 seats per offering at University Park and once a year with smaller sections at other locations.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 260 (BB H 203) Neurological Bases of Human Behavior (3) An introduction to biopsychology, emphasizing the structure and function of the human brain.

PSYCH (BB H 203) 260 Neurological Bases of Human Behavior (3)

The nervous system provides the biological underpinning of behavior, and several scientific fields are concerned with the relationship between the nervous system and behavior. The goal of this course is to introduce the principle methods, findings, and theories of these scientific fields. Topics include (a) the anatomy and physiology of the nervous system, (b) how the nervous system gives rise to perception, action, language, memory, emotion and reproductive behavior, and (c) how drugs and mental illnesses affect the nervous system and alter normalperceptual, cognitive, and emotional behavior. The course prepares students for a number of more advanced courses in Psychology and Biobehavioral Health that address specialized topics in neuroscience, and may satisfy a requirement of these majors. Evaluation is based on objective exams. The course is offered each fall and spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 260A (GS) Neurological Bases of Human Behavior (3) An introduction to biopsychology, emphasizing the structure and function of the human brain. Students may take only one course for credit from PSY 203 and PSY 203A.

PSYCH 260A Neurological Bases of Human Behavior (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Biological Psychology is an area of psychology where the overall focus is the scientific study of behavior and experience, and underlying associated neurological and physiological processes. This course provides an overview of the biological bases of behavior and includes a presentation of the research, theory, and application of this knowledge. Specific topics include the basic anatomy and physiology of the central and peripheral nervous system, neural transmission and the function of various neurotransmitters. The majority of the course will focus on how these basic processes contribute to the processing of information from the senses, simple and complex learning, and cognitive processes such as memory, and language. Topics will include brain development, developmental and acquired neuropsychological disorders and therapeutic techniques. Content is presented through a combination of lectures, readings, demonstrations, and in-class activities. Evaluation is primarily on the basis of objective exams given in class, and brief written reports.

A major goal of the course is to show how questions relating brain and neural function to behavior are addressed through empirical research. The course introduces students to theories, research, and procedures used in psychological research and practice. It also promotes thinking about how students can apply this knowledge to enhance their lives. After taking this course students should have a more sophisticated knowledge of the relationship between brain and behavior. They should be able to make more informed decisions about participating in future psychology courses and gain a better appreciation of the science and profession of psychology

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 261 (GS) Introduction to Psychology of Learning (3) A general survey of the learning area, including animal and human experiments, with the applicability of learning principles being discussed.

Introduction to Psychology of Learning (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 269 Evolutionary Psychology (3) Survey of evolutionary perspectives in current psychological research.

PSYCH 269 Evolutionary Psychology (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course demonstrates how knowledge and principles from evolutionary biology are used to conduct research on the design of the human mind. The course explains how evolutionary psychologists identify adaptive problems faced by our ancestors and test hypotheses about psychological mechanisms designed by natural selection to solve these adaptive problems. The psychological mechanisms discussed are involved in phenomena such as perception and the control of activity, learning and cognition, mate selection and courting, development and parenting, altruism, aggression, and social structure. Evolutionary psychology is thus not a topic area such as perception, learning, or motivation, but rather a way of thinking that can be applied to any topic within psychology. The course, therefore, shows how evolutionary psychology is (1) changing how scientists approach old topics, (2) opening up new areas of research, and (3) beginning to provide a unifying framework for integrating the various subdisciplines of psychology. Students will learn to understand and evaluate evolutionary hypotheses about a range of topics in psychology and related social sciences. Evaluation will be based on a combination of methods, including for example traditional exams, written homework, papers, and participation in class and group discussions. The course is offered as a perspective that can be used to think about the subject matter in any particular content course in psychology. Students may choose this course to fulfill a requirement in the major.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: PSYCH 100;ANTH 021, BI SC 002, BIOL 133 orBIOL 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 268 Animal Minds (3) This course considers the cognitive and communicative abilities of animals, especially primates, as compared with humans.

PSYCH 268 Animal Minds (3)

This course covers select topics in animal cognition and communication. This course will focus mostly on the behavioral level. It will focus on observations and controlled behavioral experiments rather than on neurophysiological experiments (though it will cover some mechanisms that are implicated through behavioral research). One of the main goals of this course is to discuss how we can scientifically approach the study of animal minds. One of the recurring themes of the course will be methodological: how can we pose a question to a being that does not have language? Another goal of the course is to teach critical thinking about experiments in this field. It will discuss how to run a well-controlled experiment and closely examine the claims that are made by each experimenter. Through a class project, students will gain some experience trying to observe behavior and designing experiments.

This course addresses an active research area in psychology, of broad interest to students in Psychology and other disciplines. Because of this broad appeal, no background in psychology is assumed, and no prerequisite is required. The course will fulfill a 200-level requirement for students in the PSY majors and minors. Students typically will be evaluated by two midterm exams (25% each), a final exam (35%), and a research project (15%). The course will typically be offered once each academic year with an enrollment limit of 50.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 270 Introduction to Abnormal Psychology (3) Overview of assessment, causes, and treatments of psychological disorders.

PSYCH 270 Introduction to Abnormal Psychology (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on some of the topics and questions people most commonly ask about psychology: What are the different psychological disorders, and what are they like? How do clinicians diagnose someone with a disorder? What do therapists actually do in therapy? Course objectives include: (a) examine historical and current conceptions of normal and abnormal behavior; (b) survey the origins, symptoms, and characteristics of several adult psychological disorders; and (c) introduce the main treatment approaches for psychological disorders. The course is designed to be accessible to both Psychology majors and others. Psychology B.A. and Psychology B.S. majors may use the course toward the 200-level breadth requirement of the major. Students will be assessed primarily with objective exams.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 281 (GS) Introduction to Industrial-Organizational Psychology (3) Personnel selection, training, accident prevention, morale, and organizational behavior.

Introduction to Industrial-Organizational Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 295 Internship (1-18) Supervised off-campus nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 296A Cognitive Neuroscience Research (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Cognitive Neuroscience Research (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 301W Basic Research Methods in Psychology (4) Introduction to methods of psychological research, with special attention to hypothesis formation and testing, threats to validity, and data presentation.

Basic Research Methods in Psychology (4)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 300H Honors Course in Psychology (1-6) Individual study and seminar in selected phases of psychology.

Honors Course in Psychology (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: invitation of Program Honors Committee

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 302W Critical Thinking and Writing in Psychology (4) This course aims to teach psychology majors to think critically and to write clearly using APA writing style.

PSYCH 302W Critical Thinking and Writing in Psychology (4)

The course is intended for undergraduate psychology majors. After an initial formative writing skills assessment students will work with the instructor to outline an individual plan for further skills development. Recommendations for writing support services will be made if deemed necessary by the instructor. Students will be introduced to strategies for critical thinking, and practice those strategies in class exercises and in writing assignments. Using critical thinking skills, students will develop a research question. The class will receive library instruction from a reference librarian and further narrow their topic. The library component will include instruction in the use of both print and electronic resources, such as PsyInfo, to obtain professional literature pertinent to their question. Students will learn to use both online and traditional inter-library loan services to obtain materials. Use and limitations of the World Wide Web will be discussed. An introduction to APA style requirements for a review paper will be provided, and students will learn to use APA style in their writing.

Students will have three writing assignments which are progressive in their demands. The three assignments will be the basis for course grades. The first assignment builds upon skills practiced in ENGL 202A, is brief and is not research-based. This first assignment is an essay about a topic which has relevancy for psychology. This assignment follows a unit on developing ideas by thinking critically, and evidence of sound reasoning in the essay should be apparent. For the second assignment students will select a professional article relevant to the topic, and write a critical essay evaluating the reasoning in that article. Finally, students will integrate several relevant professional articles in a critical review of the professional literature. The final writing assignment is intended to be the basis of the initial draft of an introduction to the research proposal required in PSYC 451W. All three assignments will require multiple written drafts, and include opportunities to obtain peer and instructor feedback prior to submission of the revised work. Each submitted draft will receive written feedback from the instructor, which will be discussed in individual conferences with the student. A grade of "C" in this course will be a prerequisite for registration for PSYC 451W Statistics and Research Design II, and for several other 400-level Psychology classes at Capital College which have substantial research and writing requirements.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: Psychology major a grade of C or better inENGL 202A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 370 (US) Psychology of the Differently-Abled (3) This course familiarizes students with the needs and abilities of people with varying physical challenges through academic and experimental exercises.

PSYCH 370 Psychology of Differently-Abled (3)
(US)

In 1991 President Bush signed the Americans with Disabilities Act (ADA) which recognized that the hundreds of thousands of Americans living with disabling conditions form a class which should receive protection under the law. Many people look at the ADA as civil rights legislation which is intended to offer disabled Americans the same legal rights to access as the Civil Rights legislation of the 60s offered to Americans of color.

While discrimination in the workplace, in housing, and in other areas based on race is no longer openly practiced, people with different physical abilities are still fighting an uphill battle. Often the barriers they face are due to ignorance of their needs. The intent of this course is to increase awareness and sensitivity to the needs of people who are different in the physical dimension. Additionally, policy and economic implications will be studied.

The content will include multiple modalities, such as mobility and visual differences. The focus will be positive, emphasizing how differences in one area are overshadowed by similarities in most areas. Language in the course will focus on the positive as well, hence Psychology of the "Differently-Abled" rather than "Disabled". Accomplishments of people such as FDR and Mozart will be discussed in the context of significant contributions made by people who were physically different. Finally direct experience with people will be obtained through a community service component of the course.

The objectives of this course are to first familiarize students with the causes and consequences of different physical challenges. The long term objective is to increase sensitivity to the needs of people who are different from most of us in some ways, but very similar to us in most ways. Research has shown that familiarity is a critical tool in raising comfort levels and decreasing discriminatory and hurtful acts.

Evaluation Methods:
Examinations 40%, mid-term and final
Community Service 30%, this will be assigned through the same form Internship supervisors use to evaluate students for PSYCH 395
Research Paper 25%
Oral Presentation 5%, 15 minute presentation to class regarding their community service experience

This course will draw on materials covered in General Psychology. No other course preparation will be needed. The course is an Intercultural and International Competence (GI) course, focusing on intercultural aspects only.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 400 Intermediate Experimental Design (3) Design and analysis of experiments on human and animal behavior, including application of the t, F, chi-square, and binomial distributions.

Intermediate Experimental Design (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 403 Measurement and Decision Making (3) Introduction to axiomatic measurement theory, scale construction, and behavioral decision theory. Algebraic and stochastic models; iterative scaling methods.

Measurement and Decision Making (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 404 (EDPSY 450) Principles of Measurement (3) Scale transformation, norms, standardization, validation procedures, estimation of reliability.

Principles of Measurement (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: EDPSY 400, PSYCH 100 orPSYCH 200;STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 405 Mathematical Psychology (3) Formalized psychological theories including models of social, biological, cognitive, and learning phenomena.

Mathematical Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: MATH 040 or equivalentPSYCH 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 406W Advanced Research Projects in Psychology (4) Advanced methodology focusing on the logic and practice of research culminating in the completion of a student designed research project.

Advanced Research Projects in Psychology (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 301W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 407 Advanced Research Methods in Psychology (3) Advanced methodology focusing on the logic and practice of research in a selected content area of psychology.

Advanced Research Methods in Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200;PSYCH 301W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 410 Child Development (3) Study of the psychology of the growing person from conception through adolescence, focusing more on periods up to middle childhood.

PSYCH 410 Child Development (3)

PSYCH 410 Child Development is intended for undergraduate students majoring in psychology, education and related disciplines. The purpose of this course is to introduce students to the theories and the influences on child development from conception through adolescence. Students will be introduced to research concerns in developmental psychology, including descriptions of research designs and ethical considerations in research with children and adolescents. Course content will include an in depth review of prevailing theories and influences on development from conception through adolescence. Application of the principles and influences will be applied to the physical, cognitive, and social development of children.

Requirements for the course will include objective examinations, as well as written assignments. Written assignments will involve comparisons and critiques of major developmental theories. Examples of such assignments include descriptions of the key points of a major developmental theory or process of child development, detailed description of an observation of a child and how the child's behavior relates to a major developmental theory, descriptions of how application of developmental theory apply to the student's chosen major or occupation, or comparisons and critiques of developmental theory.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 408 Program Evaluation (3) Examination of the theories and practice of program evaluation; emphasis on applied work utilizing a wide range of evaluation approaches.

PSYCH 408 Program Evaluation (3)

This course will introduce the student to the basic procedures and design methodologies of program evaluation. The student will learn about the purposes of evaluation, types, applications, and ethical issues involved in evaluation. A history of programmatic theory design will be reviewed with the purpose of clarifying the linkages between goals, objectives, and the hypothesized relationships between specific programmatic elements and desired outcomes. The student will be challenged to identify and understand the normative assumptions specific to organizations about their basic program design, implementation, and assessment processes.

Students will be evaluated by a combination of the following: evaluation proposal, short written assignments, exams, oral presentation, and attendance. The prerequisites for this course include satisfactory completion of PSYCH 100, SOC 001, PSYCH 200, STAT 200, and PSY 201. This course presupposes critical thinking skills and basic competencies in statistics and research methods.

For the Psychology major (PSHBS or PSHBA) at Penn State Erie, this course is important for students who will be entering graduate school or going into practice in the areas including, but not limited to: community psychology, social psychology, industrial-organizational psychology, sports psychology, or the general social services field. This course can count towards: a) the advanced course requirement, b) the special interest course requirement, or c) elective credit. Psychology minors at Penn State Erie can apply this course toward the 15 credits in psychology beyond the PSYCH 100 requirement. Students in other majors should consult with their academic advisers to determine how this course fits into their program of study.

This course will be offered once annually (fall semester).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 orSOC 001;PSYCH 200 orSTAT 200;PSYCH 301W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 412 Adolescence (3) Physical, cognitive, and personality development during adolescence.

Adolescence (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 413 Cognitive Development (3) Development of reasoning and related cognitive skills, such as perception and language.

Cognitive Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 415 Topics in Developmental Psychology (3) Special topics in developmental psychology.

Topics in Developmental Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 413 orPSYCH 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 414 Social and Personality Development (3) Development of social and personality attributes.

Social and Personality Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 416 (HD FS 445) Development Throughout Adulthood (3) Processes of development and change of behavior from early adulthood through old age, emphasizing theory, method, and empirical research.

Development Throughout Adulthood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HD FS 249 orPSYCH 100;HD FS 312W orPSYCH 301W;PSYCH 200, STAT 200 or 3 credits of statistics ; 6 credtis in HD FS PSYCH or SOC.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 421 Self and Social Judgment (3) Individual's perceptions, evaluations, and decision-making strategies about themselves, others, and social situations or issues.

Self and Social Judgment (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 420 Advanced Social Psychology (3) In depth study of selected research areas in human social behavior.

Advanced Social Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 422 Human Sexuality (3) Psychological influences on human sexual behavior such as love, sexual orientation, gender, intercourse, contraception, sexually transmitted diseases, dysfunctions, and paraphilias.

PSYCH 422 Human Sexuality (3)

PSYCH 422, Human Sexuality, is intended to examine the influence of psychological factors on human sexual behavior. Information on male & female anatomy, on the roles/influences of hormones, and on conception/pregnancy will be covered as well as information on gender, sexual orientation, communication, love, sexual harassment, paraphilias, sexually explicit material, and sexual dysfunction.

Evaluation will be by means of exams (60% of grade), papers (15% of grade), small group projects (10% of grade), and a poster presentation (15% of grade). The prerequisite for this course is satisfactory completion of PSYCH 100. As the course presupposes critical thinking skills and an awareness of research methods in psychology, it is an advanced undergraduate level course requiring junior/senior level standing.

For the Psychology major (PSHBS or PSHBA) at Penn State Erie, this course can count either toward (a) the diversity basic course requirement, (b) the advanced course requirement, (c) the special interest course requirement, or (d) elective credit. Psychology minors at Penn State Erie can apply this course toward the 15 credits in psychology beyond PSYCH 100 requirement. Students in other majors should consult with their academic advisors to determine how this course fits into their program of study.

No special facilities are required for this course, though students will need to prepare a poster for presentation.

This course is expected to be offered at least once every four semesters.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 424 Applied Social Psychology (3) Application of social psychological theories and research methods to field settings and to the study of social issues.

Applied Social Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 423 Social Psychology of Interpersonal/Intergroup Relationships (3) In-depth study of relationships among individuals (e.g., intimate relationships) or groups (e.g., prejudice, cooperation, competition, aggression, and negotiation).

Social Psychology of Interpersonal/Intergroup Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 425 Psychology of Human Emotion (3) Reviews, critiques, and applies major historical and contemporary psychological theories of emotion experience, understanding, and expression.

Psychology of Human Emotion (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 426 (LING 429) Language and Thought (3) Relations between language and cognition; cognitive implications of normal and impaired language development; cognition and bilingualism.

PSYCH (LING 429) 426 Language and Thought (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Is language a special and uniquely human ability that develops and functions independently of other cognitive processes? Do individuals who speak different languages also have different concepts about the meaning of objects and ideas? Does language development depend on exposure to spoken language? In this course we will examine the relation between language and thought by considering evidence on language and cognition in both children and adults. Topics to be covered include the typical development and use of language as well as language and cognition in individuals whose language and/or cognition is impaired in some form. The latter include individuals with aphasia who have sustained brain damage following stroke or head injury, schizophrenics whose language reflects aspects of their disorder, children diagnosed with Williams Syndrome who appear to have good or even precocious language abilities in the face of severe cognitive impairment, and Alzheimer's patients in whom semantic memory has begun to deteriorate. The course will also discuss the acquisition of sign language among deaf individuals and the consequences of bilingualism for children raised with two languages and for adults with proficiency in more than a single language.

The purpose of this course is to provide a survey of current scholarship on the relation of language and thought, including a review of recent developments in the primary literature. The necessary background is covered in introductory Psychology and Linguistics courses, which serve as alternative prerequisites. Students will learn about the consequences of typical and impaired development for relations between cognition and language ability. It is distinguished from PSYCH 457, Psychology of Language, by a focus on the implications of language, language development, and language impairment, for cognitive processes. It covers some topics also addressed by current courses in Linguistics and in Communications Sciences and Disorders, but is distinguished from those courses by its focus on perspectives and theories from cognitive psychology. This course may be used toward the 400-level PSY requirements of the PSYBA and PSYBS majors, and toward the PSY minor. Students typically will be assessed on the basis of class participation and discussion (20%), four papers (total 60%), and an in-class presentation based on reading original research literature (20%). The course typically will be offered once each year at the University Park campus with an enrollment limit of 50.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 orLING 001 orLING 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 432 (US) Multicultural Psychology in America (3) This course focuses on the central role of culture, race, and ethnicity in the human condition.

Multicultural Psychology in America (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 427 (LING 446) L1 Acquisition (3) How children learn their first language; psycholinguistic aspects of lexical, syntactic, semantic, and phonological development.

PSYCH 427 (LING 446) L1 Acquisition (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on how children learn their first language from the theoretical perspectives of imitation theories, social construction theories, and innateness theories. In addition, the course covers the various stages of language acquisition including phonological (sound system), morphological (word meaning), syntactical (grammar) and semantic (meaning) development from birth to adulthood. Other related subfields covered in the course include the acquisition of Pidgin and Creole languages, bilingual and multilingual acquisition, and language acquisition and linguistic change.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2010
Prerequisite: LING 100 orPSYCH 002 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 436 (RL ST 414) Humanistic, Existential, and Religious Approaches to Psychology (3) Existential, humanistic, and religious approaches to the psychology of experience, consciousness and will.

Humanistic, Existential, and Religious Approaches to Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 orRL ST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 439 History and Systems of Psychology (3) Historical antecedents to scientific psychology; development of contemporary psychological theories and research areas from the formal establishment of psychology.

History and Systems of Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 438 Personality Theory (3) Personality theories and their application to social and personality development and personality dynamics.

Personality Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 441 Health Psychology (3) Overview of the field with an emphasis on how psychological research contributes to an understanding of health and behavior.

Health Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 443 Treatment and Education in Developmental Disabilities (3) Covers etiology, classification, intervention (treatment and education), ethical and legal issues related to individuals with developmental disabilities.

Treatment and Education in Developmental Disabilities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 444 Engineering Psychology (3) Methods and results of experimental psychology pertinent to problems which involve man-machine relationships.

Engineering Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of GQ or PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 445 Forensic Psychology (3) Relations between psychological theory and research and the law, legal processes, and social policy.

PSYCH 445 Forensic Psychology (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on the interplay between psychological theory and research and the law, legal processes, and social policy. Students will be exposed to the dilemmas faced in the law and how overlap with the knowledge base and expertise of psychologists. Students will learn about the roles psychologists might play in the court system and the history of their involvement. This will include roles of consultant, policy evaluator, expert witness, assessor, and advocate. Legal issues that emerge in psychological practice will also be covered (e.g., limits to confidentiality, duty to warn, consent issues). Students will gain an understanding of the basic theories of the law and how psychological theories may intersect with these. The emphasis of discussion will be on those affecting children, youth and families. These will include topics such as divorce, child maltreatment, juvenile delinquency, domestic violence, and social welfare. Other topics of the law will also be highlighted (insanity plea, civil commitment). Particular attention will be paid to issues dealing with race, ethnicity, and social class and law and social policy.

This course expands the PSY curriculum at the 400-level to include a popular and socially significant topic, and will fulfill a 400-level PSY requirement for Psychology majors and minors. It addresses in detail legal and social policy implications of topics covered in other psychology courses. Significant background in psychology is assumed; thus PSYCH 270 (Introduction to Abnormal Psychology) is a prerequisite. Students typically will be assessed on the basis of three exams (20% each), a paper (30%), and class participation (10%).

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 238, PSYCH 243 orPSYCH 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 447 Psychology of Discipline (3) Provides theory and practice for effective discipline of children in a variety of situations.

Psychology of Discipline (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 451 Psychology of Action (3) Basic and applied science of action, from psychological, computational, and physiological perspectives.

PSYCH 451 Psychology of Action (3)

In all walks of life, people must adaptively control their physical movements. Whether in industrial settings, on the highway, in the kitchen, in the studio, in the concert hall, or on the football field, skillful physical action is essential. This course will focus on the means by which skilled physical behaviors are learned, planned, and controlled. The course will focus on a broad range of basic behaviors (e.g., reaching, walking, looking, speaking, and typewriting) as analyzed from several perspectives (physiologically, psycho-logically, and computationally). Basic science as well as practical applications will be emphasized, as will links between movement control and other, related topics such as perception, cognitive development, and robotics.

This course addresses topics in an active research area in cognitive psychology. It assumes some prior knowledge of cognitive psychology, requiring PSYCH 100 and PSYCH 256 as a prerequisite. The course will cover some topics addressed in several Kinesiology courses, but does so from the perspective of cognitive psychology. It will fulfill a 400-level PSY requirement for Psychology majors and minors. Students typically will be assessed on the basis of midterm (25%) and final (35%) exams, brief writing assignments and in-class activities (15%) and research papers or projects (25%). The course will normally be offered once each academic year.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 256

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 450 Psychology of Consciousness (3) Introduction to psychological and physiological aspects of consciousness as related to brain function and clinical psychology.

Psychology of Consciousness (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 452 Learning and Memory (3) General survey of learning and memory processes as revealed in experimental work with animals and humans.

Learning and Memory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 256

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 456 Advanced Cognitive Psychology (3) In depth study of complex mental processes: thinking, problem-solving, imagery, symbolic behavior, information-processing, attention, artificial intelligence, and language.

Advanced Cognitive Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 453 Sensation and Perception (3) Fundamental processes and variables involved in the sensory and perceptual experiences of animals and humans.

Sensation and Perception (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 253

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 457 Psychology of Language (3) Overview of psychological research and theory on language processes, including speech perception, word recognition, meaning representation, comprehension, and language acquisition.

Psychology of Language (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 459 Attention and Information Processing (3) An examination of attentional processes. Contemporary informational processing approaches will be emphasized.

Attention and Information Processing (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200 ; 3 credits 400-level PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 458 Visual Cognition (3) Overview of concepts and methods in cognitive visual-spatial processing.

Visual Cognition (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 460 Comparative Psychology (3) Behavior from standpoint of phylogenetic growth and development; biological implications; comparison of different types of animals, including man.

Comparative Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 461 Advanced Conditioning and Learning (3) An examination of basic learning processes that have been determined within the context of classical, instrumental, and operant learning situations.

Advanced Conditioning and Learning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 463 Developmental Biopsychology (3) Developmental neuroanatomy and neurophysiology of vertebrates as they relate to behavior; emphasis on early postnatal development of birds and mammals.

Developmental Biopsychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 462 Physiological Psychology (3) Study of the biological bases of behavior and experience, including the anatomy and physiology of the brain and nervous system.

Physiological Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 260 or 3 credits of BIOL

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 464 Behavior Genetics (3) Survey of gene mechanisms and gene-environment interactions in the determination of behavior; emphasis on deviant human behavior.

Behavior Genetics (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: PSYCH 100;ANTH 021, BI SC 002, BIOL 133 orBIOL 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 471 Psychology of Adjustment and Social Relationships (3) Theory and application of psychological principles to problems in personal and social adjustment.

Psychology of Adjustment and Social Relationships (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 470 Abnormal Psychology (3) Causes, dynamics, symptoms, and treatment of neuroses, psychoses, personality disorders, and other psychological disorders of adulthood.

Abnormal Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 238, PSYCH 243 orPSYCH 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 473 Behavior Modification (3) Principles of advanced behavior modification techniques.

Behavior Modification (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100 6 additional credits of PSYCH

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 475 Psychology of Fear and Stress (3) Description and evaluation of major trends in research on stress and fear in humans and other animals.

Psychology of Fear and Stress (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 3 credits of BIOL statisticsPSYCH 200 orSTAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 474 Psychological Intervention in Childhood (3) Psychology of personal relationships in school situations.

Psychological Intervention in Childhood (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 212, PSYCH 238, PSYCH 243 orPSYCH 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 476 Child Psychopathology (3) Etiology, diagnosis, and facilitation of adjustment of the mentally retarded, gifted, physically handicapped, and emotionally disturbed child.

Child Psychopathology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 212, PSYCH 238, PSYCH 243 orPSYCH 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 477 Mental Health Practicum with Children (3) Overview of interventions for children at risk for mental health disorders; emphasis on intervention strategies, program evaluation, and applied skills.

Mental Health Practicum with Children (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 478 Clinical Neuropsychology (3) Overview of functional human neuroanatomy and clinical neuropsychology, with emphasis on origin, assessment, and treatment of human brain damage.

Clinical Neuropsychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 260

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 479 (US) (WMNST 471) The Psychology of Gender (3) Theories and research on gender differences and gender roles. Emphasis on women's and men's current positions in society.

The Psychology of Gender (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 481 Introduction to Clinical Psychology (3) Diagnostic precedures, treatment approaches, occupational settings, and ethical considerations relevant to the profession of the clinical psychologist.

Introduction to Clinical Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 238, PSYCH 243 orPSYCH 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 484 Work Attitudes and Motivation (3) Survey of theory and research with respect to attitudes, morale, and motivation of employees and management.

Work Attitudes and Motivation (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 200 orSTAT 200 or 6 credits of GQ

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 482 Selection and Assessment in Organizations (3) Background in personnel testing, performance measurement, selection strategies, with emphasis on validity and measurement reliability.

Selection and Assessment in Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 200 orSTAT 200, PSYCH 281

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 485 Leadership in Work Settings (3) Review of research and application of behavior principles in the areas of management and supervision.

Leadership in Work Settings (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100;PSYCH 281 or 3 credits MGMT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 490 Senior Seminar in Psychology (3) Capstone experience for senior psychology majors; review of current research literature; topics vary.

Senior Seminar in Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 301W 6 credits 400-level PSY senior Psychology major

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 491H Honors Thesis (3) An opportunity to pursue an advanced research thesis or project to integrate studies within psychology.

Honors Thesis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: HONOR 301H senior standing and permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 492 Current Topics in Psychology (3) Current topics addressing significant contemporary developments in psychology.

Current Topics in Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 493 Senior Thesis (3-6) Supervised senior thesis research in psychology.

Senior Thesis (3-6)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: approval of a thesis adviser in the department seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 494 Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 494H Research Projects (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Projects (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 496A Applications of Survey Research (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Applications of Survey Research (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 496A Undergraduate Teaching Assistant (1-6) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Undergraduate Teaching Assistant (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 497A Biopsychology (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Biopsychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 497B Advanced Experimental Psychology (3) This is an advanced survey course, providing a broad overview of the methods used in a variety of research areas in psychology.

Advanced Experimental Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 497D (CRIMJ 497D, WMNST 497D, SOC 497D) Family and Justice (3) Examination of the relationship between the family and the criminal justice system in which the family operates.

Family and Justice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Psychology (PSYCH)

PSYCH 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Administration (P ADM)

P ADM 401 Introduction to Homeland Security (3) This course provides foundational knowledge about homeland security, including policy, organization, and legal issues in the American context.

P ADM 401 Introduction to Homeland Security (3)

The Introduction to Homeland Security/Defense course provides a baseline of common knowledge for homeland security professionals. The course achieves this goal by focusing on homeland security/defense, the motivation and nature of terrorists, the policies established by governments, pertinent governmental plans to meet homeland security/defense goals, who the key players are across the homeland security/defense spectrum, and the relevant legal issues framing efforts to defend the nation's security. As an introduction to this broad area of study, this course serves as a basis for specialized study such as bioterrorism defense, critical infrastructure protection, cyber-security, and emergency response management. Understanding key principles will be measured through preparation of a written analysis of key homeland security/defense issues with alternative strategies consistent with current policy and legal constraints.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Administration (P ADM)

P ADM 404 Homeland Security and Defense in Practice (3) This course analyzes, evaluates, and critiques homeland security plans in practice.

P ADM 404 Homeland Security and Defense in Practice (3)

The focus of the course is to apply lessons learned in previous courses to actual organizations. Key material is reviewed, to provide context for the capstone experience that this course provides. Students will apply the Homeland Security framework (the National Response Plan and the National Incident Management System) to case studies, such as FEMA's response to Hurricane Katrina. The main theme of the course is the need for collaboration (interoperability) across state, local, and national governments as well as with the private sector and other relevant actors. A major portion of the course examines the Commonwealth of Pennsylvania as a state-level case study. The course will culminate with a paper that applies the framework of Homeland Security and Defense to an organization of the student's choosing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: P ADM 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Administration (P ADM)

P ADM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Hlth Prepared (PHP)

PHP 410 (HLS 410) Public Health Preparedness for Disaster and Terrorist Emergencies I (3) Analyzes the history of terrorism and explores the preparation and response to specific terrorist threats, natural disasters, and conventional catastrophes.

Public Health Preparedness for Disaster and Terrorist Emergencies I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010
Prerequisite: Undergraduate StudentsBIOL 011 andBIOL 012 orCHEM 110 andCHEM 111 orMICRB 106 andMICRB 107 ; Graduate Students - Enrollment in the MHS program the Post- Baccalaureate Credit Certificate in Homeland Security or permission from the instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 241 (CRIMJ 241) Computer Applications in Public Affairs/Criminal Justice (3) Introduction to computer applications for criminal justice and public affairs agencies.

PUBPL (CRIMJ) 241 Computer Applications in Public Affairs (3)

The student will gain a working knowledge of microcomputer and Internet applications to utilize them in course and/or job functions. The class will be treated primarily as a lab. The purpose is to make the student familiar with popular computer applications in current use. Applications covered include: Word Processing (Microsoft Word); Spreadsheet (Microsoft Excel); Presentation Package (Microsoft PowerPoint); Database (Microsoft Access). Internet Applications include: email - Webmail; World Wide Web Browser - Netscape Communicator and Internet Explorer; and creating a Homepage.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 304W Public Policy Analysis (3) The use of analytic models for describing and explaining the forces shaping policy and the consequence of policy decisions.

PUBPL 304W Public Policy Analysis (3)

This course provides an overview of the policy process and an examination of specific policy areas in the American political system. We will focus on what constitutes public policy and basic aspects of the policy process, including agenda setting, implementation, and policy evaluation. The course covers important contemporary policies such as health care, education, energy, welfare reform, and defense. It also will provide us with an opportunity to consider the utility of policy studies, and the various ways knowledge about particular issues is put to use by academics, partisan political figures, journalists, policy advocates, and policy makers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 305 Leadership Studies (3) Exposure to a wide range of leadership issues that will bring students to a new understanding of leadership as responsibility.

Leadership Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 325 (AMSTD 325) American Political Culture (3) Study of political culture in the United States.

PUBPL (AM ST) 325 American Political Culture (3)

Examination of American political culture, including political history, party structure, campaign practices, elections analysis, voter behavior, and political ideology. The course satisfies the "area" requirement in society for undergraduate majors in American Studies, and is open to all majors. Students analyze social and cultural influences on the American political process. Issues of regional, ethnic, rural, urban, and gender traditions on campaigns are considered. Distinctive characteristics of American politics such as the two-party system, populism, and coalition building are discussed. Evaluation methods include examinations and essays. The course is offered once during the academic year and typically closes at 30 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: 3 credits American Studies Political Science Public Policy or Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 415 (CRIMJ 415) Drug Control Policy in Comparative Perspective (3) Examines the history of drug control policy in the United States; comparisons and contrasts with other countries' experiences.

PUBPL (CRIMJ) 415 Drug Control Policy in Comparative Perspective (3)

This course focuses on the history of drug control policy in the United States and the internationalization of drug prohibition. We also examine the experience of other countries with drug use, abuse and control, including alternative regulatory policies in Western Europe. This class is both historical and comparative in orientation: in tracing the roots of drug prohibition, and examining the experience of other countries, we seek to enrich our understanding of American style drug control and the feasibility of alternative approaches.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: CRIMJ 200 orPL SC 001 orPL SC 014 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 419 Western Constitutional Traditions (3) This course reviews the major political, economic and social movements that shaped the development of the US Constitution.

PUBPL 419 Western Constitutional Traditions (3)

The course will explore the major political, economic and social movements that shaped the development of the US Constitution. Particular emphasis will be placed on early experiments in self-governance which predate the American Constitution including the Greek democracies, the Roman republic/empire and the English constitutional monarchy. After reviewing the historical foundations for American governance, students will consider the major political events which profoundly influenced the shape of the early republic. Whereas classes in constitutional law focus primarily on methods of legal interpretation and the case law, this course will focus on how historical events shaped the evolution of American government. Beyond an examination of our Western legal traditions, the course is designed to promote independent thought, critical thinking and enhance students' written and verbal communication skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: HIST 001, HIST 002, I HUM 311, I HUM 312, PL SC 001, PUBPL 420 orPUBPL 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 480 Seminar in Urban Policy (3) Work in this course will focus upon governmental institutions and public policy problems in metropolitan areas.

Seminar in Urban Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 481 Seminar in Environmental Policy (3) Fundamentals of evolution; impacts on natural resources; interaction of environmental issues, current decision-making process policy, enforcement mechanisms; future actions.

Seminar in Environmental Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 482 Seminar in Health Policy (3) Introduction to policy analysis of issues of current interest and importance to public administrators in the health industry.

Seminar in Health Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 484 Seminar in Transportation Policy (3) Transportation policy; a consideration of its formulation and application in the Federal system.

Seminar in Transportation Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 483 Seminar in National Security Policy (3) Course will examine the inter-relationship of foreign, military and economic policy.

Seminar in National Security Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 485 Seminar in Welfare Policy (3) Course examines the origins, development, and impact of welfare programs.

Seminar in Welfare Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1998
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 495 Internship (3-12) Experience in a public service agency related to knowledge gained through academic course work, reading, and discussion.

Internship (3-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 490 Seminar in Public Policy (3) A survey of the major policy issues, actors and institutions involved in the policy-making system of contemporary society. (May be repeated for credit.)

Seminar in Public Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Public Policy (PUBPL)

PUBPL 497A (PL SC 497I) Public Affairs Capstone Course (3) This course examines how to objectively examine contentious public policy controversies by relying on essential principles of scientific research.

Public Affairs Capstone Course (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 098 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 450 Quality Control and Quality Improvement (3) Review of quality control and improvement methods including SPC applications, acceptance sampling, regression analysis, and design of experiments.

Quality Control and Quality Improvement (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: MATH 141 orMATH 210

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality Control (Q C)

Q C 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality and Manufacturing Management (QMM)

QMM 491 Introduction to Business Concepts for Manufacturing (3) Introduction to business, topics in marketing, accounting, and finance for nonbusiness students in manufacturing management.

Introduction to Business Concepts for Manufacturing (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: students taking this course CAN NOT be a Business major and must be in their senior year

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality and Manufacturing Management (QMM)

QMM 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quality and Manufacturing Management (QMM)

QMM 492 Introduction to Engineering Design Principles (3) Engineering principles including different engineering fields, graphics, design, solid modeling and failure analysis.

Introduction to Engineering Design Principles (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: students taking this course CAN NOT be an Engineering major and must be in their senior year

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Quantification (QUANT)

QUANT 310 Mathematical Methods in the Social and Managerial Sciences (3) Functions (linear and nonlinear), systems of linear equations, matrix algebra, introductory differential calculus, applications in business and economics.

Mathematical Methods in the Social and Managerial Sciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: college algebra

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 102 Radiographic Procedures/Lab II (4) Continuation of Radiographic Procedures/Lab I to include appendicular skeleton and introduction to head work.

Radiographic Procedures/Lab II (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: RADSC 101, RADSC 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 101 Radiographic Introduction and Procedures/Lab I (4) Radiology history, basic radiation protection principles, medical terminology, introduction to radiography and radiographic procedures/lab.

Radiographic Introduction and Procedures/Lab I (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 103 Radiographic Procedures/Lab III (3) Continuation of Radiographic Procedures/Lab II to include digestive, urinary, and biliary systems and facial bone work.

Radiographic Procedures/Lab III (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: RADSC 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 110 Patient Care in Radiologic Sciences (3) Basic concepts of routine and emergency patient care procedures addressed from the radiographer's perspective.

RADSC 110 Patient Care in Radiologic Science (3)

The content of this course includes the basic concepts of patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures are addressed from the radiographer's perspective. Students will learn proper infection control techniques and will prove competency in CPR. This course is a requirement of the radiography (radiologic technology) curriculum and could be utilized as an option for students interested in patient care procedures such as health science majors. As is consistent with the core courses in the Radiography program, a passing grade for enrolled radiography students is 75%.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 204 Radiographic Exposure I (3) Fundamental knowledge base of factors that govern and influence the production and recording of radiologic images.

Radiographic Exposure I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: RADSC 103

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 205 Radiographic Exposure II (3) Continuation of exposure factors concerning radiographic imaging; film, electronic imaging, processing, quality assurance and related areas will be emphasized.

Radiographic Exposure II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: RADSC 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 206 Advanced Radiographic Procedures (3) Emphasis on specialized positioning and advanced radiographic procedures; includes introduction to cross-sectional anatomy.

Advanced Radiographic Procedures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: BIOL 141, RADSC 205

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 210W Radiographic Pathology (3) Writing intensive study of theories of disease causation and the pathophysiologic disorders compromising health systems with emphasis on radiographic presentation.

RADSC 210W Radiographic Pathology (3)

A writing-intensive study of the basic fundamentals of pathology (disease process) with emphasis placed on radiographic presentation. Material covered includes the basic concepts of disease and terms related to pathology, systemic classifications of disease including etiology, examples, complications and prognosis, radiographic procedures and presentation, and the health process. Writing requirements include two short papers and a longer sequenced paper. All papers will receive instructor feedback and subsequent submission of a final revised paper. An informal writing assignment with peer review is also required. The writing process evolves throughout the course as the student applies knowledge learned to current assignments. This course is a requirement of the radiography (radiologic technology) curriculum and could be utilized as an option for students interested in a visual study of disease process such as health science and biology majors or for students in need of a writing-intensive course. As is consistent with the core courses in the Radiography program, a passing grade for enrolled radiography students is 75%.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: BIOL 129, BIOL 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 207 Registry Review (4) Registry Review includes material from all radiological science courses, with emphasis on National Certification Examination, and career planning.

Registry Review (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2002
Prerequisite: RADSC 206

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 220 Radiation Biology and Protection (3) Study the principles of interaction of radiation with living systems, effects on cells and tissues, biological response, and radiation protection.

RADSC 220 Radiation Biology & Protection (3)

The content of this course includes the basic fundamentals of radiation interactions, basic biology with emphasis placed on effects of radiation exposure on cells and on radiation protection mandates and techniques. This course is a requirement of the radiography (radiologic technology) curriculum and could be utilized as an option for other students interested in radiation effects such as health science, biomedical engineering, health physics or physics and biology majors. As is consistent with the core courses in the Radiography program, a passing grade for enrolled radiography students is 75%.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 240 Pharmacology and Drug Administration (2) Basic concepts of pharmacology, the basic techniques of venipuncture, and the administration of diagnostic contrast agents and/or intravenous medications.

RADSC 240 Pharmacology and Drug Administration (2)

The content of this course includes the basic concepts of pharmacology, basic techniques of venipuncture, and the administration of diagnostic contrast agents and intravenous medications. Material covered includes drug nomenclature and categories, routes of administration, current practice status, and legal and ethical issues of medication administration. Students are required to prove competency in venipuncture using the arm phantom. This course is a requirement of the radiography (radiologic technology) curriculum and could be utilized as an option for other students interested in pharmacology such as Health Science and Biology majors. As is consistent with the core courses in the Radiography program a passing grade for enrolled radiography students is 75%.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: BIOL 141, RADSC 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 230 Radiographic Physics (3) Basic knowledge of atomic structure, characteristics of radiation, x-ray production, photon interactions, circuitry, imaging equipment and quality control.

RADSC 230 Radiographic Physics (3)

The content of this course includes the basic fundamentals of atomic structure, characteristics of radiation, x-ray production, photon interactions, circuitry, imaging equipment and quality control. This course is a requirement of the radiography (radiologic technology) curriculum and could be utilized as an option for other students interested in radiation interactions and imaging equipment such as health science, biomedical engineering, health physics or physics majors. As is consistent with the core courses in the Radiography program, a passing grade for enrolled radiography students is 75%.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Radiological Sciences (RADSC)

RADSC 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 100 Real Estate Practice (3) Study of real estate to enable individuals to make successful transactions and decisions. May not be used to satisfy Smeal College baccalaureate degree requirements.

Real Estate Practice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: not available to students who have takenR EST 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 301 Real Estate Fundamentals (3) Introduction to urban real estate; economic forces affecting property rights; real estate markets and finance; land-use analysis; government policies.

Real Estate Fundamentals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 306 The Valuation of Real Property (3) Principles governing legal and economic determinations of land values; theory of appraising; studies of economic effects on property values.

The Valuation of Real Property (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: B A 301 orR EST 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 395 Internship in Real Estate (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship in Real Estate (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 409 (FIN 409) Real Estate Finance and Investment (3) The sources and uses of credit; instruments and methods of financing; the theory and practice of real estate investment analysis.

R EST (FIN) 409 Real Estate Finance and Investment (3)

Real Estate financial markets are rapidly changing, with new instruments and ideas introduced every day. Therefore, the emphasis of this class will be on preparing the students to tackle any new instrument that might be introduced to the market, understanding why and how people make money in the field, and be able to understand and utilize the innovations that have been introduced and are still being developed. The course will provide a broad coverage of real estate investment, finance, and valuation. We will study different measures of investment performance, the impact of the financing decision on real estate investment risks and return, and various real estate financing techniques. Specific topics include: legal considerations in real estate finance, present value concepts, fixed rate mortgage loans, adjustable rate and variable payment mortgages, underwriting and financing residential properties, income-producing properties and valuation fundamentals, leases, projecting cash flows, investment value, investment and risk analysis, financial leverage and financing alternatives, disposition and renovation of income properties, financing corporate real estate, real estate capital markets, the secondary mortgage market and REITS.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 420 Analysis of Real Estate Markets (3) Historical performance, land use issues, market valuation, real estate development, public policy issues.

R EST 420 Analysis of Real Estate Markets (3)

The objective of this course is to provide an analytical approach to exploring real estate markets from both a private and public perspective. The course begins with "big picture" topics, including the historical performance of real estate as an asset class, and how and why urban areas develop and look as they do. In the historical performance module, various data bases and data analysis techniques are critically analyzed. The implications of different measuring tools and reporting formats are emphasized. The urban development module traces land value and land use theory from the mid 1700s to the present, emphasizing the evolution of ideas and how modern thought is built on enduring fundamentals. In the section on private land use decision making, valuation and valuation techniques are emphasized. Topics include market analysis, the real estate development process, and the impact of the financing decision on market performance. Spreadsheet modeling is introduced at appropriate points. It is anticipated that the module on the development process will rely partly on guest lecturers. These may include planners, lenders, developers, and representatives of citizens groups. The final part of the course addresses public policy issues surrounding land use decisions. Topics include zoning, eminent domain, and property taxation. Some of this material is presented in a "law and economics"framework, emphasizing the tradeoffs between equity and efficiency in the development of public policy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: R EST 301 orR EST 460 orR EST 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 425 (B LAW 425) Environmental Law, Property, and Commerce (3) Examines the impacts of major federal environmental laws on business relations and property interests.

Environmental Law, Property, and Commerce (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: B A 243, B LAW 243 orE R M 151

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 424 (B LAW 424) Real Estate Law (3) Analysis of contemporary law applicable to various types of ownership interests and rights, methods of transferring ownership, and use of real property.

R EST (B LAW) 424 Real Estate Law (3)

The objectives for this course are: (1) to provide students with an understanding of essential U.S. real estate property law, including the rights private property owners may obtain, how ownership and transfer are handled in view of present and future interests, constitutional issues that impact real estate ownership, and the legal aspects of modern real estate contractual transactions; (2) to teach students the ability to spot the legal issues arising from the above as future business leaders and (3) to introduce students to the legal reasoning process necessary to address and avoid the legal dilemmas presented by such issues. Instructional methods for the course will include detailed lectures and classroom discussion of readings and other materials. Student progress and mastery of the material will be evaluated through periodic examinations. Completion of the course will be credited toward fulfillment of the requirements for the Legal Environment of Business Minor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: B LAW 346

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 440 Advanced Techniques in Real Estate Analysis (3) Theories and methods of modern financial analysis including specialized computer applications, valuation of mortgage securities, portfolio applications, and option pricing.

R EST 440 Advanced Techniques in Real Estate Analysis (3)

This course is intended for highly motivated undergraduate students who are interested in real estate financial analysis. The course has been conceived as a survey of advanced methods and techniques in the areas of real estate investment (including portfolio analysis) and modern real estate finance (including mortgage-backed securities and other new innovations). The course also includes some advanced valuation methods and computerized applications for solving real estate problems. Finally, as a seminar, the students are expected to freely contribute to the discussion of topics in the course as well as prepare and present a topic of special interest to the class. Specific topics include: overview and assessment of real estate analysis, the use of econometric, (regression) modeling in real estate markets, the foundation of valuation technology, basic DCF methods, comparisons between capital budgeting techniques, extensions of the basic DCF models, early methods of accounting for risk, modifications to early and traditional analysis, alternative risk models, review of traditional real estate finance, problems and recent innovations, capital structure considerations, mortgage-backed securities and other products, portfolio theory for real estate, event studies, option pricing applications, and future trends.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 450 Urban Property Rights and Land Use Issues (3) International perspectives on real estate as property, evaluation of land use regulations, and differences in real estate markets across countries.

Urban Property Rights and Land Use Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005 Ending: Fall 2010
Prerequisite: B A 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 450 Urban Property Rights and Land Use Issues (3) International perspectives on real estate as property, evaluation of land use regulations, and differences in real estate markets across countries.

Urban Property Rights and Land Use Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 301 orFIN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 460 (FIN 460) Real Estate Financial Analysis (3) Debt and equity financing capital structure, "creative financing," risk analysis, corporate asset management.

R EST (FIN) 460 Real Estate Financial Analysis (3)

The objective of this course is to provide in-depth coverage of real estate investment and financing decisions. The focus is on the private market, including corporate asset management. Investment analysis moves from the basics of forecasting cash flows, through advanced topics including the impact of real option value on investment and development decisions. Risk measurement is given particular attention with a focus on sensitivity and simulation analysis. There is some coverage of asset pricing models like the Capital Asset Pricing Model, which is critically analyzed with respect to its applicability in real estate markets. The impact of illiquidity, management costs, and the suspicion of non-normally distributed returns are explored, as are the implications of relative market inefficiency. The financing module begins with the basics of mortgage debt mathematics, which is then extended to include comparisons of various repayment programs. Included are interest-only, balloon, shared appreciation, growing equity, graduated payment and reverse annuity loans, as well as various creative financing of commercial properties.

The latter include participating mortgages, convertible mortgages, and mezzanine debt. Featured in the corporate asset management section is the lease/buy decision. Other topics may be addresses based on current events. It is anticipated that guest speakers will be invited where appropriate.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 470 (FIN 470) Real Estate and Capital Markets (3) Analysis of publicly-traded real estate of both the equity, (REITs) and debt (MBSs) sides. The course also provides international perspectives.

R EST (FIN) 470 Real Estate and Capital Markets (3)

The objectives of this course are to expose the student and explore the issues associated with the analysis of "public" ("Wall Street") real estate, including both equities (such as Real Estate Investment Trusts or REITs) and debt vehicles (such as Mortgage-Backed Securities or MBSs). In addition, the course will focus on the increasingly globalization of real estate capital markets as the real estate sector becomes integrated into the global financial system. The differences between private and public real estate analysis will also be explored, including the suitability of traditional asset pricing models for real estate analysis. Topics include the growing impact of institutional real estate forces on the real estate sector, the use of modern financial economics methods to real estate including the concept of market efficiency, modern portfolio theory applications, market measures of risk and return, the use of option-based models, and other advances. The rise of Wall Street's interest in real estate securities is an important institutional development and serves as the underlying background for the analysis of MBSs using fixed-income security techniques.

As globalization has spread, the real estate sector has moved with these changes and prospects for a global real estate market are examined and evaluated.

This course serves as a compliment to FIN 460, which emphasizes traditional financial analyses of individual real estate projects. In FIN 470, real estate securities are viewed as a natural extension towards the complete integration of real estate and capital markets. In this sense, these courses will enable traditional and modern analyses of the real estate sector for years to come.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: FIN 305W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 497A Real Estate Case Competitions (2) This course provides skills and expertise in analyzing actual real estate cases in preparation for national case competitions.

Real Estate Case Competitions (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 497A Real Estate Case Competitions (2) This course provides skills and expertise in analyzing actual real estate cases in preparation for national case competitions.

Real Estate Case Competitions (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Real Estate (R EST)

R EST 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 101 Introduction to Recreation Services (2) Introduction to discipline and exploration of professional career models/ paths, historical development of profession, expectations and opportunities in recreation services.

RPTM 101 Introduction to Recreation Services (2)

The primary objective of this course is to provide students with an understanding of the historical and contemporary perspectives of the recreation and park profession. In addition, the course will provide an exploration of careers in leisure, recreation and parks, or related services with emphasis on the various leisure delivery systems.

Main topics typically include:
* Understanding of the roles and significance of leisure and recreation in past and present
societies.
* Awareness of the factors contributing to the emergence of specific movements, delivery systems, and agencies within the recreation and parks movement.
* Knowledge of the specific roles assumed by public, private, nonprofit, community and commercial agencies in providing resources and contributing to contemporary participation patterns and lifestyles.
* Awareness of professional career models, expectations, and opportunities.
* An understanding of issues and trends currently affecting the direction of leisure services.

This is a required course for the Recreation, Park and Tourism Management major, usually taken during the freshman or sophomore year. Students in other majors who are exploring Recreation, Park and Tourism Management are encouraged to enroll.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 120 (GS;US;IL) Leisure and Human Behavior (3) Leisure from historical and contemporary perspectives, including forces shaping leisure behavior, and relationships among leisure, the environment, and social institutions.

RPTM 120 Leisure and Human Behavior (3)
(GS;US;IL)

Leisure and Human Development introduces leisure from historical and contemporary perspective including forces shaping leisure behavior, and relationships among leisure, the environment, and social institutions. Special attention is given to the role of leisure in individual health and wellness. Main topics include: the role of leisure in past and present societies; the ways in which leisure, recreation, and play relate to personal health and wellness, the economy, personal identity, work, religion, sexuality, race, class, socio-economic status, time use patterns, and education; leisure's contribution to human development throughout the life course; the role of leisure in one's life, specialization in leisure activities, leisure careers, serious forms of leisure, and leisure and addiction; and trends in the world economy and culture, technology, urbanization and suburbanization, governance, and demography and how they may influence leisure behavior.
Student performance is evaluated through exams and concept maps undertaken in class. Students also examine their own leisure by constructing a one-week time diary. The diary involves providing a detailed account of time allocated to work, personal maintenance, and “free time.” Students analyze their data, calculate statistics about their time use, and write a reflexive essay that connects their findings to class concepts. The time diary also includes wearing a pedometer for one week to gage physical activity.

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Spring 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 210 Introduction to Commercial Recreation and Tourism (2) Historical and contemporary perspectives of the field of commercial recreation and tourism.

RPTM 210 Introduction to Commercial Recreation and Tourism (2)

The primary objective of this course is to introduce students to, and provide core competencies in, the fundamentals and principles of commercial recreation and tourism as fields of service including; the delivery of goods, services, amenities, facilities, entrepreneurship, and trends in commercial recreation and tourism. A second objective is to provide students with an overview of career possibilities in the fields of commercial recreation and tourism.

Main topics typically include:
* The history of recreation and tourism and how these sectors fit in the broad spectrum of leisure delivery systems
* The role and inter-relationship between private, nonprofit, and public resources in
commercial recreation
* Management principles in organization, planning, marketing, promotion, finance, public relations, human resource practices, and decision making in commercial recreation and tourism
* Current needs, problems and issues associated with the commercial recreation and tourism sectors
* Career opportunities in commercial recreation and tourism.

This is a required course for the RPTM major in the Commercial and Community Recreation Management option. Students in other majors are welcome after all RPTM majors have scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 236 Leadership and Group Dynamics in Recreation Services (3) Supervision in recreation services, including theories, strategies, group dynamics, applied leadership and decision-making skills.

RPTM 236 Leadership and Group Dynamics in Recreation Services (3)

The primary objectives of RPTM 236 are for students to examine both leadership and group dynamics as a function of leisure and recreation services. Students in RPTM 236 will be given a variety of leadership opportunities, both in and out of class, to begin to develop leadership skills as well as observe others in recreation leadership positions. Information on leadership theory and group dynamics (group development, roles in groups, group decision making) will be provided through group exercises and hands on experiences.

Main topics include:
* Leadership theory
* Approaches to leadership; leadership styles
* Definition of group including characteristics and effective group management
* Group decision making and problem solving
* Recreation leadership skills including behavior management, interpersonal skills and motivation
* Teaching as a leadership skill; learning theory
* Communication as a leadership skill
* Teambuilding

RPTM 236 is a required course for RPTM majors. Students in other majors are welcome. It is strongly suggested that RPTM 236 be taken prior to, not concurrent with RPTM 356.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 230 Teambuilding Facilitation (3) Learn leadership and teambuilding skills to facilitate group dynamics and adventure, team activities.

RPTM 230 Teambuilding Facilitation (3)

Through hands-on experience, discussion, and observation students will develop a sound background to the basics of teambuilding. This course will focus on the philosophy of team activities and experiential education, and the skills required to lead and facilitate teambuilding events. In addition to learning skills, the students will be asked to apply their knowledge of teambuilding to lead actual activities for their peers. Finally, students will be exposed to information about career opportunities in the field of teambuilding and adventure education.

Main topics include:
* An introduction to teambuilding philosophy and its relation to the outdoor education field. General concepts to be covered include: challenge by choice, full value contracts, the experiential learning cycle and the adventure wave.
* Activity understanding to include icebreakers, problem solving activities and trust events
* Programming and activity sequencing
* Leadership skills and the role of the facilitator
* Stages of group development
* Debriefing activities, transfer of learning and metaphoric transfer
* Activity safety: emotional and physical
* Risk Management and the elements of good judgment
* Group assessment and program creation
* Program evaluation

This course is one of the selections for RPTM majors in the adventure-based programming emphasis of the Outdoor Recreation Option. Students in other majors are welcome after RPTM majors have scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 277 (US) Recreation for Persons with Disabilities (3) Encouragement of appreciation for cultural experiences, disability-related characteristics, and recreation pursuits among persons with disabilities.

Recreation for Persons with Disabilities (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 295A Introduction to Golf Management (1-4) Introduction to various phases of golf operations in public, private, municipal, or military settings.

RPTM 295A Introduction to Golf Management (1)

The primary objective of this course is to complete a 40-hour per week internship at an approved golf property. While on internship the student will complete assignments involving the United States Golf Association's rules of golf. The student will also complete a variety of assignments associated with tournament operations and the teaching of the game of golf to both adults and juniors. Another primary objective involves golfer development programs.

Main topics include:
* Rules of Golf: officiating, rules clinic, newsletters, tips, and course clinic
* Tournament Operations: budgeting, staffing, publicity, course preparation, health and safety issues, tournament operations software, and evaluation
* Introduction to Teaching Golf: research teaching styles, lesson observation, and conducting a series of lessons
* Development of Golfer Programs: program design, planning, budgeting, scheduling, problem solving, and program evaluation

This is a required course for all students in the Golf Management Option that are majoring in Recreation, Park and Tourism Management. The internship is not open to students of other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: 2.00 cumulative grade point average

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297A Outdoor School Counselor (2) Outdoor School is a field experience class and you must be accepted as a counselor before being registered.

Outdoor School Counselor (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: Contact Ellen Will for application information

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297A Outdoor School Counselor (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Outdoor School Counselor (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297B Interpreting Halloween to Children (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Interpreting Halloween to Children (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297B Wilderness First Aid (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Wilderness First Aid (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297C Ubran Service Experience (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Ubran Service Experience (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297D Outdoor School Instructor (1-3) Outdoor School is a field experience class and you must be accepted as a instructor before being registered.

Outdoor School Instructor (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: Contact Ellen Eill for application information.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297D Outdoor School Instructor (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Outdoor School Instructor (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297F Mental Training FO (1) This course is designed to systematically teach golfers mental strategies and mental focusing techniques associated with performance excellence in golf. Drawing from sport psychology literature, specific areas that will be dressed include the psychology of personal excellence and peak performance states, motivation and philosophical reasons for playing golf, mental preparation, strategies for playing great golf, self-regulation skills, concentration techniques, and performing with confidence.

Mental Training FO (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297G Interpreting Maple Sugaring to Families (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Interpreting Maple Sugaring to Families (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 300Y (IL) Tourism and Leisure Behavior (3) Examination of the impact of recreational sociocultural, governmental, economic, and physical environment on the leisure traveler within the tourism industry.

RPTM 300Y Tourism and Leisure Behavior (3)
(IL)

The objective of this course is to help students understand the tourism concept from a national and international perspective. The students will debate the motivations that lead people to engage in tourism and in hosting tourists. They will also examine the social, economic and ecological impacts that tourism development can bring to host communities and to tourists. The students will finally apply all the learned materials to conceptualize sustainable development strategies that aim at improving the quality of live of host communities, provide quality experiences to visitors, and protect the existing cultural and ecological resources of the destination.

Main topics typically include:
* History - How people engage in tourism throughout all periods of history and the influence of major historic events on modem tourism
* Socio-cultural impacts - How host cultures are transformed through tourism
* Economic impacts - Revenues and costs to host economies due to tourism
* Ecological impacts - Ways in which tourism helps and hurts the environment
* International terrorism and peace - Why tourism is called the peace industry and how it is affected by terrorism and political instability
* Sex tourism - Why tourism can alleviate or aggravate the exploitation of vulnerable segments of society
* Tourism planning and policy - How to plan and manage tourism in ways that it produces sustainable benefits to the host community

This is a required course for RPTM majors in the Community and Commercial Recreation option. Students in other majors are welcome.

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 297S First Year Seminar (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

First Year Seminar (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 320 Recreation Resource Planning and Management (3) Relationship between leisure behavior and natural environment. Exploration of natural resources which enhance leisure.

RPTM 320 Recreation Resource Planning and Management (3)

This course is an introduction to managing the recreational use of U.S. lands, waters, and wildlife. Course objectives include providing students with an awareness of the scope of outdoor recreation resources and major outdoor activities; knowledge about outdoor recreation resource agencies, their mandates, and their resources; an understanding of key outdoor recreation issues and impacts and their relationships to activity type and visitor behavior; knowledge about appropriate management tools for addressing impacts; and an understanding of the contribution of planning to effective recreation resource management.

Main topics typically include:
* Introduction to the scope of outdoor recreation in the U.S., key characteristics of major user groups, visitor motivations and benefits, and phases of the recreation experience
* The recreation resource base
* Federal, state, local, and private recreation resource providers
* Ecological impacts of outdoor recreation
* Conflict, crowding, and equal access in outdoor recreation
* Recreation carrying capacity, direct and indirect management techniques, and concentrating versus dispersing visitor use
* Facilities and design of recreation sites
* Visitor use limits, permits, and fees
* Information, education, and programs for visitors
* Visitor use monitoring
* Planning frameworks for outdoor recreation

This is a required course for RPTM majors in the Outdoor Recreation Option. The course is open to students in all majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 325 Principles of Environmental Interpretation (3) Introduction, history, practice, and principles of contemporary interpretive activities common to natural and cultural history program sites.

RPTM 325 Principles of Environmental Interpretation (3)

The primary objective of this course is to provide students with an overview of the field of environmental interpretation with special emphasis in understanding and applying the principles inherent in effective programs and presentations. The second objective is to provide information about career opportunities in the interpretive profession. The third objective is to provide students with a variety of service learning opportunities to help them refine their career aspirations.

Main topics typically include:
* Becoming aware of the history, professional resources and best practices in the field of environmental interpretation.
* Creating and using effective interpretive materials including exhibits and visuals aids in non-formal programs.
* Demonstrating sound interpretive methods and techniques by conducting short presentations.
* Gaining an awareness of the operation of a visitor center and the experience of using live animals in interpretive programming.
* Demonstrating a competency in program development by participating in the planning, presenting and evaluation of the Children's Halloween Trail at Shaver's Creek Environment Center.

This course is one of the selections for RPTM majors in the Environmental Interpretation emphasis and the Adventure-based Programming emphasis of the Outdoor Recreation Option. Students in other majors are welcome. This course is a pre-requisite for RPTM 326, 327, 425, and 430.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 326 Natural History Interpretation (3) Methods, techniques, resources to acquire knowledge of natural history. Field identification, projects of an applied nature, and seasonal application.

RPTM 326 Natural History Interpretation (3)

The primary objective of this course is to give students the basic skills and resources to research and interpret the natural history of a given park or natural area. Building on the prerequisite course (RPTM 325: Principles of Environmental Interpretation), students continue to apply and practice principles that help create effective outdoor programming. The second objective is to provide students with a variety of service learning opportunities to help them refine their career aspirations.

Main topics typically include:
* Learning the skills and available resources to identify common fauna and flora found in
Central PA including birds, mammals, amphibians, trees and wildflowers
* Imparting a basic understanding of the ecology of the Eastern Forest landscape and the ability to interpret that understanding to a general audience.
* Writing a short natural history interpretive article for a general audience.
* Demonstrating sound interpretive methods and techniques by conducting short presentations.
* Gaining an awareness of the operation of a visitor center and the experience of using live birds of prey in interpretive programming.
* Demonstrating a competency in program development by planning, researching, and presenting a natural history program in an outdoor setting to their peers.

This course is one of the selections for RPTM majors in the Environmental Interpretation emphasis of the Outdoor Recreation Option. Students in other majors are welcome providing they have met the pre-requisite (RPTM 325).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 327 Cultural History Interpretation (3) Methods, skills, and techniques necessary for the programming of historical sites and areas.

RPTM 327 Cultural History Interpretation (3)

The purpose of this course is to provide students with an understanding of the cultural resources within central Pennsylvania and to learn how to effectively interpret these resources through interactive programs and experiences. Building on the prerequisite course (RPTM 325: Principles of Environmental Interpretation), students continue to apply and practice principles that help create effective outdoor programming.

Main topics typically include:
* Demonstrating sound interpretive methods and techniques by conducting short presentations
* Demonstrating a competency in program development by planning, researching, and presenting two different 1st Person Interpretation -living history programs in an outdoor setting to the general public and to school groups.
* Participation, planning and presenting a Maple Sugaring Lesson at the community attended Maple Harvest Festival.
* Engaging in research and writing of a Historical Character Paper. Learning how and where to conduct cultural history research in any community by utilizing historical societies, historical sites, libraries, and personal interviews.
* Observation of professional cultural history interpreters.

This course is one of three selections for RPTM majors in the environmental interpretation emphasis of the Outdoor Recreation Option. It is included as part of the "Discovery Semester" block of courses taught by faculty at the Shaver's Creek Environmental Center.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 334 Non-profit Recreation Agency Operations (3) Recreation agencies in voluntary and semiprivate sectors will be investigated through membership strategies, fund raising, volunteer management, etc. case studies.

RPTM 334 Non-Profit Recreation Agency Operations (3)

The primary objective of this course is to expose students to the operational practices and missions of nonprofit recreation and tourism organizations. In particular, this course will allow students to investigate voluntary and semi-private sectors through membership strategies, fundraising and development roles, and volunteer management.

Primary topics taught in this course will typically include the following:
* The role of non-profit organizations in providing park, recreation and tourism opportunities
* Missions, governance procedures, and societal roles associated with non-profit organizations
* Program support functions and non-profit fundraising strategies
* Skills and roles of professional staff in non-profit organizations

This course is a requirement for RPTM majors in the park management emphasis of the Outdoor Recreation Option. This is also a supporting course (i.e., department list) for RPTM majors in the Commercial and Community Recreation Management Option. Students in other majors are welcome after all RPTM majors have been scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 356

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 330 Adventure-Based Program Leadership (3) Both theoretical and experiential components are included as the role of the leader in outdoor adventure programs is examined.

RPTM 330 Adventure-Based Program Leadership (3)

Both theoretical and experiential components are included as the role of the leader in adventure-based programs is examined. This course will focus on the philosophy, ethics, and current practices in the area of adventure-based programming. Focus of instruction will be upon program design, developing skills for facilitating personal growth and providing leadership for outdoor pursuits including rock climbing, canoeing, teambuilding, hiking and backpacking.

Main topics to be covered:
* Leadership aspects of teambuilding: spotting, the purpose of teambuilding initiatives, debriefing
* Leadership aspects of rock climbing: belaying, safety, climbing skills, a look at top rope set up
* Leadership aspects of whitewater canoeing: preparation, reading the river, rope rescues, righting a capsized canoe, paddling skills
* Leadership aspects of backpacking: leave no trace environmental ethics, how to pack and prepare, 2-night backpacking trip to Black Moshannon State Park, planning a trip, reading a topographic map, acquiring a permit

RPTM 330 is one of the selections for RPTM majors in the adventure-based programming emphasis of the Outdoor Recreation Option. The course is open to students from all majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 356 Programming in Recreation Services (3) Translating agency philosophy and policy into understanding of organization, management, implementation, and evaluation of programming in recreation services.

RPTM 356 Programming in Recreation Services (3)

This course is designed to provide students with information and practical experience required to successfully design, promote, implement, and evaluate programs and special events in community, campus, or commercial contexts. There are several course objectives, including: (a) increasing students' knowledge of key concepts in program planning and an understanding how they impact programming decisions; (b) increasing students' knowledge of decision factors involved in analyzing and designing a recreation program or special event; and (c) increasing students' skills associated with key management functions required to implement a recreational program or special event. Students are required to work in teams to design, promote, implement and evaluate a special event that will benefit participants and the sponsoring agency.

Main Topics Typically Included in the Course:
* Programming concepts, including programmer, program contexts, benefits-based programming, programming approaches, comprehensive programming cycle, and program formats
* Management structures, including organization of teams into committee structures with clear roles, responsibilities, and reporting structure
* Program design, including program concept, program purpose, goals and objectives, and development of themed events
* Situation analysis, including analysis of internal and external factors/ resources, potential participants' needs and interests, and program-related research
* Budget development and sponsorship, including direct fixed and variable costs associated with event, differential pricing, and sponsorship
* Promotion, including purposes for promotion, types of promotional tools, and development of a promotional plan
* Event logistics, including development of a schedule of events, equipment and supplies, volunteers and staffing, registration, site layout, and event logistics
* Risk management, including safety check, policies and procedures, staff/volunteer orientation, and overall risk management plan.
* Program evaluation, including summative and formative, process and outcome evaluation

This is a required course for majors in Recreation, Park, and Tourism Management. Students from other majors may enroll in this course, providing they have met the pre-requisites.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 101, RPTM 236 ; fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 360 Golf Operations Management (3) The course will focus on business planning, budgeting, inventory management, and financial controls within golf operations.

RPTM 360 Golf Operations Management (3)

The primary purpose of this course is to prepare a student in the fundamentals of retail management pertaining to effectively operating a golf shop. Although successful retail management of a golf shop requires many different considerations, this course specifically emphasizes the planning and controlling of both the operational and merchandising effort. The first objective is to teach the student about the planning process that is necessary to effectively manage a retail business. The second objective is to provide a student with an understanding of the practices and procedures in operating a golf shop. The third objective is to teach the student effective merchandising and pricing techniques.

Main topics typically include:
* Types of plans that are needed in order to operate a retail business effectively.
* Developing strategic plans and business plans.
* Effective merchandising techniques for purchasing, pricing and selling.
* Planning techniques concerning both the purchasing and selling process.
* Quantitative open-to-buy planning as well as effective assortment planning procedures.
* Vendor selection and relations as well as negotiable terms of sale.
* Techniques regarding pricing, merchandise presentation and promotion.

This is a required course for RPTM majors in the Golf Management Option. It is usually scheduled during the student's sixth semester. Students from other majors may enroll after RPTM majors have registered.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: MGMT 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 386 Therapeutic Recreation Service Delivery (3) Skills and knowledge to deliver therapeutic recreation services based upon a sound philosophy.

RPTM 386 Therapeutic Recreation Service Delivery (3)

The primary objective of this course is for students to develop an understanding of the theory and practice of Therapeutic Recreation. Information is provided on the models of Therapeutic Recreation and professional practices within the field. RPTM 386 provides the foundation and information related to Therapeutic Recreation that will assist the student in providing recreation services to people with disabilities.

Main topics include.
* Models of Therapeutic Recreation
* Goals and Objectives
* Assessment
* Documentation
* Treatment Planning and Evaluation
* Activity and Task Analysis
* Community Re-integration

RPTM 386 is a required course for RPTM majors in the Therapeutic Recreation option. Students enrolled in the class must have completed or be enrolled in RPTM 277. RPTM 386 is a prerequisite for RPTM 486 and 490. Students in other majors should not enroll in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 277

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 376 Therapeutic Recreation Implications of Disability (3) Overview of severe, chronic disabling conditions and populations served in therapeutic recreation settings in clinical or community contexts.

RPTM 376 Therapeutic Recreation Implications of Disability (3)

This course is designed to provide students with information about cognitive, psychological, and psychomotor disorders and disabilities typically encountered in therapeutic recreation service delivery contexts in clinical and community settings. Includes a general overview of the symptoms and characteristics related to each condition, etiology, prevalence, expected course/outcome of the disorder, issues across the lifespan, common treatment approaches, activity/equipment modifications, and implications for therapeutic recreation service delivery in clinical and community contexts. There are three primary course objectives: (a) increasing students' knowledge of disorders and disabling conditions across the lifespan, and within cognitive, psychological, and psychomotor domains; (b) increasing students' knowledge and skills associated with activity analysis and modifications to facilitate recreation involvement in the context of living with a disabling condition; and (c) increasing students' knowledge of the therapeutic recreation implications of severe disabling conditions.

Main Topics to be Included in the Course:
* Activity Analysis, including how to conduct an activity analysis to facilitate recreation participation by people who present a variety of disabling conditions.
* Risk and Protective Factors Across the Lifespan, including individual, interpersonal, social and cultural factors that can serve as risk or protection for health and well-being.
* Disorders and Disabling Conditions and their Implications for 7herapeutic Recreation Service Delivery, including:
* Cognitive Disabilities, including developmental disabilities, learning disabilities, mental retardation and dementia
* Psychological Disorders and Disabilities, including anxiety-based disorders, affective disorders (e.g., depression), psychotic disorders (schizophrenia, paranoia), substance abuse and addictive disorders
* Behavioral Disturbances of Childhood, Adolescence or Late Childhood, including conduct disorders, attention deficit hyperactivity disorder, autism spectrum disorder, and eating disorders
* Psychomotor Disorders and Disabilities, including onset of chronic conditions (e.g., arthritis, multiple sclerosis, asthma, stroke, AIDS), developmental disorders (e.g., spina bifida, muscular dystrophy, cerebral palsy) and severe traumatic disabilities (e.g., spinal cord injury, traumatic brain injuries
* Sensory Impairments and Disabilities, including visual impairments and blindness, and deafness and hearing loss

This course is a required course for Recreation, Park and Tourism Management students within the Therapeutic Recreation option. RPTM 277 is a prerequisite for this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: RPTM 277

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 394 Orientation to Internship (1) Plan and prepare for internship in Recreation Services. Analyze career opportunities, internship process, and associated requirements. For RPTM majors only.

RPTM 394 Orientation to Internship (1)

The primary objective of this course is to assist students with planning and preparing for their professional Practicum experience. The supporting objectives are: to provide awareness of the role and significance of the Practicum experience, including its relationship with professional practice; assist students in their understanding of the placement process, including prerequisites for placement; provide students with a working knowledge of their requirements while on Practicum, including contractual arrangements, on-site professional conduct, written assignments, evaluation procedures and evaluation criteria; and to provide the students with knowledge of post-practicum concerns, including resources for professional employment and professional certifications.

Main topics typically include:
Introduction to the practicum experience and pre-requisite requirements
Personal and professional needs assessments and the importance of determining deficit skill and competency areas as related to the student's intended career.
Development of career and practicum goals and their relative importance to practicum site research and selection.
Preparation of a professional cover letter and resume.
Searching for and selecting possible practicum sites
Professional approaches to contacting, communicating and following-up with prospective practicum agencies.
Interviewing skills, including various interview formats, commonly asked questions, appropriate body language, and professionalism.
Practicum requirements, including assignments, communication with the university and agency supervisor, and academic and performance evaluation.
Post-practicum concerns, including graduation, employment, and professional certifications.

This course is required of RPTM majors (except Golf Management Option), and is usually taken two semesters prior to the semester that a student plans to participate in RPTM 495A (Internship in Recreation Services). The course is not open to students from other majors.

Students are evaluated by performance on written assignments and quizzes.

This course is offered both spring and fall semesters with typical enrollments of 70-90 in the fall and 50-70 in the spring.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 395B Participation in Golf Management (1-4) Practical individual involvement in selected golf operations in public, private, municipal, or military settings.

RPTM 395B Participation in Golf Management (1-4)

The primary objective of this course is to complete a 40-hour per week internship at an approved golf property. While on internship the student will complete assignments involving: turfgrass management, analysis of the golf swing, and pre-work in merchandising and inventory management.

Main topics include:
* Turfgrass Management: routine and non-routine maintenance, practices, traffic management, environmental issues, pest control, communications with superintendent.
* Analysis of the Golf Swing: video lessons, business plan for teaching, clubfitting systems.
* Merchandising and Inventory Management (pre-work): explore OTB practices, compare product lines, profile vendors, pricing methods, and evaluation of merchandise displays

This is a required course for RPTM majors in the Golf Management Option. The internship is not open to students in other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 295A ; 2.00 cumulative grade point average

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 397K Administration Golf Operation II (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Administration Golf Operation II (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 410 Marketing of Recreation Services (3) Theoretical/practical application of marketing/advertising strategies in the development/delivery of recreation services.

RPTM 410 Marketing of Recreation Services (3)

The primary objective of this course is to provide students with an overview of marketing in general and recreation/tourism marketing in particular. Supplemental objectives are to (a) provide students with a review of different marketing theories and practices and (b) help students apply marketing principles to practical recreation/tourism situations.

Main topics typically include:
* Introduction to marketing and its evolution
* Parameters of the recreation/tourism experience and how this affects marketing practices
* Defining and segmenting the consumer market
* The marketing mix
* Conducting marketing research in an effort to develop effective marketing strategy
* Service quality and its impact on marketing strategy
* Customer loyalty and its impact on marketing strategy
* Recognizing and responding to the changing needs of consumer markets

This is a required course for RPTM majors, generally taken after completion of the introductory courses in the major. Students in other majors, including those pursuing the Liberal Arts Business minor, are welcome after RPTM majors have scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: fifth-semester standing or above

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 415 Commercial Recreation Management (3) Planning, developing, and managing profit-oriented recreation opportunities.

RPTM 415 Commercial Recreation Management (3)

Building upon subject matter presented in many of the core RPTM courses, the primary objective of this course is to provide students with an understanding of strategic management processes and how they apply to recreation/tourism businesses. A second objective is to develop students' decision-making and analytical abilities.

Main topics typically include:
* An overview of the strategic management process
* Having the mindset of an entrepreneur/intrapraneur
* The "ins and outs" of conducting feasibility studies
* The pros and cons of different forms of business
* Generating and setting short- and long-term goals and objectives for recreation/tourism businesses
* Capitalizing, financing and budgeting for recreation/tourism businesses
* Planning, organizing, managing and controlling recreation/tourism businesses
* Regulations, taxation and licensure of recreation/tourism businesses
* Recognizing the importance of developing and maintaining relationships with various constituencies
* Options for strategic growth

This course is required of RPTM majors in the Commercial and Community Recreation Management option. Students take this course after or concurrent with RPTM 410. Students in other majors who have met the pre-requisites, including those pursuing the Liberal Arts Business minor, are welcome after RPTM majors have scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 210 andRPTM 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 420 Outdoor Recreation Behavior (3) Overview of participation patterns in outdoor recreatino activities; factors affecting outdoor recreation participation; identification of implications for planning and management.

RPTM 420 Outdoor Recreation Behavior (3)

The primary goal of this course is to provide students with an understanding of outdoor recreation behavior and its implications for management. Course objectives include: 1) to identify major factors affecting outdoor recreation behavior, including social influences, cultural influences and environmental factors, 2) to examine various approaches to understanding the nature of the outdoor recreation experience, 3) to understand various issues related to outdoor recreation behavior, and 4) to examine the implications of outdoor recreation behavior for the management of natural resources.

Main topics typically include:
* Outdoor recreation behavior: alternative views
* Recreation experience/setting relationships
* Social group influences on recreation behavior
* Crowding in parks and protected areas
* Conflict between recreation activities
* Outdoor recreation satisfaction
* Displacement and product shift
* Substitutability of activities
* Recreation specialization
* Recreation choice behavior
* Visitor management

This course is a supporting course (i.e., department list) for Outdoor Recreation option students within the RPTM major. Students from other options and majors may take the course if space permits. RPTM 120 is a pre-requisite for this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 425 Principles of Interpretive Materials (3) Principles, practices, application of non-personal interpretive activities common to natural/cultural history, including exhibits, audio-visual and illustrative materials.

RPTM 425 Principles of Interpretive Materials (3)

The primary objective of this course is for students to follow the exhibit creation process from conceptualization through construction to completion. Along the way, students will present their works-in-progress to fellow students and instructors for modification and improvement. Their final products will be used in a practical environment in the exhibit room at Shaver's Creek Environmental Center and at various educational functions around the state - PA State Farm Show, Central PA Festival of the Arts, Penn State's Ag Progress Days, etc.

Main topics to be covered:
* Topics vs. Themes: narrowing the unifying concepts in exhibit design
* Flow in an exhibit and museum space: how to guide logical progression of thought in both an exhibit and exhibition area
* Color Schemes
* Computer aided design techniques
* Woodworking skills

This course is one of the selections for RPTM majors in the environmental interpretation emphasis of the Outdoor Recreation option. Students from other majors may enroll in this course if they have met the pre-requisite (RPTM 325).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 433W Program Evaluation and Research in Recreation Services (3) Systematic, structured problem-solving process for decision making in recreation and parks. Research techniques/evaluation procedures; quantitative, qualitative methodologies; deductive, inductive reasoning.

RPTM 433W Program Evaluation and Research Services (3)

The goal of this course is to provide students with the background necessary to understand and evaluate research reports and to conduct research projects of moderate complexity in the field of recreation, parks, and tourism management. The research focus of the class is on evaluation and assessment. Class topics include introductions to the philosophy of science, including the nature of theories, hypotheses, concepts and constructs, to measurement theory, to applied sampling techniques, and to methods of scale construction. Both quantitative and qualitative research methods are addressed. In-class activities include the conceptualization and execution of an applied evaluation project. This project involves practice in interviewing, in-class focus groups, survey questionnaire development, data collection, and data analysis. The course will provide students with a conceptual map of how research is conducted, the resources available to them, the vocabulary of research, and guidance in writing a research report.

Additionally, this is a Writing Across the Curriculum class. Students will prepare several short writing projects, some based on interviews or observational studies that they have conducted, as well as a final report based on the evaluation research conducted by the entire class.

The course material is divided into units of study with topical areas within each unit sequentially presented to parallel the research process itself. Students are expected to have read assigned materials and to attend class prepared to discuss them. Classes involve lectures, discussions, and in-class activities such as focus groups, survey questionnaire development and presentations of research results.

This class is required of all undergraduate majors in Recreation, Park and Tourism Management. RPTM 356 and a 3-credit course in statistics are prerequisites for this course. Students from other majors are welcome in this course, providing they have met the pre-requisites.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 356 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 430 (AEE 430) Environmental Education Methods and Materials (3) Methods and materials for developing, implementing, and evaluating environmental education programs within formal and non-formal educational settings.

RPTM (AEE) 430 Environmental Education Methods and Materials (3)

The primary objective of this course is to provide students with an introduction to Environmental Education (EE) methods (pedagogy) and materials for both formal and non-formal settings. A second objective is to provide the student with an opportunity to apply specific methods and materials to practical situations at Shaver's Creek Environmental Center. These opportunities include Outdoor School, School Day Programs, Maple Harvest Festival, and Scout Programs. A third objective is to provide information about gaining access to EE materials through web-based, written, and personal contacts.

Main topics typically include:
* Introduction to the history, definition, and philosophy of Environmental Education (EE)
* Differences between formal and non-formal EE settings
* PDE Environment & Ecology Standards
* Models of EE pedagogy
* Place-based-education labs covering: The Land, Water Resources, Fauna, and Flora
* "Keystone Aquatic Resource Education" teacher resource workshop (or other national curricula- i.e. P WILD, PLT, Project WET, etc.)
* EE Resources available at SCEC, the web, and other EE centers

This course is one of the selections for RPTM majors in the environmental interpretation emphasis and adventure-based programming emphasis within the Outdoor Recreation option. Students from other majors may enroll in this course if they have met the pre-requisite (RPTM 325).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: AEE 100 orRPTM 325

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 434 Recreational Facility Development (3) Park planning as a role of recreation professionals, emphasizing physical support provisions and elimination of architectural barriers.

RPTM 434 Recreation Facility Development (3)

Using current best practices, students will learn to plan and design high quality, accessible and inclusive recreation/park facilities. This course provides students with the opportunity to complete a recreation facility design from conceptual to design phase while underscoring the importance of client input and communication. In addition to in-class projects, students will also observe existing recreation facilities and discuss planning issues, strategies and challenges with recreation facility professionals.

Main topics include:
* The role of recreation professionals in the park planning process.
* Interdisciplinary team processes and their use in park planning.
* Understanding and implementation of the complete design process in the context of park planning. The following phases are discussed chronologically throughout the course in detail: predesign phase, design phase (design objectives, design consultant selection processes and cost estimation for capital development), development phases (construction drawings, specifications, cost estimating, bidding procedures and construction observation requirements), and implementation phases (planning, control and evaluation).
* Discussion and understanding of systems supporting park design including circulation, power and lighting, water, wastewater, solid waste, health, safety and emergency provisions, food and refreshment.
* Implementation and design of universal design strategies and elimination of architectural barriers in park design and support systems.
* Evaluation of park plans including tools used and strategies for evaluation at each phase of park planning.

This course is a support course (i.e., department list) for RPTM majors in the Outdoor Recreation and Commercial and Community Recreation Options.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 435 Recreation Facilities Planning and Management (3) Planning and management of selected facilities with empahsis upon maintenance, activity, and support provisions.

RPTM 435 Recreation Facilities Planning and Management (3)

The purpose of this course is to introduce students to planning, design, and maintenance practices at recreation and park facilities. This course will emphasize the activity and support provisions of recreation facilities and will identify standards of design and maintenance. Compliance with accepted risk management practices and the Americans with Disabilities Act (ADA) will also be stressed in this course.

Specific topics covered in this course include:
* Maintenance management practices and risk management procedures
* Monitoring and reporting recreation and park facility use
* General planning considerations of selected recreation facilities, parks and tourism attractions
* Special materials and apparatus required for specific park and recreation facilities
* Support facilities necessary to complement developments that offer these activities (e.g., vehicular circulation and parking, lighting, emergency provisions, etc.)

This is a required course for RPTM majors in the park management emphasis within the Outdoor Recreation Option. The course is also on the department list of the Commercial and Community Recreation Option. Students in other majors are welcome providing there are seats available after RPTM majors have been scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: fifth-semester standing or above

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 440 Adventure-based Programming and Administration (3) Utilization of wilderness/backcountry environments and participant challenge; history, models, theories; survey of organizations; program design, administration; and issues.

RPTM 440 Adventure-Based Programming and Administration (3)

The first objective of this course is to promote awareness of the history and evolution of adventure-based programming and to look at how this process has impacted the state of programming today. Secondly, through experiential, in-classroom activities students are expected to apply their knowledge of the various outdoor topics and theories examined in class throughout the semester. Third, students learn about the hiring and interview process as they create resumes and explore the currently listed jobs in the field. Fourth, various topics related to current issues in the field are debated, discussed and considered while looking at the future of adventure-based programming.

Main topics to be covered:
* History of Experiential Education/Adventure-based Programming
* Risk Management in relation to outdoor programming: looking at accidents, forms, and client screening
* Hiring/interviewing/looking at resumes
* Programming for various audiences: youth at risk, elderly, people with disabilities, women, college student orientation programs, and experiential education in the classroom
* Staff training: topics/skills to be covered, leader problems, and burnout
* Current Issues: controversial issues, what is in the news, media, gender roles/stereotypes

RPTM 440 is a selection for RPTM majors in the adventure-based programming emphasis of the Outdoor Recreation option. The pre-requisite for this course is RPTM 330 or RPTM 356.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: or concurrent:RPTM 330 orRPTM 356

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 460 Political and Legal Aspects of Recreation Services (3) Role of local, state, federal government in provision of recreation services. Legislative and judicial systems.

RPTM 460 Political and Legal Aspects of Recreation Services (3)

The primary objective of this course is to examine the governmental systems that influence the delivery of recreational services. The formal structure of government is considered along with the day-to-day political processes that determine public policy. All three levels of government-federal, state, and local--are studied. Particular attention is given to the judicial systems of these governments. The course also gives considerable attention to tort liability by examining case law as it relates to recreation facilities and services. The course also explores federal and state laws pertaining to employer/employee relations and administrative responsibilities. An additional objective is to investigate land use planning as it impacts recreation services.

Main topics include:
* The Court Systems, legislative branches
* Planning: historical perspective, land use, zoning, mandatory dedication, easements, building codes
* Liability: elements of negligence, situations giving rise to law suit, product liability, defenses & risk management, review
* Personnel laws; Federal laws, State Human Relations Acts, Civil Service, Hatch Act, FLSA, finance, garnishment & bankruptcy
* Public Relations Law: copyright, photography, lotteries, libel, slander, privacy
* Administrative Law: purchasing, entrepreneurship, Federal Tax laws

This is a required course for all students majoring in Recreation, Park and Tourism Management. It is open to students of other majors, providing they have met the pre-requisite.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 470 Recreation and Park Management (3 Management of recreation and park services in public/non-profit settings; planning, budgeting fiscal development, resources allocation, decision- , making, computer applications.

RPTM 470 Recreation and Park Management (3)

The primary objective of this course is to provide advanced standing RPTM students with an understanding of management and administration procedures that are essential to operating and managing park facilities and recreation programs. Secondarily, students will be given an opportunity to be exposed to park and recreation governance processes and will be asked to synthesize the roles that key stakeholders play in the management of public-sector park and recreation organizations.

Key topics covered in this course include:
* A historical account of park and recreation operating environment as well as trends in park support and positioning of the field
* Inter-organizational partnerships and collaborations in the park and recreation field
* Financing, budgeting and fiscal control processes
* Human resource management principles and policies
* Creating effective working relationships with community stakeholders and park and recreation board members
* Comprehensive recreation, park and open space planning

This course is required for RPTM majors in the park management emphasis within the Outdoor Recreation Option. Students in other majors are welcome providing there are seats available after RPTM majors have been scheduled.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 476 Leisure Education in Therapeutic Recreation (3) Theoretical and practical application of leisure education in the therapeutic recreation process.

RPTM 476 Leisure Education in Therapeutic Recreation (3)

This course is designed to cover concepts, theories, and practical issues relating to leisure education. Various models, assessment tools, and intervention strategies of leisure education will be explored. Diverse settings for leisure education will be examined. Students will be given the opportunity for practical experience that will build on course content, as well as course content from previous courses.

Upon completion of this course, students should be able to:
* Define leisure education and its relationship to therapeutic recreation.
* Understand the historical development of leisure education.
* Promote, advocate, interpret, and articulate the concerns, purpose, and value of leisure education.
* Understand the concepts and theories that serve as a foundation for leisure education.
* Analyze and evaluate various leisure education models.
* Organize, conduct and evaluate a leisure education program.

Main topics of the course include:
* Introduction to leisure education
* Foundations of leisure education: concepts and theories
* Models and approaches to leisure education
* Systematic development of leisure education programs
* Conducting a program
* Evaluating the program

This course is a requirement for RPTM majors who are in the Therapeutic Recreation Option. Students from other majors are eligible to register for this course, providing they have met the pre-requisites (RPTM 376 and 386).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 277 andRPTM 386

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 480 Senior Management Seminar (1) Current management issues will be examined relative to professional management strategies, ethics, and leadership in leisure services.

RPTM 480 Senior Management Seminar (1)

This course is a seminar about current issues in outdoor recreation management. The course objective is to provide students with an opportunity to read about and discuss issues including outdoor recreation management goals and techniques, liability and risk management, leadership, ethics, the place of outdoor recreation in multiple-use management of natural resources, public participation in resource management, and career opportunities.

Topics for the semester are typically selected by the instructor in consultation with students. Examples that have been selected in the past include:
* Managing potential conflict between motorized and non-motorized recreation
* Leadership and risk management in outdoor adventure activities
* Commercial recreation on public lands and waters
* Politics, policy, and public involvement in managing public lands and waters;
* Recreation and the management of wildlife, timber, minerals, water, and grazing
* Career opportunities in teambuilding and leadership development
* Concession operations in public parks and forests
* Planning and developing a new National Monument
* Public employment and civil service requirements.

This is a required course for RPTM majors in the Outdoor Recreation Option. Students are required to have sixth semester standing or higher and have completed RPTM 320. The course is not open to students from other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: sixth-semester standing in RPTM

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 486 Facilitation Techniques in Therapeutic Recreation (3) Intervention strategies, therapeutic approaches, and group facilitation techniques in therapeutic recreation.

RPTM 486 Facilitation Techniques in Therapeutic Recreation (3)

The primary objective of RPTM 486 is for students to develop an understanding of the intervention strategies used in the field of Therapeutic Recreation. Information is provided on the concepts and techniques applied in Therapeutic Recreation services. Information related to intervention strategies, therapeutic approaches and group facilitation skills in Therapeutic Recreation is provided.

Main topics include:
* Therapeutic approaches to client-practitioner interaction
* Communication and behavior management techniques used in client-practitioner Interaction
* Activity adaptation and modification
* Reality orientation vs. validation therapies
* Reminiscence and remotivation therapies
* Stress reduction and relaxation
* Social skills and assertiveness training
* Adventure programming in Therapeutic Recreation
* Animal facilitated programming in Therapeutic Recreation
* Wheelchair mobility skills and transfer techniques

RPTM 486 is a required course for RPTM majors in the Therapeutic Recreation option. RPTM 376 and 386 are pre-requisites for this course. The course is not open to students from other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 376 andRPTM 386

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 490 Management and Issues in Therapeutic Recreation Services (3) Topics related to management and professional issues in therapeutic recreation services in both clinical and community settings.

RPTM 490 Management and Issues in Therapeutic Recreation Services (3)

The primary objectives of RPTM 490 are for students to develop an understanding of the management theory and skills used in the field of therapeutic recreation, and to become aware of contemporary professional issues in the field. Information is provided on management theory and practices applied in therapeutic recreation service delivery. Information related to both clinical and community based programs is covered. Survey research techniques will be used to gather information from practitioners in the field of therapeutic recreation. This process will focus on both management practices in the field and contemporary issues facing therapeutic recreation professionals. Issues may include credentialing in therapeutic recreation, professional identify, inter-professional relationships in health care environments, role of research in professional practice, trend analysis, clinical vs. community service delivery, and reimbursement for therapeutic recreation services.

Main Topics to be Included in the Course:
* The role of therapeutic recreation in health care settings and how TR as a discipline interacts with other professions in service delivery
* Standards of practice in therapeutic recreation including credentialing and accreditation; documentation; treatment planning and quality improvement
* Management theory as it applies to therapeutic recreation
* Administrative management including developing mission and vision statements, policy and procedures and evaluation
* Operations management with a focus on resource management, marketing and budgeting
* Risk management as it relates to therapeutic recreation service delivery
* Human resource management including recruitment and selection of staff, training, staff development and clinical supervision
* Contemporary issues and trends in the field of therapeutic recreation

This course is a required course for Recreation, Park and Tourism Management students within the Therapeutic Recreation option. RPTM 376 and 386 are prerequisites for this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: RPTM 376 andRPTM 386

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 495A Internship in Recreation Services (12) Meet educational objectives through participation in organized practical experience; direct observation and professional supervision in full-time work experience.

RPTM 495A Internship in Recreation Services (12)

The primary objective of this course is to provide students with an opportunity to meet their educational objectives through participation in well-planned and organized practical experience. Secondary objectives include individualizing the practical experience based upon the student's intended professional career; structuring the experience to facilitate increases in professional skills and competencies as related to the student's professional goals; providing the student with professional supervision and mentoring; and offering the student a diversity of professional responsibilities, including direct leadership and administrative opportunities, in order to prepare the student for successful career entry.

Main topics typically include:
* Orientation to the Internship Agency
* Development of individualized practicum goals/educational objectives
* Critical analysis of professional issues and events
* Comparison and contrast of complementary and competing agencies/organizations
* In-depth study of the student's practicum agency
* Development and implementation of a "special project"

This is a required course for RPTM majors (except Golf Management option) usually taken after a student has completed the majority of the courses in the major. Students must complete RPTM 394 (Orientation to Internship) prior to enrollment. The course is not open to students from other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 394 ; seventh-semester standing; 300 hours practical experience; and a 2.0 grade-point average; current and valid certification in advanced first aid and cardiopulmonary resuscitation

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 495B Internship in Golf Management (1-4) Observation and participation under supervision in golf operations in public, private, municipal, or military settings.

RPTM 495B Internship in Golf Management (1-4)

The primary objectives of this course are to complete a 40-hour per week internship at an approved golf property. While on internship the student will complete assignments involving philosophy and swing concepts of teaching, and supervising and delegating.

Main topics include:
* Philosophy and Swing Concepts of Teaching: group lessons, teaching evaluation, lesson plan, lesson series with disability populations, physical training.
* Supervising and Delegating: performance problems, joint problem solving, motivating assignments, and delegation.

This is a required course for all RPTM majors in the Golf Management Option. The internship is not open to students of other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 395B ; 2.00 cumulative grade point average; current and valid certification in advanced first aid and cardiopulmonary resuscitation

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 495C Internship in Golf Management (1-4) Observation and participation under supervision in golf operations in public, private, municipal, or military settings.

RPTM 495C Internship in Golf Management (1-4)

The primary objective of this course is to complete a 40-hour per week internship at an approved golf property. While on internship the student will complete assignments involving merchandising and inventory management, food and beverage control, and portfolio development.

Main topics include:
* Merchandising and Inventory Management: creating an open-to-buy plan, pricing, sales, inventory, displaying
* Food and Beverage Control: customer survey, labor pro forma, costing, storage, and regulations
* Port Folio Development: industry problem statement and presentation

This is a required course for RPTM majors in the Golf Management Option. The internship is not open to students of other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 495B ; 2.00 cumulative grade point average

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 495D Internship in Golf Management (1-4) Observation and participation under supervision in golf operations in public, private, municipal, or military settings.

RPTM 495D Internship in Golf Management (1-4)

The primary objective of this course is to complete a 40-hour per week internship at an approved golf property. While on internship the student will complete an initial report, midterm and final evaluations, an agency evaluation, activity logs, and application for membership into the PGA of America.

Main Topics Include:
* Observation and participation under supervision in golf operations in public, private, municipal, resort or military settings
* Complete Membership Application for PGA of America

This is a required course for RPTM majors in the Golf Management Option. The internship is not open to students of other majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: RPTM 495C ; 2.00 cumulative grade point average

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497B Introduction to Arena Management (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introduction to Arena Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497B Introduction to Arena Management (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introduction to Arena Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497D Ecological Investigations (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Ecological Investigations (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497E Outdoor & Experiential Education (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Outdoor & Experiential Education (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497F National Curricular Workshop (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

National Curricular Workshop (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497E Outdoor and Experiential Education (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Outdoor and Experiential Education (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497F National Curricula (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

National Curricula (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497I Canoe Leadership (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Canoe Leadership (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497I Canoeing Leadership (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Canoeing Leadership (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497J Peer Mentoring (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Peer Mentoring (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497K Administrative Golf Operation III (1) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Administrative Golf Operation III (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 497K Discovery Trip (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Discovery Trip (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498B Wilderness First Responder Certification (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Wilderness First Responder Certification (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498C National Association of Interpretation Certification Class (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

National Association of Interpretation Certification Class (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498D Backpacking Leadership (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Backpacking Leadership (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498D Backpacking Leadership (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Backpacking Leadership (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498F Rock Climbing Leadership (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Rock Climbing Leadership (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498F Rock Climbing Leadership (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Rock Climbing Leadership (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Recreation, Park and Tourism Management (RPTM)

RPTM 498G Player Development/Tournament Golf (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Player Development/Tournament Golf (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 096 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 196 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 100 (GS) Introduction to Disability Culture (3) Social and cultural contexts of disability on both a micro and macro levels will be examined.

Introduction to Disability Culture (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 197A The Impact of Drugs and the Body, Brain, and Society (1-9) An overview of drugs and alcohol use in society from biological, sociological, and psychological perspectives.

The Impact of Drugs and the Body, Brain, and Society (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 300 Introduction to Rehabilitation and Human Services (3) Disability, public and private rehabilitation agencies, case management; resources for training; observations in rehabilitation settings.

Introduction to Rehabilitation and Human Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 6 credits in psychology sociology human development and family studies and/or crime law and justice

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 301 Introduction to Counseling as a Profession (3) Overview of the counseling theories that are often used in human service and rehabilitation practices.

Introduction to Counseling as a Profession (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 302 Client Assessment in Rehabilitation and Human Services (3) Provides a practical understanding and skills to utilize assessment in the helping process.

Client Assessment in Rehabilitation and Human Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 3 credits in statistics
Concurrent: 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 303 Group Work in Rehabilitation Practice and Human Services (3) An overview of essential elements and dynamics for conducting groups and various team-related activites will be the major focus.

Group Work in Rehabilitation Practice and Human Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 6 credits in psychology sociology or human development

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 396 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 400W Case Management and Communication Skills (3) Principles and practices of obtaining, recording, evaluating, and utilizing case data in rehabilitation planning; implementation of rehabilitation plans.

Case Management and Communication Skills (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: RHS 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 402 Children and Families in Rehabilitation Settings and Human Services (3) Contemporary family issues, child development, legal considerations, cultural and familial factors within rehabilitation and human services practice will be addressed.

Children and Families in Rehabilitation Settings and Human Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: RHS 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 401 Community Mental Health Practice and Services (3) Community mental health roles, historical points, current trends, and ethical standards; funding and impact on service provision.

Community Mental Health Practice and Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 6 credits in psychology and/or sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 403 Medical Aspects of Disability (3) Common disabling illnesses, injuries, and congenital defects; their symptomatology, prognosis, and treatment; implications for personal, social, and vocational adjustment.

Medical Aspects of Disability (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 6 credits in psychology and/or sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 495A Rehabilitation and Human Services Internship (15) Full-time practicum in rehabilitation and related human services agencies and institutions providing psychosocial, vocational, educational, and/or residential services to people with disabilities.

Rehabilitation and Human Services Internship (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: students must have successfully completed all other required coursework for the major (grade of "C" or higher) as well as fulfilled general education requirements.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical of of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 497A Foundations of Addictions Counseling (3) Study of the fundamental principles of counseling individuals with a wide variety of addictions.

Foundations of Addictions Counseling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehab & Human Servic (RHS)

RHS 497A Rehabilitation in Corrections (3) An overview of rehabilitation in different correctional settings focusing on the history, classification, risk assessment, intervention strategies and community reentry.

Rehabilitation in Corrections (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rehabilitation (REHAB)

REHAB 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 001 (GH;US;IL) Introduction to World Religions (3) An historical and comparative survey of the principal beliefs and practices of the world's major religions.

RL ST 001 Introduction to World Religious (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The academic study of religion is distinct from instruction in a religion, in that one seeks simply to learn about a religion, its history, texts, major personages, and belief claims. Because religions are always deeply intertwined with the entire cultural history of a region (linked with everything from weather and topography to political, social and economic history), studying a religion always means placing it in its larger cultural context. World Religions (RL ST 001) is an introduction to the religions of the world, past and present. After an introduction to the academic study of religion and various aspects of the field (methods, history, problems), the course begins a more--or--less chronological progression from the ancient world to our contemporary times. Each religion (e.g.: Ancient Near Eastern; Greek and Roman; Hinduism; Buddhism; Judaism; Christianity; Islam; NRMs ["New Religious Movements"]) is placed in its historical, social, and cultural context. The questions that arise in the course of such study are profound (e.g.: how have various religions answered the major questions of life: the question of the meaning of life; the question of evil; the question of how one defines "moral" behavior; the question of how one deals with others who may have a different religion or different morality; etc.), and can be of great help in critically examining one's own views and presuppositions about such matters. The student should leave the course with a good grasp of the variety of answers given by human beings to these "religious" questions over the centuries; how religions are linked to their cultures; how religions change and transform themselves; and how religions function within a culture, including our own. This should provide the student an excellent framework within which to reflect on his or her own religious experience, and prepare the student for mature, sophisticated interaction with the topic of religion later in life. An example of evaluation may be: Evaluation based on discussion, quizzes, mid-term and final exam. As an introduction to religion--and world religions in particular--RL ST 001 offers a brief overview of all the world's major religions, most of which are the subject of focused courses at the 100--level and above. Because RL ST 001 also contains modules relevant to the methodologies used in the academic study of religion, it is also related (or linked) to all other courses in religious studies, which use these same methods. RL ST 001 may be used to fulfill 3 credits in the Humanities. RL ST 001 also may be used to fulfill a US;IL requirement in the major or minor.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 003 (GH;US;IL) Introduction to the Religions of the East (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.

Introduction to the Religions of the East (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 004 (GH;US;IL) (CAMS 004, J ST 004) Jewish and Christian Foundations (3) Introduction to the perspectives, patterns of worship, morality, historical roots, and institutions of the Judaeo-Christian traditions; their relationships to culture.

RL ST (CAMS/J ST) 004 Jewish and Christian Foundations (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jewish and Christian Foundations seeks to help students better understand the Bible as the scriptural background for both Judaism and Christianity. Some people believe the Bible is "scripture," self communicated by God to humanity. To others, this text is a compendious collection of poetry, historical writing, law, myth, and mystical writings, which stems from the religious, political, and cultural milieu of the ancient Near East. Some people believe this is a book designed to bring people to belief in the power and reality of the god discussed in these writings. For others, the book is a source of both unity and division among people in the world, and must be treated as ambiguous in nature. Still others see the biblical text as the single most important collection of literature to have shaped the religious, political, and imaginative contours of western civilization. This course focuses on selected portions of the biblical text, representing diverse strands of historical remembrances, interpreted and re-interpreted in light of critical historical events, and serving, first as an oral, and later as a written account of the life, beliefs, and hopes of Jewish and Christian peoples. Readings from both the Hebrew Bible (the Christian "Old Testament") and the Christian scriptures (the "New Testament") will be used. RLST/CAMS/J ST 004 provides a broad discussion of the origin of both Judaism and Christianity within a historical and geographical framework. The principle teachers, writers, and "founders" are discussed, including Moses, Isaiah, David, Ezra, Jesus, Peter, and Paul. Students are challenged to read and understand these important writings which have interpreted the human condition and which have oriented generations of people towards a transcendent referent associated with love and loyalty. Evaluation methods may include two hour examinations, a final examination, and two short writing assignments. The examinations are not cumulative. Class participation will also be a factor in overall evaluation for the final grade. RL ST/CAMS/J ST 004 may be used to fulfill requirements for the Religious Studies, Classics and Ancient Mediterranean Studies and Jewish Studies major/minor. Finally, students will be challenged to evaluate and respond to the literature as it touches on human experience experiences which all people share regardless of their personal religious affiliation.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 003U (GH;US;IL) Introduction to the Religions of the East (3) Religious experience, thought, patterns of worship, morals, and institutions in relation to culture in Eastern religions.

Introduction to the Religions of the East (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 007 Inner Lives in Religious Biography (3) Reading and discussion of selected autobiographical and biographical statements to discover and compare different forms of spirituality.

Inner Lives in Religious Biography (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 012 (GH;IL) (CAMS 012, J ST 012) Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

RL ST (CAMS/J ST) 012 Lands of the Bible (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

CAMS/J ST/RL ST 012 introduces students to the lands, cities, and peoples associated with the Hebrew and Christian scriptures. Using methodologies from historical geography, archaeology, ancient history, epigraphy, and anthropology, students study the Fertile Crescent, from the Nile Valley, through the Levant and its Jordan River valley, to Mesopotamia--the river valleys of the Tigris and Euphrates. Students will study the cities and states of the cultures along these rivers in the Bronze and Iron Ages, including Memphis/Saqqarah, Thebes, Ugarit, Jerusalem, Lachish, Megiddo, Shechem, Samaria, Hazor, Ebla, Babylon, Ur, Petra, Jericho, 'Akko, and others. These are the lands of the Hebrew and Christian scriptures, but also cities that have been revealed through modern study. For example, the texts excavated at Ugarit (Syria) in the 1920's shed light on the relations between ancient Israelites and their Canaanite neighbors in the period of the "Conquest" and the monarchies of the Iron I and Iron II periods. Students will learn that the culture of the ancient Near East is inexorably linked to an understanding of the religious traditions that grew up in the region, including Judaism, Christianity, and Islam. Classes will be a combination of lecture, discussion, and problem-solving, with frequent use of slides and occasional use of artifacts to illustrate the topics at hand. Students are evaluated on three of the following five means: a midterm test, a final essay examination, a five to seven page term paper, a team research oral presentation, a team research poster presentation. Participation in class discussion will also be evaluated. This course fulfills three credits of the General Education or the B.A. humanities requirement. For majors in Classics and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology. The course fulfills the three credit requirement for courses in RL ST 001-099 for the Religious Studies major, and the Jewish Studies major's requirements. The course also would fulfill three credits of the six credit requirement for courses in any field that may be below the 400-level for the Religious Studies Minor, three credits of the nine credits required in course work for the Jewish Studies Minor, and three of the 18 credits required for the Classics and Ancient Mediterranean Studies minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 012U (GH;IL) (CAMS 012U, J ST 012U) Lands of the Bible (3) Textual and archaeological evidence for the lands, cities, and peoples associated with the Hebrew Bible and Christian scriptures.

Lands of the Bible (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 044 (GH;IL) (CAMS 044) Ancient Near Eastern and Egyptian Mythology (3) Survey of major ancient Mediterranean myths, gods, and goddesses in their cultural contexts; influence on later cultures.

RL ST (CAMS) 044 Ancient Near Eastern and Egyptian Mythology (3) (GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

RL ST/CAMS 044 introduces students to a selection of major ancient Mediterranean and Egyptian myths, gods, and goddesses. Ancient Canaan, Mesopotamia, and Egypt (geographically approximating the contemporary Middle East) were primary locations for the development -- beginning already in the fourth millennium B.C.E. -- of highly complex urban civilizations, many of which persisted until the turn of the Era. These ancient societies were responsible both for notable technological achievements, such as writing, sophisticated irrigation systems, and the wheel, and for notable cultural achievements, such as impressive legal codes, highly developed astronomical research, and complex religious systems. This course will acquaint students with some major religious writings stemming from these fascinating old world cultures. The class discusses in some detail a limited range of stories about the divine realm, creation, the flood, kingship, life and death, and sexuality. The course pursues such comparisons by studying myths against the background of the different cultures that produced them. Because a number of these religious myths are historically related, the course will also critically compare the similarities and the differences between them. To underscore how important historical and geographic settings are to understanding these stories, the course uses different techniques of instruction such as small group discussions, slides, lectures, and films. Three of the world's major religions -- Judaism, Christianity, and Islam -- trace their roots to the religions of the ancient Near East and Egypt. Hence, some attention will be paid to the similarities and differences between the views expressed in these myths and the views developed in classical Judaism, Christianity, and Islam. By grappling with issues such as divine character, self-identity, and female/male relationships in the ancient Mediterranean world, students will be better acquainted with how classical Judaism, Christianity, and Islam innovate beyond the religious heritage to which they are indebted.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 083S (GH) First-Year Seminar in Religious Studies (3) Critical approaches to the dimensions and directions in Religious Studies.

RL ST 083S First-Year Seminar in Religious Studies (3)
(GH;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

Students will be expected to master material relative to the introductory study of a major world religion or aspect thereof, as well as to acquire basic skills useful to the study of the liberal arts. Students will learn to read books and original documents, discuss them, formulate effective arguments, and write essays and papers. The course will challenge students to express themselves and to gather information through discussion and writing of papers about major world religion(s) or aspect(s) of world religion(s). It will challenge students to think about social behavior, the nature of community, and the value of scholarly endeavor as these relate to the particular topic of the seminar. Frequently, the course will deal with intercultural and international topics, though some of the variable topics may not readily lend themselves to such analysis. Through readings, discussions, lectures, and research projects, students will become acquainted with major figures and developments in a major world religion, as well as to acquire basic skills useful to the study of the liberal arts. Students will learn to read books and original documents, discuss them, formulate effective arguments, and write essays and papers. Analysis of this type will provide students with techniques for appreciating and judging arguments and presentations in many fields of learning distinct from religion, from scholarly to popular. By reading and understanding religious texts and the arguments based on them, students will learn to consider the cultural assumptions of different groups and societies and will come to discern and, perhaps, gain deeper insight into their own values and assumptions by contrast with these. Although the course will focus on a specific topic, the instructor will help the student to see the wider implications of the issues and controversies discussed. Whenever possible, the international and intercultural aspects of the topic will be considered. The course fulfills the first-year requirement as well as one of the humanities requirements in general education or a Bachelor of Arts humanities requirement.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 070 (GH;IL) (CAMS 070, J ST 070) Prophecy: The Near East Then and Now (3) Prophecy in the ancient Near East, the ancient Jewish and Christrian traditions, and today.

RL ST (CAMS, J ST) 070 Prophecy: The Near East Then and Now (3) (GH;IL)

The objective of this course is to introduce students to the prophetic traditions of the ancient Near East and the Bible of the Judeo-Christian traditions. The course will explore the development of prophetic circles in the ancient Near East (incl. Egypt, Syria, Canaan, and Mesopotamia) and then focus on the major prophetic traditions of the Hebrew Bible (to include at least Isaiah, Jeremiah, Ezekiel, Amos, Hosea, Micah, Haggai, Zechariah, and Daniel) and how these traditions were understood in early Judaism and nascent Christianity. Special attention will be paid to the roles of priests, kings, and prophets in ancient Israel to better understand Israelite and Judaean prophetic traditions in ancient Israelite society. The course will then examine the rise of apocalypticism and its modern manifestations in the coalition of conservative Christians and Jews in "Zion" -- the new Jerusalem. Additional emphasis will be placed on the religious and political interactions which manifest themselves in the prophetic movements--then and now--including the rhetoric of ideology and propoganda. Important figures and events illustrate these cultural and political trends, in antiquity, and in the contemporary setting.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 090 (GH;IL) (CAMS 090, J ST 090) Archaeology of Jerusalem: Past and Present (3) Archaeology and history of Jerusalem from earliest times (c. 3000 BCE) to the present.

RL ST (CAMS/J ST) 090 Archaeology of Jerusalem: Past and Present (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Jerusalem, a holy city for Judaism, Christianity and Islam, is symbolically depicted in art and literature as the physical and spiritual center of the world. Throughout its history, this "city of peace" was a focal point attracting numerous cultures and peoples, the latter sometimes as prophets and more often as conquerors. The reasons for Jerusalem's centrality and significance during the past five millennia as a heavenly and earthly capital are explored in this course.

The course curriculum will survey the religious, political, archaeological and historical record of ancient Jerusalem, beginning with its earliest settlement during the fourth and third millennia BC. Jerusalem's urbanization in the second millennium BC, its role as the capital of biblical Israel and Judah during the First and Second Temple periods, and its transformation as a center of Christianity and later Islam are studied utilizing the testimony of artifacts, architecture, and iconography in relation to the written word. Throughout the ages and continuing into the 21st century, Jerusalem remains a contested city for the three monotheistic faiths. The holy city's impact on the politics of the modern Middle East will be critically examined in light of Jerusalem's history and recent archaeological discoveries and their modern-day interpretation.

Objectives include the critical evaluation of archaeological, historical and literary evidence and its relationship to modern-day political and religious perceptions of Jerusalem. The course will encourage research skills (including library training sessions) and writing and oral communication skills based on an analytical approach to the texts and material culture relevant to Jerusalem.

Student evaluation will be based on active participation (attendance, discussion sessions, group presentations, and individual oral presentations), two short papers, a midterm, and a final exam.

This course will fulfill three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in CAMS, the course will fulfill the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the CAMS ancient Mediterranean archaeology option it will fulfill the three credits of archaeology course work requirement. The course will fulfill three credits of course work concerned with the ancient period or with the land of Israel.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 101 (GH;IL) Comparative Religion (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.

Comparative Religion (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 102 (GH;IL) (CAMS 102, HIST 102, J ST 102) Canaan and Israel in Antiquity (3) Political, social, and intellectual history of the land of Canaan/Israel in the Biblical era: Late Bronze and Iron Ages.

RL ST (CAMS/HIST/J ST) 102 Canaan and Israel in Antiquity (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

From the domestication of animals and the dawn of agriculture to the development and socialization of monotheism, the world of the first civilizations led to that of the Bible and ancient Israel. This course, involving a critical view of Biblical texts in light of other anicent sources, archaeology and historical methods, explains the nature and the evolution of society, religion and thought in the Biblical era. Learn how civilization arose, and how the state appropriated religion and applied it for its purposes. How the science of administration developed and deployed ideological tools to further its own ideas of the West developed. This course is deeply subversive, particularly of religious and academic shibboleths. The only authority in this class is that of the most persuasive reader, and doctrines, whether religious or political, will have to be checked at the door.

An example of evaluation may be: weekly participation in discussion; mid-term and final essay examinations involving a critical evaluation of ancient text's claims in combination with archaeological evidence; a research essay, where the class or section size is lower than 30; an ability to read critically, bringing different classes of evidence to bear on issues arising from the texts, and construct coherent and compelling arguments to a particular thesis. The course provides a Near Eastern counterpart to HIST 100, 402 and a Near Eastern aspect to the Jewish Studies major. It complements RL ST 110, by offering historical exploration of the culture under study in that course. Related courses include ANTH 012, HEBR, 010, ENGL 104, RL ST 004, and RL ST 111. The course helps round out the majors in History and Jewish Studies, particularly in ancient history. It also extends the program in Religious Studies (history of religions), and it contributes to the ancient stream of the prospective program in Jewish Studies and History.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 101U (GH;IL) Comparative Religion (3) Comparative or historical analysis of religious factors--worship, theology, ethics, scriptures, etc., in two or more religious traditions.

Comparative Religion (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 103 (GH;US;IL) Introduction to Hinduism (3) Historical development of Hinduism to the present.

Introduction to Hinduism (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 105 (GH;US;IL) Buddhism in the Western World (3) A general survey of the development of Buddhism as a religious tradition in the West, focusing especially on America.

RL ST 105 Buddism in the Western World (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The academic study of religion is distinct from instruction in a religion in so far as one seeks simply to learn about religion, or religions, by considering the history, texts, major figures, and belief systems of one or more traditions. Because religions are always deeply intertwined with the entire cultural history of a region, studying a religion has always involved placing it in a larger cultural context. Buddhism in the Western World (RL ST 105) provides an intense concentration on a particular topic from the Buddhist religious tradition, focusing on historical, comparative, and phenomenological concerns. The course concentrates on the major figures involved, integrated with significant issues and religious practices in the development of the aspect of the Buddhist religious tradition under investigation. In many cases, across the face of Indian, Chinese, and Japanese Buddhism, gender, racial, and ethnic issues play critical roles in the development of the tradition studied, and these are explored in depth. Finally, the course examines the symbols, myths, and rituals of culture or cultures involved, which are radically different than our own, providing for each student the opportunity to compare, consider, and assess a wide variety of expressions of religiosity. Evaluation is research paper. Buddhist in the based on discussion, written assignments, and a major Western World, RL ST 105, offers a special focus on a particular aspect of one of the major religious traditions of the world. Because general approaches and methodologies in the academic study of religion are employed throughout the course, RL ST 105 is linked to all other courses in religious studies. RL ST 105 may be used to fulfill 3 credits in the Humanities, and may also be used to fulfill a US;IL requirement in the major or minor.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 104 (GH;US;IL) Introduction to Buddhism (3) A general survey of the basic doctrine, practice, and historical development of Hinayana and Mahayana Buddhism.

Introduction to Buddhism (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 106 (GH;IL) Mysticism (3) A survey of the history, philosophy, and cultural impact of various mystical traditions in relation to world religions.

Mysticism (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 107 (GH;US;IL) Introduction to Islam (3) Community and message of the early movement; development of authoritative structures and traditions; proliferation of sects; theology and creeds; mysticism.

Introduction to Islam (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 108 Muhammad and the Qur'an (3) History of the Qur'an and its interpretation by the early Muslim community; life of Muhammad and his role within Islam.

Muhammad and the Qur'an (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 108 (GH;IL) Muhammad and the Qur'an (3) History of the Qur'an and its interpretation by the early Muslim community; life of Muhammad and his role within Islam.

Muhammad and the Qur'an (3)

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 110 (GH;US;IL) (CAMS 110, J ST 110) Hebrew Bible: Old Testament (3) Introduction to the history, literature, and religion of ancient Israel.

RL ST (CAMS/J ST) 110 Hebrew Bible: Old Testament (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Hebrew Bible is the record of the interaction between the people of ancient Israel and their God. As a religious text, the Bible is inextricably intertwined with the cultures of Israel's neighbors, including the Canaanites, Syrians, Greeks, Assyrians, Babylonians, Arabs, Egyptians, and the peoples of the eastern desert. To study the Hebrew Bible and its development during the first millennium BCE is to study the history, culture, and literature of the entire region. Hebrew Bible introduces students to the literature of ancient Israel, its rituals, the stories which established a people's identity, and which defined their moral behavior. Great figures of the texts, such as Moses, David, Solomon, Bathsheba, Ruth, Jeremiah, Daniel, and Ezra, teach us important lessons about life and how people of faith attempted to relate to one another, to God, and to people outside their ethnic group. Students will read from the text and from a textbook which contains scholarly opinion from a variety of sources. Recent archaeological and epigraphical studies will be incorporated into the course to enhance our work. The ultimate goal will be to assess the meaning of the texts in their ancient Near Eastern environment, and to understand the development of Hebrew religion and the beginnings of Rabbinic Judaism. Students will be evaluated using an hour examination, a 6-8 pp. "hermeneutical essay," a final examination, class attendance and discussion. As an introduction to the scriptures of the Hebrew Bible / Old Testament, RL ST/CAMS/J ST 110 utilizes the methodologies used in the academic study of religion. The course is related or linked to many courses in religious studies which use these same methods or which are related to the history and development of Judaism, Christianity, or Islam. RL ST/CAMS/J ST 110 may be used to fulfill requirements for the Religious Studies major. RL ST/CAMS/J ST 110 may also be used to fulfill the GI or GH requirements in the major or minor in Religious Studies, Classics and Ancient Mediterranean Studies and Jewish Studies.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 114 (GH;US;IL) (J ST 114) Modern Judaism (3) Trends in Jewish life and thought since the French revolution; Judaism's responses to the challenge of modernity.

RL ST (J ST) 114 Modern Judaism (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course explores the opportunities and problems of Jews around the world from the late eighteenth century -- the "age of emancipation" -- to the present time. Commercial, political, and intellectual revolutions in the 1700s, giving rise to modern capitalism, republicanism, and an emphasis on reason, combined to induce political states to grant Jews unprecedented freedom. Emancipation introduced new elements into Jewish life: religious change, personal choice, and internal disagreements. In practical ways, life improved for Jews, as they became more prosperous and assimilated. But freedom also increased the chances for loss of identity, as liberals discarded some rituals as old-fashioned and many individuals chose to give up traditional practices. In addition, anti-Semitism persisted, although it was now, at times, more difficult to detect. Traditional forms of hostility to Jews, such as heresy trials and political expulsions, were replaced by subtle expressions of political and social discrimination. But hatred of Jews did not disappear, despite widespread acceptance in Western culture of political liberalism. The class explores these trends in Europe, the Americas, and Israel. It begins by looking at the fragile freedom of nineteenth-century Jews. In the twentieth century, Jewish experience has often been characterized by open conflict: in the Holocaust, the formation of Israel, contemporary black-Jewish relations in the United States, and Jewish-Muslim relations in the Middle East. The course concludes with these recent struggles. Course readings include personal narratives (reminiscences or letters) and works of fiction (a short story, play, and novel). The class is primarily a discussion class, using writing assignments as the principal method of evaluation. The course requires three graded essays and an ungraded proposal. Students are also asked to keep a journal of commentary on course readings. Class attendance and participation are components of the final grade. The course serves as an introduction to modern Judaism as a religion and culture. It prepares undergraduate students for advanced work in European and American Judaism, as well as Israeli history and culture. These advanced courses are found in the Religious Studies and Jewish Studies programs and in the Departments of History and Comparative Literature. It may be used to complete the major or minor requirements in Religious Studies and Jewish Studies. The class fulfills the humanities requirement for non majors.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 111 (GH;IL) (CAMS 111, J ST 111) Early Judaism (3) Religious thought, practices, and parties in the Second Temple period; the emergence of rabbinic Judaism.

RL ST (CAMS/J ST) 111 Early Judaism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Early Judaism will introduce students to the history of Judaism as reflected in Jewish literature from the period of the Babylonian exile (587/6 BCE) to the closure of the Babylonian Talmud (ca. 600 CE). In this period, ancient Hebrew religion was transformed into a new world religion-Judaism. Students will read selections from the Bible, and from other religious literature, including the Dead Sea Scrolls, the Apocrypha, the Christian Scriptures, the Mishnah, and the Talmudim. By tracing the development of various Jewish "parties," students will appreciate how Classical Judaism evolved, and how the early Church emerged from Jewish roots in the first centuries CE. Early Judaism grew from its roots in the period of Achaemenid domination. Jews were dispersed throughout the eastern Mediterranean, so influences from Persian, Hellenistic, and Roman thought naturally influenced the faith's development. Students in Early Judaism will develop a new appreciation for the basic beliefs and practices of Judaism as well as for the beginnings of the Jesus movement and the development of the early Christian Church. Theological and historical questions concerning the origins of evil, the primacy of prayer, the beginnings of Jewish religious architecture, and the rise of anti-Semitism will be explored. Religion is always linked inextricably to culture. Judaism's transformation in contact with diverse cultures will become evident throughout RL ST/CAMS/J ST 111. The methodologies used in this course will enable students to read and evaluate primary and secondary sources used in the academic study of Judaism. Many other courses in Religious Studies (001, 004, 110, 120, 124), Jewish Studies (010 and 102), and Classics and Ancient Mediterranean Studies, as well as History and Art History are closely related or linked to this course. RL ST/CAMS/J ST 111 may be used to fulfill 3 credits in the Humanities, or to fulfill the GI requirement in the major or minor. The course will be offered once each year, with an enrollment of 65. This course will satisfy 3 credits towards the minor in Jewish Studies or the major in Religious Studies, plus being cross-listed with CAMS, fulfilling part of the requirement for courses in supporting or related areas of all Classics and Ancient Mediterranean Studies majors. The course also provides an excellent addition to other courses, such as CAMS 010, "Mesopotamian Civilization;" CAMS 044, "Ancient Near Eastern Mythology;" CAMS 045 "Classical Mythology;" CAMS 033, "Roman Civilization; and CAMS/RL ST/ JST 012, "Lands of the Bible."

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 115 (GH;US) (HIST 115, J ST 115) American Jewish History and Culture (3) Examination of the history, culture, social tensions, and contributions of Jews and Judaism in America.

RL ST (HIST/J ST) 115 American Jewish History and Culture (3) (GH;US)

Throughout American history, Jewish presence on American soil has compelled Americans to re-think the meaning of religious and ethnic diversity. As one of the earliest non-Christian immigrant populations, American Jews struggled to explain how they could nonetheless fit into American cultural, political and social life. At the same time, many Jews have been concerned with their own survival as a distinctive group, unwilling to cede those practices, behaviors or traits that designate them as a people apart from other Americans. This course is about how these two seemingly contradictory goals—to integrate into America and to remain distinctive from other Americans—shaped the history and experience of Jews in the United States and influenced the way Americans think about diversity and pluralism.

The student of American-Jewish history must be attuned to the multiple ways that Jewishness has been defined: as a race, a religion, a nationality, and an ethnicity. In this course, far from choosing just one of these designations, we will explore Jewish life from many different angles. Topics to be considered include religious reform, immigrant experience, political activism, popular culture, and struggles over community authority. Readings focus on a number of primary texts, including memoirs, novels, films and philosophical essays. Secondary books and articles will also help deepen students' understanding of trends in American-Jewish history and awaken them to diverse interpretations of history. Students will be encouraged to engage actively and critically with the texts by writing short reading responses, longer essays, and participating in classroom discussion and presentations, all of which will serve as the basis for their evaluation.

This course complements offerings in Religious Studies, Jewish Studies and History. It provides a foundation for an already existing upper-level seminar in American Judaism (listed in Jewish Studies and Religious Studies). In addition, the course strengthens the History department's offerings in American history, serving as a basis for students interested in immigration, ethnicity and religious history. Students who are interested in modern Jewish history will also find this course a worthwhile addition to their program of study, since, unlike other courses, it deals primarily with the story of Jewish life in the United States.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 120 (GH) (CAMS 120, J ST 120) New Testament (3) Introduction to the history, literature, and religion of early Christianity in its Jewish-Hellenistic setting.

RL ST (CAMS/J ST) 120 New Testament (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course introduces the student to the New Testament (NT), the principal religious text of Christians. As such, it is one of the most significant and most studio texts in human history. Written in Greek between approximately 55 C.E. and 110 C. E. the New Testament consists of 27 individual books, each written by a separate author (c, authors), that were later assembled into the "New Testament." Because of the growth of Christianity, the NT has influenced every aspect of our world-to name only a few: history, politics, economics, literature, philosophy, ethics, medicine, science, the arts (music, architecture, the visual arts), gender roles, theater and drama, law, psychology, and sociology. After introducing the student to the academic study of religion and the "historical-critical method," our study begins by examining the materials from which the NT's text is reconstructed, and the period in which the NT was authored. This includes exploring other parallel phenomena (such as miraculous hearings, resurrections, and virgin births) in contemporaneous Graeco-Roman religions. After this background is in place, the course turns to an examination of the gospels and their interrelationships, the pictures of Jesus presented (and their relationship to first-century B.C.E. Judaism), variations among Christian understandings of Jesus reflected in the NT and other contemporaneous Christian writings (he was a man, an angel, a lesser divinity), Paul and his life and writings, and the emergence of Christianity from Judaism as a distinct, new, apocalyptic religion. Along the way, we examine the manuscript tradition of the NT, changes that have been made to its text, and different interpretations of certain passages in the NT. We also examine the historical-critical tools scholars use to date and sequence passages in the NT (form, redaction, literary, and historical criticism, for example), for one can correlate the evolution of early Christian theology with the evolution of the NT's text.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 116 (GH;IL) Muslims in America (3) This course is a study of Muslims from multiple racial, cultural, and national perspectives; it explores what it means to be a Muslim in America.

RL ST 116 Muslims in America (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is a study of Muslims in the United States. It examines the multiple racial, cultural, and national groups that comprise this diverse community; we will question what it means to be a Muslim in America. It traces the trajectory of this seventh century faith as a transplanted faith in the New World. The course interrogates Islam in America starting with the historical record of the surviving Muslims that came to the shores of the Americas as African slaves and their enduring efforts to remain Muslims. Next, we examine African American Islam in its myriad formations. The influx of immigrants in the 1960s from the Arab Muslim world, Africa and Asia, including Central Asia became the second historical chronicle of Islam in America. This inquiry examines the narratives of each wave of Islam as a cultural and religious force in the development of Muslim identity in America. The course will examine how Muslim populations during each of these divergent waves confronted American pluralism, diversity and democracy. The course examines the transformation of the Islamic tradition from its origins in the Arabian peninsula to the shores of North America, including questions of authority, the growing salience of American Muslim women’s conception of gender jihad, the struggle of Muslim trans gender community to gain acceptance, institution building, and the efforts to develop an American Muslim identity. The course will also examine the musical genre of rap music with special reference to the second generation of Muslim. We will also examine the role of Islam in American prisons. The course will examine how the Islamic tradition has been adapted to the American cultural milieu and how Muslim culture is also influencing America. The course will examine how Islam and Muslim populations have been conceptualized in America before and after 9/11.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 121 Jesus of Nazareth (3) An historical critical examination of the life and message of Jesus of Nazareth.

Jesus of Nazareth (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 122 Paul the Apostle (3) An introduction to, and analysis of, the writings and thought of the apostle Paul in the context of early christianity.

Paul the Apostle (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 124 (GH;US;IL) (CAMS 124, J ST 124) Early and Medieval Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the second through the fifteenth century.

RL ST (CAMS/J ST) 124 Early and Medieval Christianity (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course traces the development of one of the world's "Big 5" religions from the death of its founder (about the year 30 C. E.) down to the middle ages. It focuses on significant trends, controversies, personalities, and turning points. These are not just diverse in terms of chronological breadth, but are also spread geographically from the eastern end of the Roman Empire (the border with Persia) to northern Europe. Attention is given to the various manifestations of Christianity (Judaic, Hellenistic, Latin), and the linkage between local patterns (culture, history and predispositions) and how these shaped the sort of Christianity that took root in particular areas. Students typically will be evaluated on four "pop" quizzes, a midterm and a final exam. The course can be used towards a major or minor in Religious Studies, Classics and Ancient Mediterranean Studies, and Jewish Studies and used to fulfill 3 credits in the Humanities for non-majors.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 125W (GH) Modern Christianity (3) Analysis in cultural context of selected thinkers, ideas, and movements in Christianity from the sixteenth century to the present.

Modern Christianity (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 130 (GH) The Ethics of Western Religion (3) History of theological-social ethics of the Judaeo-Christian tradition.

The Ethics of Western Religion (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 132W Sects and Cults (3) The origins, beliefs, and practices of new or dissenting religious groups and their relationship to the dominant religious culture.

Sects and Cults (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 131 (GH) (PHIL 132) Introduction to Bioethics (3) Studies questions of ethics in relation to biotechnology research and implementation, genetic engineering, medicine, animal and human rights.

RL ST 131 (PHIL 132) Introduction to Bioethics (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The course, as other 100-level Religious Studies Program and Philosophy courses, is intended for Liberal Arts majors and others likely to take Religious Studies and Philosophy courses rather than for Religious Studies majors. This course will provide a critical survey of key concepts, problems, and figures in the short history of bioethics and in contemporary studies and possible future directions. The course will develop the student's analytical and critical skills through study of different views on the nature of life and what experimentation with life-forms morally entails. The course will examine the increasingly techno-scientific definition of the nature of life and the human condition and evaluate such arguments and positions of practice in regard to opposing views of life as inherently sacred. It will investigate the extent and breadth of moral arguments in regard to differing life forms and consider the rights of humans and non-human animals. Students will be graded on participation, case study analyses, a group presentation, and a final paper. PHIL 132/RL ST 131 satisfies the GH requirement and it may be used to fulfill major and/or minor requirements in Philosophy and Religious Studies.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 133 (GH) (CAMS 133, J ST 133) Archaeology of the Levant and Ancient Israel (3) Archaeology of the Levant and Ancient Israel to c. 1000 B.C.E.; relationship between archaeological and textual evidence.

RL ST (CAMS/J ST) 133 Archaeology of the Levant and Ancient Israel (3) (GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Ancient Canaan, a region that included present-day Israel, Jordan, Palestine, Lebanon, and southern Syria, traditionally served as the land bridge and crossroads that connected the great empires of Mesopotamia and Egypt of the ancient Near East. Its strategic geographic location has ensured its significance throughout history. In the past as in the present, many different cultures and peoples have influenced and controlled this region resulting in a very multicultural past reflecting the history of the entire Ancient Near East. This is the background to origins of the Israelites at the one of the second millennium B.C.E. and the impact of this history is still evident in modern political events of the region. This course will focus on Canaan in the southern Levant from the origins of agriculture to the emergence of ancient Israel down to ca. 1000 B.C.E. Students will examine cultural, social and political developments and transitions in Canaan and Israel in antiquity that will include the development and emergence of urban society; pastoral nomadism; the age of internationalism of the Middle Bronze - Late Bronze Ages; religion and oultic practices; Egyptians in Canaan during the 13th and 12th centuries B.C.E.; daily life in Canaan; the arrival and settlement of the Philistines; and the Emergence of Israel. Emphasis will be placed on a critical reading of contemporary historical and Biblical texts and an analysis of the archaeological evidence In order to reconstruct the history, culture, and society of Canaan and ancient Israel. The course grade will be based on active participation (attendance, discussion sessions, group presentations and individual oral presentations), one midterm exam and one paper on a topic that requires a critical examination of both historical texts and archaeological evidence. The course fulfills three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in Classics and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the Classics and Ancient Mediterranean Studies ancient Mediterranean archaeology option it fulfills the three credits of archaeology course work requirement. The course fulfills three of the nine credit requirement for courses in RL ST 100-299 for the Religious Studies major, and the Jewish Studies major's requirement for three credits of course work.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 137 (GH;US;IL) (WMNST 137) Women and Religion (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.

Women and Religion (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 134 (GH;IL) (CAMS 134, J ST 134) Archaeology of Biblical Israel (3) Archaeology of Biblical Israel from 1200 B.C.E. to c. 640 C.E.; relationship between archaeological and textual evidence.

RL ST (CAMS/J ST) 134 Archaeology of Biblical Israel (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Ancient Israel and the Levant, a region that included present-day Israel, Jordan, Palestine, Lebanon, and southern Syria, traditionally served as the land bridge and crossroads that connected the great empires of Mesopotamia and Egypt. Its strategic geographic location has ensured its significance throughout history. Many different cultures and peoples have influenced and controlled this region resulting in a very multi-cultural past reflecting the history of the entire Ancient Near East. This is the background to the origins of the Israelites at the end of the second millennium B.C.E., the birth of the Hebrew Bible, and the emergence of Judaism, Christianity and Islam. This course will focus on Biblical Israel in the southern Levant from the emergence of Ancient Israel (ca. 1200 BCE) through the Second Temple and Roman periods concluding with the development of the region as the "Holy Land" for Jews, Christians and Moslems. Students will examine the emergence of Israel; the arrival and settlement of the Philistines; state formation and the period of the United and Divided Monarchies; the fall of Israel and Judah to the Assyrians and Babylonians; the return from exile during the Persian period; Hellenism and the influence of the Roman world on Palestine; the reemergence of Judah during the Second Temple period; the destruction of the Second Temple and emergence of Rabbinic Judaism; Palestine and its role as the "Holy Land" to Jews, Christians and Moslems. The course grade will be based on active participation (attendance, discussion sessions, group presentations and individual oral presentations), one midterm exam and one paper. This course fulfills three credits of the General Education or the B.A. humanities requirement and the GI requirement. For majors in Classics and Ancient Mediterranean Studies, the course fulfills the requirement of three credits in Near Eastern literature and language, civilization, or archaeology; and for those in the Classics and Ancient Mediterranean Studies ancient Mediterranean archaeology option it fulfills the three credits of archaeology course work requirement. The course fulfills three of the nine credit requirement for courses in RL ST 100-299 for the Religious Studies major, and Jewish Studies major's requirement for three credits of course work. CAMS/J ST/RL ST 134 GH may be used to fulfill the requirements for 12 credits of course work at any level towards a Classics and Ancient Mediterranean Studies minor.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 140Y (GH;US) (AM ST 140Y) Religion in American Life and Thought (3) The function, contributions, tensions, and perspectives of religion in American culture.

Religion in American Life and Thought (3)

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 145 (GH;US;IL) (AAA S 145) African American Religion (3) History and significance of the religious dimension of the Black American struggle for equality from enslavement to the contemporary period.

RL ST (AAA S) 145 African American Religion (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to African American religion in the U.S. We will investigate the history and significance of the religious dimension of African American life and culture. We will also examine the demographics of race and religious experience. African Americans (the term Black American is also used) have many different religious backgrounds including Protestant, Catholic, Moslem, and others, which are examined in this course. However, since well over 90% of Blacks who have a religious experience and organization are Christian, the history of the Black Christian church and Blacks in the Christian churches in the United States will occupy most of our study. This course will also examine the theological backgrounds of the Black church from the basic Christian documents in the New Testament, to the most widely known Black theologians and the development of "black liberation theology," one of Christian theologies most important contributions. The theology of Martin Luther King, Jr., will be of particular concern. We will also watch videos on the subjects of interest and have a number of guest speakers, including local church pastors and Penn State faculty, talk about the meaning of religion in the Black experience.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 146 (GH;US) (AAA S 146) The Life and Thought of Martin Luther King, Jr. (3) A survey of the civil rights leader including his religious beliefs, intellectual development, and philosophy for social change.

RL ST (AAA S) 146 The Life and Thought of Martin Luther King Jr. (3) (GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course attempts to provide an accurate description of the life and thought of Martin Luther King, Jr., an historical summary of the civil rights movement and an understanding of nonviolent means of social change. The students degree of achievement will be assessed by means of short-answer and essay examinations (not to exceed three in number) and a research project. Each of these will be equal in weight. This course will count in the supporting courses category of the major and minors in African/African American studies. It also will fulfill additional courses credits in the Religious Studies Program. It may also fulfill GH and US requirements for non majors.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 147 (GH;US) (AAA S 147) The Life and Thought of Malcolm X (3) The life of Malcolm X/El Hajj Malik El Shabazz (1925-1965) and his social, political, economic, and moral thought.

RL ST (AAA S) 147 The Life and Thought of Malcolm X (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine in-depth the life, speeches, and thoughts of Malcolm X/El Hajj Malik El Shabazz. While the "Autobiography" will be a major source, we will also use other sources to develop an understanding of the philosophy and thought of Malcolm X. We will explore the social, economic, political, cultural, religious, moral, and spiritual context of America in general and of African Americans in particular. We will examine Malcolm X's influence on the period in which he lived and since his assassination. We will compare and contrast his view on issues of race, culture, politics, education, crime, human rights, civil rights, morality, and economics with those of other African American leaders and with the prevailing views of most Americans on those subjects. We will devote a large portion of the course to the examination of the social movements that impacted on Malcolm and those that he influenced. The speeches of Malcolm X and the writings about Malcolm X are instructive and will be utilized along with other documents. Videotapes and audiotapes will also be employed as instructional materials. Students are expected to be ACTIVE participants in the learning/teaching experience. Students are required to participate in class discussions centered on the readings and related topics. There will be a written mid-term examination and a written final examination. Students are expected to complete an individual research project related to the course and write a paper on that research as well as to participate in a collaborative group project of their choosing on a subject related to the class. This course will count in the supporting courses category of the major and minors in African/African American studies. It also will fulfill credits in the Religious Studies Program. It may also be used to fill GH and US requirements.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 165 (IL) (ARAB 165, HIST 165) Introduction to Islamic Civilization (3) Islamic history, culture, religious life c.600-1500 C.E.

Introduction to Islamic Civilization (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 170 (J ST 170) Death and Afterlife in the Biblical Era (3) Changing concepts of death and the afterlife in the Jewish and Christian traditions c. 1500 B.C.E.-300 C.E.

Death and Afterlife in the Biblical Era (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 181 (IL) Introduction to the Religions of China and Japan (3) A survey of the history, philosophy, and cultural impact of the major Far Eastern religions: Confucianism, Taoism, Buddhism, and Shinto.

Introduction to the Religions of China and Japan (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 187 Religious Studies Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Religious Studies Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 205 (GH;US) (HIST 205, J ST 205) American Antisemitism (3) The Phenomenon of antisemitism in American history from Peter Stuyvesant to the present.

RL ST (J ST/HIST) 205 American Antisemitism (3)
(GH;US)

This course explores the phenomenon of antisemitism in American history from the time of Peter Stuyvesant to the present. The significance and role of American antisemitic movements and authors, as well as its role in American society and culture, are examined and compared to those in European history over the same periods. At the same time, the impact of antisemitism on the lives and mentalities of American Jews is discussed. The course focuses on readings taken from original sources and recent historical treatments. The readings include material on colonial texts, Grant's notorious Order, nativists and anti-immigration texts, Gilded Age antisemitism, the Immigration Acts of the 1920's, Henry Ford's antisemitic campaign, Southern antisemitism and the Leo Frank case, the quota system at American universities, employment discrimination, the "Gentlemen's Agreement" system, Black antisemitism, and the New Antisemitism.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 235 (US;IL) (HIST 235, J ST 235) The Church and the Jews (3) Examination of the relationship between Western church and the Jews from the First Century to Enlightenment.

RL ST 235 The Church and the Jews (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will examine a key aspect of western history - the complex relationship between the Western (Roman Catholic) Church and the Jews, from the first century to the present. We will analyze ideas and policies regarding Jews as expressed in different realms, from theology and canon law to church art and popular preaching. We will also examine how changing conditions led to striking changes in church attitudes and policy, and how church policy was often at odds with popular sentiments about Jews.

The course will be designed to enable students to grasp the fluidity of attitudes over time, and the interplay of economic, social, political, and theological factors; to grasp of essential elements of a key area of conflict in western culture; and to develop their skills in the close reading of primary texts

Students will be evaluated on the basis of three quizzes and a final exam. The course would offer a chance for students to develop perspectives previously gained in a number of courses, particularly HIST 001 and 002 (The Western Heritage), RL ST 001 (Introduction to World Religions), RL ST 101 (Comparative Religion), HIST 107 (Medieval Europe), HIST 407 (Early Medieval Society), and J ST 010 (Jewish Civilization). It would complement such courses as HIST 108 (The Crusades), HIST 408 (Church and State in the High Middle Ages), HIST 412 (Intellectual History of the Middle Ages), HIST 414 (Renaissance and Reformation), J ST 111 (Early Judaism), J ST 110 (Hebrew Bible), RL ST 120 (New Testament), and RL ST l24 (Early and Medieval Christianity).

The course will count for 3 credits toward: a) the 22 credits required for the minor in Jewish Studies, b) the 33 credits required for the major in Jewish Studies, c) the 30 credits required for the major in Religious Studies, and d) the 36 credits required for the History major.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 236 (GS) (PSYCH 230) Introduction to Psychologies of Religion (3) Introduction to major Western psychologies of religion (James, Freud, Jung) and to subsequent extensions of and departures from them.

Introduction to Psychologies of Religion (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 237 (GS) Introduction to Religions, Cultures, and Therapies (3) Comparison of methods and goals of selected religious and secular therapies within their cultural contexts.

Introduction to Religions, Cultures, and Therapies (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 280 (GH;IL) (WMNST 280, J ST 280) WOMEN AND JUDAISM (3) Explores the Jewish views of women that have influenced the roles of women wit hin both the religion and Western culture.

RL ST (J ST;WMNST) 280 Women and Judaism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Women and Judaism will introduce students to the roles and views of women as seen in the Jewish tradition. Because Judaism is not monolithic, these views will vary even within time periods and even among rabbis. The goal of this course, therefore, is not for students to leave the class with one idea of what a Jewish woman is or one idea of what issues are at stake for women in Judaism. Rather, the goal is for students to understand the complex relationship women have to this religion. This course will also explore the views of Jewish women and the issues that concern then in contemporary society. Objectives include the following: students will begin to understand the stereotypes that influence how Western society views Jewish women, and as a result, how they have come to view themselves. They will be asked to examine the many important roles that Jewish women have played both in their religion and the society at large. They will be asked to examine how the Jewish tradition both helped and hindered women to play these roles. They will see how Jewish women contributed to the development of their own religion and to the larger culture in which they live. They will develop a deeper appreciation for the complexity of the relationship between women and religion. Topics include images of Jewish women in the Bible and the media, women and Jewish views of sexuality, Jewish ethics, Judaism and feminism, and women and Jewish theology. Students will be evaluated by examination, writing ability (several short papers or one larger paper), and group presentations.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 400 Theories of Religion (3) Comparative and interdisciplinary study of two or more systematic theories of religion: anthropological, psychological, sociological, philosophical/theological.

Theories of Religion (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: 6 credits in religious studies or seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 402 Contemporary Religious Thought (3) Writings of outstanding contemporary religious thinkers in the Jewish, Protestant, and Roman Catholic traditions and their impact on our culture.

Contemporary Religious Thought (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: 6 credits in humanities

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 401 (IL) Studies in Comparative Religion (3) An intensive study of comparable phenomena from two or more religious traditions.

Studies in Comparative Religion (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: 6 credits in religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 407Y (IL) (HIST 409Y, J ST 409Y) European Anti-Semitism from Antiquity to the Present (3) Surveys the history of anti-Semitism in Europe from antiquity through the Middle Ages to the present.

RL ST 407Y (HIST 409Y, J ST 409Y) European Anti-Semitism from Antiquity to the Present (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course analyzes major episodes in the history of anti-Semitism and tries to clarify the Motives and dynamics involved. It seeks to understand what these episodes have in common, and what is unique in each case. Is there a single universal, eternal ant-Semitism? Or are there rather anti-Semitisms", each belonging to a unique historical context? Is there a single continuous line of development in anti-Semitism? What is the relationship of a particular anti-Semitism to the national culture in which it originates?

We will be reading the major original texts of anti-Semitism from Roman and ancient writers, through early Christian texts and medieval Christian Blood Libels against the Jews, documents of the Spanish expulsion, Lutheran tracts, Voltaire's essays, German philosophical texts from Kant to Marx, Wagner's racial essays, the Protocols of Zion, and documents of Nazi anti-Semitism by Hitler and Streicher.

The major part of the grade will depend on a short research paper, which will be presented in various drafts, so that the final version represents the culmination of discussion and constructive criticism and advice. This course is a parallel course to J ST/HIST 416 (Zionist History) and J ST/HIST 118 (Modern Jewish History). This course will count toward the Religious Studies, Jewish Studies, and History majors and minors in the 400-level category.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 409 (US;IL) Buddhist Studies (3) Special topics in Buddhist studies.

Buddhist Studies (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 408 (US;IL) Hindu Studies (3) Special topics in Hindu studies.

RL ST 408 Hindu Studies (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Religious Studies 408 (Hindu Studies) provides a critical examination of selected philosophical and devotional systems within the diversity of Hindu religious traditions within the context of south Asian history. This course explores the nature of Hindu Darshana or outlook through textual analysis of some of its primary scriptures (in translation), as well as (in English) works by more recent Hindu thinkers and philosophers. Students will trace the emergence of ethical, moral, and social ideals of Hinduism through a detailed study of its belief systems as they had evolved through the ages. For example, a typical research project may involve writing a series of two papers, one focusing on the religious roots of non-violence in heterodox ideals of Jainism of fifth century B.C.E, and a second one, exploring the modern relevance of non-violence in political discourse as represented in the writings of Mohandas Gandhi. Students will be evaluated on a mid-term and a final exam, two research papers and debates. RL ST 408 serves as one of the courses fulfilling the 6 credits requirement of the 400-level course for a Religious Studies major. It also fulfills the United States Cultures and International Cultures designation.

General Education: None
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005
Prerequisite: 3 credits in religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 410 (US;IL) (HIST 410, J ST 410) Jews in the Medieval World (3) Trends in medieval Jewish society under Islam and Western Christendom.

RL ST 410 (Jews in the Medieval World (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The Jews lived in widely scattered communities under Christian and Islamic rule in the medieval period. This course will examine how Jews adapted the traditions they developed in Palestine and Babylonia in the early centuries C.E. to the new conditions they encountered in Europe and the Mediterranean region from the ninth to the fifteenth centuries. It will focus on the general problem of how traditional societies survive in rapidly changing circumstances, particularly when their members are a minority population. The course will aim at developing students' skills in comparative analysis as they compare the adaptive strategies of Jews in different cultural spheres (the Franco-German region versus Spain, for example). They will also be asked to compare the different polemical stances Jews adopted vis-a-vis Christianity, on the one hand, and Islam, on the other. They will be encouraged to understand the ways in which Jews internalized certain aspects of the majority culture and rejected others. It is hoped that they will come to see how deeply Jewish history was intertwined with medieval Christian and Islamic history, despite inter-religious hostilities and the frequent need for Jews to defend against majority aggression.

The course will be linked to most of the courses taught in the field of Jewish Studies, especially J ST 111 (Early Judaism), J ST 114 (Modern Judaism), and J ST 118 (Modern Jewish History from 1492). It will also be linked to offerings in Religious Studies: RL ST 001 (Introduction to World Religions), RL ST 101 (Comparative Religion), RL ST 107 (Introduction to Islam), RL ST 124 (Early and Medieval Christianity), and RL ST 165 (Introduction to Islamic Civilization). Further, it would complement HIST 001 and 002 (The Western Heritage), HIST 107 (Medieval Europe), HIST 108 (The Crusades), HIST 407 (Early Medieval Society) HIST 408 (Church and State in the High Middle Ages), HIST 412 (Intellectual History of the Middle Ages), and HIST 471W (Classical Islamic Civilization, 600-1258).

The course will count for 3 credits toward: a) the 22 credits required for the minor in Jewish Studies, b) the 33 credits required for the major in Jewish Studies, c) the 30 credits required for the major in Religious Studies, and d) the 36 credits required for the History major.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 412 (J ST 412) American Judaism (3) The development of Jewish religion and culture in America from the colonial era to the present.

American Judaism (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999
Prerequisite: HEBR 010 orJ ST 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 411 (US;IL) (J ST 411) Jewish Studies (3) Study of the life and thought of a particular period or movement in the history of Judaism.

Jewish Studies (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 3 credits in religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 414 (PSYCH 436) Humanistic, Existential, and Religious Approaches to Psychology (3) Existential, humanistic, and religious approaches to the psychology of experience, consciousness, and will.

Humanistic, Existential, and Religious Approaches to Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100 orRL ST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 420 Major Christian Thinkers (3) Systematic inquiry into the religious thought of one or more Christian thinkers, such as Paul, Augustine, Luther, Calvin, Kierkegaard, or Tillich.

Major Christian Thinkers (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983
Prerequisite: 3 credits in religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 424H (HIST 424H, J ST 424H, PHIL 434H) Monotheism and the Birth of the West (3) The birth of monotheism and its relation to social organization, the idea of individuality, and science.

RL ST (J ST/HIST) 424H (PHIL 434H) Monotheism and the Birth of the West (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Learn about the formation of Western culture, while learning to analyze the texts and other evidence about its formation from a critical, rather than naive, viewpoint. The idea of monotheism probably arose very early, and was even briefly implemented as a state cultic policy in Egypt in the 14th century BCE. Why, then, did it take another seven centuries to become widespread--appearing in ancient Judah, Babylon, and Ionia almost simultaneously? To answer this question, the course focuses on several developments, through the medium of primary texts and archaeology: the shift from a state hinterland based in extensive agriculture and household processing to one organized for intensive agriculture and industrial processing the rise of recognizably modern science; the promotion of individuation and an international elite culture in the context of Assyrian and Babylonian imperial ambitions; the development of the historical and archaeological arts in the context of archaizing in order to reinvent local traditions; and the socialization of monotheism and of democracy. Students will be evaluated on their discussion of the textual evidence as well as on reports in class and a final paper. This is the sole honors course treating the birth of the West. It expands on knowledge acquired in courses listed as prerequisites and in RL ST/CAMS/J ST 012; CAMS 044; ANTH/CAMS 133; CAMS/PHIL 200; HIST 100; HIST/J ST 102; and PHIL 200 and enriches the students experience in CAMS 400, CAMS 440, and CAMS 480; HIST 402; J ST 411; PHIL 437; PHIL 453, and PHIL 461. This course counts toward the major in Jewish Studies, History, Religious Studies and toward the minor in Jewish Studies and Religious Studies.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2002
Prerequisite: RL ST 004, RL ST 102, RL ST 110 orRL ST 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 422 (AM ST 422) Religion and American Culture (3 per semester/maximum of 6) Selected topics, problems, or historical movements in American religion. Relation between religion and American culture.

Religion and American Culture (3 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 440Y (US;IL) (RUS 440Y) The Orthodox Christian Tradition (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.

The Orthodox Christian Tradition (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: RL ST 004, RL ST 124, RL ST 125, RUS 100 orRUS 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 461 (US;IL) (SOC 461) Sociology of Religion (3) Contemporary religion in the United States: beliefs, structure, and function of major denominations and religious cults.

Sociology of Religion (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006
Prerequisite: 3 credits of sociology or religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 471Y (IL) (HIST 471Y) Classical Islamic Civilization, 600-1258 (3) Pre-Islamic Arabia; Muhammad; Arab conquest; Islamic beliefs and institutions; literary, artistic, and scientific achievements; relations with Europe; breakdown of unity.

Classical Islamic Civilization, 600-1258 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 478 (J ST 478, PHIL 478) Ethics After the Holocaust (3) Explores the philosophical effects of the Holocaust for thinking about the primary question: Is ethics possible?

RL ST (J ST/PHIL) 478 Ethics After the Holocaust (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an examination of ethical theories before the Holocaust and how those theories have failed, philosophically and empirically. Course topics will include the history of ethical theory, the nature and problem of evil, goodness and suffering, witnessing and testimony, and the promise of an ethics. This course provides students with philosophical approaches to the issues that emerge out of the events of the Holocaust. The course will help students expand their knowledge of the events of the Holocaust through a philosophical approach that does not merely expose them to what happened, but asks them to think about the implications of what happened: most specifically, how do we understand ethical life, if it cannot stop or confront evil? This course provides students with the philosophical approaches to the issues that emerge out of the events of the Holocaust. It will encourage them to think critically, write effectively and express their thoughts logically. Student evaluation will be based on weekly reaction papers, group presentations, and a final seminar paper. This course covers material in the history of philosophy, contemporary philosophy, and writings pertaining to the Holocaust in various forms (historical, literary documentary, and so forth). It provides links to other major areas in the history of philosophy, postmodernism, ethics, philosophy of religion, and Jewish history.

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005
Prerequisite: one course in Jewish Studies or Philosophy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 479 Religion and Culture in Freudian Thought (3) Readings, lectures, and discussion on major psychoanalytic claims about individual and cultural mental life, focusing on the theory of religion.

Religion and Culture in Freudian Thought (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 481 (IL) Religion and Japanese Culture (3) A study of the impact of the traditional religions, Shinto and Buddhism, on the intellectual and cultural history of Japan.

Religion and Japanese Culture (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: 3 credits fromHIST 172, HIST 173, HIST 174, HIST 175, PHIL 111, RL ST 003, RL ST 104 orRL ST 181

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 483 (IL) Zen Buddhism (3) The development and current state of Zen Buddhist thought and practice.

Zen Buddhism (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006
Prerequisite: HIST 172, HIST 173, HIST 174, HIST 175, PHIL 111, RL ST 003, RL ST 104 orRL ST 181

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 495 Internship (1-18) Supervised off-campus, non-group instruction, including field experience, practica, or internships.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2004
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 497B (J ST 497B) Cultural History of Food From Biblical Times to the Modern Era (3) Historical exploration of the Jewish food traditions in the Bible as they now find expression in modern "food movements."

Cultural History of Food From Biblical Times to the Modern Era (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 499 (IL) Foreign Study--Religious Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Study--Religious Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Religious Studies (RL ST)

RL ST 499E (IL) (HIST 499E, CAMS 499E) Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3) Study tour of Roman Palestine and the Nabateans in Jordan and Israel.

Petra, the Spice Route, and the Decapolis Cities in Roman Palestine (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Romanian (ROM)

ROM 296 Independent Studies (1-18) Creative projects, includes research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Romanian (ROM)

ROM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 011 (GS;US) Introductory Rural Sociology (3) Basic sociological concepts applied to rural societal institutions and rural communities; causes and consequences of rural social change.

R SOC 011 Introductory Rural Sociology (3)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

The objectives of the course are (1) to acquaint students with the fundamental concepts, principles and research methods of rural sociology; and (2) to assist students in applying these concepts and principles to gain an understanding of rural societal institutions and the forces leading to social change in rural America and globally. Lectures and readings are designed to encourage students to examine their assumptions and understanding of the structure and functioning of rural communities, the forces leading to rural social change, and the likely course of these changes in the future. A major objective is to challenge students to critically analyze rural society and rural social institutions from a sociological perspective. Understanding the changing nature of rural society in an increasingly urbanizing and integrated world is a key consideration. The course meets requirements in the Agricultural Business Management and Environmental and Renewable Resource Economics Majors, as well as one General Education requirement.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 134 (GN) (AGECO 134) Sustainable Agriculture Science and Policy (3) The science, socio-economics, and politics of managing food and fiber production systems. Sustainability implications of current practices and future options.

R SOC (AGECO) 134 Sustainable Agriculture Science and Policy (3)
(GN)

This general education course will teach students about the soil, plant, animal, and ecological sciences; technologies, and policies of our agroecosystems in an integrated manner. We will examine agricultural resources and options available for sustainable management of resources for food production. Students will have many opportunities to examine and critically analyze scientific knowledge and policies during discussions, writing exercises, and role playing to develop analytical and communication skills. There are no prerequisites for this course. This course can link with other courses that address how research and efforts in agricultural sciences, ecology, policy, economics, philosophy, education, and communication influence sustainable management of natural resources for the present and the future.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 296 Independent Studies (1-18) Creative projects, including research and design which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 305W Leadership for Social Change (3) Exploration, analysis, understanding, and application of leadership skills and concepts in groups, organizations, and communities.

Leadership for Social Change (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: 6 credits in social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 356 Rural Community Services (3) Analysis of provider and consumer factors influencing the provision of community services in rural areas; sociological analysis and interpretation emphasized.

Rural Community Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1980
Prerequisite: R SOC 011 or 3 credits in related social science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 327 (S T S 327) Society and Natural Resources (3) Analysis of the relationships between societal development and enhancement and natural resources.

Society and Natural Resources (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 402 Consumer Behavior and Agricultural Business (3) The principles of consumer behavior applied to the marketing of agricultural products and farm supplies.

Consumer Behavior and Agricultural Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1980
Prerequisite: 3 credits in agricultural economics or economics and 3 credits in rural sociology sociology or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 420 (US;IL) (CED 420, WMNST 420) Women in Developing Countries (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.

R SOC (WMNST/CEDEV) 420 Women in Developing Countries (3)
(US;IL)

The purpose of this course is to increase understanding of women's lives in third world countries at the time when women's movements, grassroots activism, and feminism are on the rise in the third world. The course examines third world women's challenges to Western definitions of feminism and traces the theoretical shifts and practical changes related to women's issues in African, Asia, and Latin America. Students participate in studying specific community and agricultural development projects. Topics include feminist critiques of development and post-colonialism, ecofeminism and environment, sexuality and reproduction, global restructuring, and grassroots community activism. Students will be evaluated based on class participation, two written critiques of readings, a final course project, a mid-term, and a final exam. This course will add diversity to both the rural sociology, community and economic development, and women's studies curricula. International, gender, ethnic, and racial issues are core components of the course. The course will be an elective for women's studies majors and minors and will serve graduate students in rural sociology, women's studies, and other fields.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 417 (CED 417) Power, Conflict, and Community Decision Making (3) Impact of institutions on human interdependence and behavior, the structure of power, and community decision making and public policy.

R SOC (CED) 417 Power, Conflict, and Community Decision Making (3)

Community decision making and public choice is the result of collective action among individuals. The purpose of this course is to develop frameworks for analyzing conflict, power, and public choice. This course enables students to understand how culture and institutions affect the nature of human interdependence and behavior, shape patterns of influence and power, and impact community decision making and policy.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 422 (US) Family in Rural Society (3) The relationship between the family and rural society, including critical review of theories, research and problems, issues, and trends.

Family in Rural Society (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: 6 credits in the social sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 425 Poverty Analysis: People and Programs (3) Social and economic situations contributing to deprivation in rural society; intervention programs and policy development.

Poverty Analysis: People and Programs (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: 6 credits in sociology economics or related areas

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 444 Social Change in Rural America (3) Analysis of causes of social change and its consequences for individuals, families, and organizations in rural communities.

Social Change in Rural America (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1984
Prerequisite: R SOC 011 or 3 credits in related social science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 452 (CEDEV 452) Rural Organization (3) Social organization and change in rural communities; use of sociological principles in analysis of rural problems and rural development.

R SOC (CEDEV) 452 Rural Organization (3)

This course combines an introduction to the social theories of communities with real-life examples of applications to understanding community problems and concerns. The focus is on the special circumstances facing, small towns and rural communities, but the concepts are applicable in all communities, from urban neighborhoods to suburbs. Topics covered include local community in a global economy, power and decision-making, the role of governments and other social institutions, development of community and the importance of building social infrastructure as well as economic and physical infrastructure, multi community collaboration and building, sustainable communities. Those taking the class will gain experience in conducting a case study of a small Pennsylvania community, build skills in working in a team, and gain understanding of the complexity of factors that influence community (and your own) well-being. If your future career involves operating within a community setting, this course can increase your knowledge of that setting and how to function within it. And, even if you don't plan on working with communities in your job, you will be living in a community. This course can help you to understand the ways that you can contribute to improving your own quality of life by becoming involved in your community. Grades in this class are based on the community case study report, take home, mid-term and final exams, short team exercises, and class participation. Graduate students taking the course also are required to write reaction papers to three different topics during the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2000
Prerequisite: 6 credits in rural sociology sociology or psychology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 470 (CEDEV 470) Comparative Community Development (3) Crosscultural community development projects and the problems encountered in each of the different cultural contexts.

R SOC (CEDEV) 470 Comparative Community Development (3)

What are the issues and dynamics of community development in different national and cultural contexts? This course provides a comparative perspective on community and economic development in other countries and cross-cultural contexts. The course sensitizes the student to the character and problems of development projects in other systems. This course is both cross-cultural in content and interdisciplinary in character as the political, economic, cultural, and sociological aspects of community development are addressed. The course emphasizes examination of historic and ongoing community development projects, identification of theories of development which are exemplified by different projects, and examination of different approaches and strategies in cross-cultural or comparative development situations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001 Ending: Summer 2010
Prerequisite: 6 credits in social or behavioral science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Rural Sociology (R SOC)

R SOC 499 (IL) Foreign Study--Rural Sociology (1-12) Study in selected countries of rural social institutions and current rural sociological problems.

Foreign Study--Rural Sociology (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 001G Technical Russian for Graduate Students (3) Prepares student to translate technical and scientific texts. No previous knowledge of Russian is required.* *No graduate credit is given for this course.

Technical Russian for Graduate Students (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 001 Elementary Russian I (4) Audio-lingual approach to basic Russian; writing. Students who have received high school credit for two or more years of Russian may not schedule this course for credit, without the permission of the department.

Elementary Russian I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 001L Elementary Russian I (4) Audio-lingual approach to basic Russian; writing. Students who have received high school credit for two or more years of Russian may not schedule this course for credit, without the permission of the department.

Elementary Russian I (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 001P Elementary Russian I (4) Audio-lingual approach to basic Russian; writing. Students who have received high school credit for two or more years of Russian may not schedule this course for credit, without the permission of the department.

Elementary Russian I (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 002 Elementary Russian II (4) Audio-lingual approach to basic Russian continued; writing. Students who have received high school credit for four years of Russian may not schedule this course for credit, without the permission of the department.

Elementary Russian II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1985
Prerequisite: RUS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 002G Russian Texts (3) Development of skill in translating Russian texts in the sciences and social sciences.* *No graduate credit is given for this course.

Russian Texts (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Winter 1978
Prerequisite: RUS 005 orRUS 001G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 002L Elementary Russian II (4) Audio-lingual approach to basic Russian continued; writing. Students who have received high school credit for four years of Russian may not schedule this course for credit, without the permission of the department.

Elementary Russian II (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1993
Prerequisite: RUS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 003 Intermediate Russian (4) Emphasis on reading unsimplified texts; composition; grammatical analysis.

Intermediate Russian (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1985
Prerequisite: RUS 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 002P Elementary Russian II (4) Audio-lingual approach to basic Russian continued; writing. Students who have received high school credit for four years of Russian may not schedule this course for credit, without the permission of the department.

Elementary Russian II (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1993
Prerequisite: RUS 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 011 Intensive Basic Russian (6) Listening, speaking, reading, writing, and basic structures of Russian. This course is equivalent to RUS 001 and the first half of RUS 002. Students may receive credit for only one course from RUS 001, 002, and 011.

Intensive Basic Russian (6)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 051 Elementary Intensive Russian for Graduate Students I (3) Intensive introduction to Russian: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

RUS 051 Elementary Intensive Russian for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Russian. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Russian vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 012 Intensive Basic Russian (6) Listening, speaking, reading, writing, and basic structures of Russian. This course is equivalent to the second half of RUS 002 and RUS 003. Students may receive credit for only one course from RUS 002, 003, and 012.

Intensive Basic Russian (6)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 1990
Prerequisite: RUS 011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 052 Elementary Intensive Russian for Graduate Students II (3) Intensive introduction to Russian: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

RUS 052 Elementary Intensive Russian for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Russian. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Russian vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: RUS 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 053 Intermediate Intensive Russian for Graduate Students (3) Continued intensive study of Russian at the intermediate level: reading, writing, speaking, listening, cultural contexts.

RUS 053 Intermediate Intensive Russian for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Russian. Continued intensive study of Russian at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: RUS 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 083S (GH;US;IL) First-Year Seminar in Russian (3) Russia's cultural past and present.

RUS 083S First-Year Seminar in Russian (3)
(GH;FYS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Russia, the world's largest country stretching over eleven time zones in Europe and Asia, is currently undergoing a dramatic transformation. For the past hundred years, Russia has served as a laboratory of gigantic dimensions as various social ideals were implemented with unprecedented radicalism. At the same time, Russia's great writers raised "ultimate questions" about social justice, the existence of God, and the meaning of human life with an unparalleled acuity and intensity.

This course surveys Russia's cultural past and present. Although it touches on aspects of Soviet culture, the main emphasis lies on what some people would call the "real Russian culture," eclipsed for seventy years under the Communist regime and now about to be resurrected. At this crucial juncture in the history of Russia, the notion of a "real" culture remains highly problematic and controversial. The course surveys the various attitudes of Russian thinkers and authors toward the question of national identity and national destiny. Examples of Russian high culture (philosophy, literature, art, music) and the Russian religious faith (Orthodoxy) are discussed alongside with daily life in post-communist Russia. Special emphasis will be placed on the in-depth study of a few seminal works of Russian literature. The course also includes some Russian films. A knowledge of Russian is not required. Each section of this course will be limited to twenty students who will be instructed by an experienced professor. Questions and discussion are strongly encouraged.

This course can be used to fulfill the General Education or Bachelor of Arts Humanities requirement, the United States and International Cultures requirement, and the first-year seminar requirement. A series of short papers will train students in the skills of information gathering and written expression. The course grade will be based on oral participation and on the grade for the papers, which will be evaluated both for content and writing. This course will help to prepare students for a variety of additional courses in the fields of literature and Russian/East European area studies. In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 100 (GH;IL) Russian Culture and Civilization (3) The Russian people from the tenth century to present times; their literature, arts, music, science, and philosophy. In English.

RUS 100 Russian Culture and Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course surveys Russia's cultural past and present. Although it touches on aspects of Soviet culture, the main emphasis lies on what some people would call the "real Russian culture," eclipsed for seventy years under the Communist regime and now about to be resurrected. At this crucial juncture in the history of Russia, the notion of a "real" culture remains highly problematic and controversial. The course surveys the various attitudes of Russian thinkers and authors towards the question of national identity and national destiny. Examples of Russian high culture (philosophy, literature, art, music) and the Russian religious faith (Orthodoxy) are discussed alongside with daily life in post-communist Russia. The course also includes some Russian films. A knowledge of Russian is not required. The course format consists of lectures, slide, video and audio presentations. Questions and discussion are strongly encouraged.

At the end of the course, students will be familiar with the problems that Russia faces at the present time, they will have a summary knowledge of Russian history and geography, and will be acquainted with representative achievements of Russian high culture.

Students are evaluated on the basis of four multiple choice exams, of which the lowest grade will be dropped (60% of course grade), and a research paper graded for both content and language (40% of course grade). Extra credit can be earned through class presentations, offering an opportunity for practice in public speaking, and by writing reaction papers about lectures offered by the Penn State Center for Russian and East European Studies, or appropriate extracurricular events (e.g., concerts of Russian music, exhibits of Russian art, etc.)

As a General Education course, Russian 100 incorporates the following four elements of active learning: international competence (which is inherent in the subject matter), information gathering and analysis, active use of writing, and dialogue pertaining to social behavior, community, and scholarly conduct, which will be provoked by the reading material. Russian literature and culture is famous for raising the "big questions." Vast in scope, unabashedly ambitious, nineteenth-century Russian literature aspired to nothing less than to teach its readers how to live. The failed communist experiment in the twentieth century raises poignant questions about the desirability and pitfalls of utopian social engineering. Students have to write a 10-page research paper on a topic previously agreed upon with the instructor. For this paper, they have to explore both eletronic and print resources. The paper is graded for content, structure, and language. As an option for extra credit, students can volunteer a class presentation on their research topic. Recent presentations included, for example, a lecture on Russian rock music with sound samples and pictures downloaded from the internet, and a presentation on Russian composers of the futurist avant-garde.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 120 (GH;IL) Theatrical Arts of Russia (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.

RUS 120 Theatrical Arts of Russia (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The course will acquaint students with the development of Russian theater and the visual and performing arts from early origins to the present day, as well as the masterpieces of the Russian cinema. Students will read and discuss key works of Russian theater and watch films of the related productions. They are expected to write brief reaction papers on plays that they read and films that they watch. The course will include films and expert guest lectures. The course format will consist of lectures, slide, video and audio presentations. Readings will all be in English. Questions and discussion on class lectures and readings and on topical matters will be strongly encouraged. At the end of the course, students will be familiar with the general development of the Russian theater arts and cinema in a European and world context. They will have a basic general knowledge of Russian cultural development as reflected in the works studied, as well as social, psychological, philosophical and political issues raised in them. There will be a mid-term (30%), a final exam (30%), and reaction papers (30%). The latter will be graded both for content and writing ability.Ten percent of the class grade will be for class participation, including attendance and active participation in discussions and performance readings of plays. Students may also receive extra credit by making a 10-15 minute oral presentation in class on a pre-approved topic, which will offer students the opportunity to practice public speaking, or by writing a 10-page research paper on a preapproved topic. The exams will include written identification questions, brief essay questions, and a longer essay question that synthesizes knowledge acquired in class. As a General Education course, Russian 120 incorporates the following four elements of active learning: International competence (Russia and its international cultural influences), information gathering and analysis, active use of writing, and dialogue pertaining to social behavior, community and scholarly conduct. That dialogue inherent in Russian society is often mirrored in the readings and films. Students may also acquire extra-credit by writing reaction papers on topical extracurricular lectures or by observing extracurricular plays or film presentations. Russian 120 is not required for the B.A. degree in Russian, but may be used under the rubric of "Additional Courses" for the B.S. degree in Russian Translation. This course fulfills the Gen Ed Humanities and United States and International Cultures requirements.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 110 (GH;IL) Russian Folklore (3) Study of byliny, lyrical and historical songs, folktales, drama, ceremonial poetry, chants, charms, proverbs, and mythology of Russia. In English.

RUS 110 Russian Folklore (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Russian 110 is a general survey of Russian folklore for English-speaking students. It concerns itself not with the aristocratic and intelligentsia culture of Russia, but with the rites of passage, agricultural ceremonies, beliefs, legends, folktales, and epics of the Russian peasants, most of whom were illiterate. Students are evaluated on the basis of three examinations (half short-answer and half essay), a legend collecting project, and a final. The legend project requires students to collect a legend or tale (usually from the American tradition), evaluate it against folklore indices, present it to the other students, and write it up. Russian 110 may be counted toward the major in Russian Translation (BS). It may also be used to fulfill General Education Humanities and International/Intercultural Competency requirements. This course will be offered once a year with 50 seats per offering.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 120U (GH;IL) Theatrical Arts of Russia (3) Survey of Russian dramatic literature, including plays, operas, ballets, and cinema. In English.

Theatrical Arts of Russia (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 141Y (IL) Russian Literature in English Translation: 1800-1870 (3) Pushkin, Lermontov, Gogol, the critics, Turgenev, Dostoevsky, Tolstoy. Writing assignments will serve as a major way of exploring subject matter.

Russian Literature in English Translation: 1800-1870 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 130 (IL) (WMNST 130) Women in Russian Literature (3) Survey of Russian and Soviet women characters and writers from the Medieval Period to the present (in English).

Women in Russian Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 142Y (IL) Russian Literature in English Translation: 1870 to Present (3) Dostoevsky, Tolstoy, Chekhov, Gorky, symbolists, selected Soviet authors. Writing assignments will serve as a major way of exploring subject matter.

Russian Literature in English Translation: 1870 to Present (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 143U (GH;IL) (GER 143U) The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.

The Culture of Stalinism and Nazism (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 143 (GH;IL) (GER 143) The Culture of Stalinism and Nazism (3) The culture of Stalinist Russia and Nazi Germany in comparative perspective.

RUS (GER) 143 The Culture of Stalinism and Nazism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The regimes of Stalin and Hitler have decisively shaped the 20th-century historical experience not only in Russia and Germany, but in much of Europe and the world at large. At the same time, there is no consensus about how to classify these systems, whether the term " totalitarian" is appropriate to describe them, and whether Stalinist Russia and Nazi Germany are essentially similar or essentially different historical phenomena.

Espousing a comparative perspective, this course will explore the culture produced by both Stalinist Russia and Nazi Germany. The main focus will be on works of literature, but it will also take into account the visual arts, architecture, music, film, and popular culture. The classics of Stalinist socialist realism and Nazi propaganda, such as Nikolai Ostrovskii's How the Steel Was Tempered or Leni Riefenstahl's Triumph of the Will will be analyzed both as political statements and works of art. The course will also include a reading of authors who attempted to create artistic representations of life in Stalinist and Nazist societies, such as Yevgeny Zamyatin, Alexander Solzhenitsyn, Bertolt Brecht, or George Orwell.

The course will be team-taught by faculty of the Department of Germanic and Slavic Languages and Literatures. Additional faculty from the Departments of Spanish and Italian and Comparative Literature (Japanese) may be invited to lecture about the totalitarian culture in their respective societies, and members from the Department of History may be invited to lecture about the historical context of Stalinisn and Nazism. A knowledge of Russian or German is not required, as class lectures and discussions as well as all reading assignments will be in English.

At the end of the course, students will have a summary knowledge of the cultural history of Stalinist Russia and Nazi Germany and of the aesthetic and philosophical issues raised by these cultures. Requirements for the course will include a research paper. The course grade will be based on the average score on the mid-term and final exam (using definitions and essay questions) and the grade for the paper, which will be evaluated both for content and style.

This course will fulfill the General Education and Diversity requirements. It complements courses on the politics and history of totalitarian regimes offered by the departments of Political Science and History, and it will provide a background for students wishing to study Holocaust literature or Soviet Literature.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 187 Russian Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Russian Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 196 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 204 (IL) Intermediate Russian II (4) Intensive practice of Russian reading, writing, listening and speaking; review of Russian grammar.

RUS 204 Intermediate Russian II (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will provide intensive Russian language training at the intermediate level, stressing the four skills of reading, writing, listening, and speaking. Together with its companion course, Russian 214, the course will provide a complete review of Russian grammar. It will include a discussion of the case system, verbal morphology, and aspect in conjunction with conversation practice and writing assignments. Russian 204 will be a required course for Russian majors. It can be taken before or after Russian 214 (which will also be required).

Grading will be based on regular written tests and a final exam which will include an oral component. Students will be encouraged to use the new language training equipment available at Sparks Building.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: RUS 003 orRUS 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 214 (IL) Intermediate Russian III (4) Intensive practice of Russian reading, writing, listening and speaking; review of Russian grammar.

RUS 214 Intermediate Russian III (4)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will provide intensive Russian language training at the intermediate level, stressing the four skills of reading, writing, listening, and speaking. Together with its companion course, Russian 204, the course will provide a complete review of Russian grammar. It will include a discussion of participles and verbal adverbs, verbs of motion, and problems of Russian syntax in conjunction with conversation practice and writing assignments.

Russian 214 will be a required course for Russian majors. It can be taken before or after Russian 204 (which will also be required).

Grading will be based on regular written tests and a final exam that will include an oral component.

Students will be encouraged to use the new language training equipment available at Sparks Building.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: RUS 003 orRUS 012

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 221 (IL) Russian Conversation (3) Practice aimed at developing fluency in the use of the grammatical constructions and vocabulary essential for everyday conversation.

Russian Conversation (3)

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: RUS 003 orRUS 006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 296 Independent Studies (1-18) Creative projects, including research design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 304 (IL) Readings in Russian III (3) Extensive reading of contemporary Russian texts, including articles from Soviet press and short fiction.

Readings in Russian III (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: 6 credits of Russian at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 305 (IL) Advanced Russian Conversation (3) Discussion and role-playing based on real-life situations and current events; supervised by a native speaker.

RUS 305 Advanced Russian Conversation (3)
(IL)

RUS 305 is the basic conversation course for the B.A. in Russian. It centers around discussion and role-playing on such topics as ordering plane tickets, traveling on Russian trains, Russian restaurants, cooking at home, traveling to and from work, summer jobs and career plans, sports and other forms of leisure, movies and television, and interviews with famous people. Some current events are also discussed, e.g. Russian attitudes towards the Romanovs, the AIDS crisis, the economic situation in Russia.

Evaluation is based on individual and group oral presentations, regular quizzes, and short compositions.

No special facilities are required, but students are encouraged to use the new language training equipment available in Sparks Building.

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: RUS 204, RUS 214

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 321 Advanced Russian Stylistics (3) Russian composition and discussion based on issues of contemporary Russian society.

Advanced Russian Stylistics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Summer 1993
Prerequisite: 6 credits of Russian at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 360 (IL) Advanced Russian Grammar (3) Russian morphology and syntax on an advanced level.

Advanced Russian Grammar (3)

General Education: None
Diversity: IL
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: 6 credits of Russian at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 400 (IL) Senior Seminar in Russian Culture (3) Senior seminar devoted to topics in Russian culture; conducted in Russian.

RUS 400 Senior Seminar in Russian Culture (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

RUS 400 will be the senior seminar for Russian majors. Building on linguistic and cultural material covered in the second and third levels of study toward the Russian major, it will add depth and sophistication to the students' understanding of basic concepts in Russian culture and improve their ability to discuss and write about these concepts in Russian.

The materials for RUS 400 will be arranged chronologically and will cover the "big themes" of Russian culture: e.g., the legacy of Kievan Rus, the cultural/historical preconditions for the "Third Rome" theory, the rift between the people and the upper classes following Peter the Great, Westernizers versus Slavophiles, the Bolshevik Revolution, the Stalinist terror. Readings will be selected from a wide variety of genres and will reflect a diversity of linguistic styles: e.g., passages from the ancient chronicles, folk legends, memoirs and autobiography, letters, historical and literary texts. Some films will be used.

Students will be evaluated on the basis of frequent quizzes and oral participation. In addition, each student will write a short research paper and present it in Russian to the class. These papers will help round out the presentation of central themes in Russian culture. Research papers might cover such topics as Andrey Rublev, religious sectarianism, peasant beliefs about nature, the biography of Lenin.

Russian 400 will be a required course for both the B.A. and B.S. in Russian. Students must complete RUS 204, 214, and 304 prior to RUS 400.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: RUS 204, RUS 214, RUS 304

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 426 (IL) Dostoevsky (3) Study of representative works by Dostoevsky in the original Russian.

Dostoevsky (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 412 (IL) Russian Translation (3 per semester/maximum of 6) Translation from Russian into English of complex texts from the humanities, social sciences, and technical fields.

Russian Translation (3 per semester/maximum of 6)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 427 (IL) Tolstoy (3) Study of representative works by Tolstoy in the original Russian.

Tolstoy (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 430 Methods and Materials for Teaching Russian (3) Research, analysis, and demonstration of pedagogical problems in the teaching of Russian.

Methods and Materials for Teaching Russian (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1987
Prerequisite: LING 100, 9 credits of Russian at the 200 level or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 440Y (US;IL) (RL ST 440Y) The Orthodox Christian Tradition (3) History, culture, and beliefs of the Eastern Orthodox religious tradition with special reference to Russia.

The Orthodox Christian Tradition (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: RL ST 004, RL ST 124, RL ST 125, RUS 100 orRUS 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 450 (IL) History of the Russian Language (3) Relationship of Russian to other Indo-European languages and changes within Russian from the time of the earliest records to the present.

History of the Russian Language (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 460 (IL) Linguistic Analysis of Contemporary Russian (3) Detailed study of the phonology, morphology, and syntax of Modern Standard Russian and the major dialects.

Linguistic Analysis of Contemporary Russian (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: 9 credits of Russian at the 200 level or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 497A (IL) Great Works of Short Russian Fiction (3) A survey of great short works of Russian fiction from the 18th century to the present day, read in Russian.

Great Works of Short Russian Fiction (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Russian (RUS)

RUS 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

School Psychology (S PSY)

S PSY 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

School Psychology (S PSY)

S PSY 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

School Psychology (S PSY)

S PSY 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

School of Science, Engineering, and Technology (SSET)

SSET 295 Internship (1-18) Supervised off-campus, individual training including practical field experiences or internships where written and oral critique of the activity is required.

SSET 295 Internship (1-18)

The objectives of the Penn State Harrisburg, Capital College Internship Program are to:

Attract and retain capable students to pursue their educational and career goals in mathematics, engineering, engineering technology, and the sciences,
Connect students with professionals who practice engineering, mathematics, technical, and science skills daily,
Establish mentoring programs to break down the barriers between student learners and practicing professionals,
Create service learning and internship experiences designed to reinforce classroom leaming in technical and theoretical subjects,
Retain students in the College and in the region by developing a seamless transition from the academy to the workplace.

The instructional and cooperative arrangements with business and industry will begin early, will be sustained throughout the four-year educational program, and will be supported by strong partnerships linking educational, business, industrial, and the intellectual communities in operative regional networks. Cooperation, collaboration, and a commitment to the future of the profession are essential if the "brain drain" is to be reversed in this region.

Another aspect of the internship program is to assist students in finding career-related, temporary employment opportunities, and to provide support and training for such positions while pursuing their education at Penn State Harrisburg, Capital College.

The Internship Program will be administered by the School of Science, Engineering, and. Technology. The staff is versed in handling student/employer relations and handles student orientations, resume/job listing database management, interview schedules, registration, evaluations, and final reports. Students who utilize the Internship Program in any way will be required to register for courses applicable to each program. The course credits may range from one to three depending upon the particular program requirements. The utilization or substitution of internship credits to meet degree requirements is strictly a program decision.

This course requires that students submit a report that is of professional quality, concise, and focused on answering the provided questions. It must be typed in 12-point font and double-spaced. Students will be assigned either an SA (satisfactory) or UN (unsatisfactory) grade based on their reports and employer evaluations. The original report, portfolio, and evaluation forms are due on the last day of instruction for the semester or session. The grading will be based on the following criteria:
20% Internship Plan
20% Portfolio
20% Final Report
40% Employer Evaluation

No special on-campus facilities are required for the course. The course will be offered every semester including the summer session.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prior approval of the proposed assignment by the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

School of Science, Engineering, and Technology (SSET)

SSET 395 Internship (1-18) Supervised off-campus, individual training including practical field experiences or internships where written and oral critique of the activity is required.

SSET 395 Internship (1-18)

The objectives of the Penn State Harrisburg, Capital College Internship Program are to:

Attract and retain capable students to pursue their educational and career goals in mathematics, engineering, engineering technology, and the sciences,
Connect students with professionals who practice engineering, mathematics, technical, and science skills daily,
Establish mentoring programs to break down the barriers between student learners and practicing professionals,
Create service learning and internship experiences designed to reinforce classroom leaming in technical and theoretical subjects,
Retain students in the College and in the region by developing a seamless transition from the academy to the workplace.

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20% Internship Plan
20% Portfolio
20% Final Report
40% Employer Evaluation

No special on-campus facilities are required for the course. The course will be offered every semester including the summer session.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prior approval of the proposed assignment by the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

School of Science, Engineering, and Technology (SSET)

SSET 495 Internship (1-18) Supervised off-campus, individual training including practical field experiences of internships where written and oral critique of the activity is required.

SSET 495 Internship (1-18)

The objectives of the Penn State Harrisburg, Capital College Internship Program are to:

Attract and retain capable students to pursue their educational and career goals in mathematics, engineering, engineering technology, and the sciences,
Connect students with professionals who practice engineering, mathematics, technical, and science skills daily,
Establish mentoring programs to break down the barriers between student learners and practicing professionals,
Create service learning and internship experiences designed to reinforce classroom leaming in technical and theoretical subjects,
Retain students in the College and in the region by developing a seamless transition from the academy to the workplace.

The instructional and cooperative arrangements with business and industry will begin early, will be sustained throughout the four-year educational program, and will be supported by strong partnerships linking educational, business, industrial, and the intellectual communities in operative regional networks. Cooperation, collaboration, and a commitment to the future of the profession are essential if the "brain drain" is to be reversed in this region.

Another aspect of the internship program is to assist students in finding career-related, temporary employment opportunities, and to provide support and training for such positions while pursuing their education at Penn State Harrisburg, Capital College.

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This course requires that students submit a report that is of professional quality, concise, and focused on answering the provided questions. It must be typed in 12-point font and double-spaced. Students will be assigned either an SA (satisfactory) or UN (unsatisfactory) grade based on their reports and employer evaluations. The original report, portfolio, and evaluation forms are due on the last day of instruction for the semester or session. The grading will be based on the following criteria:
20% Internship Plan
20% Portfolio
20% Final Report
40% Employer Evaluation

No special on-campus facilities are required for the course. The course will be offered every semester including the summer session.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: prior approval of the proposed assignement by the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 100 Introduction to Research (1) Introduces essential elements of laboratory safety, laboratory techniques, research ethics, and scientific communication skills. Especially for undergraduate research students.

SC 100 Introduction to Research (1)

The main objective of the course is to prepare students for a fulfilling and successful learning experience in the research laboratory. Students who engage in undergraduate research often continue to project for four to six semesters. This course provides students with the necessary introductory information to the undergraduate research experience so that the entire experience is more satisfying and productive for the students. A corollary goal is to introduce research students to other, like-minded students. Several in-class activities will involve group work combined with an explicit discussion of productive group dynamics. The course will cover four major issues associated with a sustained research project: safety, techniques, ethics, and communication. The course will make students more cognizant of the importance of each of these areas and will provide justification for the importance of each activity in the research enterprise. Students will be evaluated via a series of assignments in which the students reflect on the components of each area and the importance of that area to the continuation of scientific knowledge. Students will be quizzed on safe laboratory practices, usually with a laboratory practical on safety. Students will be assessed on the satisfactory performance common laboratory techniques such as using a pipette, using an analytical balance, using a power source, and proper handling of large equipment like super speed centrifuges. Ethics will be assessed via assignments that require students to contemplate a variety of ethical issues. As part of ethical conduct students will be expected to learn the proper composition of a laboratory notebook. The notebook will provide a segue between ethics and communication skills. Students will examine several recent scientific research articles and discuss the way in which the article is written. They will be assessed on their ability to summarize and critique the article in writing. A book on scientific writing could be assigned for this portion of the course because a student would find use of such a resource as they progress on an independent research project. The laboratory technicians or laboratory managers might assist the faculty member who is teaching the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 101 (AG 100) Job Placement Skills and Strategies (1) Strategies and skills designed to identify career/life goals and implement career decisions.

SC (AG) 101 Job Placement Skills and Strategies (1)

This course focuses on the practical skills that are important for people who are seeking employment as well as introduces you to the variety of career options available to students.

The assignments are designed to take the students through the job search process. The instructor will take the employer's point of view when grading assignments. After successfully completing this course, the student should feel in control of their search for summer job, internship, or full-time position.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 201 Medical Professions (1) Learn about the different medical professions and related subjects.

SC 201 Medical Professions (1)

The purpose of this course is to provide students with general information on the different health professions and various related subjects as potential career options. Many students come to the university with an interest in pursing a health profession but do not have a clear idea of what kind of work is involved in the particular profession of their choice. Moreover, students often are not aware that there are other health career options available. This one-credit course is targeted to all students that have a general interest in health and science, and may include students in the following majors: premedicine, science, biology, chemistry, biochemistry and molecular biology, forensic science, nursing, kinesiology, nutrition, and biobehavioral health. Some of the professions discussed are: allopathic and osteopathic medicine, physical therapy, occupational therapy, physician assistant, nurse practitioner, dentistry, maxillo-facial surgery, optometry, audiology, genetic counseling, nursing, podiatry, and pharmacy. In addition to describing the professions, time is spent talking about academic preparation for specific professions and the application process for admission to health profession schools. Furthermore, the nature of various health profession training programs are described , as well as how students obtain tuition funds for payment of such programs. One week’s topic generally focuses on health profession training outside the United States (e.g., foreign medical schools). This course is structured as a seminar course; all lectures are given by invited speakers. The speakers talk about the profession in general and may give specific information about the particular school they attend or currently work at. Students are encouraged to ask questions about the health careers and also to interact with the speakers after the class, where they might ask specific questions pertaining to their suitability as an applicant. The course will meet in the evenings, for one hour, one day a week, for 15 weeks. The students that enroll in this course receive a satisfactory or unsatisfactory grade based on attendance only (there are no exams, quizzes or written reports). Students may miss up to three classes during the fifteen week session. Therefore, students that attend twelve of the fifteen lectures will receive a satisfactory grade. If a student needs to miss class due to an evening exam, they will need to fill out an Excused Absence Form, which can be obtained from the instructor (no other activities are excusable except for athletic competitions for students in varsity teams).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 200 (GN) Science in Our World: Certainty and Controversy (3) A science appreciation course, aimed at making non-scientists more informed consumers of science.

SC 200 Science in Our World: Certainty and Controversy (3)
(GN)

Science is frequently in the news. That’s because it affects our everyday lives, shapes our view of the world and our place in it, and will have a profound impact on our future. This course teaches an appreciation of science and scientific thinking. It is aimed at making non-scientists more informed consumers of science by improving their ability to distinguish good science from bad science, and science from non-science. The course assumes no background knowledge. It is not for scientists. Teaching is delivered by case studies of controversies within science and/or the public domain, some of which are resolved, some of which are not. The first section of the course illustrates general principles by studying arguments now largely resolved, but which still resonate, such as child health and IQ, smoking, and why the peacock has such a ridiculous tail. The second section focuses on unresolved scientific controversies which might include climate change, personalized genetic medicine, passive smoking, nanotechnology, the scientific evaluation of the healing power of prayer, or deer management in Pennsylvania. The third section evaluates unresolved scientific issues in the contemporary media: why it is in the news, what are the scientists involved actually doing and arguing about, and how is the media is handling the science? This will be likely focused on real time analysis of media reaction to a scientific paper published by PSU faculty during the course. The fourth section will discuss paradigm shifts which have occurred during the students’ lifetimes, particularly those involving our view of ourselves and our universe, and end by speculating on the paradigm shifts that could occur in the next twenty years. The course will draw on experts from within and outside of PSU. Throughout, the focus is on the nature of the debates, looking at how scientists evaluate problems, and why that can generate controversy within science and beyond science – but at the same time, generate knowledge which profoundly affects our well being and our understanding of ourselves.

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 210 Sophomore Science Seminar (2) Covers topics related to success in upper level courses including critical thinking, library resources, reading primary literature, and communication skills.

SC 210 Sophomore Science Seminar (2)

The main objective of this course is to serve as a bridge between the first two years of a science program and the last two years. Sophomore students need to understand that upper-level coursework in the sciences requires higher order cognitive skills as well as an intellectual maturity that enables the student to meet the challenge of upper level coursework. Students also require an ability to access the multitude of scientific information available on the web and in library databases therefore students will be expected to demonstrate their ability to retrieve information. Sophomore students are faced with many exciting possibilities that they should be aware of including undergraduate research and cooperative education. This course will enable students to make more informed decisions about how to best structure their own educational needs while meeting the demands of upper level coursework. Students will be assessed via a variety of methods including participation in discussion, actively seeking information from seminar guest speakers (in the form of questions), written reports (interview with faculty member, summary of scientific article, synthesis of newspaper reports about recent discoveries, individually selected research topic), and oral presentations (critique of recent science information in newspapers, independent topic, interview with faculty member).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 285 Science Co-Op Preparation (1) Course helps students maximize value from Science Co-Op work experience; includes discussions of corporate culture and issues of business/technology. Offered for SA/UN grade.

Science Co-Op Preparation (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 294 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 295 Science Co-op Work Experience I (1-3) A supervised work experience where the student is employed in a scientific position. To be offered for SA/UN grading.

Science Co-op Work Experience I (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: acceptance into the Eberly College of Science co-op program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 297A Introduction to Forensic Science (3) The course will review the application of the physical and social sciences as they apply to the analysis of evidence.

Introduction to Forensic Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 297B (GN) Science in Our World: Certainty and Controversy (3) A science appreciation course, aimed at making non-scientists more informed consumers of science.

Science in Our World: Certainty and Controversy (3)

General Education: GN
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 297D (ENGR 297D) Science/Technology/Engineering/Mathematics Topics (1-6) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Science/Technology/Engineering/Mathematics Topics (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 395 Science Co-op Work Experience II (1-3) A supervised work experience where the student is employed in a scientific position. To be offered for SA/UN grading.

Science Co-op Work Experience II (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SC 295

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 400 Consequences of Science (1) A series of lecture/discussions in which science faculty members show the social implications of their research specialty.

Consequences of Science (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 401 Basic Science and Disease (1) Clinical aspects of various disease and how basic scientific information contributes towards understanding and treating disease.

SC 401 Basic Science and Disease (1)

The purpose of this course is to provide students with some general background on the symptoms, risk factors, prevention, and treatment of various diseases. Along with the clinical aspects of the diseases, we examine how basic scientific research studies contribute information towards helping to understand the mechanisms underlying disease development and control. This one-credit course is targeted to all students that have a general interest in health and science, and may include students in the following majors: premedicine, science, biology, chemistry, biochemistry and molecular biology, forensic science, biobehavioral health nursing, kinesiology and nutrition. Enrollment priority is given to students with fourth semester or above status.

Examples of topics discussed are: Hypertension, Osteoporosis, Infectious Diseases, Asthma, Chronic Obstructive Pulmonary Disease, Cancer, Diabetes, Sickle Cell Anemia/Anemia, Blood Disorders, Hypercoagulability, Coronary Artery Disease, Alcoholism/Alcohol Poisoning, HIV/AIDS, Tuberculosis, Irritable Bowel Syndrome, Hepatitis, Thyroid Disease, Congestive Heart Failure, Parkinson’s Disease, and Arthritis

This course is structured as a seminar. Most lectures are powerpoint presentations by invited speakers, which usually will be local physicians sometimes paired with Penn State research faculty. The speakers introduce the disease topic by discussing the basic anatomy and physiology of the system or body part most affected by the disease. (e.g. lungs, heart, kidneys, etc). Once the foundation is established the pathophysiology is discussed. Risk factors and prevention are also highlighted. One important goal of each seminar is to indicate to students how advances in basic science research can impact the understanding and treatment of disease. Students are encouraged to ask questions after the lecture. The speaker(s) remain afterwards to allow students to ask more specific questions about the disease topic. On occasion, speaker physicians also talk about their medical school training and/or life as a practicing physician. The students that enroll in this course receive a letter grade based on attendance (students must attend 9 out of 10 classes), quizzes and a 2-3 page reaction paper on one of the disease topics. Random short-answer quizzes are sometimes administered at the end of a seminar, testing on information presented during the seminar. Also, reading assignments are sometimes given prior to a seminar, or information handout materials are provided during the seminar. If a student needs to miss class due to an evening exam they need to fill out an Excused Absence Form, which can be obtained from the instructor (no other activities are excusable except for athletic competitions for students in varsity sports).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 4th semester standing or higher standing plus 3 credits in biology and 3 credits in chemistry

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 494 Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 494H Research Project Courses (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project Courses (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 495 Science Co-op Work Experience III (1-3) A supervised work experience where the student is employed in a scientific position. To be offered for SA/UN grading.

Science Co-op Work Experience III (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SC 395

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science (SC)

SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 297A Outdoor School Counselor (2) Outdoor School is a field experience class and you must be accepted as a counselor before being registered.

Outdoor School Counselor (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: Contact Ellen Will for application information eeb11@psu.edu

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 297C Investigating Sound and Light (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Investigating Sound and Light (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 297A Outdoor School Counselor (2) Outdoor School is a field experience class and you must be accepted as a counselor before being registered.

Outdoor School Counselor (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: Contact Ellen Will for application information.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 411 Teaching Secondary Science I (3) Introduction to teaching secondary school science, including curriculum, learning theory, media, evaluation as they relate to student progress.

Teaching Secondary Science I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: C I 295 ; appropriate courses for certification option and approval of department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 410 Using Technology to Enhance Science Teaching (3) This course explores contemporary practice and research associated with applications of technology to enhance science learning and teaching.

SCIED 410 Using Technology to Enhance Science Teaching (3)

The primary emphasis of this course is to explore current research and practice associated with using technology tools to enhance the teaching and learning of science. Through participation in the course, students will have the opportunity to:
* investigate a variety of technology tools with specific applications in supporting student learning in science (e.g., web-based resources, simulations, tutorials, graphing software, concept mapping programs, hypermedia authoring tools, etc.) and document abilities to use these tools;
* incorporate technology tools into science instruction (e.g., making observations, designing and conducting investigations, interpreting and reporting results, etc.) in ways that enhance teaching and learning;
* evaluate technology tools within the context of their applications to supporting teaching and learning science;
* participate in electronic discussions of central considerations associated with enhancing science teaching with technology; and
* author a hypermedia tool that supports science teaching and learning (and incorporates a variety of media).

In addition, students will design and conduct an individualized project targeted at meeting these needs as science teachers and/or graduate students in science education.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: admission to one of the science teaching options in SECED

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 412 Teaching Secondary Science II (3) Implementation of science instruction using a variety of modern approaches.

SCIED 412 Teaching Secondary Science II (3)

SCIED 412 is the third of three sequenced methods courses for secondary science teachers. In SCIED 412 prospective science teachers practice and develop skills in planning, presenting, and assessing effective science learning and teaching for students in middle and high school grades. The course incorporates theory and practice associated with science learning and teaching in school classroom settings. As in SCIED 410 and 411, emphasis will be on becoming a professional science teacher. Goals include: developing the knowledge, skills, and dispositions that encourage reflective practice, collaborative action, and lifelong inquiry into teaching and learning.

Students will develop an understanding of learning theory, and the approaches that diverse individuals take to construct knowledge; becoming competent in the use of science content and inquiry processes and the various materials that can help in the planning instruction relevant to learners' needs; developing skills in instructional, communication, management, and assessment strategies that contribute to planning meaningful science lessons for middle or high school level students, and will become competent in selecting and integrating appropriate technological tools into instruction.

Finally, students will become aware of major issues facing science education today and consider the implications of those issues for teaching. Additionally, the focus on technology initiated in SCIED 410 and continued in SCIED 411 will be extended in SCIED 412. Students will engage in teaching and learning science using appropriate state-of-the-art technology applications. A variety of software tools will be explored including, but not limited to, probeware, spreadsheets and graphing packages, on-line collaborative inquiry-based projects, and models and simulations. Students will apply their knowledge of technology tools acquired in SCIED 410 to classroom settings. Students will teach a technology-enhanced science lesson in a mentored environment, i.e., small group peer teaching, and strive to integrate technology in their practicurn classroom.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SCIED 410, SCIED 411
Concurrent: C I 412W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 455 Field Natural History for Teachers (3) Ecologically oriented field study course to provide teachers with basic knowledge of natural science resources in school environments.

Field Natural History for Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: 3 credits in biological science

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 454 Science in Early Childhood Education (3) Philosophy, techniques, materials, and evaluation in teaching science to young children (N-3); a briefing of science concepts for young children.

Science in Early Childhood Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 457 Environmental Science Education (3) Philosophy, techniqus, and skills for teaching environmental science, including curriculum development, fieldwork, and the use of appropriate technologies.

SCIED 457 Environmental Science Education (3)

This course provides an introduction to teaching environmental science to children. Although our emphasis is school-based instruction in the middle and secondary sciences, the course is also appropriate for grade K-6 teachers and teachers of other environmentally related subjects (e.g., social studies, agriculture), as well as educators who plan to work in nonformal educational settings such as nature centers and museums. The course builds students' knowledge in the philosophy, methods, and skills of environmental education; engages students in environmental curriculum analysis and development; and provides hands-on training in classroom-based and field-based environmental investigations. Training and practice with appropriate environmental technologies is included, including CBLS, GPS, and computer software.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2003
Prerequisite: 3 credits of calculus 9 credits of sciences 400-level teaching methods course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 458 Teaching Science in the Elementary School (3) Interpreting children's science experiences and guiding development of their scientific concepts; a briefing of science content material and its use.

Teaching Science in the Elementary School (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LL ED 400, LL ED 401, LL ED 402, PSYCH 212 three credits each in biological earth and physical sciences
Concurrent: C I 495A OR C I 495B ; MTHED 420 SS ED 430W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 470 Selected Studies in Science Education (1-6) Intensive work on particular issues, trends, or developments in science education for elementary and secondary school teachers.

Selected Studies in Science Education (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: Instructional I certification and teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 497C Robotics for Elementary Teachers (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Robotics for Elementary Teachers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 497A Global Climate Change for Educators (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Global Climate Change for Educators (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 497D Insect Connections for Educators (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Insect Connections for Educators (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 497F (ENGR 497F) Fundamentals of Science, Technology & Engineering (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Fundamentals of Science, Technology & Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science Education (SCIED)

SCIED 498A School of Fish - Fish Biology Concepts and Aquatic Wildlife Ecosystems (K-12) (1) Participants will learn about the affect of human interaction on the environment.

School of Fish - Fish Biology Concepts and Aquatic Wildlife Ecosystems (K-12) (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Engineering, and Technology (SE&T)

SE&T 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 005 (US) (WMNST 005) Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.

S T S (WMNST) 005 Introduction to Women in Science, Technology, and Engineering (3) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

Women's Studies 005 examines the experiences, achievements, and status of women in science, engineering, and technology. The course offers a broad interdisciplinary overview of scholarly research and theory pertaining to women and issues of gender in science, engineering, and technology. The course is interdisciplinary (drawing materials from the natural and social sciences) and cross-cultural (taking a comparative approach to western and non-western sciences and technologies). Students study great women scientists and also barriers institutional and ideological - that women have had to overcome in order to participate in science, asking how the presence and absence of women have effected those studies. Students will be graded by several quizzes and two short exams during the semester. To evaluate progress in developing critical thinking skills, the students will be required to write a response journal and/or response papers to major topic areas during the semester. Also, one individual or group presentation will be required. These instruments enable the instructor to assess students' acquisition of knowledge relevant to the general objectives of General Education. This course will satisfy 3 credits of the 16 credit requirement for the Natural and Social Science courses for the Women's Studies major. It may be used as a supporting course for the Science, Technology, and Society minor. The course will also satisfy the requirement for Women's Studies Natural and Social Sciences for the minor.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 047 (SOC 047) Wilderness, Technology, and Society (3) Impact of developments in science, literature, and art on changing attitudes toward nature; consequences for conservation, preservation, environmental ethics.

Wilderness, Technology, and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 055 (GN) (AERSP 055) Space Science and Technology (3) The science and technology of space exploration and exploitation; physical principles; research and development; history, space policy, and social implications.

Space Science and Technology (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences and Social and Behavioral Science
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 100 (GH) The Ascent of Humanity (3) A survey of some of the intellectual achievements that highlight humanity's attempts to understand nature and shape the environment.

S T S 100 Science, Technology, and Culture (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

"Science, Technology, and Culture" surveys the development and culture of science, technology, and medicine in world history. This course will introduce students to using the humanities, social sciences, and the arts to understand the development and uses of science, technology, and medicine in human history. The course focuses on broad trends and changes over time in their social and cultural contexts.

The course is intended to address the needs of a wide range of students. For students majoring in the the arts, humanities and social sciences, the course provides a deeper understanding of the relationship between lay/popular and techno-scientific cultures. For the scientific and technically oriented student, the class exposes students to the study of technical and scientific problems from a broader cultural and historical perspective. All students will develop a knowledge of the values that have motivated and informed scientific, technological, and clinical ventures as well as an appreciation of important cultural dimensions of techno-scientific work, including the influence of religious concepts and practices, the impact of race, class, and gender, the significance of language and symbols, and the role played by local and global traditions.

The course also asks students to think critically about the role of science, technology, and medicine in world history and the impact of that history on today’s world. Topics include: the role of scientific and technical expertise in society; the social and economic conditions that have fostered and impeded scientific development and technological innovation; the social, aesthetic, and symbolic considerations that have shaped the way scientific ideas have been framed and used; and the impact of scientific notions and technological innovations on social life.

Students are required to read both primary and secondary texts. Students are also required to augment their classroom readings with scholarly material that they find through library and electronic research. In addition to regular classroom discussions, students will also participate in team-based learning activities and projects that require the students to interact with their peers and to present their thoughts publicly.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 090 Introduction to Peace and Conflict Studies (3) Introduction to theory and practice concerning major contemporary issues of peace and conflict; includes anthropological, technological, psychological, and economic perspectives.

Introduction to Peace and Conflict Studies (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 100 (GH) Science, Technology, and Culture (3) A survey of the development and culture of science, technology, and medicine in world history.

S T S 100 Science, Technology, and Culture (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

"Science, Technology, and Culture" surveys the development and culture of science, technology, and medicine in world history. This course will introduce students to using the humanities, social sciences, and the arts to understand the development and uses of science, technology, and medicine in human history. The course focuses on broad trends and changes over time in their social and cultural contexts.

The course is intended to address the needs of a wide range of students. For students majoring in the the arts, humanities and social sciences, the course provides a deeper understanding of the relationship between lay/popular and techno-scientific cultures. For the scientific and technically oriented student, the class exposes students to the study of technical and scientific problems from a broader cultural and historical perspective. All students will develop a knowledge of the values that have motivated and informed scientific, technological, and clinical ventures as well as an appreciation of important cultural dimensions of techno-scientific work, including the influence of religious concepts and practices, the impact of race, class, and gender, the significance of language and symbols, and the role played by local and global traditions.

The course also asks students to think critically about the role of science, technology, and medicine in world history and the impact of that history on today’s world. Topics include: the role of scientific and technical expertise in society; the social and economic conditions that have fostered and impeded scientific development and technological innovation; the social, aesthetic, and symbolic considerations that have shaped the way scientific ideas have been framed and used; and the impact of scientific notions and technological innovations on social life.

Students are required to read both primary and secondary texts. Students are also required to augment their classroom readings with scholarly material that they find through library and electronic research. In addition to regular classroom discussions, students will also participate in team-based learning activities and projects that require the students to interact with their peers and to present their thoughts publicly.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 101 (GH) Modern Science, Technology, and Human values (3) Relationships of science and technology to human aspirations, values, and arts.

Modern Science, Technology, and Human values (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 101H (GH) Modern Science, Technology, and Human values (3) Relationships of science and technology to human aspirations, values, and arts.

Modern Science, Technology, and Human values (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 102 (GS) Science, Technology and Public Policy (3) This course will survey the main issues that relate science and technology to public policy.

S T S 102 Science, Technology and Public Policy (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Technologies in all fields, such as medicine, telecommunications, and energy have created economic opportunities and wealth increasing the quality of life, yet has many times led to public controversy. To help resolve some of these controversies, the use scientific knowledge is called upon to clarify situations and distinguish facts from values in public policy deliberations.

However, developing public policy in science and technology is not always an easy or obvious process. There are times when the underlying science is uncertain or that the problems are beyond the reach of scientific analysis. The practice of the science itself may indeed be a source of concern. Although technologies can create societal controversy, advances in technologies can also be seen as ways to resolve controversies. Examples that highlight these difficulties include advances in biomedical technology like stem-cell research that may create or resolve ethical dilemmas or advances in new energy technology that may mitigate greenhouse gases produced from older energy technologies.

Determining the limits of science in public policy is a critical task. At an elementary level, students will learn the distinguishing features of scientific inquiry and how that inquiry generates knowledge relevant for public policy decision making, such as the scientific knowledge related to the efficacy of medical treatments, environmental protection, or even the creation of standards for technology such as broadcasting. Understanding the difference between “sound science” and “junk science” is essential to understanding how scientific knowledge may be used to justify public policy decisions.

The overarching course objective is for students to understand the roles of science and technology in public policy formation and implementation. Students will learn how different stakeholders – business, government, and citizens – may have different interpretations of a policy problem and the role of science and technology depending upon differences in history, culture, traditions, and their own ideas for the future. Understanding how these different perspectives play a pivotal role in public policy deliberation, formation, and implementation is a central element of the course.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 105 (GHA) (FD SC 105) Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.

S T S (FD SC) 105 Food Facts and Fads (3)
(GHA)

(BA) This course meets the Bachelor of Arts degree requirements.

Food Facts and Fads is an introductory food course that broadly surveys various aspects of food, agriculture, nutrition, and health. Students in this course explore the components of the food system from producer to consumer; examine issues related to modern food technology, food and nutrition policies, and changes in the food industry; and assess the impact on the food system, consumers, and on society as a whole. Students will assess their own food and nutrition behaviors, become more aware of the environment in which they make food decisions, and devise strategies for improving health through better diet and increased physical activity. Students learn through lectures, videos, guest speakers, discussions, individual and group activities, and optional field trips. This course emphasizes active learning and critical thinking. Students are expected to complete electronic quizzes, write two or more short reflective papers, and complete a project on a food topic of the student's choosing, for which information must be gathered from several sources in a variety of ways.

General Education: GHA
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 107 (GH) (PHIL 107) Introduction to Philosophy of Technology (3) The character of technology; its relation to human values; philosophical assumptions in its development; and how it transforms the world.

S T S (PHIL) 107 Introduction to Philosophy of Technology (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

"Introduction to the Philosophy of Technology" surveys a number of recent thinkers on the meaning of technology, its role in our and other societies, and critiques of its effects. Through readings of classic works on philosophy of technology as well as investigations of contemporary media reports and representations of technology, the course will engage your thought about what technology "means" to you and the values embedded in it. This course meets the broad general education needs of students from the humanities, social sciences, engineering, agriculture, as well as professional tracks such as business and pre-law. As technology is increasingly fundamental to our modern way of life in all its aspects, this course gets students asking question about why we do what we do with technology and how it affects us, others around us, and the environment. Required readings typically include collections of essays ranging in reading level from popular journalism to mass-market fiction to historical analyses of technological change and in-depth philosophical investigations of the concept of technology. Classroom time will be organized around lecture, regular classroom discussion, and a number of student-led debates. Evaluation will be based upon short writings, a small research paper, a midterm, and a final. The course meets the requirement for General Education in the Humanities (GH). Crosslisted with Philosophy it compliments other S T S courses (notably, S T S 101 and 233) and is a pre-requisite for S T S/ Phil 407.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 105S (GHA) First-Year Seminar - Food Facts and Fads (3) Impact on society and the individual of modern food technology, food laws, additives, etc.; historical, current, and futuristic aspects.

S T S 105S Food Facts and Fads (3)
(GHA)

(BA) This course meets the Bachelor of Arts degree requirements.

Food Facts and Fads is an introductory food course that broadly surveys various aspects of food, agriculture, nutrition, and health. Students in this course explore the components of the food system from producer to consumer; examine issues related to modern food technology, food and nutrition policies, and changes in the food industry; and assess the impact on the food system, consumers, and on society as a whole. Students will assess their own food and nutrition behaviors, become more aware of the environment in which they make food decisions, and devise strategies for improving health through better diet and increased physical activity. Students learn through lectures, videos, guest speakers, discussions, individual and group activities, and optional field trips. This course emphasizes active learning and critical thinking. Students are expected to complete electronic quizzes, write two or more short reflective papers, and complete a project on a food topic of the student's choosing, for which information must be gathered from several sources in a variety of ways.

General Education: GHA
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 122 (GH) (HIST 122) History of Science I (3) A history of science and culture from Stonehenge to the scientific revolution.

S T S (HIST) 122 History of Science I (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to explore the earliest developments in science, beginning with the prehistoric roots of technology and theories of human origins, followed by an engagement with the achievements of the Mayans, Aztecs, and native North Americans. We then turn to science and technology in the ancient Greek and Egyptian worlds, followed by an analysis of early Chinese and East Indian science, medieval science in Europe, selected African sciences, and the rise of modern science in Scientific Revolution and beyond. The point of the course is to show that science is a world tradition with an ancient history, and that many social, political, cultural, and economic forces can push or pull this peculiar form of knowing in one direction rather than another. There are other history of science courses offered at Penn State, but none treats the history of science in general in relation to its social context and influences. Other history of science courses are more thematic than survey courses. HIST/S T S 123, "History of Science II," treats science from the scientific revolution to the present. Students may take either course alone or out of sequence; the first will not be a prerequisite for the second. The expectation is that students will combine knowledge acquired in this course with knowledge from their required general education courses in science to develop a broader understanding of history and science. HIST/S T S 122 may be used to fulfill a requirement for the History major and the History minor and it is an essential part of the recently proposed science and technology history theme within the Science Technology & Society minor. Nonmajors may use it to fulfill a general education humanities requirement.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 123 (GH) (HIST 123) History of Science II (3) A history of science and culture from the scientific revolution to the present.

S T S (HIST) 123 History of Science II (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this course is to explore the earliest developments in science, beginning with the prehistoric roots of technology and theories of human origins, followed by an engagement with the achievements of the Mayans, Aztecs, and native North Americans. We then turn to science and technology in the ancient Greek Egyptian worlds, followed by an analysis of early Chinese and East Indian science, medieval science in Europe, selected African sciences, and the rise of modern science in the Scientific Revolution and beyond. The point of the course is to show that science is a world tradition with an ancient history, and that many social, political, cultural, and economic forces can push or pull this peculiar form of knowing in one direction rather than another. There are other history of science courses offered at Penn State, but none treats the history of science in general in relation to its social context and influences. Other history of science courses are more thematic than survey courses (e.g., "History of Mathematics" and "History of Gender in Science and Archaeostronomy"). HIST 122, "History of Science I," treats science from Stonehenge to the scientific revolution. Students may take either course alone or out of sequence; the first will not be a prerequisite for the second. The expectation is that students will combine knowledge acquired in this course with knowledge from their required general education courses in science to develop a broader understanding of history and science. HIST/S T S 123 may be used to fulfill a requirement for the History major and the History minor and it is an essential part of the recently proposed science and technology history theme within the Science, Technology and Society minor. Students will learn historical techniques for the objective evaluation of readings and the formulation of clear and valid responses. Students' grades will be formed from a combination of a midterm and a final. Students are also required to do a paper for the class, the topic being subject to the approval of the instructor.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 130 World Food Problems (1-3) Critical examination of data sources, issues, and perspectives concerning contributions of science, technology, and society in resolving world food problems.

World Food Problems (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 124 (GH;US;IL) (HIST 124) History of Western Medicine (3) This course explores the history of health, illness, and medicine in western society.

S T S (HIST) 124 History of Western Medicine (3)
(GH;US;IL)

Relying on both primary and secondary sources, the course examines developments in medical thinking and practice, the changing status of medical practitioners, and the experience of patients in order to understand the links between medicine and its social, cultural, intellectual, and political contexts.

This course will also augment offerings in bioethics and medical humanities by providing the historical context of ethical issues and social policies concerning medicine. It will be attractive to students pursuing a health professional career and will provide a historical context to the issues raised in courses such as HD FS 301 "Values and Ethics in Health and Human Development Professions, " BIOL 461 "Contemporary Issues in Science and Medicine," PHIL/S T S 432 "Medical and Health Care Ethics," and ANTH 470H "Our Place in Nature." The course will be one of the Humanities Electives for the Bioethics/Medical Humanities Minor as well as the proposed Disability Studies minor.

Within the Department of History, the course is part of the undergraduate offerings in the history of science and , thus, is directly linked to HIST/S T S 122, HIST/S T S 123, and HIST 103. The course would also support the Science, Technology, and Society Program's undergraduate minor, augmenting courses in science and health and medicine, such as S T S 101, S T S 105, S T S 200, and S T S 432.

General Education: GH
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 130H World Food Problems (1-3) Critical examination of data sources, issues, and perspectives concerning contributions of science, technology, and society in resolving world food problems.

World Food Problems (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 135 (GS) (PL SC 135) The Politics of the Ecological Crisis (3) The political implications of the increasing scarcity of many of the world's resources.

S T S (PL SC) 135 The Politics of the Ecological Crisis (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

"The Politics of Scarcity" examines some "big" questions about the prospects for human in general and democracy in the United States in particular. Much of the reading assumes that our civilization faces the twin problems of increasingly serious shortages of resources and a growing ecological crisis that threatens the basis of life. Further, it argues that these "twin crises" feed upon each other, and that together they pose serious short and long run challenges to survival. Some readings attribute these problems to the dominant values that characterize modern Western society. The course does consider some dissents from this perspective, arguments that things will be just fine. However, it concentrates on problems and predictions of trouble. Thus, the class does not claim to present an evenly balanced assessment. Rather, it recognizes that most of what we learn, read, and see supports the status quo and assumes our civilization and energy-dependent way of life will continue. Consequently it makes sense to emphasize the less frequently argued position that we may be headed for disaster.

The class aspires to appeal to students regardless of major or college -- to scientists, engineers, students of the humanities, and even economists and political scientists. It fulfills the University-wide general education requirement in Social Science. Although it discusses the role of politics in general and the role of the American political system in particular in discussing the "twin crises," it mostly grapples with fundamental questions of value that underlie and guide the play of power in our political system and with how the massive changes now taking place globally both affect and are affected by politics.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 150 (GN;IL) (EM SC 150) Out of the Fiery Furnace (3) A history of materials, energy, and humans, with emphasis on their interrelationships. For nontechnical students.

Out of the Fiery Furnace (3)

General Education: GN
Diversity: IL
Bachelor of Arts: Natural Sciences and Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 151 (GS;US) (HIST 151) Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.

Technology and Society in American History (3)

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 151S (GS;US) (HIST 151S) Technology and Society in American History (3) Development of technology in America from colonial times; its reception and its influence on social, economic, and political life.

Technology and Society in American History (3)

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 197 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 200 (GS) Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.

Critical Issues in Science, Technology, and Society (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 200S (GS) Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.

Critical Issues in Science, Technology, and Society (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 200H (GS) Critical Issues in Science, Technology, and Society (3) An overview of interactions between science, technology, and society from social sciences and humanities perspectives.

Critical Issues in Science, Technology, and Society (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 201 (GN) Climate Change, Energy, and Biodiversity (3) Studies of global warming, energy options, and biodiversity; their interrelations as sciences and as societal issues.

Climate Change, Energy, and Biodiversity (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences and Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 201H (GN) Climate Change, Energy, and Biodiversity (3) Studies of global warming, energy options, and biodiversity; their interrelations as sciences and as societal issues.

Climate Change, Energy, and Biodiversity (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences and Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 202 (GH;IL) Introduction to Disability Studies in the Humanities (3) Provides a humanities-based interdisciplinary introduction to Disability Studies.

S T S 202 Introduction to Disability Studies in the Humanities (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is one of two paired introductory courses developed as required courses for the Disability Studies minor. S T S 202 introduces students to the long historical view of disability, to the political and philosophical assumptions entailed in the concept, and to the stark challenges presented by disabled persons to those assumptions. Beginning with the related concepts of ability/disability, normal/abnormal, impairment/environment, universalism/human variation, and spanning the many types of physical and mental disability, the course then traces the historical record of disability, from ancient Greece to the twentieth century. The course then examines five "case studies" of disability, each presenting a different historical/institutional response to disability. This discussion leads to an in-depth examination of the role played by nineteenth-century "race sciences" in the creation of the umbrella concept of "degeneracy," and related state practices of eugenics. The course concludes with a unit on contemporary disability activism, global representations of and responses to disability, and the efforts of international organizations (e.g. U.N., W.H.O.) to delineate and ensure the rights of disabled persons. The final two weeks are devoted to presentations of independent research and scholarship by students in the course.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 230 (HIST 230, NUTR 230) American Food System: History, Technology, and Culture (3) A cultural analysis of the evolution of U.S. agricultural production and food consumption patterns, the food industry and food marketing.

American Food System: History, Technology, and Culture (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 233 (GH) (PHIL 233) Ethics and the Design of Technology (3) Ethics and individual and group decision-making in the design of technology including design projects and specific attention to institutional ethics.

S T S (PHIL) 233 Ethics and The Design of Technology (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

Technology has been around nearly as long as humans have been around. Humans have always created artifacts and artificial environments to aid us in our survival and to help fulfill our needs and desires. Moreover, today technology is all pervasive, transforming and conditioning our social and political relations, our cultural understanding of ourselves, and our relationship with other animals and the natural environment. Yet not much thought has been expended upon the meaning of technology, particularly in its moral dimensions. This course takes several steps to correct this deficiency. Because technologies can have far reaching effects well beyond the domain of their immediate application, the role of designers is crucial in deciding whether we take an intelligent or unintelligent approach to technology. All technologies exist to serve one human need or another. Designers make important choices concerning the creation, development, and deployment of many if not most technological innovations. Consequently, the task of the designer is an ethical one. Our goal is twofold: First, we will try to broaden our moral imaginations by taking into account the wider ranging effects that technologies have in order to reveal the moral significance of design choices. Second, we will examine the process of design itself, particularly in the way that the design process is similar to ethical reasoning in general. It is hoped that by accomplishing these two tasks, we will be empowered as designers, customers, citizens, and future employers to make choices that better fulfill the moral task of technological innovation. Two means will be used to achieve our course goals. Much of the time will be spent thinking about and discussing the various impacts that particular technologies have upon the social, cultural, and political lives of human beings and upon the natural environment. To facilitate thoughtful discussion, we will read a number of authors, writing short papers in preparation for critical discussion in class. In this way we will be better prepared to discuss and think about the issues at hand by having had the chance to organize our thoughts in advance. The second means is aimed at putting our ideas into practice by working in teams on several design projects. These design projects will require the integration of readings, discussion, and research and their synthesis to solve a design problem. Student teams will work cooperatively on these projects and make oral progress reports as well as final written and oral reports.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 235 (GH) Science and Religion (3) This course investigates the relationship between science and religion in multiple cultures.

S T S 235 Science and Religion (3)
(GH)

The purpose of this course, designed to fulfill general education requirements in the humanities (GH), is to encourage students to investigate the relationships between the disciplines of science and religion. While most of the emphasis of the course will be on the historical interaction between science and Western religion, we will also investigate science ("natural philosophy") in the Islamic, Hindu, and Eastern religious traditions. Students will read classic texts that discuss science and religion from scientists such as Newton and Darwin as well as from world Scriptures and contemporary positions of various influential scientists and religious scholars concerning views of the material world as it relates to the spiritual world. There will be no attempt to encourage students to accept a particular religious or secular viewpoint. Rather, the course will be successful if at its conclusion the student can articulate a personal viewpoint while appreciating the reasons others might have for holding alternative opinions. Students will develop an understanding of the arguments and the historical context in which they originated which lead to differing positions. Thus, individual students will be expected to demonstrate this understanding in a series of examinations scheduled throughout the semester, and in a final examination if required by the instructor. Discussion and debate are useful devices in the search for understanding. In order to facilitate such discussion, students will be required to make one presentation to the class on an assigned topic. This presentation will serve as the starting point for class exploration of the topic. To encourage active and collaborative learning, the student presentations may be group efforts, however, no group will consist of more than three students.

General Education: GH
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: completion of a basic composition course or the equivalentS T S 100 orS T S 101 or completion of 30 credits of coursework

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 245 (GS;IL) Globalization, Technology, and Ethics (3) An investigation of technology and ethics in the globalized world from contemporary, socio-cultural, and historical perspectives.

S T S 245 Globalization, Technology, and Ethics (3)
(GS;IL)

The objective of Globalization, Technology, and Ethics is to prepare students (especially but not limited to engineering and business students) who are headed into the corporate or government world for the challenges and realities of working in a rapidly globalizing world. This course will encourage students to become leaders in a mobile and diverse transnational workplace and help them to become critical citizens of that world. Through team-centered projects and readings from the social sciences and humanities, students will broaden their understanding of engineering, technology, and culture and then be given an introduction to how one makes ethical decisions about that world. The course is designed to provide skills, theories and experiences that will help them to be respectful, diplomatic and professional while being able to successfully work with technology in multiple cultures and contexts.

Globalization, Technology, and Ethics will also address topics of critical international and economic importance by including discussion of the World Trade Organization, World Bank, and International Monetary Fund. Students will understand their relationship to global manufacturing and technology use, off-shoring, outsourcing, international debt financing, and restructuring of world economies based upon different models of globalism. In addition, the class will address issues of 'glocalization' and student's and citizens' role in the globalized world and the multiple interactions that shape our technological world today.

General Education: GS
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 297 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 296H Biodiesel Production at Greater Allegheny (2) This course will study the processes for converting food services fry-oil into biodiesel. Tests will be performed on the fry-oil to confirm the quality of the oil for conversion to biodiesel. Once a plan for implementation has been establish, students will commence biodiesel production. The biodiesel will be given to facilities management for use on campus diesel vehicles. It is the intent of this study to implement continuous production of biodiesel on the Greater Allegheny campus.

Biodiesel Production at Greater Allegheny (2)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 297A Technology in Society (3) This course introduces incoming international students in the College of Engineering to the historical, institutional, political, ethical, and cultural dimensions of technology in the United States.

Technology in Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 327 (R SOC 327) Society and Natural Resources (3) Analysis of the relationships between societal development and enhancement and natural resources.

Society and Natural Resources (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 390 Personal Peace and Peace Building (3) The study of inner peace, conflict resolution and consensus, peace in the community of life, and peace building.

Personal Peace and Peace Building (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1994
Prerequisite: S T S 090

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 407 (PHIL 407) Technology and Human Values (3) Interrelationships of twentieth-century technological change and human values. Emphasis on the social and ethical aspects of technological progress.

Technology and Human Values (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 1999
Prerequisite: 9 credits in philosophy includingPHIL 107 or 6 credits of philosophy at the 200 level

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 416 (US;IL) (AAA S 416, WMNST 416) Race, Gender and Science (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.

S T S (AAA S/WMNST) 416 Race, Gender and Science (3) (US;IL)

The course's objective is to provide a seminar for students to integrate feminist theory, social theory, and science studies through class discussions, essays and research. The role of science in defining, producing, applying and policing of gender and race in society will be explored through the work of feminists and traditional scholars working in a variety of disciplines from cultural studies to science studies. Students will be encouraged to develop a critical analysis of race and gender in science in order to understand the impact of gender and race on the production of scientific knowledge. This course is designed for students in the humanities, social sciences, science and technical fields. Readings will be taken from past and contemporary social theory (i.e. students will be reading original works not textbooks). Students will be expected to read, understand and synthesize 75-100 pages of reading per class and to discuss them in a seminar fashion in order to analyze, critique and evaluate various theories to develop their own understanding of the interrelationship of science, race and gender. In addition they will do two professional-style book reviews during the semester. At the end of the semester students will integrate theory with social, cultural and historical data that they collect through library research (with a minimum of 50 sources). Students will present the paper to the class in a conference style presentation that will conclude with a Q&A session.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 408 (COMM 408) Cultural Foundations of Communications (3) Examination of oral, scribal, print, industrial and electronic cultures; analysis of impact of technology on communications and social structure.

S T S (COMM) 408 Cultural Foundations of Communications (3)

(BA) This course meets the Bachelor of Arts degree requirements.

S T S (COMM) 408 traces the development of communications technologies and their impact on culture over the last 500 years. Students will examine how different tools for communicating changed the way people organized and made sense of their worlds. The course begins by looking at oral cultures and moves on to the scribal, print, industrial, electronic and post-industrial or postmodern cultures, studying the media developments that marked each of these eras. With each period and its corresponding technology students will examine how and why the new media altered not only the *form* of communication (the type of speech, form of writing and/or speed of information transfer), but also how such changes altered the *content* of knowledge (how people made sense of their lives and communities). Readings are drawn from a range of disciplinary perspectives on the issues, from history, sociology and anthropology, to philosophy, communication studies and cultural theory.

The historical and theoretical knowledge provided by the course will give students a solid foundation for coming to terms with media trends in present-day society and for thinking through their possible epistemological, political and cultural impacts.

The course is a communications elective for the Journalism and Telecommunications majors and the Media Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2009
Prerequisite: select 3 credits fromCOMM 100, COMM 110, COMM 118, COMM 150, COMM 180, COMM 251, COMM 260W, COMM 320, COMM 370 ; or 3 credits of S T S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 420 (EM SC 420, SOC 420) Energy and Modern Society (3) Technology and economics of energy resources, production, and consumption; environmental factors, exhaustion, new technology.

Energy and Modern Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 428 (IL) (HIST 428) The Darwinian Revolution (3) The origins and implications of evolutionary theory.

The Darwinian Revolution (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 2006
Prerequisite: An introductory Science course and a history course.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 427W (CED 427W, SOC 427W) Society and Natural Resources (3) Analysis of the relationship between societal development and enhancement and natural resources.

S T S (CED/SOC) 427W Society and Natural Resources (3)

There is a common tendency to portray environmental and natural resource problems as biophysical in nature. The implication of this tendency is that such problems are best addressed by scientists and engineers who discover evidence of and devise new technologies to fix them. Another common tendency is to assume that people resist solutions to environmental and natural resource problems because of individually held anti-environmental attitudes. In contrast to these two perspectives, sociologists point out that environmental and natural resource problems often lie at the intersection of biophysical processes and social, political, economic, belief, value, and knowledge systems. The goals of this writing-intensive course are to introduce students to the complexity of environmental and natural resource problems and to teach them to think sociologically. In addition to reading assigned books and articles, students will participate in a simulation to negotiate a global environmental treaty, attend a field trip to learn about alternative energy strategies, and conduct research on a local environmental or natural resource issue. After taking this course, students should be better prepared to engage in debates with academics, politicians, and other citizens regarding the causes o and potential solutions to environmental and natural resource problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 430 (IL) (NUTR 430) Global Food Strategies: Problems and Prospects for Reducing World Hunger (3) Technological, social, and political solutions to providing basic food needs; food resources, population, and the environment; current issues.

S T S (NUTR) 430 Global Food Strategies: Problems and Prospects for Reducing World Hunger (3) (IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Global Food Strategies examines opportunities for the world's poor to improve their health, nutrition, and physical environment by focusing on their own cultural strengths and organization, reassessing the opportunities within their environment, evaluating the appropriateness of new and old technologies, and gaining a renewed respect for their own abilities. Measures of appropriateness used throughout the course are ecological sustainability and cultural sensitivity. Approximately one third of the course focuses on the historical basis of underdevelopment up to and including the post-modern era. Topics include economic colonization, the industrialization of agriculture, the impacts of globalization, trade priorities and debt loads on the poor, population and ecological issues; and a critique of the economics of scarcity. The second two thirds focuses on micro-strategies for poverty alleviation. Topics include culturally-appropriate people centered development women's empowerment needs including microlending (small loans), the prospects and rationales for biological agriculture vs. industrialized agriculture, successful models of health and population control, the impact of American consumerism, and ecological footprint analysis. The goals of the course are to 1) awaken the student's interest in hunger and poverty issues and the cultural dimensions of poverty, 2) acquaint the student with viable and sustainable strategies for hunger and poverty alleviation for the very poor, and 3) enable the student to understand enough about globalism that he/she can critically analyze and evaluate international affairs articles in national newspapers. The classes integrate lecture information with films that help with the visualization of poverty problems and prospects, readings, current events, and small group discussion around issues and case studies. Readings are drawn from development classics and from a wide range of recent literature on poverty and change. Evaluation includes student responses to three essay tests posed by the instructor over the semester, and journal keeping. The class project is designed to promote citizenship/leadership skills. Students will make a contract to perform a particular citizen action relating to hunger and poverty alleviation, which they will describe in an oral report and written format. Participation is evaluated.

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 432 (PHIL 432) Medical and Health Care Ethics (3) Examines ethical, political, and social issues in the research, implementation, and practice of medicine, medical technologies, and healthcare.

Medical and Health Care Ethics (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Fall 1998
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 433 (PHIL 433) Ethics in Science and Engineering (3) Ethical issues arising in the practice of science and engineering and their philosophical analysis.

Ethics in Science and Engineering (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Fall 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 435 (PHIL 435) The Interrelation of Science, Philosophy, and Religion (3) The historical and transformative interactions between science and Western philosophical and religious views of nature, humanity, and God.

The Interrelation of Science, Philosophy, and Religion (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 457 (US;IL) (HIST 457, WMNST 457) The History of Women in Science (3) Critical analysis of the role women, gender, and minorities have played in the natural sciences.

The History of Women in Science (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities and Social and Behavioral Sciences
Effective: Spring 2006
Prerequisite: HIST 116, HIST 117, WMNST 001, WMNST 003 orWMNST 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 470 Technology Assessment and Transfer (3) Nature of technology assessment and technology transfer in product design and development process from federal and university labs, and internationally.

Technology Assessment and Transfer (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 460 (PL SC 460) Science, Technology, and Public Policy (3) The all-pervasive importance of science and technology policy in modern societies and mechanisms and processes by which it is made.

Science, Technology, and Public Policy (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995
Prerequisite: three credits in Natural Sciences or Engineering three credits in Social and Behavioral Sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 471 Radiation, Reactors, and Society (3) Societal problems and benefits associated with nuclear power, including energy needs, radiation effects, safety, and thermal effects.

Radiation, Reactors, and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 490 Peace and Conflict Studies Seminar (3) Advanced study of major contemporary issues of peace and conflict; includes anthropological, technological, psychological, and economic perspectives.

Peace and Conflict Studies Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1994
Prerequisite: PL SC 014, S T S 090

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 476 Technology and War (3) A survey and analysis of the interaction of technology, ethics, and warfare in the past and present society.

S T S 476 Technology and War (3)

It can be argued that the history of warfare is the history of humanity. Determinant of political outcomes as well as class relations, warfare touches all aspects of society from economics, ethics, politics, and international as well as domestic relations. Common wisdom argues that technology and technological development underlie the ability to go to war, the ability to prosecute a war, and the ultimate success or failure in that war. Technology can be seen as deterministic in this way, but so, too, does society interact with and help construct the technologies that then are used (or threatened) in conflict as well as the ethical, legal, moral, and political evaluation of these technologies. In addition, the connection of science to military goals for the development of military hardware cannot be underemphasized in the modern world, nor can the continued influence of the military-industrial complex in economic and political decision making be ignored. This course takes a critical look at technologies in war from a historical as well as contemporary viewpoint. This course is not about the hardware nor is it necessarily supportive of nor hostile towards warfare itself. Both war and technology are endemic in human history and understanding their interaction is crucial in looking forward. As educated citizens, it is imperative that students understand how to make reasoned and informed judgments on this matter. Taking a critical and philosophically informed view of the role of technology in war contributes to our understanding of the past and helps augment our path forward.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 497G (NUTR 497G) Community Food Security (3) Through active learning, students explore how communities can reshape food systems, increasing access to wholesome food while increasing economic opportunities.

Community Food Security (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 498 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Science, Technology, and Society (S T S)

S T S 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 001S First-Year Seminar in Security and Risk Analysis (1) Provides introduction to the field of Security and Risk Analysis and assessments of key skills.

SRA 001S First-Year Seminar in Security and Risk Analysis (1)

SRA 001S gives first-year students a concrete overview of the field of Security and Risk Analysis (SRA), including discussion of the knowledge and competencies required for careers in this field, familiarity with the variety of career paths and the specific requirements of each, and an understanding of the skills, abilities and knowledge that is common across career paths within this field. As part of this course, students will participate in a Developmental Assessment Center, which will assess their current skill levels in the areas of Oral and Written Communication, Leadership, Conflict Resolution, Decision Making and Problem Solving, as well as other core areas to be identified. Working with the assessment team, the will create specific, individualized plans to develop skills in areas where they are currently deficient and to build on current strengths.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 111 (GS) Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.

SRA 111 Introduction to Security and Risk Analysis (3)

Introduction to Security and Risk Analysis is a preliminary course with a broad focus, spanning the areas of security, risk and analysis. In addition to familiarizing the student with basic technical terminology, it will also touch upon social and legal issues, risk analysis and mitigation, crime intelligence and forensics, and information warfare and assurance.

This course will motivate students to understand the requirements for security in any government agency or business organization through the use of case studies. Included in this segment are cases related to cyberterrorism, bioterrorism, and critical infrastructure protection. Some concepts to be covered in the area of information security are: confidentiality, integrity, availability, and non-repudiation. Various methods of safeguarding these security concerns will be discussed, such as: single- and multi-factor authentication, encryption, digital signatures, prevention of denial of service attacks, and so forth. This course also covers social and legal issues related to security, in particular identity theft and social engineering. Topics in this section include identity theft, spam, spyware, and adware. This course also covers the principles and the approaches to risk analysis. Here students study vulnerability analysis, crime and intelligence analysis, forensics, techniques for risk assessment and risk mitigation.

The course will prepare students for more in-depth courses such as SRA 211, SRA 221 and SRA 311.

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 111H (GS) Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.

Introduction to Security and Risk Analysis (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 111S (GS) Introduction to Security and Risk Analysis (3) This introductory course spans areas of security, risk, and analysis covering contexts in government agencies and business organizations.

Introduction to Security and Risk Analysis (3)

General Education: GS
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 211 Threat of Terrorism and Crime (3) Provides overview of nature, scope, and seriousness of threats to security as a result of terrorism and crime.

SRA 211 Threat of Terrorism and Crime (3)

Threat of Terrorism and Crime is a course designed to acquaint students with the security threats posed by both terrorist and criminal activity, and with strategies to combat these threats. Terrorism and security are defined as well as terrorism in its historical context. Varieties of terrorist groups, organizations and their actions are studied with targets of terrorism being a focus. Types of crime including street, employee, organized and white collar crime are studied.

Information theft can occur in each of the types of crime. Security threats of each type are studied and mitigation techniques are evaluated. Methods of studying terrorism and crime cover data collection, analysis of the reliability of the data, and fusing the data so that information is obtained that leads to knowledge to combat terrorism and crime.

Finally to put the course in perspective, students study critical shortfalls in our understanding of terrorism and crime including unreliable data, biased estimates and a lack of understanding of terrorist and criminal motives and objectives.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SRA 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 231 Decision Theory and Analysis (3) Provides an overview of decision theoretical and analytical concepts and tools in the security risk analysis field.

SRA 231 Decision Theory and Analysis (3)

Decision Theory and Analysis is designed for students to build an understanding of how to improve the judgment and decision making of individuals, groups and organizations. Behavioral decision theories provide the theoretical core for the course. These theories draw on insights from a diverse set of disciplines, including cognitive and social psychology as well as economics, statistics and philosophy.

Offered annually (and more if demand requires), this course will foster understanding of: (a) the cognitive, emotional, social and institutional factors that influence judgment and choice, (b) normative (economic) models of rational choice, and (c) how judgment and decision making can be predicted and/or improved through prescriptive aids and models.

Applications of these theories and methods to real-life venues will be used to engage and focus the students. For example, insights on how such concepts apply to supply chain security, bioterrorism threats, legal decision making, large-scale risk assessments (e.g., assessing risks of transnational threat), and first-response/crisis decision making will be common. Where appropriate, real situations and cases are used to bring concepts and scenarios alive.

Overall, the course emphasizes basic skills and concepts that enhance an individual’s ability to understand why individuals, groups and organizations behave the way they do, how they formulate the issues and problems they confront, as well as to choose rationally among competing courses of action.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SRA 211, STAT 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 221 Overview of Information Security (3) Provides an understanding of the overview of information security including security architecture, access control, and internet secure applications.

SRA 221 Fundamentals of Information Security (3)

SRA 221 focuses on fundamentals of information security. Students will learn the principles of information security, security architectures and models, aspects and methods of information security such as physical security control, operations security, access control, hacks/attacks/defense, systems and programs security, cryptography, network and web security, worms and viruses, and other Internet secure applications. Students will also learn how to plan and manage security, security policies, business continuity plans, disaster recovery plans, and social and legal issues of information security.

A major component of the course will be several hands-on exercises and a final team-based project. This course will incorporate collaborative and action-learning experiences wherever appropriate. Emphases will be placed on developing and practicing writing and speaking skills through application of the concepts, theories and technologies that define the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SRA 111, IST 110, CMPSC 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 311 Risk Management: Assessment and Mitigation (3) Assessment and mitigation of security vulnerabilities for people, organizations, industry sectors, and the nation.

SRA 311 Risk Management: Assessment and Mitigation (3)

The proposed course in risk management focuses on applications of problem solving skills and decision theory. The course will review the theoretical templates developed in previous courses and then move to the implementation of these theories and models. While the course would employ some textbook-based and lecture-based learning, the emphasis will be case-based learning and scenario analysis and will include team presentations.

The first part of the course will review and discuss risk assessment models and ways to mitigate these risks. The course will focus on vulnerabilities and controls that could deter or prevent problems, detect breaches, and correct these ruptures and penetrations. The student will utilize quantitative and qualitative risk analysis as appropriate.

The bulk of the course would apply these theories to the person, to the organization, to the sector, and to the nation. For each focal point, the student will have to identify the threats, the vulnerabilities, and the controls to counterbalance these vulnerabilities. At the individual level, the course will focus on events such as identify theft, physical security during international travel, or invasion of one’s privacy. At the organizational level, including both public and private entities, the course will focus on incidents such as cyber crimes, fires, flooding, financial frauds, kidnapping of employees, and expropriation of resources. At the sector level, the course will focus on the power grid, the transportation system, the communication system, the water supply, and the energy supply chain. At the national level, the course will focus on national disasters, terrorism, and war, both conventional and nuclear.

For each of these topics, the student will analyze the security risk and attempt to find ways to mitigate the risk. This analysis includes incidence response, development of security policies and administration, and security and crisis management. The course will rely heavily on case studies and scenario analysis.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SRA 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 468 Visual Analytics for Security Intelligence (3) Introduce visual analytic techniques for security informatics and intelligence. It covers analytical techniques on visualizing threats, risk, and vulnerability.

SRA 468 Visual Analytics for Security Intelligence (3)

This course surveys techniques for visualizing and analyzing security information and for communicating and using information about threats, risk and vulnerability to decision-makers. It will motivate students by the needs for better intelligence in a broad range of homeland security applications. Through case studies and problem-based learning, students will develop understanding of important concepts and issues, such as data source and data quality, associations and integration of incidence, hazards, and risk factors, and the difficulties of analyzing and communicating knowledge. Various visual analytical methods for homeland security intelligence will be discussed, such as : (1) mapping and visualizing patterns of crime and incidence, (2) identifying targets and agents of terrorist attacks, (3) spatial analysis of social, economic and environmental risk indicators, and (4) prediction of threat and risk. It also pays special attention to the interpretation of analytical results for actions. Geographical information systems and associated spatial analytical tools will be used to exemplify the kinds of information environment available to intelligence community. The course will prepare students to become immediate workforce for security-related industries and government agencies.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: IST 110, SRA 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 471 Informatics, Risk, and the Post-Modern World (3) Provides in-depth study of how security informatics is influenced by the risk and post-modern culture.

SRA 471 Informatics, Risk, and the Post-Modern World (3)

The post-modern world provides a changing climate and context for defining and understanding threats, intelligence, decisions, and risk. Likewise, post-modern cultures consist of beliefs that are heavily influenced by psychology, social connectivity, collective behavior, religion, ethnicity, and political systems. This system of systems is heavily dependent upon and influenced by information, information technology, and the web (social informatics). When examining human behavior as it impacts risk, these various social-technical factors must be considered in planning for terrorism, intelligence analysis, and emergency events.

As the post-modern world becomes increasingly complicated, the ability to discern, identify, and address threats in terms of risk becomes exceedingly more difficult. Provision of learning underlying psychological, social, political, religious, and technical components of how risk accelerates through various stages will be critical for protection of national and international interests within the security sphere. Security informatics will be at the heart of both recognizing emerging situations and employing tools/agents/measures to assuage emergency, terrorist, or even national disaster events.

This course provides the student with a broad perspective to critically examine both theories and practice of security informatics as related to the cultures in which threats emerge asymmetrically. Students will be placed on the role of systems analysts to problem solve and analyze information from a broad bandwidth of information specifically as informed by culture, post-modern thought, psychological intent, and situation awareness. The course will be grounded by participation in case studies and/or analyzing exercises of risk. Students will be required to do comprehensive reading assignments, engage in team cognition-social interaction, and become familiar with social informatics concepts and tools as related to risk, terrorism, and information warfare.

As the post-modern world becomes increasingly complicated, the ability to discern, identify, and address threats in terms of risk becomes exceedingly more difficult. Provision of understanding some of the underlying psychological, social, political, religious, and technical components of how risk accelerates through various stages will be critical for protection of national and international interests within the security sphere. As extreme events become more prevalent in society, security informatics will be at the heart of both recognizing emerging situations and employing tools/agents to assuage emergency, terrorist, or even national disaster events.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: IST 110, SRA 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 472 Integration of Privacy and Security (3) Exploration of technological, operational, organizational and regulatory issues related to maintenance of individual privacy, confidentiality of organizations, and information protection.

SRA 472 Integration of Privacy and Security (3)

This course is designed to introduce students to the major organizational, technical, operational and regulatory issues in information privacy and security, and to give them experience in performing a privacy analysis, designing privacy-aware applications and developing privacy policy in organizations. Topics covered include: conceptualizations and theories of privacy and security, privacy laws and compliance, building a privacy organizational infrastructure, integrating privacy in the software development process, performing a privacy analysis, privacy issues in outsourcing and cross-border data transfers, integrating privacy into customer relationship management and vendor management, information systems audit and intentional standards on privacy and security. This course will mix technical details, applied value and organizational insights of assuring privacy and security through the use of case studies, real-life problems, hands-on exercises and team projects.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SRA 211 orSRA 221 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Security & Rsk Analy (SRA)

SRA 497A Statistical Analysis for Information Sciences (3) Intermediate-level statistics course emphasizing understanding hypothesis testing and experimental design, a broad array of statistical techniques applied to data analysis, and computer tools to support testing and analysis; specifically applied to information sciences and technology applications.

Statistical Analysis for Information Sciences (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 001 Beginning Serbo-Croatian (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Serbo-Croatian.

Beginning Serbo-Croatian (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 002 Beginning Serbo-Croatian (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Serbo-Croatian.

Beginning Serbo-Croatian (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2001
Prerequisite: S CR 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 003 Beginning Serbo-Croatian (4) An elementary course to enable the student to achieve a measure of proficiency in reading and speaking Serbo-Croatian.

Beginning Serbo-Croatian (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2001
Prerequisite: S CR 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 499 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Serbo-Croatian (S CR)

S CR 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 051 Elementary Intensive Slavic for Graduate Students I (3) Intensive introduction to a Slavic language: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural context.

SLAV 051 Elementary Intensive Slavic for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Slavic Languages. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Slavic vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 053 Intermediate Intensive Slavic Language for Graduate Students (3) Continued intensive study of a Slavic language at the intermediate level: reading, writing, speaking, listening, cultural contexts.

SLAV 053 Intermediate Intensive Slavic Language for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Slavic language. Continued intensive study of Slavic language at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SLAV 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 052 Elementary Intensive Slavic for Graduate Students II (3) Intensive introduction to a Slavic language: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

SLAV 052 Elementary Intensive Slavic for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Slavic language. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Slavic vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SLAV 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 187 Slavic Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Slavic Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Slavic (SLAV)

SLAV 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 001 (GS) Urbanization (3) An overview of the social sciences, including an interdisciplinary analysis of the urban process.

Urbanization (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 187 Social Science Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Social Science Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 002 Contemporary Society (3) Selected contemporary issues in the perspective of history, sociology, psychology, economics, and political science.

Contemporary Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 297 Special Topics (1-9) Formal courses given infrequently to explore in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 481 Qualitative Research Methods in the Social Sciences (4) Students will learn how to conduct, analyze and write up qualitative social research according to appropriate professional standards.

SO SC 481 Qualitative Research Methods in the Social Sciences (4)

Students in this course will gain a working understanding of the philosophy, conceptualization and application of qualitative and participatory research methods in the behavioral and social sciences including such methods as ethnographic research and participant observation, conceptual mapping and interviewing techniques and explore their applications in participatory and action research. Students will also learn how to analyze and write up the results of such research endeavors according to the standards of the field including the use of computerized qualitative data analysis packages (such as NUD*IST or the Ethnograph) and mastery of APA style.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 480W Quantitative Methods in the Social Sciences (4) Students will learn to conduct, analyze and write up quantitative social scientific research according to appropriate professional standards.

SO SC 480W Quantitative Methods in the Social Sciences (4)

Students in this course will gain a working understanding of the rationale for the use of a variety of quantitative research methods and become familiar with the design, constraints and appropriate applications of those most frequently used in the applied behavioral and social sciences. They will gain experience designing and conducting research through a blend of class exercises and field research applications. Students will also gain a basic familiarity with the use of tools such as the Statistical Package for the Social Sciences (SPSS) to analyze the data gathered through quantitative research. Finally, through classroom instruction coupled with a process of writing, revising and individual consultation with the instructor regarding their research reports, students will master APA style and develop their academic and professional writing skills including critical thinking and conceptualization in addition to the basics such as spelling and grammar where necessary.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 492 Current Topics in the Social Sciences (3) This course allows for various current topics to be offered as suitable to the needs of the program.

SO SC 492 Current Topics in the Social Sciences (3)

As the umbrella course for the Social Sciences, this course allows for various current topics to be offered as suitable to the needs of the program. Description varies by each instructor teaching the class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Science (SO SC)

SO SC 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 411 Teaching Secondary Social Studies I (3) Teaching social studies, including individual differences, curricular overview, application of learning theories, identification and measurement of learning outcomes.

Teaching Secondary Social Studies I (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: ANTH 045, C I 295, HIST 020, HIST 021, PL SC 001 ; 12 credits from history and/or geography and/or sociology and/or economics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 430W Teaching Social Studies in the Elementary Grades (3) Principles underlying use of social studies in the elementary school; practical demonstration of desirable methods.

Teaching Social Studies in the Elementary Grades (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: LL ED 400, LL ED 401, LL ED 402, PSYCH 212 nine credits in history and the social sciences
Concurrent: C I 495A OR C I 495B ; MTHED 420 SCIED 458

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 412W Teaching Secondary Social Studies II (3) Writing-intensive course focusing on study of the social studies teacher's role in planning instruction; strategies for teaching.

SS ED 412W Teaching Secondary Social Studies II (3)

Advanced study and practice of teaching social studies in the secondary grades (7-12) with emphasis on content and methods for the major subject areas (citizenship and government, economics, geography, and history). The principal goal is to provide prospective teachers with intellectual preparation and relevant practice in selecting and applying rigorous content knowledge to higher-order thinking in the classroom and practical experience designing, planning, and implementing social studies instruction. Topics include the social studies teacher's role in planning and practicing instruction, strategies for implementing and assessing teaching in the social studies, and others as determined by the section instructor. As a writing course (W), SS ED 412W engages students in professional in-depth writing experiences that involve planning, process, development, teaching and learning social studies content, and other relevant writing that teachers are expected to perform.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: SS ED 411
Concurrent: C I 412W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 470 Issues in Social Studies Education (1-6) Concentration on particular issues, trends, and developments in the social studies.

Issues in Social Studies Education (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978
Prerequisite: Instructional I certificate and teaching experience

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 497A Heritage Interpretation Education (3) Principles of interpretation for natural and cultural sites; earn Certified Interpretative Guide certification offered by National Association for Interpretation.

Heritage Interpretation Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 498A AP World History (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

AP World History (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 498B Ap US History (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Ap US History (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Social Studies Education (SS ED)

SS ED 498C AP US Government & Politics (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

AP US Government & Politics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 001 (GS) Introductory Sociology (3) The nature and characteristics of human societies and social life.

SOC 001 Introductory Sociology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Introductory Sociology provides perspectives and information useful in understanding all societies. The major theories (functionalism, conflict, and symbolic interactionism) and concepts provide the foundation upon which the remaining material rests. Learning how sociologists do research provides the tools for understanding the production of knowledge and for evaluating the validity of sociological assertions. Familiarity with systematic theorizing and conceptual development, along with some comprehension of the nature of the scientific method as it is applied in sociology, enhances critical reasoning. To promote a more complete understanding of human social life, both in its inherent constraints and in the opportunities it provides; the nature and reality of culture and social structure are explored. The study of socialization provides perspectives on how one becomes a member of society. Exploring social interaction adds insight into the formation of the social self and the salience of group identities and norms. Ending this first section with a discussion of social control highlights the forces of stability and change in society.

The course then progresses to considerations of social stratification and inequality. The nature of privilege and oppression are discussed and considered in the specific contexts of race, ethnicity, gender, and age. The focus then shifts to social institutions. The essential work of society is accomplished via its major institutions: family, education, health care, economy and work, religion, and politics. Applying theoretical perspectives to the form and function of these institutions enhances an understanding of how different social structures provide varying constraints and opportunities to their inhabitants. Finally, considering large-scale forces for change provides a platform to comprehend where human societies have been, are now, and might be headed.

Throughout the course, the lectures as well as the textbook draw amply on cross-cultural and cross-national material. In addition, the course emphasizes the complexity of human social life and describes the many variables (social structural, cultural, interpersonal, and psychological) that influence behavior. A special component of the course deals with topics pertinent to the social behavior and norms of students of the ages typically taking this course. Depending on the faculty member, these topics could include sexual behavior, alcohol use, and problems in interpersonal relationships.

Discussion and questions are encouraged in all sections. Sections of this course may include group research projects, debates, and library or internet-based research. Along with personal contact, students have the opportunity to communicate with teaching assistants and faculty members via e-mail. Writing assignments, along with in-class examinations, are required in all sections.

This course meets a general education requirement in the social and behavioral sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 001H (GS) Introductory Sociology (3) The nature and characteristics of human societies and social life.

Introductory Sociology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 001S (GS) Introductory Sociology (3) The nature and characteristics of human societies and social life.

SOC 001S Introductory Sociology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Introductory Sociology provides perspectives and information useful in understanding all societies. The major theories (functionalism, conflict, and symbolic interactionism) and concepts provide the foundation upon which the remaining material rests. Learning how sociologists do research provides the tools for understanding the production of knowledge and for evaluating the validity of sociological assertions. Familiarity with systematic theorizing and conceptual development, along with some comprehension of the nature of the scientific method as it is applied in sociology, enhances critical reasoning. To promote a more complete understanding of human social life, both in its inherent constraints and in the opportunities it provides; the nature and reality of culture and social structure are explored. The study of socialization provides perspectives on how one becomes a member of society. Exploring social interaction adds insight into the formation of the social self and the salience of group identities and norms. Ending this first section with a discussion of social control highlights the forces of stability and change in society.

The course then progresses to considerations of social stratification and inequality. The nature of privilege and oppression are discussed and considered in the specific contexts of race, ethnicity, gender, and age. The focus then shifts to social institutions. The essential work of society is accomplished via its major institutions: family, education, health care, economy and work, religion, and politics. Applying theoretical perspectives to the form and function of these institutions enhances an understanding of how different social structures provide varying constraints and opportunities to their inhabitants. Finally, considering large-scale forces for change provides a platform to comprehend where human societies have been, are now, and might be headed.

Throughout the course, the lectures as well as the textbook draw amply on cross-cultural and cross-national material. In addition, the course emphasizes the complexity of human social life and describes the many variables (social structural, cultural, interpersonal, and psychological) that influence behavior. A special component of the course deals with topics pertinent to the social behavior and norms of students of the ages typically taking this course. Depending on the faculty member, these topics could include sexual behavior, alcohol use, and problems in interpersonal relationships.

Discussion and questions are encouraged in all sections. Sections of this course may include group research projects, debates, and library or internet-based research. Along with personal contact, students have the opportunity to communicate with teaching assistants and faculty members via e-mail. Writing assignments, along with in-class examinations, are required in all sections.

This course meets a general education requirement in the social and behavioral sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 001W (GS) Introductory Sociology (3) The nature and characteristics of human societies and social life.

SOC 001W Introductory Sociology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Introductory Sociology provides perspectives and information useful in understanding all societies. The major theories (functionalism, conflict, and symbolic interactionism) and concepts provide the foundation upon which the remaining material rests. Learning how sociologists do research provides the tools for understanding the production of knowledge and for evaluating the validity of sociological assertions. Familiarity with systematic theorizing and conceptual development, along with some comprehension of the nature of the scientific method as it is applied in sociology, enhances critical reasoning. To promote a more complete understanding of human social life, both in its inherent constraints and in the opportunities it provides; the nature and reality of culture and social structure are explored. The study of socialization provides perspectives on how one becomes a member of society. Exploring social interaction adds insight into the formation of the social self and the salience of group identities and norms. Ending this first section with a discussion of social control highlights the forces of stability and change in society.

The course then progresses to considerations of social stratification and inequality. The nature of privilege and oppression are discussed and considered in the specific contexts of race, ethnicity, gender, and age. The focus then shifts to social institutions. The essential work of society is accomplished via its major institutions: family, education, health care, economy and work, religion, and politics. Applying theoretical perspectives to the form and function of these institutions enhances an understanding of how different social structures provide varying constraints and opportunities to their inhabitants. Finally, considering large-scale forces for change provides a platform to comprehend where human societies have been, are now, and might be headed.

Throughout the course, the lectures as well as the textbook draw amply on cross-cultural and cross-national material. In addition, the course emphasizes the complexity of human social life and describes the many variables (social structural, cultural, interpersonal, and psychological) that influence behavior. A special component of the course deals with topics pertinent to the social behavior and norms of students of the ages typically taking this course. Depending on the faculty member, these topics could include sexual behavior, alcohol use, and problems in interpersonal relationships.

Discussion and questions are encouraged in all sections. Sections of this course may include group research projects, debates, and library or internet-based research. Along with personal contact, students have the opportunity to communicate with teaching assistants and faculty members via e-mail. Writing assignments, along with in-class examinations, are required in all sections.

This course meets a general education requirement in the social and behavioral sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1998

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 003H (GS) Introductory Social Psychology (3) The impact of the social environment on perception, attitudes, and behavior.

Introductory Social Psychology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 003 (GS) Introductory Social Psychology (3) The impact of the social environment on perception, attitudes, and behavior.

SOC 003 Introductory Social Psychology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Social psychology is a discipline that bridges sociology and psychology. Sociology focuses on large-scale social trends while psychology emphasizes the individual organism and it's functioning. Social psychologists borrow perspectives and methods from both sociology and psychology. The major thrust, however, is on the influence of the social group areas such as socialization, social influence, conformity, group decision-making, interpersonal relationships, and social power. This course provides an overview of the major ideas and research streams that characterize modern social psychology.

Eight major goals guide the form and content of this course: (1) Survey existing theory and research in contemporary social psychology, (2) Enhance students' understanding of how social scientists conduct research, (3) Provide insight into the influence of social settings on human behavior, (4) Relate social psychology to other areas of social and behavioral science, (5) Help students to understand the interface between theory and research in social psychology, (6) Demonstrate the nature and outcomes of different cultural and sub-cultural processes, (7) Relate course material to contemporary personal and social problems, and (8) Provide opportunities for students to sharpen their critical thinking about human behavior. In general, this course is designed to enhance students' understanding of themselves, other individuals, and the world in which they live. For example, after taking the course, students will have a better understanding of why people sometimes help others in trouble and sometimes ignore them, what kinds of situations promote conformity to authority, what factors result in anger and violence, why intergroup conflict is so pervasive, and how attitudes are acquired.

Assessment is based on a combination of objective tests, a written group research project, individual papers, or a series of short research projects, depending on the instructor. All courses have at least one graded writing assignment. Group projects involve research on social influence. For example, students may use the Internet to study how political or religious groups attract supporters. Individual papers sometimes involve a critical book review. Alternatively, individual papers may be based on short research activities, such as examining the roles of women and men in rock videos or television commercials. Discussion and questions are encouraged in all sessions.

Sociology 003 meets a general education requirement in the social and behavioral sciences. This course also provides a useful foundation for advanced social science courses in economics, marketing, political science, counseling, child development, and law enforcement. It is a prerequisite for Sociology 403: Advanced Social Psychology.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 005 (GS) Social Problems (3) Current social problems such as economic, racial, and gender inequalities; social deviance and crime; population, environmental, energy, and health problems.

SOC 005 Social Problems (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to introduce students to the main societal issues facing humanity at the present time and in the foreseeable future. Although the course examines a number of social issues in the United States (such as crime and poverty), the course generally takes an international and inter-cultural perspective. The primary social issues that affect individuals and their children today are global, rather than national, in scope. For this reason, globalization is a recurring theme in the course.

Discussion and questions are encouraged in all sections. Assessment is based partly on objective and short--answer tests taken in class, including a final examination. All sections also include writing assignments that involve either library or Internet research. For example, in one commonly used assignment, students write a paper describing and analyzing a serious social problem in some country other than the United States, such as Ireland, Egypt, New Zealand, Ethiopia, Argentina, or Indonesia. An alternative writing assignment requires that students investigate and describe a local problem in Centre County. Another variation requires students to research the views of other students and groups on campus and compose a letter to the Penn State university president about an issue or problem on campus involving student behavior.

SOC 005 provides excellent preparation for most upper--level sociology courses. Because this course introduces students to social problems that will confront their generation in the near future, it also is relevant to other majors and disciplines, such as political science, economics, and health and human development. This course meets a General Education requirement in the Social and Behavioral Sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 007 Introduction to Social Research (3) Fundamental concepts and problems in social science research; design, measurement, sampling, causation, validity, interpretation.

Introduction to Social Research (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 005H (GS) Social Problems (3) Current social problems such as economic, racial, and gender inequalities; social deviance and crime; population, environmental, energy, and health problems.

Social Problems (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 012 (GS) (CRIMJ 012, CRIM 012) Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.

SOC (CRIMJ /CRIM) 012 Criminology (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Criminology is the study of the causes of criminal behavior. As such this course is an introduction to the topic with special focus on the major theories explaining criminal behavior including differential association, anomie, control theory and labeling theory. A key focus of the class is examining the most recent scientific research testing the basic theories. The students learn the various research techniques that have been used to study criminal behavior including crime statistics such as the Uniform Crime Report that serves as a monitor on crime trends. Several important areas of study that link understanding criminal behavior and its distribution across the social system are investigated including age, gender, race and ethnicity. One goal of the course is to promote a more complete understanding of crime and how it is enmeshed in human social life. The course concludes by using the knowledge base generated in the course to study the link of our understanding of criminal behavior and the emerging crime control policies of the past few decades. Finally, the course reviews the impact and effectiveness of some of these policies.

Throughout the course, the lectures as well as the readings emphasize the complexity of explaining human behavior and criminal behavior in particular. One aspect of the course is the use of a term paper on the objective and subjective availability of crime to the student. This paper emphasizes the complexity of the student's social life and the role that these factors may have on whether they have engaged in criminal behavior and their analysis of the causes of their criminal behavior. This project personalizes the various theories and helps the student understand the importance of their social environment in whether they have or will engage in crime.

Discussion and questions are encouraged in all sections. Sections of this course may include group research projects, debates, and library or internet-based research. Along with personal contact, students have the opportunity to communicate with teaching assistants and faculty members via e-mail. Writing assignments, along with in-class examinations, are required in all sections.

This course meets a General Education requirement in the Social and Behavioral Sciences for non majors, is required for the CLJBA and CLJBS majors, and may be used in the SOC majors and minors.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 012H (GS) (CRIM 012H) Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.

Criminology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 012H (GS) Criminology (3) Explanations and measurement of crime; criminal law; characteristics of criminals and victims; violent, property, white-collar, organized, and sexual crimes.

Criminology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 013 (GS) (CRIMJ 013) Juvenile Delinquency (3) Juvenile conduct, causes of delinquency, current methods of treatment; organization and function of agencies concerned with delinquency.

Juvenile Delinquency (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 015 (GS) Urban Sociology (3) City growth and decline; impact of city life on individuals, families, neighborhoods, and government; urban life-styles.

Urban Sociology (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 023 (GS) Population and Policy Issues (3) Local, national, and international population trends; basic techniques of demographic analysis; population problems; implications for public planning and policy.

SOC 023 Population and Policy Issues (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Demographic changes are some of the most important factors in understanding the future of specific professions, our nation, and the world. This course introduces students to the discipline of demography, including an overview of demographic issues, theories of population, and major findings from demographic research. Focusing on the state, national, and global level, students will learn how the discipline of demography and how population structure and age are related to social institutions and public policy issues. Students will receive hands-on experience with the data and methods used by professional demographers and health and urban planners. Thus, this course should provide students with 1) a global perspective on population changes, 2) knowledge of demography research and theory, 3) analytical skills for the application of demography to public policy, 4) an awareness of how the diversity of a population (e.g., age structure, race, ethnicity, sex, and culture) is related to public policy, and 5) the active learning of demographic techniques.

The instructors encourage discussion and questions in all sections. Assessment is based on objective tests taken in class, writing assignments, and student research projects called population analysis exercises. The analysis exercises allow students to use the data and methods of professional demographers. Some sections will also hold in-class debates and will require the performance of in-class assignments.

T'his course meets a General Education requirement in Social and Behavioral Sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 023H (GS) Population and Policy Issues (3) Local, national, and international population trends; basic techniques of demographic analysis; population problems; implications for public planning and policy.

Population and Policy Issues (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 030 (GS) Sociology of the Family (3) Family structure and interaction; functions of the family as an institution; cross-cultural comparisons.

SOC 030 Sociology of the Family (3)
(GS)

(BA) This course meets the Bachelor of Arts degree requirements.

Family, in all of its forms, is one of the most fundamental and enduring of social institutions. Because almost everyone grows up in a family, we are accustomed to thinking about the ways in which our values, personalities, and goals have been shaped by family experiences. In this course, however, we will examine families and family relationships from a sociological perspective. In particular, we will consider how our private, taken-for-granted family experiences are related to social factors such as gender, race, ethnicity, social class, the economy, and cultural attitudes and values. Through this course, students will (1) gain a better understanding of current U.S. family patterns and trends, based on empirical research, (2) be able to analyze and interpret family patterns and trends using sociological concepts and theories, (3) evaluate family-related information from multiple perspectives, (4) develop a greater appreciation of the diversity and choices in family life today, and (5) clarify their own values with respect to marriage and family life.

The instructors encourage discussion and questions in all sections. Assessment is based on objective tests taken in class and writing assignments. These assignments may include library and Internet research, original empirical research, or a journal in which students describe their developing ideas about marriage and family life.

This course meets a general education requirement in the social and behavioral sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 035 Sociology of Aging (3) Introduction to the sociological study of aging.

SOC 035 Sociology of Aging (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The sociology of aging covers social aspects of aging, including common beliefs about older people, the diversity of the aged, and how institutions such as the economy and family influence the aging process. Evaluation methods include two exams, each worth 20 percent of the final grade, and a series of written assignments. For example, there is one 5-7 page paper and a second shorter one on aging in another society. The course serves as a basis for taking SOC 435, Social Gerontology. It can be counted toward the major or minor in Sociology or Human Development and Family Studies.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 047 (S T S 047) Wilderness, Technology, and Society (3) Impact of developments in science, literature, and art on changing attitudes toward nature; consequences for conservation, preservation, environmental ethics.

Wilderness, Technology, and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 055 (GS) Work in Modern Society (3) The nature of work in varied occupational and organizational settings; current trends and work life in the future.

Work in Modern Society (3)

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 060 (GS;IL) (ANTH 060, J ST 060, PL SC 060) Society and Cultures in Modern Israel (3) An introduction to the society and cultures of the State of Israel from 1948 to the present.

SOC (ANTH/J ST/PL SC) 060 Society and Cultures in Modern Israel (3) (GS;IL)

This course will review the social, cultural, and political systems in the State of Israel as they have developed and changed since its inception in 1948. The role of immigration, ethnicity, and religion on Israeli society and cultures will be explored along with the non-Israeli cultures that have helped to shape conditions there. The course will look into the diverse social and political institutions of contemporary Israel, examine the borders and geographic features of the region, and discuss who lives there, where they reside, and for which portions of this period. It will examine the wars and tensions between Israel and neighboring Arab states; the status of the Arab/Palestinian minority in Israel; and the growth of Palestinian nationalism. Social conditions in the State of Israel are the result of a unique history. Israelis have absorbed large numbers of immigrants from many parts of the world while engaged in ongoing political and military conflicts. Jewish settlers in Israel/Palestine revitalized a language (Hebrew) and developed unusual collectivistic institutions (e.g., the kibbutz). Israeli nationalism is founded both on secular and religious ideologies. It includes notions of a return from Diaspora and the desire for personal and collective redemption. The study of social processes such as these will provide an opportunity to consider the foundations and functions of nation-states and social systems generally. Materials will include selections from primary texts, official documents, novels, films, and ethnographic materials along with scholarly reviews and essays. Students will be exposed to materials produced from a variety of disciplinary and political perspectives. Through writing assignments, projects, and essay examinations, students will integrate, compare, and analyze these materials. The course complements offerings in Jewish Studies, Sociology, Anthropology, Political Science, and Middle East Studies and will satisfy the IL requirement. It enables those in Jewish Studies to examine the roughly 30% of Jews who reside in Israel, builds upon a current course on Zionism, and provides context for the study of modern Hebrew. It offers an additional international alternative for students in Sociology and Political Studies and a topical area in cultural Anthropology. Students in Middle East Studies will find it worthwhile to study a nation with a significant impact on the region.

General Education: GS
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 103 (US) (AAA S 103, WMNST 103) Racism and Sexism (3) Critical analysis of the structure of race and gender inequality in the contemporary United States.

SOC (AAA S/WMNST) 103 Racism and Sexism (3) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on racism and sexism through a critical analysis of race and gender equality/inequality. A primary objective of this course is to provide students with information and conceptual tools necessary for understanding the structure and composition of race and gender inequality in the United States today. The focus on both racism and sexism provides a perspective that is quite different from those of courses that deal with race or sex alone. Racism and sexism have much in common that suggests their combined study. The course examines the way in which these processes are socially constructed and defined and how these constructions and definitions are experienced in daily life at an individual level and societal level. The course also examines how social control dependent on power, privilege, and advantage continues to perpetuate sexism and racism. This understanding is fundamental to considering the ways in which society and its individual members may motivate social change that enhances equality. Other objectives include developing an appreciation of the commonalities and differences among women and among men and women of diverse ethnic groups in terms of their real-life experiences with these processes; expanding the ability to read and/or view critically information/misinformation encountered in everyday life; enhancing the capacity to express knowledge and perspectives both orally and in writing. In addition, each student comes to the class with personal objectives that the instructor attempts to ascertain and incorporate. A common foundation of knowledge is established through consideration of current statistical data and academic research studies, as well as essays and novels based on subjective thought and experience. Also included are historical documents that have influenced the social and legal status of women and of men and women of color throughout our country's history. Videos and the media are supplementary sources. Students are encouraged to be alert to relevant current events and be prepared to discuss them from a critical perspective. The format of the class is informal, emphasizing group participation and responsibility. Grades are based on the evaluation of short papers on the readings, relevant events, and contemporary culture; class participation; a book report; and a final project or take-home exam. AAA S/WMNST/SOC 103 is a supporting course for both the women's studies and sociology majors and minors and the African and African American Studies major. It is an additional course for the African and African American Studies minor. The course also meets the requirement for 3 credits on the topic of women of color for the women's studies major and the minor.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 083S (GS) First-Year Seminar in Sociology (3) Critical approaches to issues in the structure of society.

SOC 083S First-Year Seminar in Sociology (3)
(GS;FYS)

(BA) This course meets the Bachelor of Arts degree requirements.

Each section of this course will be limited to 20 students who will be instructed by an experienced faculty member. Each section will focus on a well-defined body of scholarship that addresses a relatively specific topic while at the same time provide an opportunity for surveying broadly existing knowledge in the discipline. The specific content of the course will vary from offering to offering, and depending on the interests of the instructor, will introduce students to a sociological perspective on particular social issues. For example, one section examines racism and sexism as axes of privilege and oppression. Other sections may deal with major social institutions, such as the family or religion, or with fundamental social processes (e.g., demographic, social, and psychological). Finally, some sections may have a heavier policy emphasis--examining responses to social issues--while others might take a comparative or international approach.

Each section will emphasize the development of discussion, writing, and analytical skills and will give students the opportunity to work individually and in small groups. Students can expect to receive a general introduction to the University as an academic community and to explore their responsibilities as members of that community. They will also become familiar with the learning tools and resources available to them, and they will be able to establish relationships with faculty and other students who share their academic interests. This course fulfills a general education or Bachelor of Arts requirement in the social/behavioral sciences.

General Education: GS
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 109 Sociological Perspectives (3) Intensive and critical analysis of the bases of the social order, change, values, knowledge, and conflict.

Sociological Perspectives (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 111 Sociology of Humor (3) Humor: its nature, types, and functions in society; sociological and social psychological approaches in contemporary and classic humor.

Sociology of Humor (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 110 (GS;US) (WMNST 110) Sociology of Gender (3) Changing sex role expectations and behavior for men and women in contemporary society.

SOC (WMNST) 110 Sociology of Gender (3)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an introduction to the analysis and understanding of how men's and women's lives are different and how they intersect with each other. The course focuses on the social construction of gender and the impact of gender on experiences in a variety of social contexts and institutions throughout the life course, including cross-cultural comparisons of gender expectations. An overriding objective is to help students better assess and analyze the effects of gender throughout history and in their everyday lives.

Class sessions are a mixture of lectures, discussions, group exercises, guest speakers, and films designed to engage the students in the learning process. Each session helps students to critically evaluate the effects of gender discussed in their readings and experienced in their everyday lives. The evaluation tools used for this course extend this critical evaluation. Although the specific evaluation methods vary by sections, all sections use some form of reaction papers, book reviews, and/or journals. These writing assignments require students to demonstrate an understanding of the class readings, lectures, and activities, and to offer an evaluation and assessment of these readings and presentations. Because the social construction of gender is intertwined with family, work, religion, education, government, and all interpersonal interaction, the course overlaps with courses in each of these areas.

This course meets a General Education requirement in Social and Behavioral Sciences. It can be used as a lower-level sociology course in the Sociology BA major and the Sociology minor. It can also be used as a supporting course in the Women's Studies major and minor.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 119 (GS;US) Race and Ethnic Relations (4) Historical patterns and current status of racial and ethnic groups; inequality, competition, and conflict; social movements; government policy.

SOC 119 Race and Ethnic Relations (4)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course has three objectives. First, the course will help you to think critically about issues related to race and ethnicity in American society. These issues include the meaning of race and ethnicity; the extent of racial and ethnic inequality in the U.S., the nature of racism, discrimination, and racial stereotyping; the pros and cons of affirmative action; the development of racial identity; differences between assimilation, amalgamation, and multiculturalism; and social and individual change with respect to race relations. The second objective is to foster a dialogue between you and other students about racist and ethnocentric attitudes and actions. The third objective is to encourage you to explore your own racial and ethnic identity and to understand how this identity reflects and shapes your life experiences.

The course is offered in both a large and a small enrollment format. In large enrollment courses, you not only attend lectures, but also participate in weekly discussion groups run by teaching assistants. These discussion groups typically have between 10 and 15 students. Your course grade is based on a combination of objective examinations, participation in group discussions, and short writing assignments. One example of a written assignment involves weekly journals. Each of your journal entries (typewritten and one or two pages in length) will focus on personal reactions to course material and answers to questions posed by the instructor. The course also requires out-of-class attendance at two campus events related to race or ethnicity, such as films, speakers, or workshops. For each event, a one-page written summary and personal reaction is required. Teaching assistants provide feedback on writing.

Small (or moderate) sections of the course usually operate without separate discussion sections. In these courses, however, instructors set aside a substantial amount of class time for discussion of course material, equivalent to about one class session per week. During discussions, the class may remain together or divide into smaller discussion groups. After addressing a topic, you may be asked to submit a short written reaction to the issues raised in the discussion. Assessment is based partly on objective examinations. In addition, the course requires a library research project in which you explore in greater detail a controversial topic covered in class. These papers require the use of multiple sources (books, journal articles), excluding the textbooks for the course. The instructor provides written feedback, prior to the end of the semester, on your papers.

This course meets a general education requirement in the social and behavioral sciences as well as a general education requirement in intercultural and international competence.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 187 Sociology Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Sociology Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 174 Psychological and Sociological Aspects of Death (3) An introductory, interdisciplinary approach to the psychology and sociology of death, stressing the significance of, and attitudes toward, mortality.

Psychological and Sociological Aspects of Death (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 207 Research Methods in Sociology (3) Experiential-based course covering the four main social research methods: available data, survey research, experiments, and field research.

Research Methods in Sociology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 287W Intercultural Community Building (3) An intercultural analysis of diversity issues.

Intercultural Community Building (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which will fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be taught in one year or semester.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 300 Preceptorship in Sociology (1-8, maximum of 4 per semester) Supervised experience as a teaching assistant under the supervision of an approved faculty member.

Preceptorship in Sociology (1-8, maximum of 4 per semester)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2003
Prerequisite: 3 credits in course work related to the subject of the course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 309 Sociology of Health (3) Sociological concepts and principles operative in public and private areas of health and illness, including cultural, ethnic, and ecological factors.

Sociology of Health (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 381H Junior Honors Seminar in Sociology (1) Supervised experience in planning the honors thesis and a sociological career.

Junior Honors Seminar in Sociology (1)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1999
Prerequisite: sociology major junior standing and admission to the Schreyer Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 395 Internship (1-6) Supervised off-campus, non-group instruction including individual field experiences, practicums or internships. Written and oral critique of activity required.

Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1981
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 400W Senior Research Seminar (3) Major concepts and principles of sociology through reading, data analysis, and writing. Capstone course for senior Sociology majors.

Senior Research Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001
Prerequisite: SOC 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 401 Social Institutions (3) Development, nature, and function of major social institutions and their impact on individual life in modern society.

Social Institutions (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 6 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 403 Advanced Social Psychology (3) Analysis of the major theoretical approaches and research findings of contemporary social psychology.

Advanced Social Psychology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: SOC 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 404 Social Influence and Small Groups (3) The study of social influence, leadership and status, and social cohesion and commitment processes in small groups.

Social Influence and Small Groups (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: SOC 003 orPSYCH 420

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 405 Sociological Theory (3) Overview of the development of sociological theory; current issues and controversies.

Sociological Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in the Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 406 (CRIMJ 406, CRIM 406) Sociology of Deviance (3) Theory and research concerning deviant behaviors and lifestyles viewed as significant departures from a group's normative expectations.

SOC (CRIMJ/CRIM) 406 Sociology of Deviance (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Sociology of Deviance focuses on the theory and research in social construction of social norms, the violation of norms, and social reaction to the violation of norms. The course focuses on the role of social structure and power in the definition of deviance, on structural, cultural, and social psychological processes involved in deviant behavior, and the dynamics of social reaction to deviance. The course includes some content focusing on criminal deviance, but also emphasizes non-criminal deviance, as well as the role of social movements and social change in constructing and contesting deviance definitions. CRIMJ/SOC/CRIM 012 and CRIM/CRIMJ 250W are prerequisites. This course may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. It would fulfill one of the 400-level requirements in the "Crime" component of the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with the Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: SOC 012, SOC 013 orSOC 005 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 408 Urban Ecology (3) Spatial and temporal aspects of urban structure; urban growth, neighborhoods, racial and ethnic groups, mental illness; cross-cultural perspectives.

Urban Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 409 (US) (AAA S 409) Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.

SOC (AAA S) 409 Racial and Ethnic Inequality in America (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course explores the impact of inequality and discrimination on individual and group identity for a wide range of social groups with special focus on racial and ethnic majorities and minorities. Using an extensive list of readings, writing assignments, small group activities, and journals (for personal reflection and scholarly critique) the students join the instructor in exploring the effects of inequality and discrimination. While emphasis is given to the inequality and discrimination experienced by local and national populations, a significant portion of the class will address issues rooted in international structures and institutions. Students are evaluated on quizzes, reaction papers, and analysis journals. AAA S/SOC 409 is not a required course in Sociology; it is, however, an optional 400-level course for all majors and minors that fulfills one of their upper-level course requirements. AAA S/SOC 409 is not required for the major or minor, but it is one of several optional courses from which they can choose to fulfill major and minor requirements.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 409U (US) (AAA S 409U) Racial and Ethnic Inequality in America (3) The impact of inequality and discrimination on individual and group identity among various racial and ethnic groups.

Racial and Ethnic Inequality in America (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 412 (CRIMJ 412, CRIM 412) Crime, Social Control, and the Legal System (3) Legal and extralegal control; public opinion on crime; criminal justice and correctional processes; legal sanctions; control strategies. Field trip.

Crime, Social Control, and the Legal System (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: SOC 012, SOC 013 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 411 (US) (HD FS 416) Racial and Ethnic Diversity and the American Family (3) This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States.

SOC 411 (HD FS 416) Racial and Ethnic Diversity and the American Family (3)

During the last several decades, the racial and ethnic composition of the U.S. population has changed dramatically. At end of the 20th century, non-Hispanic whites accounted for less than 75 percent of the U.S. population. While blacks remained the largest minority group, there were nearly as many Hispanics as blacks, and the number of Asians was increasing. Population projections indicate that by the middle of the 21st century, Hispanics will make up nearly one-fourth of the U.S. population. Blacks, Asians, and American Indians together will comprise an additional fourth of the population. The last several decades have also brought significant changes in family life in the United States, including declining rates of marriage, a rising age-at-marriage, an increase in cohabitation, and a dramatic rise in the proportion of births outside of marriage. While these trends in family life have been experienced by all racial and ethnic groups, there is substantial variation in family patterns by race and ethnicity. The course will build on other courses in social inequality and the family. The course does not overlap with any existing courses in the Department of Sociology or with courses offered in other relevant departments.

This course will explore the nature and determinants of racial and ethnic variation in family processes in the United States. The student will read articles from major sociological journals and learn to extract major points and issues. He/she will learn to synthesize and critique various arguments on major issues in the field. The student will acquire skills in summarizing and evaluating arguments in essay form. He/she will also develop oral presentation skills. Final grades for the course will be based on class participation, a brief (approximately 5 pages) paper, a group presentation, a midterm examination (essay format) and a final examination (essay format). The course is not required for the Sociology minor or major. However, the course can count as one of the 400-level elective courses in Sociology for the Sociology minor, B.A. or B.S.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 413 (CRIM 413, CRIMJ 413) Advanced Criminological Theory (3) This course provides an in-depth look at theories of crime and examines influential empirical studies designed to these theories.

SOC (CRIM/CRIMJ) 413 Advanced Criminological Theory (3)

Advanced criminological theory is intended to extend and deepen students' knowledge of core ideas in criminology. The course has four main emphases: 1) learning major schools of thought in criminology, 2) learning about the uses and construction of theory, 3) learning about approaches to integrating criminological theories, and 4) exploring how criminological concerns are grounded in and interrelated with core issues in sociology. The course is offered once a year with 50 seats per offering. CRIMJ/CRIM/SOC 012 is a prerequisite. Students will be evaluated on research or analytical papers, written assignments on course readings, and/or in-class essay-style exams. This course may be counted toward the credits required for the B.A. and B.S. in Crime, Law, and Justice. It would fulfill one of the 400-level requirements in the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with a Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: SOC 012, CRIMJ 250W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 416 (US) (EDTHP 416) Sociology of Education (3) The theoretical, conceptual, and descriptive contributions of sociology to education.

Sociology of Education (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 414 (CRIMJ 414, CRIM 414) Criminal Careers and the Organization of Crime (3) Research on and theory of criminal careers and crime organizations, emphasizing recruitment and disengagement; offender characteristics and life- styles; policy implications.

Criminal Careers and the Organization of Crime (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: SOC 012, SOC 013 orSOC 005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 419 (US) Race and Public Policy (3) Seminar format course in which sociological theory and research are applied to current race policy issues.

Race and Public Policy (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 422 World Population Diversity (3) Survey of world diversity in national population growth/composition; the impacts of demographic change on the economic/social life of nations/people.

World Population Diversity (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 420 (EM SC 420, S T S 420) Energy and Modern Society (3) Technology and economics of energy resources, production, and consumption; environmental factors, exhaustion, new technology.

Energy and Modern Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 423 Social Demography (3) Social demographic perspectives on fertility, mortality, morbidity, migration, population density, demographic transitions, social mobility, family, the aged, and minorities.

Social Demography (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: SOC 023 orSOC 422

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 424 Social Change (3) Critical review of classical and recent theories of social change, emphasizing the transformations occurring in the modern world.

Social Change (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 427W (CED 427W, S T S 427W) Society and Natural Resources (3) Analysis of the relationships between societal development and enhancement and natural resources.

SOC (CED/S T S) 427W Society and Natural Resources (3)

There is a common tendency to portray environmental and natural resource problems as biophysical in nature. The implication of this tendency is that such problems are best addressed by scientists and engineers who discover evidence of and devise new technologies to fix them. Another common tendency is to assume that people resist solutions to environmental and natural resource problems because of individually held anti-environmental attitudes. In contrast to these two perspectives, sociologists point out that environmental and natural resource problems often lie at the intersection of biophysical processes and social, political, economic, belief, value, and knowledge systems. The goals of this writing-intensive course are to introduce students to the complexity of environmental and natural resource problems and to teach them to think sociologically. In addition to reading assigned books and articles, students will participate in a simulation to negotiate a global environmental treaty, attend a field trip to learn about alternative energy strategies, and conduct research on a local environmental or natural resource issue. After taking this course, students should be better prepared to engage in debates with academics, politicians, and other citizens regarding the causes o and potential solutions to environmental and natural resource problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: R SOC 011 orSOC 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 425 Social Conflict (3) An analysis of the variables affecting intergroup and international conflict and cooperation.

Social Conflict (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: general behavioral science general psychology or general sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 428 Homelessness in America (3) Survey of social science research on homelessness in the contemporary United States.

Homelessness in America (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 429 Social Stratification (3) Structure and dynamics of class, caste, and status systems; class differentials and social mobility; current theoretical and methodological issues.

Social Stratification (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 430 Family in Cross-Cultural Perspective (3) Sociological analysis of family systems in various cultures and subcultures.

Family in Cross-Cultural Perspective (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 431 (HD FS 431) Family Disorganization: Stress Points in the Contemporary Family (3) Focuses on divorce, remarriage, incest, family violence as well as problems associated with family formation and parent-child relations.

Family Disorganization: Stress Points in the Contemporary Family (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1994
Prerequisite: 6 credits of human development and family studies psychology or sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 435 (HD FS 434) Perspectives on Aging (3) An analysis of the demographic, social, and cultural factors affecting the aged population in American society.

Perspectives on Aging (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 432 Social Movements (3) Why and how people mobilize to promote or retard social change. Factors predicting success or failure of social movements.

Social Movements (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 436 Polling and Public Opinion (4) Methods of public opinion polling; attitude theory and research.

Polling and Public Opinion (4)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 437 Biosocial Perspectives on the Family (3) The implications of knowledge from behavioral endocrinology, behavior genetics, and evolutionary psychology for understanding family relationships and child development.

SOC 437 Biosocial Perspectives on the Family (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Breakthroughs in the way biological variables are measured and modeled have generated new findings that greatly increase our understanding of the reciprocal influences between family relationships, child development, and biological factors. Specifically, advances in the study of hormones, genetics, evolution, pharmacology, and immunology have led to important advances in our knowledge of gender, becoming a parent, early child development, middle child and adolescent development, parent-child relations, courtship and mate selection, quality of intimate relations, separation and divorce, incest, and dominance and family violence.

Each week class members are assigned readings on the following week's topic. Students are assigned to prepare a 2-3 page synthesis analyzing the readings and turning it in during the class in which the topic is to be covered. The syntheses are to be organized around questions provided by the instructor or suggested by class members.

An advanced course is successful only in so far as participants read the assigned readings carefully and critically and come prepared to discuss the readings and their own ideas, reactions, and questions about them. Each week two to three students are randomly chosen to help plan and co-lead the class with the instructor. The students meet with the instructor to organize the discussion. The students are responsible for devising a provocative, substantive, and stimulating "kick-off" to the session as well as taking an active role, along with the instructor, in posing questions, integrating ideas, and facilitating participation. The instructors lecture materials are fed into the discussion at points when they arise naturally in the course of discussion. One session consists of a visit to the Penn State Biobehavioral Endocrine Laboratory so students become further acquainted with procedures and problems in collecting and processing biological data.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001
Prerequisite: six credits of SOC or HD FS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 440 (HD FS 440) Family Policy (3) An in-depth examination of family policy.

SOC (HD FS) 440 Family Policy (3)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to provide an in-depth examination of family policy. Students will identify and critically analyze major issues, controversies, and policies that affect families. Attention will be devoted to recognizing both intended and unintended consequences of family policies and understanding policy challenges and trade-offs. Students will gain an understanding of how policies are shaped by both facts and myths, as well as our values. Students will examine historical and current trends in family patterns (e.g., divorce, women's labor force participation, nonmarital births) to understand the implications they hold for individuals, families and society. Students will gain an awareness of the social, economic, historical, legal, and political contexts within which family policies exist and are proposed. Although the main focus is on U.S. family policy, some time will be devoted to learning about family policies in other countries. We will learn about several specific family policies in-depth (e.g., welfare), but a final goal is to help students develop a general way of looking at family policy that they can then use to understand any issue of family policy that unfolds throughout their lifetime. This course will foster thoughtful reflection and critical thinking, writing skills, research skills, and skills of synthesis, logic, and argument. Course goals will be accomplished through course readings, writing assignments, lectures, class discussions, debates and group projects. Mastery of course material and student evaluation are assessed in several ways. Students will take a midterm and final exam that cover lectures, class discussions, and assigned readings. Two papers are also required. The first paper is based on an analysis of newspaper articles dealing with family policy issues that students will collect and relate to course materials. The second paper is a literature-based analysis of a family policy in a society outside the United States. Class participation is also essential and its evaluation will be based on a combination of class attendance, contributions to class discussions, participation in group debates and projects, and an oral presentation of the final paper on a non-U.S. family policy.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: 3 credits of SOC or HD FS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 444 Complex Organizations (3) Analysis of the nature and types of complex organizations and their impact on the social life of modern nations.

Complex Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 446 Political Sociology (3) Sociological analysis of types of political organization and their relations with other elements of social life.

Political Sociology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Winter 1978
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 448 Environmental Sociology (3) Examination of the relationship between the physical environment and society.

Environmental Sociology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 60 credits at least 9 of which are in the social sciences graduate status or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 447 Environment, Energy, and Society (3) Sociological perspectives on causes and consequences of natural resource scarcity and pollution, with emphasis on environmental policies in industrial societies.

Environment, Energy, and Society (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 449 Environmental Movements (3) Comparative exploration of environmental movements within the context of classical and new social movement theory.

Environmental Movements (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 90 credits at least 9 of which are in the social sciences or which include SOCIO/CMPSY 470 graduate status or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 450 Justice and the Environment (3) Considers notions of justice in relation to environmental philosophy, environmental movements, and general environmental concerns.

Justice and the Environment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 90 credits graduate status or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 454 (US) The City in Postindustrial Society (3) Postindustrial social organization in the United States and Europe; consequences for metropolitan social stratification, community power, and environmental quality.

The City in Postindustrial Society (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 455 Work and Occupations (3) Work and occupational life in modern society; work in the past, present, and future.

Work and Occupations (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983
Prerequisite: 3 credits in sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 456 (WMNST 456) Gender, Occupations, and Professions (3) The role of gender in shaping contemporary North American patterns of employment, occupational roles, and statuses.

Gender, Occupations, and Professions (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: WMNST 001 or 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 457 (US;IL) (ANTH 457, J ST 457) Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) Examines the global array of smaller Jewish communities that have flourished outside the main urban centers of Jewish settlement.

SOC (ANTH/J ST) 457 Jewish Communities: Identity, Survival, and Transformation in Unexpected Places (3) (US;IL)

This course addresses an understudied aspect of Jewish experience. It aims to expand our understanding of Jewish communities by focusing on those that are, alternatively, small, situated in out-of-the-way places, culturally outside the Jewish urban mainstream, or embedded in a larger society with markedly different values and traditions. These communities often constitute the points-of-contact between Jews and non-Jews, and in so doing sometimes transform Jews, non-Jews, and the relationships among them. Other such communities constitute experiments in Jewish lifeways and provide mainstream Jews with pilot projects for potential social and cultural change. This course will explore the significance of small, little-known, idiosyncratic, and anomalous Jewish communities on Jewish history and culture, and draw on them to instruct students on the social and cultural processes of small or unusual communities generally. The communities studied will be located both in the U.S. and elsewhere in which Jews have lived as a minority community during modern times. The course will look at the founding, growth, and decline of such communities and at their social processes and institutions. It will explore how to understand and analyze such communities, which vary from one part of the world to another. The social world of Jewish communities, large and small, is a core interest of Penn State’s Jewish Studies Program. This course will complement the current offerings in Jewish Studies, strengthening the social, cultural, and contemporary perspectives available in the Program. It will provide students with an opportunity to explore individual experience and micro-level processes among Jews, and to study the dynamics of identity and survival. It will complement the current offerings in Sociology and Anthropology by affording an opportunity to focus on community-level social processes and by adding a course on contemporary Jewry. The course will integrate knowledge from a variety of sources and fields, promote intercultural understanding, and meet US and IL requirements. Materials will be interdisciplinary, and will include ethnographies, sociological studies, population studies, histories, and personal narratives. They will include primary texts, creative works, and scholarly analyses. The assignments will be structured to facilitate preliminary experience in independent analysis, library research, or field research.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: ANTH 001 orANTH 045, HEBR 010, J ST 010, SOC 001, SOC 005, SOC 007, SOC 015

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 461 (US;IL) (RL ST 461) Sociology of Religion (3) Contemporary religion in the United States: beliefs, structure, and function of major denominations and religious cults.

Sociology of Religion (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006
Prerequisite: 3 credits in sociology or religious studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 467 (CRIM 467, CRIMJ 467) Law and Society (3) Law and society studies the social origins of law and legal systems; occupational careers, and decision-making of legal officials.

SOC (CRIMJ/CRIM) 467 Law and Society (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Law and society teaches students' knowledge of key concepts and core ideas about the role of law in society. The course will cover the basics of key legal philosophies, major social science theories of law and society, research in law and society, the structure of the legal profession, and vital contemporary issues involving the role of law in society. CRIM/CRIMJ 113 and CRIM/CRIMJ 250W are prerequisites. The evaluations methods will include written assignments on course readings, and essay-style exams. Law and Society may be counted toward the credits required for the B.A. and B.S. in Crime, Law and Justice. It would fulfill one of the 400-level requirements in the "Law" component of the major. The course may also be counted toward credits required for the B.A. and B.S. in Sociology for students with the Deviance and Criminology specialization.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: CRIMJ 100 orCRIMJ 113 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 470 Intermediate Social Statistics (4) Descriptive and inferential statistics in social research: central tendency and variation, normal distribution, measures of association, confidence intervals, hypothesis testing.

Intermediate Social Statistics (4)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2001
Prerequisite: SOC 207

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 468 Mood-Altering Substances in Society (3) Perspectives of cultures throughout the world toward mood-altering substances are reviewed in light of public policy, benefits, and problems.

Mood-Altering Substances in Society (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 471 Qualitative Research Methods in Sociology (3) Theory, methods, and practice of qualitative data collection, including observation, participant observation, interviewing; supervised projects in natural settings.

Qualitative Research Methods in Sociology (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 481H Senior Honors Seminar in Sociology (1) Supervised experience in planning and writing the honors thesis.

Senior Honors Seminar in Sociology (1)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1999
Prerequisite: sociology major senior standing and admission to the Schreyer Honors College

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2000
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 497A Immigration (3) This class examines theories of immigration and immigrant adaptation, effects, and policy.

Immigration (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 497D Family and Justice (3) Examination of the relationship between the family and the criminal justice system in which the family operates.

Family and Justice (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 497B Facilitation Training (1-3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Facilitation Training (1-3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology (SOC)

SOC 499 (IL) Foreign Study--Sociology (2-6) Study, in selected foreign countries, of groups, institutions, and social problems.

Foreign Study--Sociology (2-6)

General Education: None
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005
Prerequisite: 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Sociology-CI (SOCIO)

SOCIO 476 Sociology of Science and Technology (3) Examines the constitutive relationship between society, science and technology and ethical concerns arising from these relationships.

SOCIO 476 Sociology of Science and Technology (3)

Unquestionably, ours is a technological and scientific age. Economic changes since Antiquity appear to be driven by or at least greatly influenced by technological innovation and science. Still, sociologists contend that the scientific enterprise is a social one - both a result of social forces and a social force itself. Because of this, it behooves us to consider science and technology from a sociological perspective. Moreover, science's and technology's growing importance in society require that we evaluate their ethical implications. In particular, a number of questions need to be addressed. What is science? How does science differ from other endeavors, particularly technological development? What values underlie science? How do science and technology shape society? Conversely, how does society shape science and direct technological development? And what are the ethical implications of science and technology? To adequately consider these questions, review of prehistoric technological innovations, technological innovations of antiquity, and their impact on social structures and institutions is necessary. Modern science's structure and impact require that science's origins, assumptions and values be examined and compared to its predecessors. The tangible effects of science and technology on law, public policy, medicine, education, etc., call for careful consideration of specific examples detailing the way that society shapes science and technology while society itself is shaped by science and technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003
Prerequisite: 60 credits at least 6 of which are in the social sciences or graduate status or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 311 Object-Oriented Software Design and Construction (3) Design, documentation, testing, and construction of software using software engineering strategies embodied in object-oriented programming languages.

SWENG 311 Object-Oriented Software Design and Construction (3)

Object-oriented design and programming embody powerful design strategies that are based on practical and proven software engineering techniques. In this class, students will learn how existing object-oriented languages support these strategies, how to apply these strategies to moderately-sized systems, and how to use a visual object-oriented modeling tool such as the Unified Modeling Language (UML). Students will build on programming skills acquired in prerequisite programming courses by programming in a major object-oriented programming language.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 396 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 411 Software Engineering (3) Software engineering principles including life cycle, dependability, process modeling, project management, requires specification, design analysis, implementation, testing, and maintenance.

SWENG 411 Software Engineering (3)

This is an introductory course in software engineering, addressing the software development process, including aspects such as software requirements documentation, design specification, implementation, system integration, testing, and maintenance by individuals and teams. Topics include software process modeling, requirements elicitation and documentation, software architecture design and analysis, detailed design and programming, graphical user interface (GUI's) design and prototyping, software quality assessment, software testing, software maintenance and evolution management, personal and team-based development. In lab students gain practical experience by completing programming assignments and utilizing computer-aided software engineering (CASE) tools for their personal projects tailored to each stage of the software life cycle. A semester long team-based project is required that reinforces teamwork fundamentals and the concepts covered in lecture. The projects and assignments provide an opportunity for student teamwork, document writing, and oral presentations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CMPSC 122
Concurrent: SWENG 311

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 400 Introduction to Software Engineering Studio (3) Provides an introduction to the principles of software engineering and includes complementary instruction in one programming language.

Introduction to Software Engineering Studio (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: senior standing or above

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 421 Software Architecture (3) The analysis and design of software systems using canonical design patterns.

SWENG 421 Software Architecture (3)

This course introduces the frequently-used software infrastructures in software development by experienced engineers. The formal UML notations are utilized to design software architecture and help communicate the design visually.

Students will learn the real practice of architectural styles, design patterns and design reuse. As to certain complex problems, alternative architectures will be proposed and their design trade offs will be evaluated. For instance, students compare two-tier with three-tier client/server architectures for distributed systems, and employ multi-process and multi-thread concurrent architectures for high performance computation systems. Moreover, students learn to conduct high level quality analysis from the design artifacts. The quality evaluation will focus on a number of attributes, including reusability, extendibility and performance.

A great deal of effort is placed on the major categories of design types containing dozens of separate design patterns. Students first review the most fundamental design patterns. Afterwards, they apply creational patterns to effectively create objects, partitioning patterns to categorize objects, structural patterns to allocate objects, behavioral patterns to interface the communication between objects, and concurrent patterns to handle tasks simultaneously. These skills will enable students to extend their own knowledge after graduation by giving them the skills to learn new patters on their own.

Finally, students will integrate their programs with native code applications to enlarge the application domains. To achieve best reusability, they also learn modular designs to develop component-based software. These help them meet today's software needs of cross applications and architectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SWENG 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 431 Software Verification, Validation, and Testing (3) Introduction to methods of software verification, validation, and testing; mathematical foundations of testing, reliability models; statistical testing.

SWENG 431 Software Verification, Validation, and Testing (3)

Provides a background necessary for verification, validation, and testing of software systems. Verification addresses the question: "are we building the product right?" In other words, does the product meet the engineering specifications? Validation addresses whether the right product is being built and if it meets the design requirements. The testing aspect of the course addresses many of the methods available to test software systems. The levels of testing explored are 1) unit level (each module is tested independently), 2) integration testing (where the modules are integrated together and tested as a complete system), and 3) acceptance testing (the testing requirements of the users). Following this, specific test methodologies are addressed. By the end of this course the student should also be able to develop an appropriate test plan.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SWENG 411;STAT 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 480 Software Engineering Design (3) Concepts of engineering ethics, economy, and project management, senior capstone project selection, and technical communication skills.

SWENG 480 Software Engineering Design (3)

This course prepares senior software engineering students for industrial engineering design and project management. It covers the engineering design process, project planning and evaluation, engineering ethics, and engineering economy. In addition, students select, specify, and start their capstone design project, which is completed, in the follow-up course, SWENG 481. Students are expected to carry out a group design project that is on par with industrial expectations. Upon completion of this course a student should have a solid understanding of the engineering design process, a clear capstone project description, should have completed some preliminary design work, and be adequately prepared to complete the project in SWENG 481.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: SWENG 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 452W Embedded Real Time Systems (3) The design and implementation of real time systems.

SWENG 452W Embedded Real Time Systems (3)

Real time operating systems is the study of hardware/software systems in which timing constraints must be met for correctness. Real time systems are embedded in applications ranging from the antilock brakes in cars to the flight control systems for jetliners. Students are first introduced to the concept of systems with real time constraints by examining case studies. The unified modeling languages (UML) with real time extension is introduced allowing students to capture the constraints present in the systems in a variety of models allowing the problem to be described at several levels of abstraction. Tasks and messages are introduced as programming structures which can satisfy the constraints described by the UML models. With a basic understanding of real time systems and how to implement them, the focus of the course shifts away from these technical concerns towards understanding the documentation of the requirements using the Volere Requirements Specification template. All the writing assignments in the class will revolve around Volere in one way or another. Increasingly complex case studies will give the class the opportunity to explore more sophisticated inter-task communications mechanisms as well as common pitfalls present in RTOS applications. Students will learn how to verify the correctness of their applications in order to guarantee that the real time constraints can be met when the system is deployed. Discussion will turn to application programmer interfaces used by hardware vendors to port hardware into a RTOS. The class will end by designing and building a complex RTOS by a team of students using the techniques learned in the class. The project will outline the needs of the RTOS application in a project proposal using the Volere template. The proposal will be developed iteratively with the faculty member until its scope and definition are clear. This proposal will be developed into a complete requirement specification including a time-line and identification of development benchmarks. This system resulting from the development will be documented in the final report write-up.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: CMPSC 472 orCMPSC 473 orCMPEN 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 481 Software Engineering Project (3) Capstone group design projects in software engineering.

SWENG 481 Software Design Projects (3)

In this course students complete their group senior design project started in SWENG 480. Design groups meet regularly with a faculty advisor to report progress and resolve technical issues. Oral and written progress reports are expected at selected times. The class culminates with a final technical defense of the project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SWENG 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 494 Research Project (1-12) Supervised student activites on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 497A Software Integration (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Software Integration (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 497A Human Computer Interface (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Human Computer Interface (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 497B Software Documentation (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Software Documentation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Software Engineering (SWENG)

SWENG 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 071 (GN;IL) Environmental Sustainability (3) An introduction to environmental science, exploring sustainable human- environment interactions with examples from environmental soil science.

SOILS 071 Environmental Sustainability (3)
(GN;IL)

This class provides an introduction to environmental sustainability for students with no background in environmental science or soils. The concept of sustainability provides a framework for understanding environmental problems by balancing the needs of current society with the long-term needs of future societies and the environment. Sustainability also provides a framework for linking international cultures because environmental problems and solutions often cross political and cultural boundaries. The goal of the course is to develop critical thinking skills related to sustainable environmental choices. As we explore the concept of sustainability, we will discover the role of soil in mediating human-environment interactions by determining natural plant and animal abundance, supporting agriculture, and buffering the environment against modern pollution.

The five themes of the class are: 1) The science of nature and the nature of science, which introduces students to the scientific method and value systems that affect environmental choices, 2) Population and consumption, where we consider these challenges to global sustainability, 3) the Malthusian dilemma of how we can feed billions of people in the near future, 4) the conservation dilemma of how we can maintain a healthy environment (while feeding billions of people), and 5) Success stories in sustainable environmental science and policy.

The class will include "soils cases" in which examples from environmental soil science are used to convey principles of sustainability, and "sustainability walks" to see examples of sustainable environmental choices near campus. Students will complete the class with: 1) a survey of the key issues in global environmental sustainability, 2) exposure to current scientific information related to these issues, 3) an enhanced ability to interpret environmental data, 4) an increased knowledge of the role of soils in maintaining environmental quality, 5) an increased understanding of how environmental problems and solutions are global phenomena, requiring cooperation among many international cultures, and 6) a significant depth of knowledge about "what it takes" to feed 6.5 billion people while maintaining a healthy environment.

General Education: GN
Diversity: IL
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 100 Soil Judging (1 per semester/maximum of 3) Techniques of describing soil properties, classifying soils taxonomically, land use interpretations based on soil characteristics. Extensive field examination of soils.

Soil Judging (1 per semester/maximum of 3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 101 (GN) Introduction to Soils (3) A study of soil characteristics and their relationship to land use, plant growth, environmental quality, and society/culture.

SOILS 101 Introductory Soil Science (3)
(GN)

This survey and foundational course introduces students to a broad range of subject matter from most sub-disciplines of soil science. We study a range of soil characteristics and seek to understand their relationship to soil function, land use, plant growth, environmental quality, and society/culture. This course introduces students to the variety and complexity of soils on a local, national, and international scale. We identify the physical, chemical, and biological properties and processes of soils and relate these to the way that societies use and abuse soils. Students acquire a working knowledge of the technical terminology of soil science and begin developing observational skills needed to describe and/or locate soil pro perties for specific locations and to interpret those properties for various uses. We learn to recognize and explain various land use and management practices and to select those that are appropriate at a given site. Students also evaluate the impact of land use and management decisions on agricultural productivity and sustainability, environmental and ecological health, and on community relationships.

This course is required or on a list from which students select for many environmental and agricultural majors. It is specifically listed as a prerequisite for many other SOILS courses and for several soils-related courses taught at Penn State.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 101 (GN) Introductory Soil Science (3) A study of soil properties and processes and relationships to land use, plant growth, environmental quality, and society.

SOILS 101 Introductory Soil Science (3)
(GN)

This survey and foundational course introduces students to a broad range of subject matter from most sub-disciplines of soil science. We study a range of soil characteristics and seek to understand their relationship to soil function, land use, plant growth, environmental quality, and society/culture. This course introduces students to the variety and complexity of soils on a local, national, and international scale. We identify the physical, chemical, and biological properties and processes of soils and relate these to the way that societies use and abuse soils. Students acquire a working knowledge of the technical terminology of soil science and begin developing observational skills needed to describe and/or locate soil pro perties for specific locations and to interpret those properties for various uses. We learn to recognize and explain various land use and management practices and to select those that are appropriate at a given site. Students also evaluate the impact of land use and management decisions on agricultural productivity and sustainability, environmental and ecological health, and on community relationships.

This course is required or on a list from which students select for many environmental and agricultural majors. It is specifically listed as a prerequisite for many other SOILS courses and for several soils-related courses taught at Penn State.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 102 Introductory Soil Science Laboratory (1) Laboratory exercise and field trips designed to develop student competency in soil description, analysis, and assessment.

SOILS 102 Introductory Soil Science Laboratory (1)

This laboratory course is designed for students who plan to work directly with soils, make land use and management decisions, or to be involved in projects requiring practical application of soil science principals. By conducting weekly laboratory and field exercises and writing reports on their work, students will deepen their understanding of, and learn to apply, the fundamental soil properties and processes introduced in SOILS 101. This laboratory course, in conjunction with the SOILS 101 lecture course, will provide foundational learning in soil science and prepare students for upper level soil science courses. This laboratory course is also designed to provide students with hands on experience in analytical procedures for soil assessment, testing, and interpretation, as well as field experience in observing, characterizing and describing soils.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: SOILS 101
Concurrent: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 190 Professional Development in Environmental Soil Science (1) Development of learning goals and an introduction to faculty and alumni contacts, student portfolios, the senior thesis, and internship opportunities.

Professional Development in Environmental Soil Science (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 402 Soil Nutrient Behavior and Management (3) Chemical and biological behavior of soil nutrients; management for plant availability and fate in the environment. Laboratory emphasizes soil testing and soil-plant relationships.

SOILS 402 Soil Nutrient Behavior and Management (3)

Soil Nutrient Behavior and Management is a senior/graduate level course that covers the chemical and biological processes that determine the behavior of essential plant nutrients in soils. As this understanding of basic nutrient behavior is developed in the course, it is applied directly to explain the basis for management of nutrients for optimum plant availability. This same nutrient behavior is linked to the fate of nutrients either applied as sources of plant nutrition or through disposal of nutrient containing materials on soils, which is a major environmental issue. Management practices necessary to minimize environmental impacts from nutrients are also covered. From this background students will be able to understand nutrient behavior and management recommendations and adapt management to a variety of soil-plant systems and situations both for plant growth and environmental protection. Real world examples of developing and adapting management systems are used to illustrate this process. The laboratory exposes the student to common soil testing procedures, methods for studying soil nutrient-plant interactions, and examples of practical application of management practices in the field. Evaluation will be based on 3 exams, laboratory reports, homework assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: CHEM 112, SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 401 Soil Composition and Physical Properties (3) Advanced study of mineralogical and physical properties of soils which affect soil-plant-water relationships.

Soil Composition and Physical Properties (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 404 Urban Soils (3) This course introduces the student to natural and human-influenced soils.

SOILS 404 Urban Soils (3)

This course introduces the student to the management of soils in urban and suburban settings via comparisons in soil physical, chemical, and biological properties. The soil is also examined as the interface between the biotic and abiotic components of an urban site. Therefore, site management of soil during or following placement is examined in detail. Urban soil physical and chemical properties are discussed in terms of site stability. The interactions between stormwater management, erosion control, soil mechanics, and the soil's ability to support vegetation are examined in the context of sustaining urban environments. The soil design process is presented: site assessment, biophysical analysis, profile construction, specification formulations, and conformance testing and inspection protocols. Professional practical examples such as mine reclamation, brown field restoration, and landscape construction are presented to illustrate the process. The student completes a series of exercises to gain experience in soil examination, soil/land use interpretation, site assessment, soil erosion calculations and a group assignment that evaluates soil issues on a reclamation or construction project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 412W Soil Ecology (3) Introduction to soil organisms; includes interactions between organisms, their processes, and metabolism with a major focus on microorganisms.

Soil Ecology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 011, BIOL 127 orBIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 405 (GEOSC 405) Hydropedology (3) Soil and water interactions across scales, integrated studies of landscape-soil-water relationships, fundamental processes of water flow and chemical transport.

SOILS (GEOSC) 405 Hydropedology (3)

Hydropedology is the study of the fluxes, storages, pathways, residence times, and spatio-temporal organization of water in the root and deep vadose zones, and their relations to climate, ecosystem, land use, and contaminant fate. The aim is to characterize integrated physical, chemical, and biological processes of soil-water interactions across scales (including chemicals and energy transported by water flow). This course embraces interdisciplinary and multiscale studies of interactive pedological and hydrological processes in the earth's surface and subsurface environments. The course will address the fundamental issues and practical applications of hydropedology (as a sister discipline of hydrogeology). This course emphasizes *in situ* soils that have distinct characteristics of pedogenic features, structures, layers, and soil-landscape relationships in the real world. Students will gain an in-depth understanding of soil and water interactions across scales from point observations to watershed phenomena, and will gain skills in predicting flow pathways and water fluxes in the landscape. This course promotes active learning, critical thinking, and hands-on skills. Course format will consist of two lectures and one laboratory/field exercise each week. The course will utilize a network of local watersheds with different land uses for demonstrations and class projects. Grading will be based on weekly lab/field exercise (20%), class research project (40%), homework (10%), one midterm exams (15%), and one final exam (15%). Since hydropedology is linked to a wide array of environmental, ecological, geological, agricultural, and natural resource issues of societal importance, SOILS (GEOSC) 405 will support interdisciplinary training of students in Soil Science as well as in other disciplines of the College of Agricultural Sciences, especially Agricultural and Biological Engineering, Agronomy, and Forest Resources. Students in the College of Earth and Mineral Sciences, College of Engineering, Eberly College of Science, and the Intercollege Graduate Degree Program in Ecology also will find this course useful when undertaking research on the vadose zone, the hydrologic cycle, and the earth system.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 415 Soil Morphology, Mapping, and Land Use (3) Soil profile, soil mapping, application of principles of soil morphology and mapping to land use; remote sensing.

Soil Morphology, Mapping, and Land Use (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: GEOSC 001, GEOSC 020, GEOSC 071 orSOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 416 Soil Genesis and Classification (3) Pedological evolution, classification, and world distribution of soils.

Soil Genesis and Classification (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 418 (AGECO 418, AN SC 418) Nutrient Management in Agricultural Systems (3) Comprehensive review of nutrient flow in animal agricultural systems, environmental regulations, and environmental stewardship practices.

SOILS (AGECO/AN SC) 418 Nutrient Management in Agricultural Systems (3)

Nutrient Management in Agricultural Systems is a senior level course that applies the fundamentals of animal and plant, sciences to the concept of a nation-wide food animal system. The regional concentration and consolidation of animal production enterprises has resulted in important economic savings for consumers. But these changes have also had some detrimental impacts on the environment. For example, some nutrients such as calcium and phosphorus and certain trace elements are mined, while others such as nitrogen and potassium are deiived from crop production systems. In all cases, the nutrients are transported to areas of livestock concentration. A small portion of the nutrients leave the farm in the form of animal products, while 60 to 70% of the nutrients are excreted and applied to nearby crop land. The environmental implications of the net influx of these nutrients to livestock producing communities have only recently been recognized. These concepts will provide the background around which regulations are written and sound nutrient management strategies are developed and implemented.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 419 (GEOSC 418) Soil Environmental Chemistry (3) Introduction to chemical constituents and processes occurring in soils. Topics include mineral weathering, soil solution chemistry and adsorption of solutes.

SOILS 419 (GEOSC 418) Soil Environmental Chemistry (3)

Upon completion of the course, the students will be able to identify the soil components and properties responsible for the chemical reactivity of soils and will know the fundamental chemical processes that occur in soils. The students will also be able to link theoretical concepts to real life environmental problems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 420 Remediation of Contaminated Soils (3) Basic principles and technical aspects of remediation of contaminated soils.

Remediation of Contaminated Soils (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 450 Environmental Geographic Information Systems (3) Use of geographic information systems (GIS) and digital spatial databases to characterize landscapes for environmental assessment and management.

Environmental Geographic Information Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 422 Natural Resources Conservation and Community Sustainability (3) Conservation, land-use, and community (soil, water, air, plants, animals, and humans) impacting quality of life and sense of place.

SOILS 422 Natural Resources Conservation and Community Sustainability (3)

SOILS 422 provides the student with practical knowledge of community and natural resources conservation. The course covers symbiotic aspects of soil, water, air, plants, animals, and humans and their impact on the community. The course focuses on developing methods for the conservation and sustainable use of resources. This involves understanding the land ethic and developing a sense of place.

Conservation awareness has grown in recent years. Originally, erosion control was the sole reason for conservation planning. Eventually water conservation also became a concern addressed by planning. We have now moved into an era of ecosystem-based planning, where soil health, water and air quality, sustainable communities, and much more are considered in conservation planning. This planning involves both natural and human resources.

SOILS 422 covers understanding, designing, and developing best management practices (BMP's) for addressing resource conservation and maintaining sustainable farmland and communities. Calculating runoff and soil loss are researched and integrated into conservation planning as tools for establishing the need for BMP's.

Resources and technologies are covered, such as soil surveys, geographic information systems (GIS), global positioning systems (GPS), and ground penetrating radar (GPR). Networking and partnerships are also covered to give the student a practical knowledge of the critical nature of teamwork. Additionally, workings and interactions between federal, state, and local organizations and agencies are explored.

Land-use patterns, such as urban and suburban sprawl, mining, logging, and resource utilization are explored. Education is enhanced in the form of a community/sense of place project. This project utilizes classroom knowledge and incorporates student research into a practical plan for developing an appreciation and awareness for ones community.

Throughout the course the various aspects of soil, water, air, plants, animals and humans are woven together to emphasize the importance of all decisions on the ecosystem. After completing SOILS 422, the student will be equipped to make valuable and educated decisions to positively affect the community.

At the end of the course the student will be able to evaluate effects of human activities on the landscape; make sustainable land use decisions; determine the need for, and design best management practices; and develop a sense of place and describe individual roles and responsibilities in the community.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: SOILS 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 489 Supervised Experience in College Teaching (1-3) Participate with instructors in teaching an undergraduate soil science course; assist with teaching and evaluation and with development of instrucitonal materials.

Supervised Experience in College Teaching (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: SOILS 101 approval of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 494 Senior Thesis (1-6) Supervised data collection and analysis on a topic of interest to the student culminating in a formal thesis.

Senior Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: permission of the course coordinator

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 490 (AGRO 490) Colloquium (1) Continuing written and oral presentations developed by students in consultation with the course instructor.

Colloquium (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 494H Senior Thesis (1-6) Supervised data collection and analysis on a topic of interest to the student culminating in a formal thesis.

Senior Thesis (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: permission of the course coordinator

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 497 Special Topics (1-9) Formal courses given infrequently to explore, in-depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Soil Science (SOILS)

SOILS 497A Soil Genesis, Classification, and Mapping (4) Lecture and laboratory course on the genesis of soils, their classification, mapping, and interpretation for land use.

Soil Genesis, Classification, and Mapping (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SOILS 101 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 001 Elementary Spanish I (4) Audio-lingual approach to basic Spanish; writing. Students who have received high school credit for two or more years of Spanish may not schedule this course for credit, without the permission of the department.

Elementary Spanish I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 001G Elementary Spanish for Graduate Students (3) Instruction in fundamental skills required for reading expository Spanish prose; primarily for advanced degree language requirements.

Elementary Spanish for Graduate Students (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 001H Elementary Spanish I (4) Audio-lingual approach to basic Spanish; writing. Students who have received high school credit for two or more years of Spanish may not schedule this course for credit, without the permission of the department.

Elementary Spanish I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 002G Elementary Spanish for Graduate Students (3) Continuation of SPAN 001G, with opportunity for reading in special fields.

Elementary Spanish for Graduate Students (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1997
Prerequisite: SPAN 001G graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 002 Elementary Spanish II (4) Audio-lingual approach to basic Spanish continued; writing. Students who have received high school credit for four years of Spanish may not schedule this course for credit, without the permission of the department.

Elementary Spanish II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1985
Prerequisite: SPAN 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 002H Elementary Spanish II (4) Audio-lingual approach to basic Spanish continued; writing. Students who have received high school credit for four years of Spanish may not schedule this course for credit, without the permission of the department.

Elementary Spanish II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 003 Intermediate Spanish (4) Audio-lingual review of structure; writing; reading.

Intermediate Spanish (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1985
Prerequisite: SPAN 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 003H Intermediate Spanish (4) Audio-lingual review of structure; writing; reading.

Intermediate Spanish (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 003H Intermediate Spanish (4) Audio-lingual review of structure; writing; reading.

Intermediate Spanish (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: SPAN 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 010 Intensive Spanish (6) Basic Spanish grammar, oral, aural, and writing skills (essentially equivalent to SPAN 001 and first half of SPAN 002).

Intensive Spanish (6)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 051 Elementary Intensive Spanish for Graduate Students I (3) Intensive introduction to Spanish: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

SPAN 051 Elementary Intensive Spanish for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Spanish. This is the first half of elementary sequence in reading, writing, speaking. listening, and cultural contexts. Students will learn the Spanish vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 020 Intensive Spanish (6) Basic and intermediate Spanish grammar, oral, aural, and writing skills (essentially equivalent to second half of SPAN 002 and all of SPAN 003).

Intensive Spanish (6)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Fall 1988
Prerequisite: SPAN 010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 052 Elementary Intensive Spanish for Graduate Students II (3) Intensive introduction to Spanish: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

SPAN 052 Elementary Intensive Spanish for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Spanish. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Spanish vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SPAN 051 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 083S (GH;IL) First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.

SPAN 083S First-Year Seminar in Hispanic Literatures and Cultures (3)
(GH;FYS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The first-year seminar in Spanish will introduce students to the study of Hispanic literatures and culture in their first semester at the University. Students will read (in English) significant literary texts, view art works (including films and videos), listen to music and explore the Hispanic world in general. These experiences will help prepare them for additional courses in literature and in Spanish, but will also serve as an introduction to things Hispanic, and as a point of comparison with U.S. culture. In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them including the opportunity to develop relationships with faculty and other students who share their academic interests. This course will introduce students to the study of Hispanic literatures and culture in their first semester at the University. This experience will help prepare them for additional courses in literature and in Spanish. The course satisfies both the first-year seminar and a general education humanities or Bachelor of Arts humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 053 Intermediate Intensive Spanish for Graduate Students (3) Continued intensive study of Spanish at the intermediate level: reading, writing, speaking, listening, cultural contexts.

SPAN 053 Intermediate Intensive Spanish for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Spanish. Continued intensive study of Spanish at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SPAN 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 083T (GH;IL) First-Year Seminar in Hispanic Literatures and Cultures (3) Introduction to the study of Hispanic literatures and cultures.

First-Year Seminar in Hispanic Literatures and Cultures (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 100A Intermediate Grammar and Composition for Spanish Bilinguals (3) A review of grammar and practice with composition focusing on needs and problems specific to Spanish-speaking bilinguals.

Intermediate Grammar and Composition for Spanish Bilinguals (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1996
Prerequisite: placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 100 Intermediate Grammar and Composition (3) An intermediate level grammar review that also incorporates directed and original composition exercises.

Intermediate Grammar and Composition (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1996
Prerequisite: SPAN 003 or placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 100H Intermediate Grammar and Composition (3) An intermediate level grammar review that also incorporates directed and original composition exercises.

Intermediate Grammar and Composition (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 003 or placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 105 Spanish for Students in the field of Agricultural Sciences (4) Develop communication skills and cultural awareness to assist and work with Hispanics whose first and sometimes only language is Spanish.

Spanish for Students in the field of Agricultural Sciences (4)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 106 Spanish for the Agricultural Industries (4) Further development of the communication skills and the cultural awareness needed to assist and work with Spanish speaking employees in the agricultural industries.

SPAN 106 Spanish for the Agricultural Industries (4)

The class will focus on further development of the student's linguistic, socio-cultural, discourse and strategic Spanish language skills introduced in SPAN 105. The class periods will be used to develop further: (1) the student's knowledge of Spanish as a linguistic code through further mastery of a personalized vocabulary as well as common idiomatic language structures important to the student's ability to communicate with Spanish-speaking workers employed in his/her area of agricultural interest; (2) the student's understanding of major grammatical concepts critical to effective communication in work management; (3) the student's cultural awareness of the varied Spanish speaking cultures with which the student will come into contact in the workplace; and (4) the student's ability to be creative with his/her knowledge of the language as it relates to the development of self-confidence and effective communicative proficiency in Spanish. Frequent short quizzes and the collection and grading of weekly homework assignments are important components of the course as they are used to encourage the use of Spanish on a daily basis. Four major tests will be given during the semester to assess the student's knowledge of major grammatical concepts. Classroom activities will be designed that require the student to use and develop his/her communication skills in Spanish to manage efficiently and relate personally to his/her Spanish speaking employees. Students will be evaluated based on homework, quizzes, exams, daily attendance and class participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SPAN 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 110 Intermediate Conversation (3) Practice in oral expression in Spanish, with emphasis on aural comprehension, idiomatic usage, and fluency. Use of journalistic materials.

Intermediate Conversation (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: SPAN 003 or placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 120 Intermediate Reading (3) Emphasis on rapid reading comprehension. Selected readings from contemporary Hispanic literature, social sciences, current events, etc.

Intermediate Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Winter 1978
Prerequisite: SPAN 003 or placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 115 Spanish for Business (4) Conversational approach, emphasizing basic business vocabulary and situations. Practice in speaking, reading and writing.

Spanish for Business (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 130 (GH;IL) Iberian Civilization (3) Spanish and Portuguese life from the medieval period to the present; literature, the arts, and contemporary problems in historical perspective.

Iberian Civilization (3)

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 131Y (GH;US;IL) Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.

SPAN 131Y Ibero American Civilization (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The nations and peoples of Latin America have a unique, interesting history and cultural heritage that are rooted in the traditions, beliefs, experiences, values, and struggles of Native American, European, African and other populations. As close neighbors and major trading partners of the United States, Latin American republics have both benefited and suffered from the proximity and foreign policies of the northern capitalist democracy, and have contributed to its strength and growing ethno-racial diversity. This course aims to provide the student with a broad, general introduction to the lands, peoples, and history of Latin America; to inform the student about the region's ethnic diversity, cultural background, and problems of development; and to promote appreciation for the values and practices of other cultures, and a better understanding of relations between the nations of the region and the United States. Classes will usually combine lecture and discussion of reading assignments, with an expectation of high student participation. Films, videos, and recordings will enhance and illustrate readings.

Three examinations (each covering approximately one third of the lessons presented), an occasional quiz, a book report or an annotated bibliography, participation and attendance will be the basis for evaluation of student learning and grades. Students are required and expected to read assignments, to attend class regularly, and to be prepared to participate in class discussions by answering and raising questions relevant to the lessons. Poor attendance will adversely affect a students standing and grade.

This course will fulfill the Humanities Breadth and Cultural Diversity requirements. The course does not count toward credits in the major or minor in Spanish because it is taught in English. Nevertheless, it will complement the department's offerings by providing students with a greater appreciation of Latin America's cultural origins, socioeconomic development, and everyday realities.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 131 (GH;US;IL) Ibero-American Civilization (3) Spanish American and Brazilian life from the Conquest to the present; literature, art, the indigenous heritage, and contemporary problems.

SPAN 131 Ibero American Civilization (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The nations and peoples of Latin America have a unique, interesting history and cultural heritage that are rooted in the traditions, beliefs, experiences, values, and struggles of Native American, European, African and other populations. As close neighbors and major trading partners of the United States, Latin American republics have both benefited and suffered from the proximity and foreign policies of the northern capitalist democracy, and have contributed to its strength and growing ethno-racial diversity. This course aims to provide the student with a broad, general introduction to the lands, peoples, and history of Latin America; to inform the student about the region's ethnic diversity, cultural background, and problems of development; and to promote appreciation for the values and practices of other cultures, and a better understanding of relations between the nations of the region and the United States. Classes will usually combine lecture and discussion of reading assignments, with an expectation of high student participation. Films, videos, and recordings will enhance and illustrate readings.

Three examinations (each covering approximately one third of the lessons presented), an occasional quiz, a book report or an annotated bibliography, participation and attendance will be the basis for evaluation of student learning and grades. Students are required and expected to read assignments, to attend class regularly, and to be prepared to participate in class discussions by answering and raising questions relevant to the lessons. Poor attendance will adversely affect a students standing and grade.

This course will fulfill the Humanities Breadth and Cultural Diversity requirements. The course does not count toward credits in the major or minor in Spanish because it is taught in English. Nevertheless, it will complement the department's offerings by providing students with a greater appreciation of Latin America's cultural origins, socioeconomic development, and everyday realities. Overhead projector and screen will be needed as special facilities.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 132 (IL) (AAA S 132) Afro-Hispanic Civilization (3) A general introduction to human and cultural elements of African origin in Spanish- and Portuguese-speaking countries of Latin America.

SPAN (AAA S) 132 Afro-Hispanic Civilization (3)
(IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The nations and peoples of Latin America have a unique, interesting history and cultural heritage that are rooted in the traditions, beliefs, experiences, values, and struggles of Native American, European, African and other populations. This course focuses on the presence and participation of African peoples and their descendants in the formation and development of societies and cultures in representative areas of the Caribbean, South America, and Central America and on the evolution, diversity, and richness of the African heritage therein. Course content includes the African background, the experience and impact of slavery, the social, cultural, and economic heritage of slavery, the role of race in Latin America, and Afro-Hispanic intellectual, literary, and artistic developments (e.g., aspects of folklore, music). The course aims to provide students with a general introduction to human and cultural elements of African origin within the Spanish- and Portuguese-speaking nations of the Americas so that they may be more knowledgeable of the meaning, significance and widespread influence of the African diaspora. It proposes to provide the student with a better understanding of Africa's contribution to Latin American identity, diversity, culture, and development; to promote appreciation for the values and practices of other cultures, and greater awareness of the relations between the nations of the region and the United States. Classes usually combine lecture and discussion of reading assignments, with an expectation of high student participation. Films, videos, and recordings will enhance and illustrate readings. One required examination (covering approximately one half the lessons presented), an occasional quiz, a library research exercise, an oral presentation, a written research project, and participation and attendance will be the basis of the evaluation of student learning and grades. This course will fulfill the Intercultural/International Competence or Diversity requirements. The course does not count toward credits in the major or minor in Spanish because it is taught in English. Nevertheless, it will complement the department's offerings by providing students with a greater appreciation of Latin America's cultural origins, socioeconomic development, and everyday realities. AAA S/SPAN 132 is an option that fulfills the United States Cultures and International Cultures requirement for African and African American Studies majors. The African and African American Studies Department has a minor with a diaspora concentration and this course is an elective to that minor.

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 187 Spanish Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Spanish Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 197A Medical Spanish: Health Issues and Cultural Awareness (3) This course covers a variety of health-related terms and topics discussed in the health care field.

Medical Spanish: Health Issues and Cultural Awareness (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 199 (IL) Foreign Study--Beginning Conversational Spanish (3) Grammar review and practice in oral expression and aural comprehension.

Foreign Study--Beginning Conversational Spanish (3)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 200 Intensive Grammar and Composition (3) Intensive grammar review; composition. Designed primarily for majors and prospective majors.

Intensive Grammar and Composition (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 2001
Prerequisite: SPAN 100 or by placement

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 210 Readings in Iberian Civilization (3) Intermediate level Spanish readings dealing with Iberian life from pre-historic times to the present.

Readings in Iberian Civilization (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 1993
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 215 Introduction to Spanish Linguistics (3) Introduction to the fundamental components of linguistics using data from the Spanish language.

SPAN 215 Introduction to Spanish Linguistics (3)

Spanish 215 will introduce students to the fundamental components of linguistics (phonology, morphology, syntax, lexicon, and semantics) using data from the Spanish language. The course requires no previous knowledge of linguistics, but presupposes familiarity with Spanish at the 15 credit level or higher. The underlying purpose is to awaken students' interest in Spanish linguistics; to provide them with a foundation in the terminology and concepts necessary for studying higher level courses that are part of Spanish major and minor curricula; and to help them to decide which of the upper level classes they would be most interested in taking. Student performance in the course will be evaluated by (a) exams designed to verify their familiarity and understanding of linguistic terminology and concepts, their skill in doing phonetic transcription, and their ability to solve problems in phonology, morphology, syntax, and semantics, and (b) their preparedness and participation in classroom activities.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SPAN 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 220 Readings in Ibero-American Civilization (3) Intermediate level Spanish readings dealing with Ibero-American life from the pre-conquest to the present.

Readings in Ibero-American Civilization (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 1992
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 230 (GH) Masterpieces of Spanish Literature in English Translation (3) Study of works and authors of international importance; lectures, readings, and written works in English.

Masterpieces of Spanish Literature in English Translation (3)

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 253W Introduction to Hispanic Literature (3) Introduction to generic distinctions, critical methods, and approaches to Hispanic literature.

SPAN 253W Introduction to Hispanic Literature (3)

(BA) This course meets the Bachelor of Arts degree requirements.

During the semester students will learn how to write, and will practice writing, critical and analytical essays based upon the different genres of literature studied in class. All students will write three compositions during the semester, which will be written twice incorporating in the final draft suggestions made by their peer editors and by their instructor. The writing of the second version will be preceded by a conference with the instructor in which s/he will make comments and suggestions to the students about how to avoid the same errors made in the first draft. The themes for all papers must be chosen in consultation with the professor.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 100 andSPAN 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 231 (GH;IL) Masterpieces of Spanish American Literature in English Translation (3) Emphasis on works and authors of international importance. Lectures, readings, and written work in English.

SPAN 231 Masterpieces of Spanish American Literature in English Translation (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

The primary goal of "Masterpieces of Spanish American Literature in English Translation" is to introduce non-Spanish speaking students to the rich and varied literary world of Spanish America. While the works read and discussed will vary from offering to offering and instructor to instructor, they will be selected from the best writings Spanish America has to offer. Typically, at least one Nobel Prize winner will be included (Spanish American authors have won several Nobel Prizes for literature). On occasion, classes will also see the films inspired by or based on one or more of the literary works read in class. Classes will typically be centered on student discussions rather than lectures, and students will be required to keep journals in which they note their reactions to and thoughts concerning the works read and the class discussions of those works. For some classes, those journals will be electronic--in the form of threaded on-line discussions.

The class will be concerned with the aesthetic, literary value of the works read, but also with the realities therein reflected. We will examine issues of political and economic history, ethnicity, religious and moral values, socio-economic status, and simple cultural and societal differences.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 299 (IL) Foreign Study--Intermediate Conversational Spanish (3) Grammar review and practice in oral expression and aural comprehension.

Foreign Study--Intermediate Conversational Spanish (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 300 Advanced Grammar and Composition Through Reading (3) Development of advanced grammar and composition skills through reading texts by native speakers and adapting their techniques for original compositions.

Advanced Grammar and Composition Through Reading (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 100 andSPAN 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 305 Spanish for Social Services (3) Practical Spanish for social workers, medical personnel, law enforcement officers, etc.; emphasis on Puerto Rican vocabulary, idiom, and pronunciation.

Spanish for Social Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 301 Advanced Writing and Stylistics in Spanish for Spanish Speakers (3) This course will enhance writing proficiency in Spanish of Spanish speaking students by targeting common problems characteristic of Spanish speakers.

Advanced Writing and Stylistics in Spanish for Spanish Speakers (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 100A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 315 (GH;US) (LTNST 315) Spanish and Spanish-speakers in the U.S. (3) In this course, we investigate various aspects of the language(s) and language behaviors of U.S. Latinos.

SPAN (LTNST) 315 Spanish and Spanish-speakers in the U.S. (3) (GH;US)

The course is premised on the idea that language is a crucial component in the formation of identity. To understand Latina/o identity formation in the U.S., then, one must analyze what role languages--Spanish and English--have played in identity formation. The class commences with a brief historical assessment of the various U.S. Latino communities, including Mexican-American, Cuban-American, and Puerto Rican communities. Such a historical purview proves significant in the study of the cultural traditions that persist in these communities, chief among these, the Spanish language. In exploring the Spanish language in U.S. Latino communities, we consider several major sets of questions, among them the following: In what ways do the languages of U.S. Latino communities differ from those of monolingual Spanish- (and English-) speaking communities? What factors contribute to the maintenance and loss of Spanish in these communities? How does language contribute to the creation of individual and societal identity? How is language exploited in the representation of other U.S. Latino cultural traditions? We consider these questions across a variety of genres: poetry, prose (autobiography in particular), film, art, television, and music. These texts reveal how social environments determine language use as well as how artists have used language to reshape social environments, through, for example, the development of new language practices such as Spanish-English code switching. The course also connects these cultural practices to debates on Spanish in public life and policy.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 353 Survey of Spanish Literature before 1700 (3) Selected major works of prose, poetry, and drama from the Middle Ages to the end of the seventeenth century.

Survey of Spanish Literature before 1700 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 253W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 326 (GH;US) (LTNST 326) Reading the Border/Lands (3) This course examines representations of the U.S.-Mexico border in relation to the actual geographic space.

SPAN (LTNST) 326 Reading the Border/Lands (3)
(GH;US)

This class will center on discussions of the U.S.-Mexico borderlands in cultural theory and practice. “Borderlands” is understood as a transcultural space filled with physical, cultural, economic, political, and mythical elements. The aim is to view how different artists from the Borderlands, both northern Mexican and Chicano, mediate their borderlands reality. That is to say, the goal of the class is to examine the different “imaginative geographies” in the borderlands. We examine a wide-ranging mix of cultural texts that includes prose, poetry, essays, and performance art, as well as film and video art. We explore how writers have historically rethought notions of citizenship, identity, and culture to create more fluid spaces of representation in cultural contact zones. We will in particular, pay close attention to the relationship between national geography and the shaping of regional identities and popular cultures —between the maps that nations draw and the cultural forms that cut across them.

General Education: GH
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 354 Survey of Spanish Literature Since 1700 (3) Selected major works of prose, poetry, and drama from the eighteenth century to the present.

Survey of Spanish Literature Since 1700 (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 253W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 356 Survey of Spanish American Literature after "Modernismo" (3) Historical survey of the major figures and periods in Spanish American literature after "modernismo".

SPAN 356 Survey of Spanish American Literature after "Modernismo" (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Spanish 356, "Survey of Spanish American Literature from 'Modemismo' to the Present," will provide students with a systematic introduction to the history of Spanish American literature, beginning just after the first great period of literary innovation in Spanish American, "Modemismo," and continuing to the contemporary period. Students will read and discuss some of the major literary works of the late 19th and early 20th centuries, including works by Nobel laureates Gabriela Mistral, Miguel Angel Asturias, Pablo Neruda, Gabriel Garcia Marquez, and Octavio Paz, as well as Jorge Luis Borges and others.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 253W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 355 Survey of Spanish American Literature through "Modernismo" (3) Selected major works of prose, poetry, and drama from the discovery through "modernismo".

SPAN 355 Survey of Spanish American Literature Through "Modernismo" (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Spanish 355, "Survey of Spanish American Literature through "Modernismo,"' will provide students with a systematic introduction to the history of Spanish American literature, beginning with the ancient stories and poems of the Amerindians before the arrival of Columbus and ending with the major authors of "Modernismo". Along the way, students will read and discuss major works by Columbus, prominent participants in the conquest, poets, essayists, dramatists: all of the major literary artists of that portion of the new world that would become known as Spanish America. Special highlights include one of America's first great epic poets, Alonso de Ercilla y Zuniga, one of the earliest feminists--the great baroque poet, dramatist, and philosopher, Sor Juana Ines de la Cruz, the great Romantic poet, Jose Maria Heredia, who authored one of the most memorable tributes to Niagara Falls, Jose Hernandez, who immortalized the Argentine gaucho in his epic Martin Fierro, and Jose Marti, best known in this country for authoring the words of the folksong "Guantanamera." The course will include works by a number of authors from the "Modemismo" movement, the first American literary movement to exercise a major influence on European authors: Jose Marti, Ruben Dario, Leopoldo Lugones, Manuel Gutierrez Najera, etc.

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 253W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 399 (IL) Foreign Study--Spanish (1-12) Advanced training in Spanish language skills.

Foreign Study--Spanish (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: SPAN 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 397C Spanish Intensive Grammar (3) Emphasize the grammatical terminology of Spanish and usage. Present advanced concepts of grammar through reading, speaking and grammar practice.

Spanish Intensive Grammar (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 300 orSPAN 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 410 Advanced Oral Expression and Communication (3) Emphasis on achieving practical command of spoken Spanish and the comprehension of native speech. Use of journalistic materials.

Advanced Oral Expression and Communication (3)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Fall 1995
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 414 Spanish Phonology (3) Spanish phonetics and phonemics; systematic means of correcting pronunciation defects; other audio-lingual applications.

Spanish Phonology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 412 Translation (3) Techniques of oral and written translation from Spanish to English and vice versa, particularly for business, literature, and social work.

Translation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SPAN 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 415 Spanish Morphology and Syntax (3) The Spanish grammatical system; analysis of morphemic units and their organization into syntactic structures.

Spanish Morphology and Syntax (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 418 The Evolution of Spanish (3) The emergence and development of the sounds and forms of Spanish.

The Evolution of Spanish (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: SPAN 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 420 Spanish for Business and International Trade (3) Introduction to the Spanish of international business and to the social and cultural norms of negotiation in Spanish-speaking countries.

Spanish for Business and International Trade (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2008
Prerequisite: SPAN 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 439 Don Quijote (3) Thorough study of the masterpiece, including its sources, genesis, language, style, success, and influence.

Don Quijote (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 440 Teaching of Romance Languages (3) Theories of second language acquisition. Current classroom practices in the teaching of Romance languages.

Teaching of Romance Languages (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SPAN 200

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 476 Masterpieces of Spanish American Literature (3) Reading, analysis, and discussion of selected major works representative of Spanish American prose and poetry.

Masterpieces of Spanish American Literature (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language and Other Cultures
Effective: Spring 2008
Prerequisite: SPAN 253W, SPAN 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 472 The Contemporary Spanish American Novel (3) The regionalist and social novel since 1910, together with the social background.

The Contemporary Spanish American Novel (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 300, SPAN 354

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 490 Masterpieces of Spanish Prose (3) Reading, analysis, and discussion of selected masterpieces of Spanish novels, short stories, etc.

Masterpieces of Spanish Prose (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 253W, SPAN 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 491 Masterpieces of Spanish Drama and Poetry (3) Reading, analysis, and discussion of selected masterpieces of Spanish drama and poetry.

Masterpieces of Spanish Drama and Poetry (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities and Second or Beyond 12th Level Foreign Language
Effective: Spring 2008
Prerequisite: SPAN 253W, SPAN 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 497A Mexico: History, Culture, and Contemporary Social Trends (3) An intensive, on-site study of the history, culture, and contemporary issues in Mexico, particularly Guanajuato and central Mexico.

Mexico: History, Culture, and Contemporary Social Trends (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 497A 1492: Spanish Language at the Crossroads (3) External factors (social history, contact w/other languages and ethnic groups, territorial expansion) and effect on development of Spanish language.

1492: Spanish Language at the Crossroads (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: SPAN 215 orSPAN 414 orSPAN 418

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 497C Destination Barcelona: Literary, Artistic and Cultural Represenations of the City (3) Acquaint students with textual, visual and musical representations of one of the world's most fashionable cities.

Destination Barcelona: Literary, Artistic and Cultural Represenations of the City (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 497D Voices From the Margin: The Poetry and Drama of Federico Garcia Lorca (3) Focus on poetry and drama of Frederico Garcia Lorca, placed within historical, political, and social contexts.

Voices From the Margin: The Poetry and Drama of Federico Garcia Lorca (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Spanish (SPAN)

SPAN 499 (IL) Foreign Study--Spanish (1-12) Contemporary Spanish life and civilization. Emphasis on post-Civil War period: literature, arts, and sociopolitical problems.

Foreign Study--Spanish (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: SPAN 100, SPAN 110 orSPAN 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 395W Observing in Exceptional Settings (3) Observations of exceptional persons and techniques used by their teachers in a variety of settings, e.g., school, day care, vocational.

Observing in Exceptional Settings (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: EDPSY 101 . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)
Concurrent: SPLED 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 401 Motivating Exceptional Learners (4) Group and individual techniques to promote student task engagement and prosocial behavior.

Motivating Exceptional Learners (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent: a grade of C or better required inSPLED 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 400 Inclusive Special Ed Foundations: Legal, Characteristics, Collaboration, Assessment, and Management (4) Legal issues, learner characteristics, collaboration skills, assessment, and behavior management related to educating students with disability in inclusive settings.

SPLED 400 Teaching Exceptional Students in General Education Settings (4)

This course is delivered via a model of blended instruction and addresses foundational skills (assessment and management) and knowledge (laws, etiologies, collaboration) for those working with students with special education needs in general education classrooms. Almost 30% of the content includes student understanding of the history and current relevance of special education law; roles and responsibilities of general education teachers in providing services to students with special education needs; characteristics and etiologies relevant to providing effective instruction to students with mild and severe disabilities; and developing and maintaining effective education teams. Roughly 35% of content is relevant to assessment in inclusive settings and is centered on sound instructional decision making as well as linking instruction to standards based curricula. Coverage includes understanding formative and summative assessment; creating and administering curriculum-based assessments in reading, mathematics, and writing; designing systems to collect behavioral data; interpreting a variety of norm-referenced test scores; using brief experimental analyses is adequate for a given purpose. Roughly 35% of content is relevant to applying principles of Applied Behavior Analysis (ABA) to managing and motivating learners with special needs placed in inclusive settings. Broad objectives include student acquisition of knowledge and skills related to ABA principles and interventions such as: identifying the nature (positive and negative) of consequences maintaining or decreasing specific behaviors; operationally defining behavior; establishing a classroom and school environment conducive to learning for all students; creating class-wide, school-wide; and individual motivation systems; intervening to decrease specific behavior; and using functional behavioral assessments (FBAs) and positive behavior supports.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: EDPSY 014 andEDPSY 010 or relevant child development course (e.g. HD FS 229 HD FS 239). Fifth semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 402 Human Rights: Historical and Current Issues in Special Education (3) Litigation, legislation, regulation, and advocacy issues impacting on educational and related services for individuals with academic and/or physical disabilities.

Human Rights: Historical and Current Issues in Special Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: or concurrent:SPLED 400 orSPLED 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 403B Evidence-Based Methods for Teaching Secondary Students with Disabilities in Inclusive Settings (3)
Evidence-based methods for designing, delivering, and adapting instruction for students with disabilites in inclusive secondary education settings.

SPLED 403B Evidence-Based Methods for Teaching Secondary Students with Disabilities in Inclusive Settings (3)

This course is delivered via a model of blended instruction and addresses aspects of designing, delivering, and adapting instruction for students across the range of disability (i.e., mild, moderate, and severe) in secondary inclusive settings. Content on relevant learner characteristics of special needs students is found throughout the course. About half the course covers content on: designing direct and explicit instruction; self-regulated learning; assistive technology; adaptations and accommodation for learners with several disabilities; and the hierarchy of taxonomical units relative to instructional design. The remaining half of the course covers content relevant to a variety of procedures and approaches to help students with special education needs gain meaningful access to secondary curriculum content without watering it down or ignoring the instructional needs of students without disabilities. Broadly this content includes ways of planning and delivering instruction to help all students, including those with learning problems, understand and retain critical course content. Topics include using graphic organizers, options for presenting content, mnemonics; task specific learning strategies; cooperative groups and peer focused interventions; study guides and guided notes; advance organizers; text structures for narrative and expository text; single and multiple-approaches for reading comprehension; writing mechanics, prompts, and rubrics; narrative, informative, and persuasive writing; problem solving (including Polya's model); analogies; elaborative interrogation; and practice for problem solving.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: SPLED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 403A Evidence-Based Instruction for Elementary Students with Disabilities in Reading, Math, and Writing (3)
Evidence-based methods for design, delivery, and adaption of instruction for elementary students with disabilities in reading, mathematics, and writing.

SPLED 403A Evidence-Based Instruction for Elementary Students with Disabilities in Reading, Math, and Writing (3)

This course is delivered via a model of blended instruction and addresses aspects of designing, delivering, and adapting instruction for students across the range of disability (i.e., mild, moderate, and severe) in elementary, inclusive settings. Content on relevant learner characteristics of special needs students is found throughout the course. About half the course covers content on: designing direct and explicit instruction; self-regulated learning; assistive technology; adaptations and accommodation for learners with several disabilities; and the hierarchy of taxonomical units relative to instructional design. The remaining half of the course covers content relevant to a wide range of literacy concerns and includes: evidence based practices for instruction in early reading (e.g. decoding, phonemic awareness, phonic and structural analysis; and vocabulary); reading comprehension at primary and intermediate levels (e.g. test structure, content specific vocabulary, and narrative and expository reading in content domains); writing (e.g. handwriting, spelling grammar, and written expression); and mathematics (e.g. number sense and early numeracy, basic facts and operations, applied skills, problem solving, factions, decimals, and percents).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009
Prerequisite: SPLED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 404 Working with Families and Professionals in Special Education (3) Strategies for productive interactions between special educators and others such as colleagues, employers, parents, service providers, professionals, and students.

Working with Families and Professionals in Special Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: or concurrent: a grade of C or better required inSPLED 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 409A Fundamental Literacy Skills for Students with Special Needs (3) Effective reading curriculum and teaching methods to teach students with special needs.

SPLED 409A Fundamental Literacy Skills for Students with Special Needs (3)

Effective classroom-based assessment, curriculum development, and instructional strategies for teaching reading to educate students with special needs will be described in this course. Students will learn how to assess, develop curriculum, and provide scientifically based best practice instruction in reading to K-12 students with special needs. Students will learn how to select reading skills necessary to scaffold and enhance students' present reading skills. Methods for using researched based assessment strategies and developing foundational reading skills within a classroom context, will be described.

This course builds on prerequisite Special Education courses in curriculum and instructional methods. Students in SPLED 409A extend knowledge of explicit instructional strategies in the context of reading. The content offered in this course complements 409B and 409C through the integration of researched based methods and sound instructional design within a curriculum to most effectively teach students with special needs.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: A grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 412, SPLED 454, SPLED 495E
Concurrent: SPLED 495G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 409C Mathematics Instruction for Students with Special Needs (3) Research-based practices for teaching mathematics skills to students with special needs.

SPLED 409C Mathematics Instruction for Students with Special Needs (3)

Research-based assessment, instruction, and intervention strategies for teaching mathematics skills to students with special needs will be described in this course. Students will identify (a) the risk factors associated with mathematics disabilities, (b) effective prevention and remediation models of mathematics disabilities, (c) characteristics of scientifically—based instruction in content-area skills (e.g., counting, addition, fractions, problem solving, geometry) for K-12 students with disabilities, and (d) how to effectively provide and assess the effects of such instruction while provided in general and special education classrooms. This course builds on prerequisite Special Education courses in curriculum and instructional methods. Students in SPLED 409C will have achieved mastery in assessment, curriculum, and instructional methods. The content offered in this course adds to the existing course content by specifically addressing how to teach content-area skills for students with special needs.

Written responses for assigned readings will be required for the topic areas. Written evaluations and class assignments will be given to assess student learning throughout the course time period. Students' learning will be further evaluated through projects that demonstrate understanding of classroom-based assessment, curriculum development, and the instructional methods required to effectively teach content-area mathematics skills to students with special needs. Student applied projects, in coordination with practicum placement, for mathematics instruction will include: (1) the collection of baseline mathematics performance data for a student with special needs, (2) development of a curriculum scope and sequence, (3) development of a research validated instructional intervention, (4) implementation of the intervention, (5) on-going data collection throughout instruction and after instruction, and (6) development and implementation of an instructional plan for maintenance and generalization. To demonstrate understandings of teaching content area mathematics skills, students will prepare a presentation of a self- or instruction-selected research-based curriculum and instructional strategy or approach that meet “best practice” standards (e.g., those identified through previous meta-analysis).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: a grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 409A, SPLED 412, SPLED 454, SPLED 495E
Concurrent: SPLED 495G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 409B Writing and Content Literacy for Students with Special Needs (3) Effective curriculum and materials for teaching writing and content literacy to students with special needs.

SPLED 409B Writing and Content Literacy for Students with Special Needs (3)

Effective application of classroom-based measurement, curriculum development, and instructional strategies for teaching writing and content literacy to educate students with special needs will be described in this course. Students will learn how to use assessment to develop curriculum and provide scientifically based best practice instruction in writing mechanics (handwriting, spelling, capitalization & punctuation) and written expression (pre-planning to revision) to K-12 students with special needs. Students will learn how to identify, select, and teach content text structure. Methods for using assessment to develop a reading comprehension curriculum within a content classroom context and teach K-12 students with special needs to read and comprehend narrative and expository text (such as text found in Math, Science, Social Studies, and other content textbooks) will be described. Methods for using assessment to develop curriculum and teach K-12 students with special needs to respond to content text and materials through writing will also be examined.

This course builds on prerequisite Special Education courses in curriculum and instructional methods. Students in SPLED 409B will have achieved mastery in basic reading theory, assessment, curriculum, and instructional methods. The content offered in this course adds to the existing course content by specifically addressing writing mechanics, written expression, and content reading, curriculum development, and instructional methods (including plans for generalization and maintenance) for students with special needs.

Written responses for assigned readings will be required for each topic area. Written evaluations and class assignments (including case studies) will be given to assess student learning throughout the course time period. Students' learning will be further evaluated through projects that demonstrate understandings of applying classroom-based measurement, curriculum development, and the instructional methods required to effectively teach writing and content learning to students with special needs. Student applied projects, in coordination with practicum placement, for writing instruction will include: (1) the collection of baseline writing data for a student with special needs, (2) development of a curriculum scope and sequence, (3) development of a research validated instructional intervention, (4) implementation of the intervention, (5) the collection of writing data throughout instruction and after instruction, and (6) development and implementation of an instructional plan for maintenance and generalization. To demonstrate understandings of teaching content reading and writing, students will prepare a presentation of an identified research-based content reading or writing instructional strategy or approach taught within a curriculum scope and sequence.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: a grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 409A, SPLED 412, SPLED 454, SPLED 495E
Concurrent: SPLED 495G

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 411 Intervention for Students with Severe Disabilities (3) Assessment, teaching strategies, curricula, materials, and assistive techniques for use with individuals having severe disabilities (mental and physical).

Intervention for Students with Severe Disabilities (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: a grade of C or better required inSPLED 395W, SPLED 401, SPLED 425
Concurrent: a grade of C or better in SPLED 495E

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 415 Early Special Education (3-4) Includes early identification methods, assessment, curricula, parent involvement, and program evaluation for exceptional preschoolers in mainstreamed or segregated settings.

Early Special Education (3-4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: a grade of C or better required in the following coursesC & S 401 orSPLED 454 ; a course in child development

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 412 Instruction for Students with Mild Disabilities (4) Appropriate teaching strategies, curriculum sequences, and materials selection and evaluation for children with mild special needs.

Instruction for Students with Mild Disabilities (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: a grade of C or better required inSPLED 395W, SPLED 401, SPLED 425, SPLED 454
Concurrent: a grade of C or better required in SPLED 454

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 418 Technologies for Persons with Disabilities (2) Sensory aids, communication systems, computer systems, expert systems, simulations, and other technologies for students who are academically or physically challenged.

Technologies for Persons with Disabilities (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SPLED 400 orSPLED 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 430 Foundational Skills for Working with Students with Special Education Needs in General Education Classrooms (1) Introduction to working with students with special education needs in the general education classroom, including history and legal foundation.

SPLED 430 Foundational Skills for Working with Students with Special Education Needs in General Education Classrooms (1)

This is the first course in the Evidence-Based Practices for Inclusive Classrooms and Differentiating Instruction course series. The course is appropriate for pre- or in-service general education teachers who are seeking content on the roles and responsibilities of the general education teacher in providing services to students with special needs. This course serves as an introduction and prerequisite to the subsequent courses in the series.

This course addresses foundational skills for working with students with special education needs in general education classrooms. Board course objectives include student understanding of the history and current relevance of special education law; roles and responsibilities of the general education teacher in providing services to students with special education needs; providing effective instruction to students with mild and severe disabilities; and developing and maintaining effective education teams.

Evaluation of proficiency will occur in a variety of ways including short quizzes, graded application assignments, and course exams. At the beginning of the course, students will receive a packet containing DVD's of faculty presentations with imbedded activities, ungraded quizzes, and checkpoint summaries. Each recorded session will be roughly 2.5 - 3 course total duration, exclusive of the required stopping/starting to complete imbedded, parallel learning activities. Some sessions may involve students accessing various targeted websites relevant to the content. Additionally, for most sessions, there will be assigned readings; an ungraded practice activity with feedback and/or comparison responses; and a graded assignment and quiz items. The latter will be delivered primarily via ANGEL with the instructor available for feedback and questions throughout the course via-PicTel or some similar videoconferencing technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: teacher certification or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 425 Orientation to Human Variation and Special Education Services (3) An intensive overview of exceptional individuals being served in special education programs across their life-spans, from infancy through adulthood.

Orientation to Human Variation and Special Education Services (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: declaration of major or minor in Special Education

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 431 Evidenced-Based Methods for Monitoring Student Progress and Making Instructional Decisions (2)
Evidence-based methods for assessing student progress and making data-based instructional decisions.

SPLED 431 Evidence-Based Methods for Monitoring Student Progress and Making Instructional Decisions (2)

This is the second course in the Evidence-Based Practices for Inclusive Classrooms and Differentiating Instruction course series. The course is appropriate for pre- or in-service teachers prepared to work in general education settings who are seeking content on validated methods for supporting the learning of students with special needs (e.g. Learning Disabilities, Emotional/Behavioral Disorders, Communication Disorders, Developmental Delays, etc.) in general education classes. Students should complete this course after they have completed the first course in the series (Foundational Skills for Working with Students with Special Education Needs in General Education Classrooms) and prior to completion of the final course in the series (either Evidence-Based Practices for Inclusive Elementary Classrooms or Evidence-Based Practices for Inclusive Secondary Classrooms).

This course is based on a model of effective instruction that includes (a) deciding what to teach, (b) instructional design, and (c) assessing the effectiveness of instruction. A feedback loop is instruction more effective and more efficient. After completing the class students should be able to: (a) give a rationale for the collection of data in classrooms; (b) describe the assessment process; (c) describe response to intervention and the general educator's role in the process; (d) summarize data using graphs and trendlines; (e) create and administer curriculum-based assessments in reading, mathematics, and writing; (f) design systems to collect behavioral data in classrooms; (g) interpret a variety of norm-referenced test scores; (h) use brief experiential analyses to identify effective academic interventions; (i) interpret norm-referenced test data; and (j) determine if the reliability/validity of an assessment is adequate for a given purpose.

Evaluation of proficiency will occur in a variety of ways including short quizzes, graded application assignments, and course exams. At the beginning of the course, students will receive a packet containing DVDs of faculty presentations with imbedded activities, ungraded quizzes, and checkpoint summaries. Each recorded session will be roughly 2.5 - 3 hours total duration, exclusive of the required stopping/starting to complete imbedded, parallel learning activities. Some sessions may involve students accessing various targeted websites relevant to the content. Additionally, for most sessions, there will be assigned readings; an ungraded practice activity with feedback and/or comparison responses; and a graded assignment and quiz items. The latter will be delivered primarily via ANGEL with the instructor available for feedback and questions throughout the course via e-mail. Furthermore, at least once during the course, instructors will be available live via PicTel or some similar videoconference technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: SPLED 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 432 Evidence-Based Practices for Inclusive Behavior Management (2) Managing and motivating learners with special needs in general education settings based upon principles of Applied Behavior Analysis.

SPLED 432 Evidence-Based Practices for Inclusive Behavior Management (2)

This is the third course in the Evidence-Based Practices for Inclusive Classrooms and Differentiating Instruction course series. The course is appropriate for pre- or in-service teachers prepared to work in general education settings who are seeking content on validated methods for supporting the learning of students with special needs (e.g. Learning Disabilities, Emotional/Behavioral Disorders, Communication Disorders, Developmental Delays, etc.) in general education classes. Students should complete this course after they have completed the first and second courses in the series (Foundational Skills for Working with Students with Special Education Needs in General Education Classrooms and Evidence-Based Methods for Monitoring Student Progress and Making Instructional Decisions) and prior to completion of the final course in the series (either Evidence-Based Practices for Inclusive Elementary Classrooms or Evidence-Based Practices for Inclusive Secondary Classrooms).

The course addresses aspects of managing and motivating learners with special needs placed in general education settings based upon the principles of Applied Behavior Analysis (ABA). Broad course objectives include student acquisition of knowledge and skills related to ABA principles and interventions such as: identifying the nature (positive or negative) of consequences maintaining or decreasing specific behaviors; operationally defining behavior; establishing a classroom and school environment conducive to learning for all students; creating class-wide, school-wide, and individual motivation systems; and intervening to decrease specific behaviors.

Evaluation of proficiency will occur in a variety of ways including short quizzes, graded application assignments, and course exams. At the beginning of the course, students will receive a packet containing DVDs of faculty presentations with imbedded activities, ungraded quizzes, and checkpoint summaries. Each recorded session will be roughly 2.5 - 3 hours total duration, exclusive of the required stopping/starting to complete imbedded, parallel learning activities. Some sessions may involve students accessing various targeted websites relevant to the content. Additionally, for most sessions, there will be assigned readings; an ungraded practice activity with feedback and/or comparison responses; and a graded assignment of quiz items. The latter will be delivered primarily via ANGEL with the instructor available for feedback and questions throughout the course via e-mail. Furthermore, at least once during the course, instructors will be available live via PicTel or some similar videoconferencing technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: SPLED 430, SPLED 431

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 434A Evidence-Based Practices for Inclusive Elementary Classrooms (2) Evidence-based methods to effectively serve special needs students in elementary general education settings, including reading, writing, and mathematics instruction.

SPLED 434A Evidence-Based Practices for Inclusive Elementary Classrooms (2)

This course is one of two final class options in the Evidence-Based Practices for Inclusive Classrooms and Differentiating Instruction course series. The course is appropriate for pre- or in-service teachers prepared to work in general education settings who are seeking content on validated methods for supporting the learning of students with special needs (e.g. Learning Disabilities, Emotional/Behavioral Disorders, Communication Disorders, Developmental Delays, etc.) in general education classes. Students should complete this course only after they have completed the first four courses in the series (Foundational Skills for Working with Students with Special Needs in General Education Classrooms, Evidence-Based Methods for Monitoring Student Progress and Making Instructional Decisions, Evidence-Based Practices for Inclusive Behavior Management, Evidence-Based Design and Delivery of Effective Instruction for Students with Learning Difficulties).

This course addresses aspects of providing reading, writing, and mathematics instruction to elementary school students with special needs in the general education classroom. Broad course objectives include student acquisition of knowledge and skills in reading (e.g., word recognition, fluency, reading comprehension, vocabulary); writing (e.g., spelling, grammar, handwriting) and written expression (e.g., narrative, informative, persuasive); and mathematics (e.g., computation and problem solving).

Evaluation of proficiency will occur in a variety of ways including short quizzes, graded application assignments, and course exams. At the beginning of the course, students will receive a packet containing DVDs of faculty presentations with imbedded activities, ungraded quizzes, and checkpoint summaries. each recorded session will be roughly 2.5 - 3 hours total duration, exclusive of the required stopping/starting to complete imbedded, parallel learning activities. Some sessions may involve students accessing various targeted websites relevant to the content. Additionally, for most sessions, there will be assigned readings; an ungraded practice activity with feedback and/or comparison responses; and a graded assignment and quiz items. The latter will be delivered primarily via ANGEL with the instructor4 available for feedback and questions throughout the course via e-mail. Furthermore, at least once during the course, instructors will be available live via PicTel or some similar videoconferencing technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: SPLED 430, SPLED 431, SPLED 432, SPLED 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 433 Effective and Explicit Instruction for Students with Learning Difficulties (2) Evidence-based methods for designing, delivering, and adapting academic instruction for students with mild, moderate, and severe learning difficulties.

SPLED 433 Effective and Explicit Instruction for Students with Learning Difficulties (2)

This is the fourth course in the Evidence-Based Practices for Inclusive Classrooms and Differentiating Instruction course series. This course is appropriate for pre- or in-service teachers prepared to work in general education settings who are seeking content on validated methods for supporting the learning of students with special needs (e.g. Learning Disabilities, Emotional/Behavioral Disorders, Communication Disorders, Developmental Delays, etc.) in general education classes. Students should complete this course after they have completed the first course in the series (Foundational Skills for Working with Students with Special Education Needs in General Education Classrooms) and prior to completion of the final course in the series (either Evidence-Based Practices for Inclusive Elementary Classrooms or Evidence-Based Practices for Inclusive Secondary Classrooms).

The course addresses aspects of designing delivering and adapting instruction for students across the range of disability (i.e., mild, moderate, & severe).

Evaluation of proficiency will occur in a variety of ways including short quizzes, graded application assignments, and course exams. At the beginning of the course, students will receive a packet containing DVDs of faculty presentations with imbedded activities, ungraded quizzes, and checkpoint summaries. Each recorded session will be roughly 2.5 - 3 hours total duration, exclusive of the required stopping/starting to complete imbedded, parallel learning activities. Some sessions may involve students accessing various targeted websites relevant to the content. Additionally, for most sessions, there will assigned readings; an ungraded practice activity with feedback and/or comparison responses; and a graded assignment and quiz items. The latter will be delivered primarily via ANGEL with the instructor available for feedback and questions throughout the PicTel or some similar videoconferencing technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: SPLED 430

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 434B Evidenced-Based Practices for Inclusive Secondary Classrooms (2) Evidence-based methods to effectively serve special needs students in secondary general education settings.

SPLED 434B Evidenced-Based Practices for Inclusive Secondary Classrooms (2)

This course is one of two final class options in the Evidence-Based Practices for Inclusive Classrooms and Differentiating Instruction course series. The course is appropriate for pre- or in-service teachers prepared to work in general education settings who are seeking content on validated methods for supporting the learning of students with special needs (e.g. Learning Disabilities, Emotional/Behavioral Disorders, Communication Disorders, Developmental Delays, etc.) in general education classes. Students should complete this course only after they have completed the first four courses in the series (Foundational Skills for Working with Students with Special Needs in General Education Classrooms, Evidence-Based Methods for Monitoring Student Progress and Making Instructional Decisions, Evidence-Based Design and Delivery of Effective Instruction for Students with Learning Difficulties).

The course addresses a variety of procedures and approaches to help students with special education needs gain meaningful access to the secondary curriculum content without watering it down or ignoring the instructional needs of students without disabilities. Broad course objectives include ways of planning and delivering instruction to help all students, including those with learning problems, understand and retain critical course content.

Evaluation of proficiency will occur in a variety of ways including short quizzes, graded application assignments, and course exams. At the beginning of the course, students will receive a packet containing DVDs of faculty presentations with imbedded activities, ungraded quizzes, and checkpoint summaries. Each recorded session will be roughly 2.5 - 3 hours total duration, exclusive of the required stopping/starting to complete imbedded, parallel learning activities. Some sessions may involve students accessing various targeted websites relevant to the content. Additionally, for most sessions, there will be assigned readings; an ungraded practice activity with feedback and/or comparison response; and a graded assignment and quiz items. The latter will be delivered primarily via ANGEL with the instructor available for feedback and questions throughout the course via e-mail. Furthermore, at least once during the course, instructors will be available live via PicTel or some similar videoconferencing technology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: SPLED 430, SPLED 431, SPLED 432, SPLED 433

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 444 Inclusive Education and Assessment (6) Knowledge and skills needed to educate students with special needs in urban schools.

Inclusive Education and Assessment (6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: ELEDM 400
Concurrent: URBED 395W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 454 Assessment for Instruction (4) Orientation to evaluation of special students with emphasis on the creation, use, and interpretation of teacher-made assessment procedures.

Assessment for Instruction (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: a grade of C or better required inEDPSY 101
Concurrent: a grade of C or better in SPLED 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 460A Fundamentals of Reading Instruction in Special Education (3) Topics include the interactive nature of reading, recent findings of the National Reading Panel, explicit instruction principles and reading assessments.

SPLED 460A Fundamentals of Reading Instruction in Special Education (3)

Fundamentals of Reading Instruction in Special Education (RISE 1), is the first course in an approved distance education certificate program. It is designed to provide teachers of students with special needs with evidenced-based procedures to teach a variety of reading skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 460C Specialized Reading Applications in Special Education (3) Topics include methods for assessing and teaching reading skills in vocational competence, functional reading, reading for students with sensory impairment.

SPLED 460C Specialized Reading Applications in Special Education (3)

Specialized Reading Applications in Special Education is the third course in an approved distance education certificate program. It is designed to provide teachers of students with special needs with evidenced-based procedures to teach a variety of reading skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SPLED 460A andSPLED 460B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 460B Teaching and Assessing Reading Skills of Students with Special Needs (3) Topics include methods for assessing and teaching reading skills including fluency, word level decoding and comprehension.

SPLED 460B Teaching and Assessing Reading Skills of Students with Special Needs (3)

Teaching and Assessing Reading Skills of Students with Special Needs (RISE 2), is the second course in an approved distance education certificate program. It is designed to provide teachers of students with special needs with evidenced-based procedures to teach a variety of reading skills.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SPLED 460A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 461 Autism: Issues and Concerns (1) Overview of issues, characteristics, and evidenced-based assessment strategies, and approaches for individuals with autism/PDD.

SPLED 461 Autism: Issues and Concerns (1)

Autism: Issues and Concerns is the first course in a five course (12-credit) series leading to the Professional Development Certificate in Autism. All information, activities, and assignments are through videotape and web-based learning. As an introductory course, it is intended to provide an overview of Autism Spectrum Disorder (ADS). Basic information on views of causes, assessment, treatments, and parent concerns are included.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 462 Autism and Applied Behavior Analysis (4) Basic principles of applied behavior analysis (ABA) and empiricism. Emphasis will be given to ABA principles in educational settings.

SPLED 462 Autism and Applied Behavior Analysis (4)

Autism and ABA is the second course in the 5 course (12 credit) series leading to the Professional Development Certificate in Autism. All information, activities, and assignments are through videotape and web-based learning. Content includes an overview of basic principles of applied behavior analysis (ABA) and elements of empiricism in educational settings. It is designed to provide teachers and related service personnel with basic principles of ABA related to service delivery in the field of autism. The course draws upon experts in autism from a variety of settings and disciplines.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SPLED 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 463 Communication and Social Competence (3) Overview of deficits and strategies in speech, language, and communication across the Autism Spectrum Disorder.

SPLED 463 Communication and Social Competence (3)

Communication and Social Competence is the third course in the 5 course (12 credit) series leading to the Professional Development Certificate in Autism. All information, activities, and assignments are through videotaped and web-based learning. Content includes an overview of the deficits in the area of speech, language, and communication across the Autism Spectrum Disorders (ASD). Basic information on the nature of these deficits is provided from both a psycholinguistic model as well as a behavioral model. In addition to information on deficits, the majority of the course content will provide practical information related to intervention.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SPLED 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 464 Assessment and Curriculum (3) Overview of screening, diagnosis, and identification of skills in developmental domains and curricula for individuals with autism.

SPLED 464 Assessment and Curriculum (3)

Assessment and Curricula is the fourth course in the 5 course (12 credit) series leading to the Professional Development Certificate in Autism. All information, activities, and assignments are through videotape and web-based learning. Content includes types of assessment and identification of skills in developmental domains. Practical strategies will be outlined.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: SPLED 461

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 465 Asperger Syndrome (1) Characteristics, assessment, intervention, and curricula for individuals with Asperger syndrome. Emphasis will be given to social skill development.

SPLED 465 Asperger Syndrome (1)

Asperger is the fifth course in a five course (12-credit) series leading to the Professional Development Certificate in Autism. All information, activities, and assignments are through videotaped and web-based learning. Basic information on views of causes, assessment, treatments, and parent concerns for individuals with Asperger syndrome are included.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 495F Practicum in Special Education (15) Teaching experience with mildly/moderately disabled children in age appropriate settings, e.g., infant/preschools, schools, vocational/job sites.

Practicum in Special Education (15)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: a grade of C or better required inSPLED 495G . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 495E Experience with Exceptional Children (3) Supervised activities with exceptional children in a variety of possible settings, e.g., schools, institutions, day care centers, vocational settings.

Experience with Exceptional Children (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: a grade of C or better required inSPLED 395W, SPLED 401, SPLED 425, SPLED 454 . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)
Concurrent: a grade of C or better in SPLED 411 SPLED 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 495G Experience with an Integrated Inclusion Classroom (4) Supervised teaching in integrated general classrooms with activities in assessment, diagnosis, and direct intervention with students in need or with disabilities.

Experience with an Integrated Inclusion Classroom (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: a grade of C or better required inSPLED 425, SPLED 395W, SPLED 401, SPLED 412, SPLED 454, SPLED 495E . PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check (Forms: 228 Chambers).
Concurrent: a grade of C or better required in SPLED 409

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 497A Teaching Exceptional Students in General Education Settings (3) Instruction and foundational skills (assessment and management) and knowledge (laws, etiologies, collaboration) for those working with students with special education needs in general education classrooms.

Teaching Exceptional Students in General Education Settings (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 497B Special Topics in Autism (1) This course, associated with the Autism Conference is designed to provide practitioners with information about effective instructional and behavior management techniques.

Special Topics in Autism (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498A Teaching Students with Autism in Inclusive Settings (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Teaching Students with Autism in Inclusive Settings (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498A Autism and Applied Behavior Analysis (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Autism and Applied Behavior Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498B Teaching Students with Autism and Inclusive Settings (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Teaching Students with Autism and Inclusive Settings (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498B Inclusion in the Classroom (2) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Inclusion in the Classroom (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498C Autism and Applied Behavior Analysis (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Autism and Applied Behavior Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498E A Focus on Improving Student Achievement Through Effective Practices (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

A Focus on Improving Student Achievement Through Effective Practices (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498D Introduction to Autism Spectrum Disorders (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Introduction to Autism Spectrum Disorders (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498F Understanding Deafblindness: Student-Centered Assessment for Severe and Sensory Impairment (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Understanding Deafblindness: Student-Centered Assessment for Severe and Sensory Impairment (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Special Education (SPLED)

SPLED 498G Practicum in Applied Behavior Analysis (4) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Practicum in Applied Behavior Analysis (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 100 (GQ) Statistical Concepts and Reasoning (3) Introduction to the art and science of decision making in the presence of uncertainty.

Statistical Concepts and Reasoning (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1988

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 100S (GQ) Statistical Concepts and Reasoning (3) Introduction to the art and science of decision making in the presence of uncertainty.

Statistical Concepts and Reasoning (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 200H (GQ) Elementary Statistics (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.

Elementary Statistics (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: 2 units in algebra

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 200 (GQ) Elementary Statistics (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.

Elementary Statistics (4)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1988
Prerequisite: 2 units in algebra

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 200P Elementary Statistics (4) Descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.

Elementary Statistics (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Winter 1978

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 220 Basic Statistics for Quantitative Students (3) Descriptive statistics, probability, binomial and normal distributions, one and two sample models, introduction to regression, ANOVA and contingency tables. Students may only take one course from STAT 200, 220, and 250 for credit.

Basic Statistics for Quantitative Students (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 240 (GQ) Introduction to Biometry (3) Statistical analysis, sampling, and experimentation in the agricultural sciences; data collection, descriptive statistics, statistical inference, regression, one factor AOV, probability. Students may take only one course from STAT 200, 220, 240, 250 for credit.

STAT 240 Introduction to Biometry (3)
(GQ)

(BA) This course meets the Bachelor of Arts degree requirements.

This is a course concerned with statistical analysis pertaining to the natural and agricultural sciences. The objective of the course is to provide students with a good basis for understanding uncertainty and its effects on understanding observational studies and experiments. Course content includes data collection, descriptive statistics, statistical inference, regression, and ANOVA. Students will learn through lectures, individual and group problem solving, computer-based activities, and case study discussions. Since real-life use of statistics relies upon computers, this course will provide a strong hands-on analysis element necessitating regular access to computer labs. The statistical background gained by students will provide them with a base for future use of statistics in both their course work and careers.

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2005
Prerequisite: 3 credits in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 250 (GQ) Introduction to Biostatistics (3) Statistical analysis and interpretation of data in the biological sciences; probability; distributions; statistical inference for one- and two-sample problems.

Introduction to Biostatistics (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Spring 2001
Prerequisite: 3 credits in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 301 (GQ) Statistical Analysis I (3) Probability concepts; nature of statistical methods; elementary distribution and sampling theory; fundamental ideas relative to estimation and testing hypotheses.

Statistical Analysis I (3)

General Education: GQ
Diversity: None
Bachelor of Arts: Quantification
Effective: Summer 1988
Prerequisite: 3 credits of calculus

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 318 (MATH 318) Elementary Probability (3) Combinatorial analysis, axioms of probability, conditional probability and independence, discrete and continuous random variables, expectation, limit theorems, additional topics. Students who have passed either STAT(MATH) 414 or 418 may not schedule this course for credit.

Elementary Probability (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989
Prerequisite: MATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 319 (MATH 319) Applied Statistics in Science (3) Statistical inference: principles and methods, estimation and testing hypotheses, regression and correlation analysis, analysis of variance, computer analysis. Students who have passed STAT (MATH) 415 may not schedule this course for credit.

Applied Statistics in Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1989
Prerequisite: STAT 318 or knowledge of basic probability

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 401 Experimental Methods (3) Random variables; probability density functions; estimation; statistical tests, t-tests; correlation; simple linear regression; one-way analysis of variance; randomized blocks.

Experimental Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: MATH 111 orMATH 141

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 402 Statistical Analysis II (3) Two-sample problems, single and multifactor ANOVA, simple and multiple regression, categorical data.

Statistical Analysis II (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: STAT 301 . 400 level needed for honors program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 414 (MATH 414) Introduction to Probability Theory (3) Probability spaces, discrete and continuous random variables, transformations, expectations, generating functions, conditional distributions, law of large numbers, central limit theorems. Students may take only one course from STAT(MATH) 414 and 418.

Introduction to Probability Theory (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 415 (MATH 415) Introduction to Mathematical Statistics (3) A theoretical treatment of statistical inference, including sufficiency, estimation, testing, regression, analysis of variance, and chi-square tests.

Introduction to Mathematical Statistics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989
Prerequisite: MATH 414

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 416 (MATH 416) Stochastic Modeling (3) Review of distribution models, probability generating functions, transforms, convolutions, Markov chains, equilibrium distributions, Poisson process, birth and death processes, estimation.

Stochastic Modeling (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1984
Prerequisite: STAT 318 orSTAT 414;MATH 230

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 418 (MATH 418) Probability (3) Fundamentals and axioms, combinatorial probability, conditional probability and independence, probability laws, random variables, expectation; Chebyshev's inequality. Students may take only one course from STAT(MATH) 414 and 418 for credit.

Probability (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: MATH 230 orMATH 231

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 440 Computational Statistics (3) Topics related to computing in statistics, including numerical linear algebra, optimization, simulation, numerical integration, and bootstrapping.

STAT 440 Computational Statistics (3)

This course introduces many important ideas in statistical computing. Students are expected to possess knowledge of mathematical statistics at the level of STAT 415 and matrices at the level of MATH 220. Students will learn the statistical computing environment called R and use R to implement many of the theoretical computing topics, which include numerical linear algebra, optimization, numerical and Monte Carlo integration, random number generation and simulation, and bootstrapping. Other statistical and mathematical software may be treated briefly, including symbolic mathematics environments like Mathematics and Maple.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: STAT 200 or equivalentSTAT 415, MATH 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 460 Intermediate Applied Statistics (3) Review of hypothesis testing, goodness-of-fit tests, regression, correlation analysis, completely randomized designs, randomized complete block designs, latin squares.

Intermediate Applied Statistics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 462 Applied Regression Analysis (3) Introduction to linear and multiple regression; correlation; choice of models, stepwise regression, nonlinear regression.

Applied Regression Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 461 Analysis of Variance (3) Analysis of variance for single and multifactor designs; response surface methodology.

Analysis of Variance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 463 Applied Time Series Analysis (3) Identification of models for empirical data collected over time; use of models in forecasting.

STAT 463 Applied Time Series Analysis (3)

This course covers many major topics in time series analysis. Students will learn some theory behind various time series models and apply this theory to multiple examples. An introduction to time series and exploratory data analysis will be followed by a lengthy study of several important models, including autoregressive, moving average, autoregressive moving average (ARMA), autoregression integrated moving average (ARIMA), and seasonal models. For each model methods for parameter estimation, forecasting, and model diagnostics will be covered. Additional topics will include spectral techniques for periodic time series, including power spectra and the Fourier transform, and one or more miscellaneous topics chosen by the instructor, such as forecasting methods, transfer function models, multivariate time series methods, Kalman filtering, and signal extraction and forecasting. The use of statistical software will be a central component of this course, as will the proper interpretation of computer output. Students enrolling for this course are assumed to have taken a semester-long course on regression.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: STAT 462

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 464 Applied Nonparametric Statistics (3) Tests based on nominal and ordinal data for both related and independent samples. Chi-square tests, correlation.

Applied Nonparametric Statistics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 466 Survey Sampling (3) Introduction to design and analysis of sample surveys, including questionnaire design, data collection, sampling methods, and ratio and regression estimation.

STAT 466 Survey Sampling (3)

This course covers classical sampling design and analysis methods useful for research and management in many fields. Topics include design of questionnaires; methods of data collection, sample-survey designs including simple random sampling, stratified sampling, cluster sampling, and systematic sampling ratio, regression, and difference estimation; two-stage cluster sampling; population size estimation; methods for dealing with nonresponse; and possibly other topics at the discretion of the instructor. Statistical software will be used to apply many of the techniques covered by this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2006
Prerequisite: STAT 200, STAT 220, STAT 240, STAT 250, STAT 301 orSTAT 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 470W Problem Solving and Communication in Applied Statistics (3) Provide problem solving and communication skills through development of writing ability, interaction with peers and the SCC, and oral presentations.

Problem Solving and Communication in Applied Statistics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: STAT 460, STAT 462, STAT 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 480 Introduction to SAS (1) Introduction to SAS with emphasis on reading, manipulating and summarizing data.

STAT 480 Introduction to SAS (1)

STAT 480 addresses the fundamentals of the SAS programming language. It addresses the programming environment and major aspects of the Base SAS software, including reading in, manipulating, and transforming data. It also addresses techniques for reshaping and restructuring data files, merging and concatenating data sets, creating summaries and subsets of data sets, formatting and printing data, as well as using some of the basic statistical procedures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 481 Intermediate SAS for Data Management (1) Intermediate SAS for data management.

STAT 481 Intermediate SAS for Data Management (1)

STAT 481 builds on the skills and tools learned in STAT 480 to provide intermediate level ability to use the Statistical Analysis System (SAS). It covers additional capability and major uses of the program, such as error checking, report generation, date and time processing, random number generation, and production of presentation quality output for graphs and tables. Other possible topics include advanced merging, PROC SQL, importing and exporting data sets, SAS GRAPH, and the Output Delivery System.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: STAT 480

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 CREDITS IN STATISTICS

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 6 credits in statistics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Statistics (STAT)

STAT 497A Advanced Topics in SAS (1) Advanced statistical procedures in SAS, including ANOVA, GIM, CORR, REG, MANOVA, FACTOR, DISCRIM, LOGISTIC, MIXED, GRAPH, EXPORT, and SQL.

Advanced Topics in SAS (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: STAT 480, STAT 481

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 200 (GQ) Introduction to Statistics for Business (4) Introduction to business statistics including topics in probability theory, sampling, inference, quality assurance, regression, forecasting, and simulation.

SCM 200 Introduction to Statistics for Business (4)
(GQ)

SCM 200 introduces basic statistical concepts and models within the framework of business problems and applications. Students learn about the usefulness of business statistics to decision making, how to perform basic statistical and analytical procedures, and how to interpret, critically evaluate, and analyze data. Special emphasis is given to active learning methods. Grades are primarily determined by homework, quizzes, mid-term exams and a final exam.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: MATH 018, MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 200H (GQ) Honors Introduction to Statistics for Business (4) Introduction to business statistics including topics in probability theory, sampling, inference, quality assurance, regression, forecasting, and simulation.

SCM 200H Honors Introduction to Statistics for Business (4)
(GQ)

SCM 200 introduces basic statistical concepts and models within the framework of business problems and applications. Students learn about the usefulness of business statistics to decision making, how to perform basic statistical and analytical procedures, and how to interpret, critically evaluate, and analyze data. Special emphasis is given to active learning methods. Grades are primarily determined by homework, quizzes, mid-term exams and a final exam.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009 Ending: Fall 2010
Prerequisite: MATH 018, MATH 110 orMATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 200 (GQ) Introduction to Statistics for Business (4) Topics include descriptive statistics, probability distributions, statistical inference, regression and correlation, and forecasting.

SCM 200 Introduction to Statistics for Business (4) (GQ)

SCM 200 introduces basic statistical concepts and models within the framework of business problems and applications. Students learn about the usefulness of business statistics to decision making, how to perform basic statistical and analytical procedures, and how to interpret, critically evaluate, and analyze data. Special emphasis is given to active learning methods. Grades are primarily determined by homework, quizzes, mid-term exams and a final exam.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 021 or higher or satisfactory score on the matematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 200H (GQ) Honors Introduction to Statistics for Business (4) Topics include descriptive statistics, probability distributions, statistical inference, regression and correlation, and forecasting.

SCM 200H Honors Introduction to Statistics for Business (4) (GQ)

SCM 200 introduces basic statistical concepts and models within the framework of business problems and applications. Students learn about the usefulness of business statistics to decision making, how to perform basic statistical and analytical procedures, and how to interpret, critically evaluate, and analyze data. Special emphasis is given to active learning methods. Grades are primarily determined by homework, quizzes, mid-term exams and a final exam.

General Education: GQ
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: MATH 021 or higher or satisfactory score on the mathematics FTCAP examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 301 Supply Chain Management (3) Supply chain management concepts, principles, and methodologies.

SCM 301 Business Logistics Management (3)

SCM 301 is an introductory course that provides an overview of key logistics and supply chain management processes, concepts, and methodologies. Emphasis is given to the framework for supply chain management, the analysis of logistics cost, and service trade-offs among inventory, transportation, and warehousing activities, the strategic role of information technology in supply chains, the use of third-party logistics providers, and the methods of measuring the value of logistics performance. Instruction is based on problem-based learning pedagogy.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: ACCTG 211, ECON 002, SCM 200 orSTAT 200 ; limited to students in baccalaureate status

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 301H Supply Chain Management (3) Supply chain management concepts, principles, and methodologies.

Supply Chain Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: ACCTG 211, ECON 002, SCM 200 orSTAT 200 ; limited to students in baccalaureate status

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 310 Introduction to Operations Management (3) An introduction to the strategic importance and the analytic tools of operations management. Not available to baccalaureate business students in Smeal.

Introduction to Operations Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 200 orSTAT 200 or permission of the program; fifth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 320 Transport Systems (3) Strategic role of freight transportation systems and services in supply chain networks. Not available to baccalaureate business students in Smeal.

SCM 320 Transport Systems (3)

SCM 320 develops an understanding of the strategic role of freight transportation systems in supply chain networks. Emphasis is given to the components of transportation systems, including their technological features, operational processes, and cost conditions, the buyer-seller channels for acquiring transportation services, and the strategic and tactical alternatives for transport procurement. Instruction is based on problem-based learning pedagogy.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SCM 301 orMKTG 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 400 Transport Planning (3) Advanced study of transport systems in supply chain networks.

Transport Planning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: B A 302 andSCM 404

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 404 Demand Fulfillment (3) Analysis of demand fulfillment and the role of distribution operations management in the supply chain.

SCM 404 Demand Fulfillment (3)

This course introduces the student to how customer demand is managed and how subsequent orders are filled in both business-to-business and business-to-consumer markets. Topics focus on the demand fulfillment process, which encompasses flows of goods, information, and funds from the moment a business receives an order from a customer until all requirements for the order are satisfied in full. These topics include:

*role of demand management and distribution operations in the supply chain
*transportation management
*distribution center processes
*inventory control and order management elements
*facility costing and productivity analysis
*strategic demand management and distribution operations issues in the supply chain.

Both theoretical and quantitative perspectives will be offered on these topics. Additionally, each topic will be addressed from strategic and financial perspectives. After completing this course, students will have the knowledge, skills, and abilities to:

*Explain the role of demand management in the supply chain
*Explain the role of distribution operations in demand management
*Determine the strategic and financial impacts of demand management and distribution operations management
*Articulate the role of information systems in demand management and distribution operations management
*Use quantitative techniques to analyze supply chain processes
*Describe related system software.

This is one of three prescribed foundation courses for the Supply Chain and Information Systems major for which SCM 301 Supply Chain Management is a prerequisite. This course also satisfies the prerequisite for SCM 421 Supply Chain Modeling and Analysis. Student evaluations are based on individual and group homework assignments and computer-lab exercises, as well as on at least three written examinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 404 Demand Fulfillment (3) Analysis of demand fulfillment and the role of distribution operations management in the supply chain.

SCM 404 Demand Fulfillment (3)

This course introduces the student to how customer demand is managed and how subsequent orders are filled in both business-to-business and business-to-consumer markets. Topics focus on the demand fulfillment process, which encompasses flows of goods, information, and funds from the moment a business receives an order from a customer until all requirements for the order are satisfied in full. These topics include:

*role of demand management and distribution operations in the supply chain
*transportation management
*distribution center processes
*inventory control and order management elements
*facility costing and productivity analysis
*strategic demand management and distribution operations issues in the supply chain.

Both theoretical and quantitative perspectives will be offered on these topics. Additionally, each topic will be addressed from strategic and financial perspectives. After completing this course, students will have the knowledge, skills, and abilities to:

*Explain the role of demand management in the supply chain
*Explain the role of distribution operations in demand management
*Determine the strategic and financial impacts of demand management and distribution operations management
*Articulate the role of information systems in demand management and distribution operations management
*Use quantitative techniques to analyze supply chain processes
*Describe related system software.

This is one of three prescribed foundation courses for the Supply Chain and Information Systems major for which SCM 301 Supply Chain Management is a prerequisite. This course also satisfies the prerequisite for SCM 421 Supply Chain Modeling and Analysis. Student evaluations are based on individual and group homework assignments and computer-lab exercises, as well as on at least three written examinations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 302 orSCM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 405 Manufacturing and Services Strategies (3) Investigates operations strategy and its relationship to other functions in the supply chain and presents quantitative tools for decision-making.

SCM 405 Manufacturing and Services Strategies (3)

This course examines manufacturing and services strategies, with special emphasis given to quality management concepts, methods, and issues. After completing this course, students will have the knowledge, skills, and abilities to:
Explain the role of manufacturing or services operations from the boundary-spanning perspective of supply chain management and how supply chain management can be used as a strategic competitive advantage
Articulate how the various components of a manufacturing strategy are integrated, particularly with respect to the use of information technologies for supply chains
Effectively apply operational and quality tools useful in implementing manufacturing strategies.

Individual and team assignments form the basis for evaluation. Evaluation methods include a combination of class participation, exams, "hands-on" exercises, case studies, and written assignments. This is one of three prescribed foundation courses in the Supply Chain and Information Systems major for which B A 302 "Supply Chains" is a prerequisite. The course is also an important prerequisite for the capstone course in the major, SC&IS 450 "Supply Chain Leadership."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 405 Manufacturing and Services Strategies (3) Investigates manufacturing and services strategies in supply chain networks.

SCM 405 Manufacturing and Services Strategies (3)

This course examines manufacturing and services strategies, with special emphasis given to quality management concepts, methods, and issues. After completing this course, students will have the knowledge, skills, and abilities to:
Explain the role of manufacturing or services operations from the boundary-spanning perspective of supply chain management and how supply chain management can be used as a strategic competitive advantage
Articulate how the various components of a manufacturing strategy are integrated, particularly with respect to the use of information technologies for supply chains
Effectively apply operational and quality tools useful in implementing manufacturing strategies.

Individual and team assignments form the basis for evaluation. Evaluation methods include a combination of class participation, exams, "hands-on" exercises, case studies, and written assignments. This is one of three prescribed foundation courses in the Supply Chain and Information Systems major for which B A 302 "Supply Chains" is a prerequisite. The course is also an important prerequisite for the capstone course in the major, SC&IS 450 "Supply Chain Leadership."

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: SCM 301 orB A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 406 Strategic Procurement (3) Analysis of strategic procurement in the supply chain.

SCM 406 Strategic Procurement (3)

SCM 406 provides an in-depth analysis of the procurement process and supplier management, with strong emphasis placed on managing a supplier base for both products and services. Elements examined include the strategic role of procurement in supply chains, the identification and evaluation of requirements, the strategic make-versus-buy decision, how to identify, evaluate, and select potential suppliers and conduct a post-purchase evaluation; and the impact of information technology on strategic procurement. Both theoretical and quantitative perspectives will be offered. In addition, the topics will be addressed from strategic, financial, and global perspectives. In light of these perspectives, the course objectives are to develop a comprehensive understanding of:

(1) the supplier selection and evaluation process

(2) the relationship between product design and the supplier base

(3) the types of relationships that exist between buyers and sellers

(4) the impact of information technology on strategic purchasing and supply management.

Students will also develop skills in using quantitative tools to select and evaluate suppliers. This is the third of three prescribed foundation courses in the Supply Chain and Information Systems major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: B A 302 orSCM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 416 Warehousing and Terminal Management (3) Administration of warehouse and terminal functions in logistics systems, with analysis of customer service, forecasting, inventory, investment, design, and operation. Not available to baccalaureate business students in Smeal.

Warehousing and Terminal Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 406W Strategic Procurement (3) Analysis of strategic procurement in the supply chain.

SCM 406W Strategic Procurement (3)

SCM 406W provides an in-depth analysis of the procurement process and supplier management, with strong emphasis placed on managing a supplier base for both products and services. Elements examined include the strategic role of procurement in supply chains, the identification and evaluation of requirements, the strategic make-versus-buy decision, how to identify, evaluate, and select potential suppliers and conduct a post-purchase evaluation; and the impact of information technology on strategic procurement. Both theoretical and quantitative perspectives will be offered. In addition, the topics will be addressed from strategic, financial, and global perspectives. In light of these perspectives, the course objectives are to develop a comprehensive understanding of:
(1) the supplier selection and evaluation process
(2) the relationship between product design and the supplier base
(3) the types of relationships that exist between buyers and sellers
(4) the impact of information technology on strategic purchasing and supply management.

Students will also develop skills in using quantitative tools to select and evaluate suppliers. This is the third of three prescribed foundation courses in the Supply Chain and Information Systems major and requires the successful completion of the first two foundation courses (SCM 404 and SCM 405). This is also a writing-intensive course. As such, student evaluations will consist of, at a minimum: examinations, position papers, case studies (written and oral), and homework assignments. Both individual and group assignments will be used.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: B A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 418 Logistics Analysis (3) Design, develop, and use computer decision models for analysis of logistics problems; computer intensive coursework emphasizing spreadsheet applications. Not available to baccalaureate business students in Smeal.

Logistics Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301, SCM 320 andCMPSC 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 421 Supply Chain Modeling and Analysis (3) Problem solving and modeling methods for analyzing supply chains management.

SCM 421 Supply Chain Analytics (3)

This course provides a spreadsheet-based, example-driven approach to learn about important supply chain models, problems, and solution methodologies. The objectives of this course are:

(1) to develop valuable modeling skills that students can appreciate and use effectively in their careers

(2) reinforce and enrich your understanding of supply chain theories, principles, and concepts studied previously in foundation courses.

Student evaluation is based on:

(1) individual and team group performance on problem-based exercises

(2) individual performance on examinations

(3) class participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007 Ending: Fall 2010
Prerequisite: SCM 404 orSCM 405 orSCM 406W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 421 Supply Chain Analytics (3) Models and Methodologies for supply chain analysis.

SCM 421 Supply Chain Analytics (3)

This course provides a spreadsheet-based, example-driven approach to learn about important supply chain models, problems, and solution methodologies. The objectives of this course are:

(1) to develop valuable modeling skills that students can appreciate and use effectively in their careers

(2) reinforce and enrich your understanding of supply chain theories, principles, and concepts studied previously in foundation courses.

Student evaluation is based on:

(1) individual and team group performance on problem-based exercises

(2) individual performance on examinations

(3) class participation.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: SCM 404 orSCM 405 orSCM 406

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 423 Information Technology in Supply Chains (3) Appropriate and effective use of information technology in supply chain.

SCM 423 Information Technology in Supply Chains (3)

The course focuses on the effective and appropriate use of information technology to support supply chain processes, strategies, and tactics. Students will learn how to use technology to solve supply chain problems in manufacturing, distribution, and other service firms including providers of logistics services. The types of supply chain application technologies covered in the course include:
(1) Enterprise Resource Planning (ERP), particularly the Advanced Planning and Scheduling (APS) module of these systems
(2) Warehouse Management Systems (WMS)
(3) Transportation Management Systems (TMS)

In addition, technologies to support collaborative processes will be investigated including Electronic Data Interchange (EDI) standards to support Vendor Management Inventory (VMI) and Extensible Mark-up Language (XML) standards to support Collaborative Planning, Forecasting, and Replenishment (CPFR). After completing this course, students should have the knowledge, skills, and abilities to:
* Assess the effectiveness of information technology in supporting logistics and supply chain management decision-making from a broad, boundary-spanning perspective.
* Explain the functionality offered in existing technology applications that support logistics and supply chain management.
* Determine how to leverage technology and maximize effectiveness in solving logistics and supply chain management decisions in an operating environment.
* Critically evaluate the usefulness of information technology and process standards to support inter-enterprise logistics and supply chain processes, such as Vendor Management Inventory (VMI) and Collaborative Planning, Forecasting, and Replenishment (CPFR).
* Articulate the complex nature of human interaction needed to successfully utilize technology to make effective intra- and inter-enterprise logistics and supply chain management decisions.

Individual and team assignments form the basis for evaluation. Evaluation methods include a combination of written assignments, hands-on laboratory exercises, class participation, and examinations. This is one of six prescribed courses in the Supply Chain and Information Systems major. Students must complete foundation courses before enrolling in this course. This course is also an important prerequisite for the capstone course in the major.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 404 orSCM 405 orSCM 406W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 430 Transport Problems (3) Selected problems in transport systems and transport management. Not available to baccalaureate business students in Smeal.

SCM 430 Transport Problems (3)

SCM 430 develops an understanding of strategic and operational challenges confronting managers from the transportation industry perspective. This is an elective course for majors and minors in business logistics. Evaluation methods include class participation, written reports, case studies, practical exercises, and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 432 Service Supply Chains (3) Supply chain management in the services sector.

Service Supply Chains (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: B A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 435 International Logistics (3) Design and operation of global supply chain networks. Not available to baccalaureate business students in Smeal.

SCM 435 International Logistics (3)

SCM 435 develops an understanding of concepts, methods, and issues for design and management of global supply chain networks. Special emphasis is given to import and export processes. This is an elective course for majors and minors in Business Logistics and a required course for majors in Business Logistics and International Business.
General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301 andSCM 320

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 445 Operations Planning and Control (3) Aggregate production planning procedures, disaggregation methods in hierarchical production planning, master production scheduling, material requirements planning, lot-sizing, and capacity planning. Not available to baccalaureate business students in Smeal.

Operations Planning and Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 450 Strategic Design and Management of Supply Chains (3) Strategic design and management of supply chains.

SCM 450 Strategic Design and Management of Supply Chains (3)

This course is about the strategic design and effective operation of supply chains. It will help prepare you for supply chain management positions in manufacturing, distributing, and other service firms including providers of logistics services. The course focuses on the definition, as well as the application, of a single logic that guides the management of all the supply chain activities. Information decision support systems, primarily computer-based, provide the foundation for this logic. Because the determination of inventory locations and the control of inventory levels play a key role in this logic, we spend considerable time on these subjects. The last section of the course covers ways to lead and organize people to manage cross-firm and cross-functional relationships effectively. After completing this course, students should have the knowledge, skills, and abilities to:
* Articulate the process perspective and the total systems view of supply chain management, the impact of systems thinking on firm performance, and the nature of relationships supply chain networks.
* Quantify the effect of strategic initiatives such as postponement and risk pooling on the financial performance of the firm, as well as on supply chain performance.
* Use and apply selected quantitative tools useful in implementing supply chain strategies.
* Explain the complex nature of human interaction needed to successfully introduce supply chain concepts in the firm.

Individual and team performance form the basis for evaluation. Evaluation methods include a combination of oral presentations, written assignments and case studies, class participation, examinations, and hands-on exercises. This is the prescribed capstone course for the Supply Chain and Information Systems major. It builds upon the fundamental supply chain knowledge, skills, and abilities developed in three prescribed foundation courses and two intermediate-level courses on modeling and analysis and on information technology in supply chains.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 421

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 455 Logistics Systems Analysis and Design (3) Customer service, inventory management, transportation, warehousing, purchasing, international logistics, site location planning and analysis, and total cost analysis.

Logistics Systems Analysis and Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 456 Supply Chain Risk Analysis (3) Business processes are modeled as a network of queues using discrete-event simulation and analyzed model outcomes using statistical methods.

SCM 456 Simulation Models of Business Processes (3)

Students will learn to build models using commercial-grade simulation software. The course objective is to teach the methods and best practice of conducting simulation experiments, but this can only be realized within the context of a fully functional modeling tool. [Our traditional choice is ARENA, from Systems Modeling Corp., but other products are feasible.] Students learn to build models of processes typical in business operations, trace their step by step function, measure performance of the system, and predict the impact of proposed changes in the system. Simulation is a long-standing method in management science that has broad applicability.

Students will complete two examinations, regular homework assignments, and an applied project. The concepts in this course build upon one another. Early homework assignments and in-class lab exercises permit the instructor to insure mastery of the principles of the course. Students work in pairs to collect and analyze data about a real system as the basis for their final project.

SCM 456 is one of three courses (MS&IS 427, 455, or SCM 456) that students can select to complete requirements for the Management Science and Information Systems major and it is an optional course in the Operation and Information Systems Management curriculum.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 200 andB A 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 460 Purchasing and Materials Management (3) Purchasing policies, procedures, order specifications and agreements, supplier selection, and the role of purchasing in production planning and inventory management. Not available to baccalaureate business students in Smeal.

Purchasing and Materials Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 465 Electronic Business Management (3) A problem-based exploration of the various electronic business tools and technologies required to efficiently manage a supply chain. Not available to baccalaureate business students in Smeal.

Electronic Business Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: SCM 301 orSCM 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 466 Managerial Forecasting (3) The use of time series models for business and economic forecasting. Topics include exponential smoothing and Box-Jenkins (ARIMA) models.

Managerial Forecasting (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: B A 302 orSCM 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Supply Chain Mgmt (SCM)

SCM 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 100S Surveying First Year Seminar (1) Introduction to college study; critical thinking, reading, and writing; calculations, team skills, academic survival, and the surveying profession.

SUR 100S Surveying First Year Seminar (1)

The objective of this course is to introduce students to college academics, the scholarly community, and the surveying profession. Creating an environment for interaction with full-time surveying faculty and peer students, along with developing team skills is a continuous element of this course. Active and collaborative learning is used in as many course sessions as possible. Team solutions require team presentation of results to the class. The course is designed around the four general areas of (1) academic learning and understanding (2) essential academic skills (3) exposure to the surveying profession, and (4) academic support sessions. The sessions include topics such as learning styles, critical thinking, critical reading, academic integrity, academic survival, time management, library research skills, and introduction to surveying methods and calculations. Students completing this course will be able to: identify various learning styles and determine their dominant style of learning; critically read and review2 professional literature, use critical thinking and team skills to complete tasks and solve basic surveying problems; prepare and present surveying and engineering calculations in a structured and orderly manner, and use eLion to examine grades, degree audits, and FTCAP scores, and complete registration for future academic semesters. This course is the preferred freshman seminar course for surveying engineering majors.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 111 Plane Surveying (3) Plane surveying principles; basic measurement statistics; use and care of equipment; traversing, area, and coordinate computations; differential leveling.

Plane Surveying (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: MATH 026
Concurrent: MATH 081

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 112 Curve Geometry (3) Geometric properties and design elements of horizontal and vertical alignment; earthwork and volume computations; field procedures.

Curve Geometry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: MATH 081, SUR 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 162 Methods in Large Scale Mapping (3) CAD applications related to mapping sciences; data collection using traditional and satellite techniques; development of DTMs, contours, and map compilation.

SUR 162 Methods in Large Scale Mapping (3)

Methods in Large Scale Mapping covers the study of magnetic field properties in relation to declination, astro-geodetic methods to determine the direction earth's meridian, and CAD applications related to mapping sciences. This course explores the design elements utilized in the production of maps, and focuses on the collection of digital data from traditional surveying methods and satellite systems incorporated into field-to-finish software. The practicums contained in this course focus on hands-on experience with the field-to-finish software and data collection techniques used in the practice of surveying.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SUR 111;ED&G 100 orEG T 102

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 222 Photogrammetry (3) Basic principles of metric photogrammetry with single and stereopair photos; coordinate transformations; map production with stereo imagery; flight planning. Lab.

SUR 222 - Photogrammetry (3)

Photogrammetry covers the basic principles of aerial photography and the geometry of the optics in relation to aerial cameras. Mathematical theories for refining and processing measurements from single aerial photographs are developed. Such measurements are transformed to obtain real world coordinates of features on the surface of the earth. Two-dimensional conformal, affine, and projective coordinate transformation equations and the three-dimensional conformal coordinate transformation equations are developed and applied to the measurements on the photographs. In addition, the theory underlying the geometry of stereopairs of photographs are developed and used to determine elevations of features on the photograph.

Stereographic equipment and software are used to produce accurate topographic maps of the overlap areas between stereopairs. The course also covers procedures and considerations for planning an aerial photography mission which include flight planning, cost analysis, equipment selection, placement of photo controls, and overall project management.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SUR 162

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 211 Construction Surveying Applications (2) Application of surveying principles in the field of construction: building layout, pipe/culvert, street, quantity, and as-built surveys.

Construction Surveying Applications (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: SUR 112, SUR 162

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 241 Surveying Measurement Analysis (3) Statistical error analysis of surveying measurements; propagation of random errors; confidence intervals and statistical testing. Lab.

SUR 241 Surveying Measurement Analysis (3)

Surveying Measurement Analysis explores the fundamental concepts of statistical error analysis with applications to surveying measurements. It covers the normal distribution function and theories describing the fundamental procedures in data including measures of central tendency and measures of data variation. It then explores sampling distribution theory and develops statistical confidence intervals and testing using the X2 , students t, and F distributions. Fundamental concepts in the propagation of variance are developed and applied to the traditional surveying observations of angles, distances, azimuths, elevation differences. These error propagation techniques are further used to explore the propagation of variance in traditional traverse computations. The accompanying lab exercises help reinforce and validate the theoretical foundations of this class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SUR 111
Concurrent: MATH 083 or MATH 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 262 Coordinate Systems in Map Projections (2) Introduction to coordinate systems used in the Lambert, Mercator, Transverse Mercator, and UTM map projections; reduction of surveying observations.

SUR 262 Coordinate systems in Map Projections (2)

Coordinate systems in map projections covers the fundamental relationships between the physical earth, the geoid, the ellipsoid and map projections. It will explore the use of map projections in state plane coordinate systems, and the use of these coordinate systems in large mapping and construction projects. The course explores the corrections that must be made to properly use these coordinate systems including the reduction of observed elevations, distances, azimuths and angle.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000
Prerequisite: SUR 162

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 272 Cadastral Surveying (3) Evolution of land records systems; PLS: property ownership and conveyancing; common and statute law; rules of construction; boundary location procedures.

Cadastral Surveying (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1993
Prerequisite: SUR 111

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 285 Drainage Design (2) Fluid properties, continuity, energy, pressure and gravity flow; watersheds, timing, rainfall, and runoff; basic channel, culvert, and sewer design.

Drainage Design (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: MATH 026 or higher and 3rd semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 313 Practical Field Problems (3) Geodetic, topographic, astronomic, construction surveying; equipment adjustment; precise leveling; land subdivision; map construction; uses of GIS.

SUR 313 - Practical Field Problems (3)

Practical Field Problems utilizes a laboratory approach with the organizational structure of a large business to execute a variety of projects. Projects in the course vary from year-to-year but may include projects such as the research and resurvey of a property, the establishment of horizontal and vertical control utilizing GPS and traditional surveying measurements to support either photogrammetry or mapping, the creation of base maps for inclusion in a GIS utilizing digital data collection techniques, or the creation and stakeout of a subdivision including street alignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SUR 162, SUR 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 325 Advanced Photogrammetry (3) Advanced topics in metric photogrammetry; analytical techniques in photogrammetry; applications in close-range photogrammetry; introduction to digital photogrammetry.

Advanced Photogrammetry (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: MATH 220 orMATH 230;SUR 222, SUR 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 335 Remote Sensing (3) Electromagnetic radiation; electro-optical sensors, radar systems; space platforms; processing, classification, interpretation of imagery; environmental applications of remotely sensed data.

SUR 335 Remote Sensing (3)

With increase in the application of satellite imagery in natural resource inventory and management, this course focuses on photo interpretation with special emphasis to satellite images. The course begins by considering energy sources and radiation principles within the electromagnetic spectrum. Characteristics of specific wavelengths with regard to feature definition and detail extraction are also covered. The course continues by looking at sensors and platforms that are used for capturing information from the surface of the earth. Different types of earth orbiting satellites as well as characteristics of their sensors, scanning frequencies and ground resolution of their pixels are discussed. Multispectral, thermal, and hyperspectral scanning principles are also discussed. This leads into the usefulness and types of applications for the imagery based on the range of wavelengths captured by the sensor and ground resolution of the pixel.

Computer hardware and software are used for processing data from satellite imagery in this course. Radiometric and geometric corrections as applied to preprocessing of satellite imagery are taught. Post-processing methods such as image enhancement and feature classification based on the signature patterns of features within selected electromagnetic bands taught. Supervised and unsupervised feature classification and extraction methods are covered and the results of both methods are assessed for accuracy. Finally the course will explore the application of remotely sensed data in GIS implementations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: SUR 262, SUR 222

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 341 Adjustment Computations (3) Matrix methods in least squares; random error propagation; observation equation model; conditions between parameters; basic post-adjustment statistical analysis.

SUR 341 - Adjustment Computations (3)

Adjustment computations covers the basic theory and mechanics of a least squares adjustment using the traditional surveying observations of distances, angles, azimuths, and elevation differences. It explores the theory of error propagation, and uses this theory to determine the precision of indirectly measured quantities. It explores post-adjustment analysis through the use of various statistical tests, and error ellipse computation and analysis. This course primarily focuses on the least squares adjustment and analysis of differential leveling, triangulation, trilateration, traverse and network observations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: CMPSC 201C, STAT 401, SUR 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 351 Geodetic Models (3) Three dimensional geodesy; computations on the ellipsoid; map projections; reduction of observations and elements of physical geodesy.

Geodetic Models (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: SUR 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 362 Multipurpose Land Information Systems (3) Basic concepts in geographic information systems; spatial reference frame- works; map and text data; digital environments; software and hardware plat- forms.

Multipurpose Land Information Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: SUR 222, SUR 241, SUR 272

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 372W Legal Aspects of Land Surveying (3) Legal research; rules of evidence including classification and evaluation; unwritten rights; land description composition; easements.

Legal Aspects of Land Surveying (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: SUR 272

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 375 Land Use Controls (2) Historical overview of private restrictions and public regulation of land use; the planning process; local zoning ordinances and subdivision regulations.

Land Use Controls (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: SUR 272

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 385 Engineering Land Surveys (3) Storm water management, methodologies, design, and regulatory requirements; soil erosion and sedimentation control, technical requirements, control plan, permits and compliance.

Engineering Land Surveys (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: C E 360, SUR 112, SUR 162

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 445 Numerical Methods in Adjustment Computations (3) Computer optimization techniques used in adjustment of large, sparse, positive-definite matrices with emphasis on efficient storage and solution routines. Lab.

SUR 445 Numerical Methods in Adjustment Computations (3)

Numerical Methods in Adjustment Computations covers basic concepts utilized in large-scale numerical least squares analysis. It covers fundamental concepts in good program design and optimization of computer memory relating examples to the formation and solution of the normal equations found in a least squares adjustment. This includes the development of the LU decomposition of matrices using the Cholesky algorithm, and the application of bandwidthing or column-profiling the normal matrices to reduce memory overhead and improve solution times. Additionally, it explores the various computer sorting and searching techniques that can be used to optimize data access. It also looks at various methods of numerical integration, and computation of critical values for the normal, X2, students t, and F distributions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SUR 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 441 Data Analysis and Project Design (3) Post least squares adjustment analysis of control networks, statistical testing, blunder detection, network design considerations, and computer optimization techniques.

Data Analysis and Project Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: STAT 401 orSTAT 451, SUR 341

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 455 Precise Positioning Systems (3) Stellar coordinate systems; geodetic reference coordinate systems; satellite orbital theory; global positioning systems; pseudo-ranging; GPS vector adjustments.

Precise Positioning Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: SUR 351 . Prerequisite or concurrent:SUR 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 465 Multipurpose Land Information Systems Applications (3) Using a GIS as a decision tool; spatial modeling; data structure and management issues; legal issues; case studies; application projects.

SUR 465 Multipurpose Land Information Systems Applications (3)

This course is designed as a complement to SUR 362. Its focus is on the use of Geographic Information Systems as decision support and resource management tool. It is intended that students who complete this course will be able to provide services to agencies that use GIS for multipurpose applications. Principles involved in advanced spatial analysis are discussed. Computer hardware and proprietary software are used in applications involving the use of multiple data from varied sources are used to perform spatial query and analysis. Data types include vector, grid and raster formats. Applications include suitability analysis for planning and resource management, surface analysis using Triangulated Irregular Networks, other decision making activities involving spatially referenced data.

Implementation of enterprise GIS is discussed with special considerations for data-driven and application-driven options. In each case, discussions cover topics ranging from needs assessment and resource analysis to institutional issues associated with the management of an enterprise GIS. Topics include determination of data types, resolution, structure, desired accuracy, hardware and software choices, logical and physical design of databases and project planning methods as applied to GIS. Data management and procedures for maintaining the data also covered in this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: SUR 362

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 471 Professional Aspects of Land Surveying (3) Ethical issues and legal limits of practice; surveyor as an expert witness; surveyor-client relationship; responsibilities to the profession.

Professional Aspects of Land Surveying (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: SUR 372W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 482 Land Development Design (3) The land development process; geometric, environmental, aesthetic aspects of development; local regulatory requirements; preparation of final plat and report.

Land Development Design (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: SUR 313, SUR 471

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 485 Stormwater Management Design (2) Regulations, design storms, runoff volumes, hydrographs, routing methods, detention, BMPs, innovative design, groudwater recharge.

SUR 485 Introduction to Stormwater Management Design (3)

This course presents the fundamental concepts, theories, and methods used in the design of storm water management facilities for land development design activities. The fundamental principals of fluid mechanics that are necessary for understanding the hydrologic methods of storm water management design are introduced. These include: fluid statics, conservation of mass, conservation of energy, friction loss, flow measurement devices, and open channel flow. Beyond fluid mechanics, several fundamental concepts of surface hydrology are covered and include: the hydrologic cycle, rainfall, infiltration, soil storage capacity, combined losses, runoff, travel time, peak flow estimation, and hydrographs. Once fundamental concepts are introduced, the course moves into an overview of municipal, state and federal regulations on stormwater issues. The course then introduces the non-structural measures of conservation design for minimizing increase runoff, increasing groundwater recharge, and establishing esthetic and community appeal. These concepts include the preservation of existing, vegetation and natural features, de-concentration of runoff, and the use of natural processes to reduce runoff. After conservation design is discussed, the practical application of hydraulic and hydrologic methods is used to develop the design methods for structural storm water management facilities. These structural facilities include storm sewers, swales and diversions, open channels, culvert design, detention facility sizing and outlet structure design. The course culminates with a capstone project that incorporates conservation design with structural design to address the management of storm water in site design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: SUR 285 fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 490 Seminar in Surveying (1) Individual or group work in surveying.

Seminar in Surveying (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: senior standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an indiviudal basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Surveying (SUR)

SUR 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 001 Elementary Swahili I (4) Listening, speaking, reading, writing Swahili: an introduction for beginners; basic structures and vocabulary; cultural elements.

Elementary Swahili I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 002 Elementary Swahili II (4) Listening, speaking, reading, and writing Swahili; structures and vocabulary; cultural elements.

Elementary Swahili II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Spring 1995
Prerequisite: SWA 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 003 Intermediate Swahili (4) Further development of listening, speaking, reading, and writing skills in Swahili: structures and vocabulary; cultural elements.

Intermediate Swahili (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Spring 1995
Prerequisite: SWA 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 051 Elementary Intensive Swahili for Graduate Students I (3) Intensive introduction to Swahili: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

SWA 051 Elementary Intensive Swahili for Graduate Students I (3)

This is the first in a series of three courses designed to give students an intensive introduction to Swahili. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Swahili vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 052 Elementary Intensive Swahili for Graduate Students II (3) Intensive introduction to Swahili: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

SWA 052 Elementary Intensive Swahili for Graduate Students II (3)

This is the second in a series of three courses designed to give students an intensive introduction to Swahili. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Swahili vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SWA 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 053 Intermediate Intensive Swahili for Graduate Students (3) Continued intensive study of Swahili at the intermediate level: reading, writing, speaking, listening, cultural contexts.

SWA 053 Intermediate Intensive Swahili for Graduate Students (3)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Swahili. Continued intensive study of Swahili at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: SWA 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Swahili (SWA)

SWA 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Systems Engineering (SYSEN)

SYSEN 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Systems Engineering (SYSEN)

SYSEN 497A Wireless Positioning (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Wireless Positioning (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 140 Introduction to Telecommunications Systems (2) Elements of telecommunications systems, including telephones, transmission lines, switching, digital data, and transmission by microwave, satellite, and fiber optics.

Introduction to Telecommunications Systems (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 241 Voice and Data Communications (3) Noise in communications systems, types of modulation, transmission codes, interfaces, the telephone set, and the subscriber loop.

TELCM 241 Voice and Data Communications (3)

Voice and Data Communication is taught at the sophomore level and gives students a sound foundation in voice and data communication by building on the introductory course of TELCM 140. This course teaches students the effect of noise on the communication channel, and some types of modulation techniques used in information transmission. Students are exposed to terminals, interfaces and modems in this course. Also, error correction which is an important aspect of information transmission is presented to the students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: TELCM 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 241W Telecommunications Switching and Data (3) An advanced discussion of switching principles present in today's telephone and data systems environment; traffic theory for telephone and data systems is included.

TELCM 241W Voice and Data Communications (3)

Voice and Data Communication is taught at the sophomore level and gives students a sound foundation in voice and data communication by building on the introductory course of TELCM 140. This course teaches students the effect of noise on the communication channel, and some types of modulation techniques used in information transmission. Students are exposed to terminals, interfaces and modems in this course. Also, error correction which is an important aspect of information transmission is presented to the students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: ENGL 015, TELCM 140
Concurrent: TELCM 244

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 242 Introduction to Telecommunications Laboratory (1) Techniques used for measurements of basic telecommunications circuits and equipment.

Introduction to Telecommunications Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: or concurrent:TELCM 241

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 244 Advanced Telecommunications Laboratory (1) Testing and measurement of advanced telecommunication transmission and switching equipment, including practical alignment and testing of operational systems.

Advanced Telecommunications Laboratory (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992
Prerequisite: or concurrent:TELCM 243

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 243 Protocols and Networks (3) Transmission codes, network protocols, local area networks, the Internet and emerging technologies, fiber optics, wireless communications, satellite communications.

TELCM 243 Protocols and Networks (3)

Protocols and Networks is a required course at the sophomore level that builds on the knowledge acquired to this point in the TelT program. Through this course, the students gain knowledge in the types of transmission codes, different types of protocols and different types of networks. Students are exposed to emerging technologies, and they are also instructed in fiber optics, wireless communications and satellite communications.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2005
Prerequisite: TELCM 140

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Telecommunications (TELCM)

TELCM 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 001S First-Year Seminar: Theatre Production Practices (1) An orientation to the School of Theatre production practices, resources, faculty, and practicum.

THEA 001S First-Year Seminar: Theatre Production Practices (1)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 001S will serve as the First-Year Seminar for all undergraduate majors in the School of Theatre. In all School of Theatre degree programs, backstage production is one of the primary curricular and experiential areas held in common. It is in this area that most theatre students gain their first practical experience in producing theatre on our stages. This course will provide the necessary training and experience for all students to safely practice in the production of live theatre in our spaces.

This course will orient first-year students to faculty, facilities, and practices of production utilized in the School of Theatre season. Students will be introduced to the faculty and their areas of expertise. They will be oriented to the spaces and equipment in our theatres and taught safe operation of the equipment. They will learn the practical and professional expectations placed on students participating in a School of Theatre production. Learning will take place both in lecture/demonstration format and through the practical experience of working on a School of Theatre production.

Students will be evaluated by:
1. Backstage practices and safety will be evaluated through knowledge based quizzes and/or skill demonstrations as appropriate to each subject.
2. Professionalism evaluated through attendance, reliability and skill growth as observed during the execution of practicum assignments.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: admission into Theatre Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 080 (GA) Pit Orchestra (1-3 per semester/maximum of 3) Rehearsal and performance of contemporary and historical musical theatre styles, including operetta and light opera.

THEA 080 Pit Orchestra (1-3 per semester/maximum of 3) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 080 provides an introduction to the particular demands of the orchestral pit player, with an emphasis on the musical theater repertoire. The course objectives is to prepare the student for a professional theatre engagement. This course parallels the orchestra ensembles in the School of Music (Philharmonia, Chamber Orchestra) but with the added techniques of theatre orchestra: standard vamps, "vocal last time" vamps, fade on cue, cut on cue, etc. Grades are determined by (1) level of performance and improvement, and (2) attendance at all rehearsals, sectionals and performances. The special facilities for this course will include orchestral rehearsal space in the School of Music, as well as the Pit/Performance space in the School of Theatre.

Enrollment will vary depending on the needs of individual musical scores; however, the performance schedule is such that an ensemble large enough to accommodate both players and substitutes is desirable. This is a repeatable course. Students will comprise the orchestra for a School of Theatre's production each semester. An audition is required for admission to this course. Emphasis will be placed on precision ensemble playing, as well as the skill of playing together as a section while simultaneously following the conductor. Because of the highly technical nature of theatrical productions, there are frequent cues given by the conductor which are vitally important to the performance. Mastering the specialized skill of splitting one's attention evenly between the music stand and the podium will be a major objective of this course. In the process of preparing the music for each production other skills will be taught and acquired, such as: learning when to accompany and when to play in a solo manner; when to follow and when to lead as a section player; for brass players, developing the "Broadway" sound: big , bright, and focused; for reed doublers, the techniques involved in performing on multiple instruments in a single number; for all musicians, familiarity with the plethora of styles now being performed on Broadway: traditional Broadway, pop, rock, and the more classical styles of some of the contemporary theatre composers.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2008
Prerequisite: audition

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 100 (GA;US;IL) The Art of the Theatre (3) An experiential survey of all aspects of the living theatre, as presented by a resident company of theatre artists.

THEA 100 The Art of the Theatre (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is an introduction to the living art of the theatre. Beginning with the script as the source of production aesthetics, analysis of textural context, structure, and genre provide tools to the imaginative impulses of the theatre artist and audience. As a variety of individual texts are analyzed and explored, the performance of scenes from the texts supports the imaginative process as each topic is demonstrated by a resident Company of theatre artists. The course is concerned with the universality of the theatrical impulse, and includes a selection of international and multi-ethnic voices and performance techniques. This is a required course for all theatre majors and provides the groundwork for all other theatre courses. At the same time, the course is designed to allow the general student to experience and understand the art of the theatre.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 102 (GA) Fundamentals of Acting (3) Introduction to the art and craft of acting for non-theatre majors.

THEA 102 Fundamentals of Acting (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 102 aims to introduce the student to basic principles of the art and craft of acting, focusing on HOW and WHY actors do what they do in preparation of and for a performance less than on the attainment of performace skills themselves. Students will become acquainted with acting processes, theatre terminology, script analysis, improvisation, and other fundamentals to give them a more inclusive sense of the totality of the actor's work as craftsperson and artist. In so doing, the student actors must tap their own powers of concentration, observation, creativey, and imagination. A major focus in the course is the development of the ability to analyze one's own work and the work of peers in the class.
Problem-solving in solo, paired, and/or large group contexts is a daily requirement in class.

THEA 102 is NOT an acting course designed to develop fine actors; it is a course ABOUT acting. Thus, the course objectives are these:
1. To introduce the concept of acting as a process and craft.
2. To develop an understanding of acting skills, script and character analysis, and theatre/acting terminology.
3. To heighten powers of observation, focus, invention, imagination, and the ability to accurately and positively analyze and critique peer's work.
4. To experience the commitment and discipline that acting requires.
5. To learn how best to score, interpret, and use the script as the fundamental source or criterion for truthful behavior on stage.

Educational strategies: to accomplish the above objectives, a variety of strategies will be employed, including lectures, discussions, readings from the text, instructor critiques of student work(s), experiential activities that require full student commitment and participation, presentation of assignments after significant rehearsal outside of class, and other preparations and teaching strategies as necessary and appropriate.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 102S (GA) Fundamentals of Acting (3) Introduction to the art and craft of acting for non-theatre majors.

Fundamentals of Acting (3)

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 103 Fundamentals of Directing (3) Training and experience in basic skills of directing. Designed for non- theatre majors.

Fundamentals of Directing (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 104 Fundamentals of Theatre Production (3) Training and experience in basic skills of technical theatre. Designed for non-theatre majors.

Fundamentals of Theatre Production (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 105 (GA) Introduction to Theatre (3) An introduction and overview of the history, craft, and art of the theatre to foster an informed appreciation of theatrical events. This course is an alternate to THEA 100.

THEA 105 Introduction to Theatre (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will introduce students to the art and craft of theatrical production. Students will learn about plays, playwrights, major eras and styles of theatrical production, the analysis of scripts, genres of dramatic literature, and the personnel involved in the production of plays.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 110 Playscript Analysis (3) Theory and method of playscript analysis for the general theatre student.

Playscript Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 113 Musical Theatre Theory I (3) Studies in the fundamentals of music notation and sight-singing.

THEA 113 Musical Theatre Theory I (3)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 113 is designed to provide the beginning musical theatre student with the fundamentals of music theory and diatonic harmony as well as the analytical skills with which to approach and appreciate the structure of songs and musical theatre scores. It is focused primarily on the musical theatre literature to enable the beginning student to learn and appreciate more efficiently the literature that will be central to the performance classes in the major. The class places a rigorous emphasis on pitch and rhythmic identification to develop a high degree of musicianship in the beginning student, both to provide a solid basis for the classes to come and to make the performer more competitive in the musical theatre industry. It is designed to be entry-level in preparation for THEA 114 (Musical Theatre Form and Analysis) and the upper-level theory classes (THEA 212 and THEA 214).

The course presupposes no previous musical training or experience. For those with some previous musical theory education, the course may function successfully as a refresher before the more rigorous analysis courses to follow. It satisfies a significant need in that it focuses on the specific theoretical knowledge the musical theatre student needs to know to become competitive in a professional career.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2000
Prerequisite: admission into Musical Theatre Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 112 Introduction to Music Theatre (3) A survey of music theatre as an art form.

Introduction to Music Theatre (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 114 Music Theatre: Form and Analysis (3) A survey of music theatre as an art form.

Music Theatre: Form and Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: admission into Musical Theatre Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 120 Acting I (3) Fundamental skills and training in acting. Emphasis on physical/vocal awareness and the nature of dramatic communication. Theatre majors only.

Acting I (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 115 B.F.A. Acting Foundations (2) Fundamental aspects of training the actor's body, voice, mental focus, and imagination.

THEA 115 B.F.A. Acting Foundations (2)

THEA 115 is an introduction to the awakening and enhancement of beginning students' physical, vocal, mental, and imaginative instrument in preparation for the demanding work to follow in later acting, voice/speech, and movement studios.

The course will introduce physical conditioning and breathing exercises specifically for actors, introduce exercises to enhance mental focus/concentration, and lead students through a series of exercises designed to stimulate and enhance the actor's imagination and trust in the world of fantasy.

Students will be exposed to a variety of techniques from which they may, over time, develop their own individual physical/mental training discipline. They will be encouraged to accurately assess their own physical/vocal/mental self-image, to develop a plan (with the instructor) to minimize intrusive mannerisms and to maximize positive traits and work habits.

Grading will be based on each student's commitment to the training regimen, application of past lessons in present assignments, quality of daily work, and the ability to accurately perform the exercises taught.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: admission to B.F.A. in Musical Theatre

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 130 Introduction to Theatre Scenic and Costume Technology (3) Introduction to the methods, materials, equipment, concepts and processes involved in the construction of scenery and costumes for the theatre.

THEA 130 Introduction to Theatre Scenic and Costume Technology (3)

This course will familiarize students with the methods, materials, equipment, concepts, and processes involved in the construction of scenery and costumes for the theatre. The emphasis of this course will be on the physical process that results in the production of both scenery and costumes. Lecture topics include:
Soft Goods Layout and Construction
Basic Flat Layout and Construction
Dimensional Scenery
Rigging and Paint
The Costume Shop/The Big Picture
Designer's Sketch to Wearable Costume
Hand Sewing Techniques
Sewing Techniques/The Sewing Machine

In addition to lectures, students will be expected to participate in hands-on laboratory activities that will reinforce and inform the classroom theory. These activities will give students an opportunity to apply the principles they will learn in the lecture component.

These courses enable our students to converse intelligently with *all* of the members of the theatre community, regardless of their specific theatre emphasis. Students will develop a fundamental understanding of the relationship between the various areas of theatre production.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 131 Introduction to Theatre Sound and Lighting Technology (3) Introduction to the methods, materials, equipment, facilities, concepts and processes used to create theatre lighting and sound.

THEA 131 Introduction to Theatre Sound and Lighting Technology (3)

This course will familiarize students with the methods, materials, equipment, facilities, concepts and processes used to create theatre sound and lighting. The emphasis of this course will be on the physical process that results in the production of both lighting and sound. Lecture topics include:
Mixers
Connectors & Cable
Playback vs. Reinforcement
Safety & Hanging Lights
Focusing, Circuits and Dimmers
Instrument types, Qualities of Light

In addition to lectures, students will be expected to participate in hands-on laboratory activities that will reinforce and inform the classroom theory. These activities will give students an opportunity to apply the principles they will learn in the lecture component.

These technical theatre courses enable our students to converse intelligently with *all* members of the theatre community, regardless of their specific theatre emphasis. Students will develop a fundamental understanding of the relationship between the various areas of theatre production.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 146 Basic Theatrical Makeup (2) Both straight and corrective makeup, with character and styling techniques for stage, film, and television.

Basic Theatrical Makeup (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 150 Fundamentals of Design for the Theatre (3) Exploration of the philosophy and technique of scenic, costume, and lighting design.

Fundamentals of Design for the Theatre (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 160 Introduction to Costume Crafts (3) Process of costuming combined with laboratory projects. Crew experience on major productions.

Introduction to Costume Crafts (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1998
Prerequisite: THEA 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 170 Introduction to Stage Lighting Production Techniques (3) Introduction to theatre lighting facilities, equipment, and practice. Practical experience with major productions.

Introduction to Stage Lighting Production Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1998
Prerequisite: THEA 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 180 Introduction to Stagecraft (3) Introduction to methods, materials, equipment, facilities, and concepts used in scenery construction for the Theatre. Practical experience with departmental productions.

Introduction to Stagecraft (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1998
Prerequisite: THEA 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 189 (GA) Theatre Production Practicum (1 per semester/maximum of 6)* Supervised experience in theatre by crew participation in University theatre productions. For non-theatre students only.

THEA 189 Theatre Production Practicum (1 per semester/maximum of 6) (GA)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 189 provides hands on experience in the production areas of the theatre including scenery, costumes, electrics and backstage crew. Students will be assigned to various crews during the semester to support the production of scenery, costumes, and lighting theatre shows. The students will be under the direction of faculty, staff, and graduate students (at University Park) who will provide guidance and information in a practical manner. Students will gain practical knowledge in scenic, property and costume construction techniques, painting techniques, and lighting technology. Students will develop skills associated with various tools and equipment used to build properties, costumes. and scenery. In order to accomplish these objectives, students are assigned to a mentor/crew leader at each class meeting who may demonstrate new techniques or skills and then oversee the students as they apply these skills to a current production need. This method of instruction allows students to progress at a pace that is comfortable and permits one-on-one instruction as needed. The course is offered each semester at University Park and taught concurrently with THEA 289 and 489, so ten sections are offered for enrollment. These sections correspond to THEA 289 and 489 sections.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 199 (IL) Foreign Studies--Theatre Arts (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies--Theatre Arts (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Summer 2005
Prerequisite: approval by department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 200 Script Analysis (2) An introduction to script analysis for theatre majors, which focus on full text analysis as a foundation for area specific analysis. Two styles of analysis (contextual and structural) are studied.

THEA 200 Script Analysis (2)

THEA 200 is a course designed to teach theatre majors and minors the art and craft of understanding play texts. The course begins by exploring the nature and means of transmitting meaning through theatre texts. Discourse theory and contextual analysis are applied to at least two examples of American realism. The second method of analysis is a structuralism approach that will also be applied to at least two examples of American realism. The third area of study is the application of historicism and structuralism to non-realistic scripts.

Students will work individually and in small groups to create written and oral presentations of their analyses. The course is designed to teach through practice and application of methods to a variety of types of scripts written for the theatre.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 207 (GA;US) Gender and Theatre (3) A study of theatre and drama literature as formed by issues of gender, race, and ethnic background.

THEA 207 Gender and Theatre (3)
(GA;US)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre 207 provides a basic survey of issues of representations of gender identity in theatre. The course will trace women's experiences in theatre from their absence on European classical stages to the more recent formation of feminist theatres. The course will explore issues of sexual orientation and gender identity as presented through drama and performance. The plats and writings chosen for study may include selections from African, European, African American, Latina, Asian American, Anglo American, and Native American playwrights. The course will examine issues of gender as they are presented by women of different races and cultures, by men of different races and cultures, and by women and men of various sexual orientations. The goal of the course is to examine the ways theatre and theatrical performances have portrayed individuals within a pluralistic society based on gender identity and ethnicity. Theatre has existed in every known civilization, but until recently, the contributions of predominantly white European males have provided the basis for the study of theatre. Most drama anthologies include plays written predominantly by white European males. By focusing on gender as it has been and is portrayed in theatre from diverse perspectives, THEA 207 will encourage an aesthetic appreciation of the art of theatre while exploring issues of gender identity on artistic creation and critical response.

General Education: GA
Diversity: US
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 208S (GA;US;IL) Workshop: Theatre in Diverse Cultures (3) A performance-oriented class, which explores the historic and contemporary theatrical works of various culturally diverse peoples.

THEA 208S Theatre Workshop in Diverse Cultures (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre Workshop in Diverse Cultures is a performance-oriented class that aims to introduce students to the broad cultural diversity that exists in artistic expression. The class will focus on several plays throughout the semester that will represent cultural, ethnic, and gender diversity as well as different literary styles. Students will be exposed to various cultures by working on plays created by artists from those cultures. The course will concentrate on a specific playwright, culture, or region, such as plays from the Caribbean. Students will be required to read, study, analyze, and perform plays from the genre. For example, the class may focus on the works, life, and philosophy of August Wilson and read Joe Tumer's Come and Gone, Seven Guitars, Piano Lesson, and Fences. The class may explore Asian styles such as Noh Theatre and Asian American works by D. H. Hwang or work by Nigerian playwright and Nobel Prize winner Wole Soyinka. The presentation of these plays will be a principle part of the class, but the reading and discussion of the material will be as important. Students will participate in some capacity with the production of these plays in areas such as stage management, dramaturgy, sets and props, lights, sound, costumes, house management, publicity, and acting. These pieces will be performed in class, in workshop, and occasionally for the general public. Students will work as an ensemble and become acquainted with basic acting and theatre techniques The course objectives are:
1) to develop and enhance students' appreciation for the discipline and commitment required for multicultural theatrical presentations
2) to help to sensitize all students to the broad cultural diversity in artistic expression
3) to provide students with an introductory engagement with drama.

AAA S/THEA 208 serves as a primary selection for students pursuing the Theatre minor. The course will be offered every fall semester. Enrollment is approximately 15 to 20 students. Frequency of offerings and enrollment varies at other college and campus locations.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 208 (GA;US;IL) (AAA S 208) Workshop: Theatre in Diverse Cultures (3) A performance-oriented class which explores the historic and contemporary theatrical works of various culturally diverse peoples.

THEA (AAA S) 208 Theatre Workshop in Diverse Cultures (3)
(GA;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre Workshop in Diverse Cultures is a performance-oriented class that aims to introduce students to the broad cultural diversity that exists in artistic expression. The class will focus on several plays throughout the semester that will represent cultural, ethnic, and gender diversity as well as different literary styles. Students will be exposed to various cultures by working on plays created by artists from those cultures. The course will concentrate on a specific playwright, culture, or region, such as plays from the Caribbean. Students will be required to read, study, analyze, and perform plays from the genre. For example, the class may focus on the works, life, and philosophy of August Wilson and read Joe Tumer's Come and Gone, Seven Guitars, Piano Lesson, and Fences. The class may explore Asian styles such as Noh Theatre and Asian American works by D. H. Hwang or work by Nigerian playwright and Nobel Prize winner Wole Soyinka. The presentation of these plays will be a principle part of the class, but the reading and discussion of the material will be as important. Students will participate in some capacity with the production of these plays in areas such as stage management, dramaturgy, sets and props, lights, sound, costumes, house management, publicity, and acting. These pieces will be performed in class, in workshop, and occasionally for the general public. Students will work as an ensemble and become acquainted with basic acting and theatre techniques The course objectives are:
1) to develop and enhance students' appreciation for the discipline and commitment required for multicultural theatrical presentations
2) to help to sensitize all students to the broad cultural diversity in artistic expression
3) to provide students with an introductory engagement with drama.

AAA S/THEA 208 serves as a primary selection for students pursuing the Theatre minor.

General Education: GA
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 210 Introduction to Creative Dramatics (3) Introduction and direct experience in creative dramatics and survey of children's theatre.

Introduction to Creative Dramatics (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Winter 1981

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 212 Musical Theatre Theory II (3) Intermediate studies in diatonic harmony, analysis, sight-singing and dictation.

THEA 212 Musical Theatre Theory II (3)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 212 is designed to provide the intermediate musical theatre student with the mastery of harmonic and melodic analysis with which to approach and appreciate the structure of songs and musical theatre scores. It is designed to enable the intermediate student to sight-read more efficiently the literature that is central to the performance classes in the major, and to develop basic accompaniment and transposition skills that will become indispensable to the professional career. A continued emphasis on pitch and rhythmic identification will enable the intermediate student to maintain a high degree of musicianship in the performance classes required in the major and will make the performer more competitive in the musical theatre industry.

THEA 113, the entry-level theory course and THEA 114, Music Theatre Form and Analysis are prerequisites to THEA 212, which is designed as the third course of the theory-form-and-analysis sequence. The course satisfies a significant need in that it focuses on the specific theoretical knowledge the musical theatre student requires to become competitive in a professional career.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2000
Prerequisite: THEA 113, THEA 114 and admission into Musical Theatre Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 214 Musical Theatre Theory III (3) Advanced studies in the technique and practice of chromatic harmonic analysis and sight-singing.

THEA 214 Musical Theatre Theory III (3)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 214 is designed to provide the advanced musical theatre student with the analytical skills with which to approach and appreciate the harmonic and melodic structure found in the various compositional styles of musical theatre literature. It is focused specifically on musical theatre literature that is representative of the current repertoire to enable the advanced student to function more effectively in auditions and other performance venues. The course is designed to function as the culmination of the theory-form-and-analysis sequence, connecting up the terminology, techniques, and repertoire, developed throughout the four-semester process. The course satisfies a significant need in that it focuses on the specific theoretical knowledge that the musical theatre student is required to master in order to become competitive in a professional career.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2000
Prerequisite: THEA 113, THEA 114, THEA 212

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 221 Acting III (3) A continuation of Thea. 220. For Theatre majors only.

Acting III (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 130 orTHEA 131 and School of Theatre approval

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 220 Acting II (3) Principles of acting through improvisation, exercises, and character analysis, with emphasis on basic skills of voice and movement. For theatre majors only.

Acting II (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 222 (THEA 530) Acting Laboratory (2) Laboratory experience in student-directed scenes and/or one-act plays.

Acting Laboratory (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994
Prerequisite: THEA 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 223 Musicical Theatre Performance I (2) Studio training in the unique performance skills, repertoire and business of professional music theatre.

THEA 223 Musical Theatre Performance I (2)

(BA) This course meets the Bachelor of Arts degree requirements.

The purpose of this class is to introduce sophomore BFA musical theater students to the art of performing the solo song based on the book musical. While utilizing the performer's skills in acting, singing and dance/movement, the student will learn how to communicate clearly and compellingly
1. who his/her character is
2. to whom the character is singing
3. why the character is singing these particular words to this particular music at this particular time. The student must understand his/her environment, relationships, obstacles, tactics, and stakes in order to accomplish this task.

This is the class that begins to synthesize the student's performance training for the special demands of musical theatre. Most of the work will concentrate on solo performance, building the student's power and confidence and beginning to explore both their individual uniqueness and their crucial relationship to their audience.

Students must prepare two contrasting musical theatre pieces from "book" musicals preferably from "The Golden Age" (1920-1960s). These songs must be chosen in collaboration with musical theatre faculty and the student. Students must obtain copies of the music and lyrics for their songs and the book. A thorough knowledge of the book is as important as a through knowledge of the music and lyrics in order to make informed performance choices. Students are required to keep a journal. Written exercises about passive, active, stage directions, and character analysis as well as in-class exercises on these topics will be part of the class assignments.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 114, THEA 115, THEA 116, THEA 212 admission into Musical Theatre option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 224 Musical Theatre Performance II (2) Studio training in the unique performance skills, repertoire and business of professional music theatre.

THEA 224 Musical Theatre Performance II (2)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will cover three primary areas of study: musical theatre scene work, the study of the major repertoire in musical theatre from 1965-1990 (excluding Sondheim and Webber), and performance power training.

Scenes that contain songs require special techniques of the actor-singer. Using the preparation and presentation of four such scenes, the musical theatre student will begin to develop successful performance strategies for musical theatre scene work.

Through the use of in-class reports the musical theatre student will continue to gain understanding and appreciate the rich musical theatre literature of the late 1960s and the 1990s. Primarily, the course will cover the works and lives of Bock and Harnick, Jerry Herman, Kander and Ebb, Jule Styne, Jones and Schmidt, and Maltby and Shire.

Through exercises, studies, and improvisation designed to sharpen the student's use of energy, focus, structuring skills, imagining, stylizing, and coordinating, the musical theatre student will obtain a significant increase in his/her performance power.

The musical theatre student will prepare three duet scenes with song and an ensemble scene with song during the semester. Students will have two opportunities to present each duet scene.

THEA 224 is a continuation of Musical Theatre Performance I. These studios represent the core of the musical theatre training program.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 223 admission into Musical Theatre Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 225A B.F.A. Acting Studio I (2) Exercises to develop truthful listening and responding as a foundation for acting studio scene study.

THEA 225A B.F.A. Acting Studio I (2)

Listening and responding in an unadorned, truthful way is the lynch-pin of the actors's work. In THEA 225A, students will begin with exercises designed to enhance truthful behavior on stage. In addition, this semester's work includes exercises to increase awareness of the sensory world around us and its effect on the actor's imagination, availability to emotion, and mental focus. Contentless scene work leads the student through the basics of behavior on stage: playing for a purpose (goal), encountering obstacles, and finding the necessary tactics to behave appropriately in the imaginary circumstances.

THEA 225A is a performance studio, that is, each students will be actively involved each day. Each class will begin with some physical and/or vocal warm-up done by all students. The instructor will look for consistent applications of and growth in individual techniques earlier explored. The core of each day's work will focus on student improvisation or scene work. Students thus are subject to daily observation, daily testing for comprehension and application of material encountered, daily assistance, and daily criticism of their work. In addition to daily critiques, students will receive a mid-semester and semester-end evaluation from the lead instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 115 and admission to B.F.A. in Musical Theatre
Concurrent: THEA 225B and THEA 225C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 225B B.F.A. Movement Studio I (2) Introduction to techniques to condition the actor and improve physical awareness and self-use.

THEA 225B B.F.A. Movement Studio I (2)

THEA 225B is designed to condition the actor's body for the demands of the stage, to begin the long process of self-awareness and effective, efficient self-use, to free the body and mind of restrictive self-images and inefficient, habitual movement/use patterns and to assist the actor in the development of a confident, expressive physical instrument that will be an equal partner with the mind and the voice in the creation of a character for the stage.

Additional resources from which an instructor may draw include contact improvisation, games with balls to develop full commitment to the activity and eye-body coordination, group balancing games, and a host of other well-tested, effective movement-based learning activities.

Because THEA 225B is a laboratory performance course, one in which students must share what they are learning or performing on an almost daily basis, on-going assessment takes place through faculty feed-back in working sessions, through faculty and peer critique of work presented, through a written evaluation at mid-semester (followed by a conference with the instructor), and through a written evaluation and in-person conference at the end of the semester. Performance faculty other than the instructor will often observe and comment upon work and most will view semester-concluding scene presentations and offer insights. Students thus receive assessment on many occasions in the course of the semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 115
Concurrent: THEA 225A and THEA 225C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 250 Introduction to Scene Design (3) Introduction to the history, processes, materials, and concepts involved in designing scenery for the theatre.

THEA 250 Introduction to Scene Design (3)

This course is the introductory course to the art and practice of designing scenery for the stage. The primary goals of the course are to introduce students to the history and profession of scene design, and to help students learn a fundamental design process to apply to the evolution and presentation of design for stage scenery. This process includes play analysis, script and visual research methods, analysis of dramatic action, concept evolution, and visual communication methods.
Evaluations will be based on the following:
1. Students will submit papers to demonstrate text analysis skills and to explore the work of specific designers or historical trends (25%)
2. Students will receive in-class critiques to evaluate their design concepts and communication skills (25%)
3. Students will receive comment sheets for each studio project critiquing specific aspects of their design process (50%)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 130, THEA 131 prerequisite or concurrent:THEA 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 225C B.F.A. Voice/Speech Studio I (2) Introduction to actor voice and speech training.

THEA 225C B.F.A. Voice/Speech Studio I (2)

THEA 225C is the first in a sequence of voice and speech courses for the actor. This first semester installment will focus on awareness and conditioning activities related to breath, posture, resonance and articulation. Prose and poetry readings will be used for application activities. Students will experience activities that will heighten their physical awareness of vocalizing. Most activities will involve a re-learning of how they speak, bringing to their conscious awareness the processes of voice/speech which were initially learned through early childhood nurturing. Class events will include awareness of breath patterns and the means to release inhibitive behaviors related to spinal posture, head and neck alignment, and musculature along the breath/vocal tract. Students will also gain awareness of how breath relates to their expressive/emotional system.

Class activities will also include physical awareness of the consonant and vowels sounds and their phonetic transcriptions. Each event will strive to improve actors' intelligibility and increase musicality of speech. Through application assignments with word lists, sentences, poetry and prose, students will increase language sensitivity.

This semester will also address voice quality issues directly and how they relate to the above. Specific events will focus on vibratory awareness in primary resonators and how to apply this awareness in all vocal life. Issues of vocal health, projection and emotional demands will be addressed.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 115
Concurrent: THEA 225A and THEA 225B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 251 Theatre Drafting Techniques (2) Introduction to drafting of floor plans, section drawings, construction graphics, and mechanical perspective for the theatre.

THEA 251 Theatre Drafting Techniques (1)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre 251 is a foundation course for all students studying theatre design or technology. Students will learn the lexicon of lines and marks that make up the language of theatre drafting. They will be instructed in traditional drafting techniques and work to master the skills required to execute complete, accurate, and clear draftings. Drafting is the basic form of communication in theatre design and technology. All students involved in these disciplines will use drafting extensively throughout their careers. As such, the skills introduced and practiced in this course form a necessary foundation for all other design and technology courses. This course prepares students by teaching them a language necessary to advanced coursework. Theatre 251 is a required course in the theatre B.F.A. Production program.

Throughout the course students complete draftings of increasing complexity. These draftings will be evaluated for content, clarity and skill. Individual drafting projects will be assigned a point value.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 252 Design Presentation Techniques (1) Media and materials exploration; sketching, rendering, and modeling methods.

Design Presentation Techniques (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 253 Scene Painting (1) Introduction to painting scenery for the theatre; methods and materials.

Scene Painting (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 260 Introduction to Costume Design (3) Introduction to costume design process through character analysis and the use of color, line, and texture.

THEA 260 Introduction to Costume Design (3)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 260 provides the student the opportunity to experience the costume design process from the reading of the script to the creation of a fully rendered costume design. The work of a costume designer begins with the ability to read the play script from both the perspective of the audience and that of the human beings depicted in the imaginary premise. The student is given a specific methodology for reading a play and determining the plot, the dramatic action, and the theme or significance of the action of the play. Next, the student is exposed to research methods and techniques that illuminate historical periods and genres and allow the designer to fully appreciate the lives of human being living in different times and locations. Beginning projects are derived from contemporary dramatic material that requires relatively little examination into the social and historical period. Subsequent projects, however, move farther away from contemporary realism and require extensive research to grasp the essence of the period. The next section of the course is devoted to an examination of how this research and analysis is used by the costume designer to make artistic choices. Students are introduced to a specific technique for analyzing a character and determining what kind of clothing would be appropriate for the individual based on the student's analysis of their personality, social status, and function in the play. The final project involves the creation of a costume design for the entire play. The student is guided through the process of improving rendering skills, creating a finished representation of each garment worn in the play, and enhancing their ability to communicate these choices to a director and actors.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 270 Introduction to Lighting Design (3 per semester/maximum of 99) This course will focus on helping each student to develop a design process that takes them from script to stage.

THEA 270 Introduction to Lighting Design (3 per semester/maximum of 99)

(BA) This course meets the Bachelor of Arts degree requirements.

Introduction to Lighting Design will focus on helping each student to develop a design process that takes him or her from script to stage. Students will study each step of the lighting design process and use these steps to create the design for a fictional production. Students will also have the opportunity to hone their design skills with a series of practical projects that will allow them to experiment with intangible qualities of light. This class will use a traditional proscenium presentation for the development of these techniques.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 261 Introduction to Costume Construction Techniques (3) Intermediate study of the methods, materials, equipment, concepts and processes involved in the construction of costumes for the theatre.

THEA 261 Introduction to Costume Construction Techniques (3)

This course will advance the knowledge of students in the methods, materials, equipment, concepts and processes involved in the construction of costumes for the theatre.

The emphasis of this course will be on the specialized processes that result in the production of theatrical costumes. Formal course material in the form of lecture/demonstrations will address the specialized approach to the construction and tailoring of theatrical costumes for men's and women's wear. Examination of the historic context of the clothing technique, as well as the contemporary application of such techniques for theatrical use will also be addressed. In addition to lectures and demonstrations, students will be expected to participate in hands-on laboratory activities that will reinforce and inform the classroom theory. These activities will give students an opportunity to apply the principles they learn in the lecture component.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 130

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 280 Introduction to Technical Direction for the Theatre (3) Introduction to the methods, materials, equipment, facilities, concepts and processes associated with Technical Direction for the Theatre.

THEA 280 Introduction to Technical Direction for the Theatre (3)

This course will familiarize students with the methods, materials, equipment, facilities, concepts and processes used by Theatre Technical Directors to produce the spectacle of theatre. The concepts of project management will be introduced and the processes associated with project management will be explored. The steps involved in producing a technical package that will facilitate the implementation and completion of a production will be introduced and explored.

The emphasis of this course will be on exploring how Technical Directors bring designs to reality on the stage. The planning and management processes will be introduced and explored through the use of exercises and projects that will reinforce and inform the lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 130, THEA 131

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 282 (GA) Production Practicum (3--may repeat once for a total of 6) Introduction to all aspects of theatre production--analysis, design, construction, production, performance--for non-theatre majors.

THEA 282 Production Practicum (3)
(GA)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will introduce and expand skills in the performance and production of plays. Students will learn about the play, the playwright, the time period, the performance history of the chosen play, and its relation to theatre history and the cultural values of society particularly as they are depicted in the arts. Students will participate actively in individually selected aspects of design/construction and performance (students may choose to focus on performance, to work primarily with the design/construction team, or to combine performance with design/technical work). After the completion of the production, students will evaluate their work.

General Education: GA
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 285 Introduction to Sound Design (3) An introduction to sound design for the theatre.

THEA 285 Introduction to Sound Design (3)

The purpose of this course is to provide an overview of the techniques and the tools of sound design and the sound designer's role in the collaborative design process in the theatre setting. The goal of this course is to develop a method of understanding sound and sound design, and discovering a language with which to express this understanding in a theatrical context. In order to accomplish these goals, there is fundamental exposure to the terms and techniques of contemporary sound design that is necessary along with an understanding of the challenges and problems inherent in designing sound for the stage. The course also serves as an introduction to continuing advanced study in topics such as audio recording and advanced sound design that relate to sound design.

Projects will make up the majority of the assignments for the class, and therefore will constitute the majority of the grading. The evaluation of these projects will not only consist of written and audio submitted portions, but also the student's presentation of the project to the class. During the sections of the class based on the terminology and tools of theatrical sound design, quizzes will be administered in order to check the progress of the students and ensure their comprehension of the material. Each student will complete a final project in lieu of a final exam: the sound design of a theatrical script. This project will not only consist of the final design work, but also the class presentation of the conceptual basis for the design as well as the implementation of the design.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: INART 258 orTHEA 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 289 Theatre Production Practicum (1 per semester/maximum of 3) Supervised experience in production techniques.

THEA 289 Theatre Production Practicum (1)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is designed to provide practical training in the production techniques of theatre arts. In preparing the physical productions for the School of Theatre, the student will encounter the technology of theatre arts. Diverse areas such as construction, electricity, painting, mechanics, plastics, electronics, costuming, and sewing are experienced in an organized and directed laboratory situation.

The course compliments the introductory theatre production courses and the advanced production practicum course. The B.A. program and the B.F.A.--production option requires a maximum of two credits of this course, and the B.F.A.--musical theatre option requires three credits.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 296 Independent Studies (1-18) Creative projects, including research and design, supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 296E Theatre Production: Acting (1-6) Creative projects, including research and design, supervised on an individual basis and which fall outside the scope of formal courses.

Theatre Production: Acting (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 297A Summer Acting Intensive (3) Students will work intensively together combining modern and postmodern acting forms of Method, Suzuki and Viewpoints.

Summer Acting Intensive (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 297A Acting the Scene (3) Students will practice scenes based on techniques of Uta Hagen, Lee Strasberg, Stella Adler and Sanford Meisner, in Stanislavsky's tradition.

Acting the Scene (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 297A Acting Foundations for BA Theatre (3) Acting course for BA students. Begins the BA Acting sequence of courses.

Acting Foundations for BA Theatre (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011
Prerequisite: admission into the THRBA program.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 297C Theatrical Observation, Analysis, and Implementation (3) Observe, analyze and implement the structure of a "Well Made Play". Using seven components of the well made play, students will learn how to communicate their observations about a play's structure.

Theatrical Observation, Analysis, and Implementation (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 320 Scene Study I (3 per semester/maximum of 9) Advanced monologue and scene study techniques. Principal focus on realism.

Scene Study I (3 per semester/maximum of 9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 221 AND APPROVAL BY THE DEPARTMENT

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 321 Scene Study II (3) A continuation of THEA 320.

Scene Study II (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1995
Prerequisite: THEA 320 and approval by department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 323 Voice and Speech II (2) A continuation of THEA 322.

Voice and Speech II (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1990
Prerequisite: THEA 322

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 322 Voice and Speech I (2) Vocal techniques for the actor: articulation, voice control, support, and projection.

Voice and Speech I (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1990
Prerequisite: THEA 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 324 Movement for Actors I (2) Techniques and skills in physical expression, awareness, control, and stage movement.

Movement for Actors I (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1990
Prerequisite: THEA 120

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 325 Movement for Actors II (2) Continuation of THEA 324.

Movement for Actors II (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1990
Prerequisite: THEA 324

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 326 Music Theatre Performance Workshop (1 per semester/maximum of 3) Performance studies in cabaret, revue, and club environments.

Music Theatre Performance Workshop (1 per semester/maximum of 3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: DANCE 234, THEA 224 audition enrollment in Musical Theatre Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 327 Musical Theatre Auditions (2) Research and preparation of auditions for work in professional musical theatre venues.

THEA 327 Musical Theatre Auditions (2)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre 327 offers junior and senior musical theatre students an opportunity to examine the art of the musical theatre audition from research to performance. Since these students have completed two to three years of vocal and acting study, piano, and music theory, they are ready to work at honing their skills for professional auditions. Each student will prepare four to six professional auditions and simulate them in class. Feedback is provided by the class and visiting guests from the profession. All audition material is memorized and professional attitude as well as dress is required. The audition material is different for each student in the class.

Grading is based on the student's ability to prepare quickly and accurately, take direction, and incorporate it into the audition on the spot. The continued research and performance of new material is required weekly.

Theatre 327 is an elective course in the B.F.A. theatre musical theatre option.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2004
Prerequisite: THEA 224

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 350 Scene Design I (3) Demonstrations, lectures, and practical work in the design of scenery for the theatre.

Scene Design I (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: THEA 150, THEA 251, THEA 252

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 361 Costume Construction I (3) Costume production techniques through flat patterning and draping methods; adaptation of methods to period costume.

Costume Construction I (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: THEA 160

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 370 Creative Lighting Techniques for Media Production (3) An exploration of lighting design techniques for electronic and film media.

Creative Lighting Techniques for Media Production (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2004
Prerequisite: COMM 150, THEA 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 380 Technical Production I (3) Comprehensive survey of scenic construction and theatrical rigging. Special attention given to contemporary professional stagecraft techniques.

Technical Production I (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 381 Technical Production II (3) Comprehensive survey of scenic construction and theatrical rigging. Continuation of THEA 380.

Technical Production II (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1992
Prerequisite: THEA 380

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 400 Advanced Theatre Projects (1-6 per semester) Individual and group-directed study of in-depth projects involving reading, discussion, performance, and critical analysis by faculty.

Advanced Theatre Projects (1-6 per semester)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: seventh-semester standing or 12 credits in theatre or related areas

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 402W Theatre History II: From 1700 to Present (3) Survey of European drama and theatre from the eighteenth century through the modern period.

Theatre History II: From 1700 to Present (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 401Y (IL) Theatre History I: Ancient to 1700 (3) Survey of drama and theatre from primitive rites through the Renaissance.

Theatre History I: Ancient to 1700 (3)

General Education: None
Diversity: IL
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 405 (US) Theatre History: American Theatre (3) Survey of American drama and theatre from the colonial period to the present.

Theatre History: American Theatre (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 406 (IL) Theatre in Asia (3) A survey of major theatre forms and traditions in Asia.

Theatre in Asia (3)

General Education: None
Diversity: IL
Bachelor of Arts: Other Cultures
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 407 (US) (WMNST 407) Women and Theatre (3) A study of theatre practice and dramatic literature as informed by issues of gender, race, and ethnic background.

THEA (WMNST) 407 Women and Theatre (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

Theatre 407 approaches the study of theatre/performance as a valuable site for the exploration of race, class, and gender as social constructs. The focus will be on 20th century developments of women and theater. Feminist theory and theatrical practice will be a focus of the course and will reflect conflicts and differences present within feminism.

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 408 (US) History of American Musical Theatre (3) A survey of the history of American musical theatre presented in a social, cultural, and aesthetic prospective.

History of American Musical Theatre (3)

General Education: None
Diversity: US
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 412 (US;IL) (AAA S 412) African American Theatre (3) Exploration of the development of African American theatre from its roots in Africa through the diaspora, to the present time.

THEA (AAA S) 412 African American Theatre (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In this course, we will explore the development of African American theatre from its roots in Africa and Europe, through the diaspora, to the present time. We will learn something of the rich diversity of African American people and their contribution to the world's creative mainstream. We will become acquainted with both historical and contemporary artists who created and continue to create this unique American art form. The goals of the course are:
1)to develop familiarity with African American theatre and the socio-historic context in which it was created
2) to develop an understanding of the relationship of African American theatre to mainstream American theatre
3) to acquire an appreciation of the schools, styles, and techniques of African American theatre

We will do this by reading and engaging plays in the context of the period in which they were created, viewing films of plays, and attending relevant productions where possible.

General Education: None
Diversity: US;IL
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 410 Play Analysis (3) Advanced skills in textual analysis of plays and screenplays.

Play Analysis (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 423 Musical Theatre Performance III (2) Studio training in the unique performance skills, repertoire and business of professional musical theatre.

THEA 423 Musical Theatre Performance III (2)

(BA) This course meets the Bachelor of Arts degree requirements.

In depth preparation and performance of scenes from the works of Sondheim and Webber. Also, exploration of the adjustments needed to perform successfully in non-traditional performance venues.

The third in a musical theatre performance studio sequence, THEA 423 applies performance technique and methodology studied in previous studio classes to the works of contemporary composers, particularly Stephen Sondheim and Andrew Lloyd Weber. The course also explores the adjustment to performance needed when working in non-traditional stage spaces such as ballrooms, cruise ships, and industrials.

THEA 423 is a continuation of Musical Theatre Performance II. These studios represent the core of the musical theatre training program. Grading will be based on the quality of the musical theatre student's studio work, report, and demonstrated respect for the professional studio environment.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 224 seventh-semester standing in the Musical Theatre Option

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 425A B.F.A. Acting Studio II (2) Scene Study

THEA 425A B.F.A. Acting Studio II (2)

THEA 425A is a laboratory or practicum course requiring active student presentation of work in progress for critiques by the instructor and input from peers. Working in pairs, students will be assigned a five-minute scene from modern American realism. Students must read the play from which the assigned scene is taken, do the necessary historical/analytical homework, develop a character biography and a scene score, and present the result of their work in the initial on-the-feet working sessions for faculty critique and peer input. Taking away responses from each working session, the students are expected to rehearse outside of class to address any issues raised in the previous working session and to ready the scene for the next viewing.

In THEA 425A, the instructor will serve, not as a director, but as an acting coach, asking probing questions and using his or her own energy to exhort, guide, and discipline the students, It is expected that faculty intervention will decrease and student self-reliance will increase with each passing studio.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 115, THEA 225A
Concurrent: THEA 425C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 424 Musical Theatre Performance IV (2) Studio training in the unique performance skills, repertoire and business of professional musical theatre.

THEA 424 Musical Theatre Performance IV (2)

(BA) This course meets the Bachelor of Arts degree requirements.

This studio is designed for senior musical theatre majors to hone their skills in acting, singing, and dancing in the last semester of their college career. The majority of the class will be the preparation of the Senior New York Showcase where each student will have the opportunity to perform for an invited audience of agents, alumni, and special guests. Students are responsible for all research and preparation of showcase material. Showcase material will be coached in class, but the main body of preparation relies on the students themselves, utilizing skills and techniques learned throughout their studio training.

Grading will be based on attendance, preparation, and attitude. These are all critical factors for entering the profession and for successfully completing this course. Deadlines and appointments must be kept. Students must do adequate outside preparation.

THEA 424 is a continuation of Musical Theatre Performance III. These studios represent the core of the musical theatre training program.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 423

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 425C B.F.A. Voice/Speech Studio II (2) Advanced voice and speech training for BFA Musical Theatre students.

THEA 425C B.F.A. Voice/Speech Studio II (2)

In THEA 425C, B.F.A. Musical Theatre students will continue to develop and expand their vocal instrument. Basics of vocal production will be repeated and developed with a greater focus on the individual actor's application of his/her voice in the performance of various texts.

The first ten weeks will recall the basics of the past two semesters of voice/speech work and continue to expand the actors' capabilities. Extended work in the area of breath support and release, resonance and vocal range, and speech/articulation will all be explored with appropriate texts.

In the last five weeks of the semester, work will focus on text in the performance setting. A short program of text performances will be devised and presented in the last week of class.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 225C
Concurrent: THEA 425A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 426 Children's Theatre (3) Theories and practice of theatre for children.

Children's Theatre (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 150, THEA 220

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 427A B.F.A. Acting Studio III (2) Continuation of THEA 425A

THEA 427A B.F.A. Acting Studio III (2)

THEA 427A is an extension of THEA 425A, a laboratory or practicum course requiring active student presentation of work in progress for critiques by the instructor and input from peers. Working in pairs, students will be assigned a five-minute scene from modern American realism. Students must read the play from which the assigned scene is taken, do the necessary historical/analytical homework, develop a character biography and a scene score, and present the result of their work in the initial "on-the-feet" working sessions for faculty critique and peer input. Taking away responses from each working session, the students are expected to rehearse outside of class to address any issues raised in the previous working session and to ready the scene for the next viewing.

In THEA 427A, the instructor will serve, not as a director, but as an acting coach, asking probing questions and using his or her own energy to exhort, guide, and discipline the students. It is expected that faculty intervention will decrease and student self-reliance will increase with each passing studio.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 425A
Concurrent: THEA 427C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 427C B.F.A. Voice/Speech Studio III (2) Stage Dialect Studies

THEA 427C B.F.A. Voice/Speech Studio IV (2)

THEA 427C focuses on the acquisition of stage dialects and accents. For each dialect the student becomes aware of the resonance, phonetic, inflection, and rhythm changes necessary to perform dramatic text with an accent or dialect. Vocal agility, phonetic recall and the ability to integrate the altered vocal behavior to the demands of acting are the primary goals. Each dialect unit will have an introductory instruction, a review session, and a presentation of a reading of a dialect monologue. The final project will be the performance of two dialect monologues.

Students will be evaluated upon preparedness, work ethic, focus, openness to change, growth, degree of self-reliant recall, and creative application of new skills. This studio performance class offers opportunity for assessment from the instructor in each class session. Periodic assignments will be made to assess self-reliant application of the work.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 425C
Concurrent: THEA 427A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 429 Theatre Performance Practicum (1-3 per semester) Supervised experience in rehearsal and performance of significant roles.

Theatre Performance Practicum (1-3 per semester)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: admission by audition only

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 428 Creative Drama (3) Exercises and techniques for creative growth of children and adults, creative interaction for classroom, recreational, social, or therapeutic environments.

Creative Drama (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: fifth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 434 Introduction to Directing (3) Introduction to principles and procedures of play direction.

Introduction to Directing (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 114 orTHEA 410;THEA 160, THEA 170 orTHEA 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 436 Directorial Processes (3) Preparing a play for production including the scoring of thescript, developing ground plan, casting, and staging projects in American realism.

Directorial Processes (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: THEA 434 and approval of instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 437 Artistic Staff for Production (1-6) To provide students with experience in choreography, dramaturgy, combat, staging, voice/speech, musical direction, assisting in direction, for major productions.

Artistic Staff for Production (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1989
Prerequisite: approval of the proposed assignment by the instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 439 Projects in Directing (1) Projects in directing for analysis and critique.

Projects in Directing (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: THEA 436 and approval of proposed project by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 440 Principles of Playwriting (3) Structure, dramatic effect, characterization, and dialogue; the writing, reading, and criticism of original one-act plays.

Principles of Playwriting (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 447 Make-Up Design for Production (1-6) Materials, research, preparation, design, execution of make-up for major University Theatre productions.

Make-Up Design for Production (1-6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1989
Prerequisite: approval of proposed assignment by the instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 450 Advanced Topics in Scene Design (3 per semester/maximum of 6) Design emphasis on a variety of production techniques, genre, and styles.

THEA 450 Advanced Topics in Scene Design (3 per semester/maximum of 6)

(BA) This course meets the Bachelor of Arts degree requirements.

This course will build upon the basic design process introduced in THEA 250. Students will explore design solutions for shows requiring multiple locals. Students will also be introduced to shows reflecting a variety of dramatic styles and will explore effective design solutions within stylistic constraints. In addition to previously introduced graphic skills, emphasis will be placed on graphic techniques involved in the production of scenery, including design drafting, prop drawings, and paint elevations.

As this course may be repeated, there will be a rotation of topics to ensure that students receive different content each semester. Topics within the rotation may include:
Design for Shakespeare, unit settings
Design for Musicals, practical and stylistic concerns
Design for Opera
Design for shows requiring simultaneous local
Poetic or fragmented realism
Design for contemporary episodic scripts
Epic theatre design

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 250 or portfolio review

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 451 Drafting, Drawing, and Painting for the Theatre (1) Drafting, freehand drawing including perspective methods and property development, rendering techniques, and painters' elevations.

Drafting, Drawing, and Painting for the Theatre (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 251, THEA 252 and prior approval of instructor; first-year MFA theatre candidacy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 452 Advanced Presentation Techniques (1) Advanced drafting, freehand drawing, rendering techniques, model building, and reproduction techniques.

Advanced Presentation Techniques (1)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 451

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 453 Advanced Scene Painting (1 per semester, maximum of 12) Practicum study in painting techniques currently in professional use. Exploration of tools, available paints, and texturing materials.

Advanced Scene Painting (1 per semester, maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1991
Prerequisite: THEA 253

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 454 Period Research for the Theatre (3) History of decor, styles, and movements in art and architecture.

Period Research for the Theatre (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: BFA theatre arts candidacy or permission of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 455 Twentieth Century Design (3) Seminar study of movements, practices, methods, and designers in the modern theatre.

Twentieth Century Design (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: BFA theatre arts candidacy and prior approval of faculty

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 456 Scenic Projects for Production (1 per semester, maximum of 6) Special projects for production; painting, properties, design assistance.

Scenic Projects for Production (1 per semester, maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: approval of proposed projects by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 458 Digital Imaging for the Theatre (1) Introduction to imaging software and its application in theatrical design and production.

THEA 458 Digital Imaging for the Theatre (1)

This course will provide students with an introduction to digital imaging software and explore the use of this software in the theatrical design and production process. An introduction to Photoshop or similar programs will make up the first part of the course. As part of the introduction to software, course time will be devoted to image acquisition using techniques such as Web based research, scanning, and use of the digital camera. The remainder of the course will focus on applying imaging software to the process of evolving and presenting designs for scenery, costumes, and lighting. Design presentation will include output of images for applications such as projection, Web pages, and both large and small-scale printing.

Students will execute a number of projects that will be turned in digitally to the instructor. Each project will have a specific objective and the grade will be outlined in a comment sheet.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: Design or Visual Arts major or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 457 Scene Design for Production (1 per semester/maximum of 6) Design and execution of production projects.

Scene Design for Production (1 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 460 Advanced Topics in Costume Design (3 per semester/maximum of 6) Developing and executing a design concept in a variety of the performing arts.

THEA 460 Advanced Topics in Costume Design (3 per semester/maximum of 6)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 460 places emphasis on the use of text analysis and extensive historical research to make artistic choices as a costume designer in a production of a classical play, opera, or dance. Plays of this sort are of a size and scope not often found in contemporary material, which places exceptional demands on a designer. This course investigates the manner in which the theatrical imagination can be liberated to fulfill the particular requirements of classic theatre, opera, and dance.

The course will require several large-scale projects that reinforce the costume design process in a variety of the performing arts. Each area of work within a project is separately graded. These projects will contain written segment components such as a design statement or character analysis, an oral presentation or explanation of the designer's choices and process, and (where applicable) a demonstration of the fully realized costume renderings.

The student is expected to master the process that takes a costume designer from reading a script (or listening to a piece of music) to the creation of a design concept to the visual presentation of renderings from which clothing can be constructed. Particular emphasis is placed on developing the oral presentation skills necessary to communication with the director and other theatre artists.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 260, THEA 464

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 459 Theatre Portfolio & Business Practices (2) Life as a professional theatre designer. Contracts, taxes, record-keeping, resumes, portfolios, interviewing, job hunting, and legal considerations.

THEA 459 Theatre Portfolio & Business Practices (2)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed to prepare the student of design for life as a professional theatre designer. There are many challenges to working in the business of design, arising primarily from the fact that most theatre designers are self-employed. It's not enough to be a talented designer; one must also be a savvy business person. Contracts, taxes, recordkeeping, resumes, portfolios, interviewing, job hunting, and legal considerations will all be addressed, as they relate to life as a freelance designer. Special attention will be paid to the assembly of a professional portfolio, which is the centerpiece of any designers' work.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: B.F.A. Theatre candidacy

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 461 Advanced Topics in Costume Construction and Technology (3 per semester/maximum of 6) A specialized course in advanced costume construction techniques and theatrical costume technologies.

THEA 461 Advanced Topics in Costume Construction and Technology (3 per semester/maximum of 6)

(BA) This course meets the Bachelor of Arts degree requirements.

THEA 461 addresses the skills and techniques of theatrical costume construction necessary for the undergraduate student to understand and master in preparation for work within a professional costume setting. Emphasis is placed upon the creation of an historic silhouette as illustrated by a theatrical costume rendering for both men and women, with an eye to theatrical execution. Focus is placed on the production of clothing, as well as the creation of theatrical properties and accessories for the historic figure.

The course will require several large-scale projects that reinforce the costume construction process in a variety of historic eras. Each area of work within a project is separately graded. These projects will contain supporting research and examine the understanding and identification of construction and accessory techniques as manifested in the costume rendering.

A student's approach to problem solving, personal process, communication skills, and successful time management will also be addressed.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 261

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 464 History of Fashion (3) Survey of dress from Egyptian period to contemporary fashion.

History of Fashion (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2008
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 465 History of Fashion II (3) Survey of dress from 1800 to contemporary fashion.

THEA 465 History of Fashion II (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The course is the second part of the history of fashion that is an elective for graduate theatre students, is required for the B.F.A. Costume Design emphasis, and is an elective for the undergraduate theatre minor. The goal of the course is to identify and examine movements and trends in clothing and fashion from 1800 to the present. Each period is studied by using primary sources, slide presentations, and actual garments to illustrate the relationship between clothing and broad social, historical and artistic developments. Emphasis will be placed on plays that serve as particularly good examples of a period or style of fashion covered in the course.

Grading will be based on periodic quizzes covering topics from class lectures, slide presentations, and textbook readings. There will be one oral presentation, a written comprehensive final exam, and assigned graphic presentations or "redrawings" of clothing pieces.

To complete these "redrawings" the student will find a primary source or a photographic reproduction of a primary source and "redraw" the garment. For example, a student may find a painting, a sculpture, or photo of a garment (usually on a figure) that represents the period being discussed in class. The student would then "redraw" or copy that image, not trace, for the purposes of identifying the clothing pieces that are shown in the original. The "redrawings" are graded not on the student's ability to draw but rather on the content, detail, and thoroughness of the pencil sketch.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 2004
Prerequisite: THEA 100 orTHEA 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 466 Costume Construction for Production (1 per semester/maximum of 6) Execution of production projects in construction and shop management.

Costume Construction for Production (1 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 470 Advanced Topics in Lighting Design (3 per semester/maximum of 6) Advanced Topics in Lighting Design will rotate through opera, dance, non-traditional spaces, architecture, advanced technology, and color theory.

THEA 470 Advanced Topics in Lighting Design (3 per semester/maximum of 6)

(BA) This course meets the Bachelor of Arts degree requirements.

Advanced Topics in Lighting Design will utilize a rotating curriculum and may be taken twice for credit. Topics will include lighting design for opera, dance, non-traditional spaces, architecture, advanced technology, and color theory. Students will also learn to write and critique their own work, as well as the work of others, and to speak knowledgeably about design topics. There will also be some flexibility to allow students to pursue individual interests and group-directed projects.

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2006
Prerequisite: THEA 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 467 Costume Design for Production (1 per semester/maximum of 6) Design and execution of production design projects.

Costume Design for Production (1 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 471 Stagelighting Design II (3) Advanced training through lectures and laboratory experience with color, shape, and form as it relates to the specifics of illumination.

Stagelighting Design II (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 470

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 472 Lighting Technology (3) An introduction to the basics of electricity, dimmer protocols, lightboard programming, lighting paperwork, and master electrician & assistant lighting design practices.

THEA 472 Lighting Technology (3)

THEA 472 is an introduction to the basics of electricity, dimmer protocols, lightboard programming, lighting paperwork, and master electrician & assistant lighting design practices. This course will help prepare theatre designers to understand the inner workings of all of the equipment, working practices and safety requirements that are involved with the business of lighting design. This course will also provide students with many of the skills needed to get their foot in the door and get started in the business.

Special attention will be paid to safety, stressing the need for safe working practices and environments over the need to get the show up no matter what.

Students will learn how all of the advanced technology that is being introduced to the world of lighting functions and how these new technologies are all integrated into a functional system.

Students will serve as master electricians and/or as assistant lighting designers as part of the hands-on production aspect of the class, with ample time devoted to process discussions and post-show critiques of the work. Small-group problem solving and system troubleshooting will be discussed in depth and applied to real production situations.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 270 or equivalent

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 473 The History of Stage Lighting Technology (3) An exploration of the history of stage lighting from the development of electric light to the present.

The History of Stage Lighting Technology (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 270

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 475 Creative Lighting in the Entertainment Arts (3) Survey/analysis of the growth of creative lighting in venues other than theatre; advances in design for the entertainment world.

Creative Lighting in the Entertainment Arts (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 270 and consent of instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 477 Lighting Design for Production (1 per semester/maximum of 6) Design and execution of design projects.

Lighting Design for Production (1 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 480 Advanced Topics in Technical Direction for the Theatre (3 per semester/maximum of 6) Advanced study of the methods, materials, equipment, facilities, concepts and processes associated with Technical Direction for the Theatre.

THEA 480 Advanced Topics in Technical Direction for the Theatre (3 per semester/maximum of 6)

This course will build on the foundations established in THEA 280. Students will be engaged in studying advanced topics through discussions and explorations of current theatre technology, communication and the management systems used to control the processes associated with modern technical direction. Examples of topics include project management, current trends in drafting, advanced technical packages, and structural design for the stage. This course is repeatable and topics will vary.

Students will participate in class discussions, hands-on exploration of equipment, investigate current practices through observation and research, and will complete projects associated with the topics studied.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 280

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 480A Technical Production III (3) Technical draftings; focus on the creation of packages of drawings based on designer elevations from actual productions; drafting intensive.

Technical Production III (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 150, THEA 251, THEA 381

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 481 Stage and Production Management (3) Production planning, scheduling, assignment of personnel, rehearsal procedures, and budgeting.

Stage and Production Management (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: THEA 170, THEA 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 480B Technical Production IV (3) Discussion of problems of the technical director: personnel management, time management, scheduling, budgeting, purchasing, and the technical drawing of production.

Technical Production IV (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 1995
Prerequisite: THEA 381

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 483A Technical Production V (3) Calculation for, and specification of advanced wood structures and rigging for theatrical production.

Technical Production V (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 480A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 484 Sound Recording Techniques (3) Multi-track audio recording and post production techniques.

THEA 484 Sound Recording Techniques (3)

THEA 484 will provide fundamental skills in recording an audio production.

The first four weeks will cover basics of current recording equipment, basic microphone theory and placement according to principles of sound propagation within performance spaces.

The second four weeks will expand on the principles of the first four weeks, considering the problems of recording in a variety of different locations and specific techniques for recording particular instruments.

The final seven weeks will focus on work within a recording studio. Students will need to configure a mixer with a multi-rack digital recorder and create a mastered CD with all appropriate post processing (EQ, compression, reverberation, etc.).

Students will work on teams for various recording projects, with one student serving as producer for each, so that they gain a comprehensive knowledge of the various duties involved in setting up and operating recording equipment.

Team projects will make up the majority of the grading for the class. Periodic quizzes will be administered in order to check the progress of the students and ensure their comprehension of the material. Each student will complete a final project in lieu of a final exam. During the production of this project, they will also be expected to serve in ancillary roles for their classmates' projects. Their participation in these other projects will be considered in the grading of their final project.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: INART 258 orTHEA 285

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 483B Technical Production VI (3) Tool maintenance necessary in the scene shop and the procedures, tracking, and repair information necessary for the technical director.

Technical Production VI (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1993
Prerequisite: THEA 480B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 485 Sound for Theatre Production (3) Aesthetics of live and recorded sound; recording and editing techniques for the stage.

Sound for Theatre Production (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 100, THEA 150

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 487 Technical Projects for Production (1 per semester/maximum of 6) Execution of practical production projects.

Technical Projects for Production (1 per semester/maximum of 6)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: approval of proposed project by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 486 Stage Management for Production (1-9) Stage manager for University Theatre production.

Stage Management for Production (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1996
Prerequisite: approval of proposed assignment by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 489 Theatre Production Practicum (1 per semester) Supervised experience in production techniques. For theatre majors only.

Theatre Production Practicum (1 per semester)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2001
Prerequisite: THEA 160, THEA 170 orTHEA 180

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 495 Internship Practicum (1-6 per semester/maximum of 12) Professional field experience in theatre performance, production, and management assignments.

Internship Practicum (1-6 per semester/maximum of 12)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983
Prerequisite: approval of internship by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 496 Independent Studies (1-18) Creative projects, including research and design, supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497A Theatre Professional Preparation (3) Profession Preparation for undergraduate theatre students.

Theatre Professional Preparation (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497B Musical Theatre Studio V (2) Senior Musical Theatre Studio for Musical Theatre Majors.

Musical Theatre Studio V (2)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497C Camera Acting (3) Acting for the camera techniques.

Camera Acting (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497D Writer's Room (3) Writing workshop for theatre productions.

Writer's Room (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497E Properties Design and Construction (3) Design and Construction of props for production.

Properties Design and Construction (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497G The Social History of the Theater (3) We will explore plays and cultures that reflect and comment upon the ills and triumphs of society over 2,500 years.

The Social History of the Theater (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497F Comedy Writing (3) Comedy writing for performance.

Comedy Writing (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 497H Honors London Theatre Study (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Honors London Theatre Study (3)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: Arts
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Theatre (THEA)

THEA 499 (IL) Foreign Studies--Theatre Arts (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies--Theatre Arts (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: approval by department

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Tmp Educ Abroad Reg (ED AB)

ED AB 199 Temporary Education Abroad Registration (1-18) This course is used to temporarily register students that are studying overseas. Permanent courses will be entered after the student returns.

Temporary Education Abroad Registration (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 418 Instructional Methods in Training and Development (3) Emphasis on teaching techniques and learning principles used by trainers and supervisors in business, health care, and government.

Instructional Methods in Training and Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 421 Presentation Skills for New Trainers (3) The effective use of platform skills for training, including the use of voice, audio-visual aids, group facilitation, and personal presence.

Presentation Skills for New Trainers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1993
Prerequisite: admission to M.ED. program in Training and Development

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 431 Basic Technology Skills in Training (3) Introduces basic training technology skills: electronic communications, word processing, spreadsheets, databases; provides skills to create and maintain electronic presentations and programs.

Basic Technology Skills in Training (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999
Prerequisite: admission to the Training and Development Program Training and Development Certificate Program or permission of the Program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 432 Video Production in Training (3) Introduces learners to the equipment, design, and production of video instruction for the workplace.

TRDEV 432 Video Production in Training (3)

Trainers convey messages through a broad range of communication media. This course is concerned with the planning, preparation, design, development, and evaluation of video as a training medium. With VCR's commonly available in home, education, and corporate environments delivery of video materials is easy and effective.

The primary goal of this course is to demonstrate competency in applying design theory to evaluate and develop video training modules. This will involve knowledge of adult learning theory and the process of communication through video. Course competencies include storyboarding, scripting, and editing.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: TRDEV 418, TRDEV 431 or permission of program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 460 Foundations in Training and Development (3) Roles in training and development, relationships between training and development and other organizational structures, and the principles of training design.

Foundations in Training and Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 465 Performance Analysis (3) This course involves the systematic analysis of employee performance in organizations to identify performance problems, diagnose causes, and specify solutions.

TRDEV 465 Performance Analysis (3)

A fundamental goal of training and development is to improve employee performance. An important first step in achieving this goal is the analysis of employee performance at the organization, process, and job-performer levels. This course involves the in-depth study of concepts, principles, and strategies for analyzing performance at these three levels to identify performance problems, diagnose causes of performance, problems, and specify appropriate training and development solutions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: TRDEV 460, TRDEV 418 or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 470 Human Resource Development Tools and Techniques (3) Examination of contemporary strategies, tools, and techniques for designing human resource functions to promote employee learning and performance within organizations.

TRDEV 470 Human Resource Development Tools and Techniques (3)

The course provides an overview of the human resources function in organizations and examines the role of human resource development (HRD) and human resource management in relation to performing key tasks in the human resources function. Students investigate contemporary perspectives of HRD as a transformational function responsible for adding value and delivering results within organizations. The investigation includes the study of four contemporary HRD roles (strategic partner, administrative expert, employee champion, and change agent) and tools and techniques used by professionals in each of these HRD roles to facilitate employee learning and performance.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: TRDEV 460, TRDEV 418 or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 475 Career and Succession Management (3) This course involves the study of a systematic approach for integrating career planning and succession planning programs in organizations.

TRDEV 475 Career and Succession Management (3)

Examination of a systemic approach for integrating career planning and succession planning programs in organizations. This course examines this approach to career and succession planning through the study of career management concepts including core competency development, individual development plans, and performance management as well as new perspectives on career structures, such as the protean/boundaryless career, free-agent/contingent worker, and job sculpting.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: TRDEV 460, TRDEV 418 or permission of the program

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Training and Development (TRDEV)

TRDEV 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 100 Introduction to Turfgrass Management (3) Introduction to turfgrass species, establishment, maintenance, and pest control of turfgrass species used for sports, lawn/utility turf, and golf courses.

TURF 100 Introduction to Turfgrass Management (3)

TURF 100 is an introduction to the major turfgrass species, including their identification, growth and development, adaptation, and practical uses. Students will be introduced to turfgrass establishment and renovation. The importance and timing of cultural practices will be covered as well as an introduction to turfgrass pest management. There are demonstration labs including field trips and hands-on activities. There will be three exams and seven quizzes. The students will also be graded on projects including identifying various turfgrass species, seeds, insects, diseases, and weeds. This course is designed for non-science majors with little experience in plant science and culture. This course serves primarily as a service course for the Professional Golf Management Option in the College of Health and Human Development. This course has numerous web-based resources that the students can access independently. The students are required to make several visits to a demonstration lab in the research greenhouses. There are also a number of scheduled field trips.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 235 The Turfgrass (3) Characterization of the primary plant species used for sports, lawn and utility turf; includes turfgrass morphology, environmental adaptation, and cultural requirements.

The Turfgrass (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 230 Turfgrass Pesticides (1) Course covers chemical toxicity, formulations, environmental fate, labels, MSDS, calibration, IPM, safety, handling, storage, and Pennsylvania certification and regulations.

Turfgrass Pesticides (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1999

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 236 Turfgrass Pest Management (3) A study of the cultural and chemical management of turfgrass pests with emphasis on integrated management systems.

Turfgrass Pest Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110, CHEM 112, TURF 235

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 238 (HORT 238) Turf and Ornamental Weed Control (3) Students will be introduced to the development of integrated weed management strategies utilizing a variety of cultural and chemical methods.

Turf and Ornamental Weed Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 425 Turfgrass Cultural Systems (3) A study of turfgrass maintenance practices and how their interrelationships can be utilized to develop meanagement systems.

TURF 425 Turfgrass Cultural Systems (3)

TURF 425 is offered to students that are in their final year of the turfgrass science major. They are expected to use the information provided in the course and previously learned agronomic principles and concepts, to develop management and problem solving skills. More in depth information pertaining to various management systems are presented which expands upon prerequisite course content Students am expected to be able to integrate different turfgrass maintenance practices into sound management strategies that lead to the production of high quality turfgrass areas. The management compromise between aesthetic quality and Functionality is stressed and students are challenged to recognize those cultural practices that influence the balance between the two, There are three 100 point exams during the semester. The majority of the content in each exam will come from the information provided since the previous one. Several unannounced quizzes will be given throughout the semester (usually 12 to 13 with only the 10 best counting toward the grade). A soil testing exercise is also included whereby the student is expected to take an appropriate sample from a site of their choosing submit it to the soil testing tab, interpret the soil test results, and make a written recommendation based upon the results. The course will help the student better understand how the maintenance practices and pest control programs learned in other courses inter-relate in the overall management scheme for a given turfgrass site. It will also prepare them for TURF 436 (Case Studies) where they will be expected to work in teams in problem solving situations. The facilities provided in ASI building, associated greenhouses, and the turfgrass field research plots as well as the campus grounds provide ample support for the effective delivery of the course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: SOILS 101, TURF 235

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 434 Turfgrass Edaphology (3) Characterization of soil physical properties for the establishment and maintenance of sports turf; includes root-zone construction.

TURF 434 Turfgrass Edaphology (3)

TURF 434 is offered to students that are entering their final year of the turfgrass science major. This course builds on introductory turfgrass and soil courses. In this course you will learn to interpret soil physical results using the United States Golf Associated specifications for greens construction. You will learn how to evaluate and manipulate the physical properties of a soil in order to provide a quality turfgrass stand under varying conditions. You will use new information as well as physical and quantitative tools provided to aid in soil management decisions. You will defend your decisions to other students in group-exercises conducted on a computer bulletin board. You will also submit your decision making process and defend your decisions in writing, in the form of business proposals. This class has a series of labs, some of which run over several weeks. You will use class material and the physical and quantitative tools learned in the labs to inform your decision-making processes. Your grade will be based on exams, lab reports, and practicums. The practicums and the labs are interrelated. The practicums, which are mini-case studies of actual turfgrass situations and problems, require you to apply techniques and information learned in the physical lab periods. The practicums are graded on initial draft, final draft, and your critique of other student's solution to a problem. TURF 434 is an advanced course in soil physical properties.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: SOILS 101, TURF 235

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 436W Turfgrass Management Systems (3) Case study and discussion considering integrated management of selected turfgrass sites; emphasis on problem analysis, principle application, and decision making.

Turfgrass Management Systems (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1995
Prerequisite: TURF 235, TURF 236, TURF 425

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 435 Turfgrass Nutrition (4) Study of turfgrass nutrition and growth; emphasizing constructed and mineral soil fertility, nutrient uptake and function, and fertilizer use efficiency.

TURF 435 Turfgrass Nutrition (4)

Turfgrass Nutrition is a study in the nutrition and growth of turfgrass plants. Upon completion of this course, students will be able to distinguish the function and requirements of nutrients in the turfgrasses; describe how soil physical and soil chemical properties/conditions affect nutrient availability; select soil amendments to remedy soil chemical limitations; identify the best fertilizers and application methods to satisfy site-specific nutritional requirements; prepare nutrient management plans by appraising edaphic and environmental conditions and current cultural management and use; and will have discovered how best to sample soil, tissue, and water; submit samples, choose appropriate specialty tests, and interpret reports. TURF 435 compliments Turfgrass Edaphology, by examining soil chemical (rather than physical) properties as turfgrass growth parameters and addressing ameliorative measures in concept and operation. Students are introduced to the many classes of specialty fertilizers used in turfgrass management and their specific attributes are revealed through laboratory and field exercises. Students are evaluated through written testing of plant growth and nutrition concepts, interpretation of soil analysis, recommendations of fertilizer type and rate, and nutrient fate and management. TURF 435 has a substantial laboratory component.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: SOILS 101, TURF 235

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 489 Supervised Experience in College Teaching (1-3) Participate with instructors in teaching and undergraduate turfgrass course. Assist with teaching an evaluation and with development of instructional materials.

Supervised Experience in College Teaching (1-3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: TURF 235

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 490 Colloquium (1) Oral presentations developed by students in consultation with the course instructor.

Colloquium (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: seventh semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1992
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Turfgrass (TURF)

TURF 496 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 001 Elementary Ukrainian I (4) Reading, writing, and speaking Ukrainian.

Elementary Ukrainian I (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1991

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 002 Elementary Ukrainian II (4) Reading, writing, and speaking Ukrainian.

Elementary Ukrainian II (4)

General Education: None
Diversity: None
Bachelor of Arts: Second or Beyond 12th Level Foreign Language
Effective: Summer 1991
Prerequisite: UKR 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 003 Intermediate Ukrainian (4) Reading, writing, and speaking Ukrainian.

Intermediate Ukrainian (4)

General Education: None
Diversity: None
Bachelor of Arts: Foreign Language and Second or Beyond 12th Level Foreign Language
Effective: Summer 1991
Prerequisite: UKR 002

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 051 Elementary Intensive Ukrainian I for Graduate Students (3) Intensive introduction to Ukrainian: first half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

UKR 051 Elementary Intensive Ukrainian I for Graduate Students (3)

This is the first in a series of three courses designed to give students an intensive introduction to Ukrainian. This is the first half of elementary sequence in reading, writing, speaking, listening, and cultural contexts. Students will learn the Ukrainian vocabulary and will learn to create simple sentences. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 052 Elementary Intensive Ukrainian II for Graduate Students (3) Intensive introduction to Ukrainian: second half of graduate intensive sequence in elementary reading, writing, speaking, listening, cultural contexts.

UKR 052 Elementary Intensive Ukrainian II for Graduate Students (3)

This is the second in a series of three courses designed to give students an intensive introduction to Ukrainian. This is the second half of graduate intensive sequence in elementary reading, writing, speaking, listening, and cultural contexts. Students will learn the Ukrainian vocabulary. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: UKR 051 and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 053 Intermediate Intensive Ukrainian for Graduate Students (3) Continued intensive study of Ukrainian at the intermediate level: reading, writing, speaking, listening, cultural contexts.

UKR 053 Intermediate Intensive Ukrainian for Graduate Students (2)

This is the third in a series of three courses designed to give students an intermediate intensive knowledge of Ukrainian. Continued intensive study of Ukrainian at the intermediate level: reading, writing, speaking, listening, and cultural contexts. Lessons are taught in an authentic cultural context.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: UKR 052 or equivalent and graduate standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 083S (GH;IL) 1st Year Seminar in Ukrainian (3) Aspects of Ukrainian Culture in Comparative Contexts

UKR 083S 1st Year Seminar in Ukrainian (3)
(GN;IL)

(BA) This course meets the Bachelor of Arts Degree Requirements.

The course will be a comparative analysis of the rich Ukrainian, Celtic, and English folk song traditions and the way those traditions serve to define a culture and a people. Translations of all Ukrainian folk songs covered in the course will be provided, so no knowledge of Ukrainian will be necessary. Nor will a knowledge of music be required. The course will examine the nature of the folk song and folk poetry as a means of conveying a wide range of human experiences over the centuries. Songs from the Ukrainian, Celtic and English traditions will be examined topically, including ritual songs, Christmas carols, New Year's songs, love songs, songs of revenge, drinking songs, harvest and wedding songs, historical and political songs, and lyrical songs. The course will examine the differences and similarities between folk dance music like Celtic reels and jigs vs. Ukrainian kolomeika and hopak dance rhythms. Various genres of folk music will be examined, with particular emphasis on the ballad. The course will also examine folk instruments like the Ukrainian kobza, lira and bandura and the Celtic bodhrn and harp, as well as instruments common to the cultures under scrutiny including the fiddle, flute, tin whistle, and hammer dulcimer. The course will additionally examine the transmission of folk songs as an oral tradition, the collection of folk songs by ethnographers and musicologists, the psychological and sociological impact of folk songs on a people, different versions of songs in various historical contexts, and folk revivals in the various cultures studied. Songs and their relationship to folk art will also be examined. Numerous cultural issues will be discussed including the folk beliefs and religious foundations of the ancient Celts and the ancient Ukrainians, the religious conversion from paganism to Christianity and its effects on the two cultures, the agrarian basis of Celtic and Ukrainian culture, religious clashes in the respective cultures-Catholic vs. Protestant in Ireland and England, and Orthodox vs. Catholic in Ukraine. Students will be expected to write five 2-3-page analytical papers for the course and an 8-10 page comparative essay. Students additionally will be asked to make use of the internet and library resources to make an in-class presentation on a pre-approved topic. Field trips to performances and in-class performances by visiting musicians and dancers are also planned.The course prepares students for a variety of additional courses in the fields of literature and Slavic and East European studies in a comparative context.

General Education: GH
Diversity: IL
Bachelor of Arts: Other Cultures and Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 099 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 196 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 100 (GH;IL) Ukrainian Culture and Civilization (3) Survey of Ukrainian culture and civilization from the Middle Ages to the present.

UKR 100 Ukrainian Culture and Civilization (3)
(GH;IL)

The course acquaints students with Ukrainian culture from the origins of Kyivan-Rus in the 9th Century to the present day. The course will examine the many facets that make up culture: history, politics, language, literature, folklore, religion, science, music, and art. The course will place Ukrainian culture in the broader context of the Slavic nations and peoples. It will focus on the development of national identity from the origins of the Ukrainian people through the colonial period under tsarist Russian domination, through Soviet domination, and finally to post-independence identity following the dissolution of the Soviet Union in 1991. The course will include films and expert guest lectures. The course format will consist of lectures, slide, video and audio presentations. Readings will all be in English. Questions and discussion on class lectures and readings and on topical matters will be strongly encouraged. At the end of the course, students will be familiar with the problems that post-colonial Ukraine faces at present. They will have a basic general knowledge of Ukrainian history and geography, and will be acquainted with representative achievements of Ukrainian high and folk culture. There will be a mid-term (30%), a final exam (30%), and a research paper (30%). The latter will be graded both for content and writing ability. Ten percent of the class grade will be for class participation, including attendance and active participation in discussions. Students may also receive extra credit by making a 10-1 5 minute oral presentation in class on a pre-approved topic, which will offer students the opportunity to practice public speaking. The exams will include written identification questions, brief essay questions, and a longer essay question that synthesizes knowledge acquired in class. As a General Education course, Ukrainian 100 incorporates the following four elements of active learning: international competence (a much lesser know part of the East European world), information gathering and analysis, active use of writing, and dialogue pertaining to social behavior, community and scholarly conduct. The case of Ukraine as a "submerged nation," subsumed under tsarist Russia and the Soviet Union, will provide students with a colonial paradigm of development of a minority culture and language under a politically stronger colonizing culture. Students need to write a 10-page paper for the course and will learn to explore library and internet resources. The paper will be graded for content, clarity, structure, and effective use of language. As an extra-credit option, students may volunteer to give a class presentation on their research topic or another topic of interest. Students may also acquire extra-credit by writing reaction papers on topical extracurricular lectures or visits to Ukrainian cultural sites (like the Ukrainian Museum in New York, the Ukrainian Embassy in Washington, DC, or historic Byzantine Rite Ukrainian churches). Ukrainian 100 is not required for the B.A. degree in Russian, but may be used under the rubric of "Additional Courses" for the B.S. degree in Russian Translation. UKR 100 may be used to satisfy the Gen Ed Humanities and United States Cutures and International Cultures requirements.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 199 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 204 Readings in Ukrainian (3) Readings in Ukrainian literature and journalism.

Readings in Ukrainian (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1991
Prerequisite: UKR 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 299 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 399 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Ukrainian (UKR)

UKR 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 097 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 050S Mechanisms of Disease (3) Introduction to the study of disease pathogenesis and careers in Animal Health Research and Service.

VB SC 050S Mechanisms of Disease (3)

Mechanisms of Disease is a first year seminar directed to students with an interest in a career in veterinary medicine or in bio-medical disciplines. Students are introduced to the concepts of epidemiology, cell biology, clinical medicine and toxicology through use of appropriate case material. The importance of basic science courses to the understanding of this material is emphasized. Reading and written assignments are related to the case study material as well as adaptation to the college experience. Grading is based on class participation and written assignments.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 211 (GN) The Immune System and Disease (3) Introduction to the immune system that emphasizes the immune response to infection and consequences of a defective immune response.

The Immune System and Disease (3)

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 280 Current Issues in Veterinary Medicine (1) Discussion of the social, ethical and economic aspects of current and emerging issues related to animal ownership and veterinary medicine.

V**B SC 280 Current Issues in Veterinary Medicine (2)**

Current Issues in Veterinary Medicine is designed to provide students with the opportunity to research, present and discuss the social, ethical and economic issues important in Veterinary Medicine. Students will be expected to research the literature on specific topics within the general area of discussion, prepare and deliver an in class presentation and discuss their findings. Students are evaluated on class presentations and on three written position papers during the semester. The course is offered every spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 280 Current Issues in Veterinary Medicine (2) Discussion of the social, ethical and economic aspects of current and emerging issues related to animal ownership and veterinary medicine.

V**B SC 280 Current Issues in Veterinary Medicine (2)**

Current Issues in Veterinary Medicine is designed to provide students with the opportunity to research, present and discuss the social, ethical and economic issues important in Veterinary Medicine. Students will be expected to research the literature on specific topics within the general area of discussion, prepare and deliver an in class presentation and discuss their findings. Students are evaluated on class presentations and on three written position papers during the semester. The course is offered every spring semester.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 303 Principles of Animal Disease (3) Principles involved in the causes of animal diseases; control measures, including sanitation and hygiene.

VB SC 303 Principles of Animal Disease (3)

Animal Health and well being has emerged in the past several years as a clear concern of society. The general public is concerned about the health and well-being of their companion animals as well as the animals that provide them with portions of their daily diet. The Foot and Mouth outbreak that occurred in Great Britain in the spring of 2001, coming on the heels of increased concern about BSE and its possible links to the human disease; variant CJD, resulted in an increased awareness of the potential for animal disease to have adverse effects on society. These effects range from availability of wholesome food products to the zoonotic transmission of diseases between humans and animals.

The goal of this course is to introduce students to the principles of animal disease prevention. This requires the student recall relevant background knowledge in biology, nutrition, microbiology and animal husbandry and management.

Individual examples of certain diseases are used to illustrate each of the general causes of disease. While a attempt is made to discuss most of the diseases of major importance in Pennsylvania animal agriculture, the diseases discussed are by no means inclusive of all diseases encountered in all species in this geographical area. With the increased susceptibility of our borders to the introduction of Foreign Animal Diseases, we must include some discussion of these diseases as well.

Collectively, the course material should provide an animal manager with a background to better understand the implement decisions that are required to prevent losses from disease. Those decisions may range from governmental mandates to recommendations from a practicing veterinarian for a herd or an individual animal. The inherent, environmental and special factors involved in the etiology of disease and the manipulation of these factors in a disease control program will be emphasized.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MICRB 106 orMICRB 201 . Prerequisite or concurrent:AN SC 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 303H Principles of Animal Disease (3) Principles involved in the causes of animal diseases; control measures, including sanitation and hygiene.

VB SC 303H Principles of Animal Disease (3)

Animal Health and well being has emerged in the past several years as a clear concern of society. The general public is concerned about the health and well-being of their companion animals as well as the animals that provide them with portions of their daily diet. The Foot and Mouth outbreak that occurred in Great Britain in the spring of 2001, coming on the heels of increased concern about BSE and its possible links to the human disease; variant CJD, resulted in an increased awareness of the potential for animal disease to have adverse effects on society. These effects range from availability of wholesome food products to the zoonotic transmission of diseases between humans and animals.

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Individual examples of certain diseases are used to illustrate each of the general causes of disease. While a attempt is made to discuss most of the diseases of major importance in Pennsylvania animal agriculture, the diseases discussed are by no means inclusive of all diseases encountered in all species in this geographical area. With the increased susceptibility of our borders to the introduction of Foreign Animal Diseases, we must include some discussion of these diseases as well.

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General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: MICRB 106 orMICRB 201 . Prerequisite or concurrent:AN SC 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 330 Introduction to Molecular Pharmacology (3) An introduction to the basic principles of pharmacology, drug development and use.

VB SC 330 Introduction to Molecular Pharmacology (3)

Upon completion of this course the student will be able to correlate their knowledge of basic and organic chemistry, biochemistry and physiology to the understanding of drug actions. The molecular interactions between drugs and their tissue receptors and possible modifications of drugs to target different receptors will be discussed. Drugs used to treat infectious disease, treat cardiovascular disease, modulate the immune system, and treat cancer will be examined for their molecular interactions. Students will understand the complexities of new drug design and development from the initial stages of laboratory development to final approval for use by the Food and Drug Administration.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: CHEM 201, CHEM 202, BIOL 110, B M B 211;BIOL 230 orB M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 395 Internship (1-10) Independent study and supervised field experience related to the student's professional interest. Limited to students in animal agriculture majors.

Internship (1-10)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: fifth-semester standing in an animal agriculture major; approval by department of proposed plan before registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 402W (ENT 402) Biology of Animal Parasites (3) An intorduction to animal parasitology. Emphasis placed on host/parasite interactions, parasites of zoonotic importance, control programs and taxonomy.

VB SC 402W Biology of Animal Parasites (3)

This course provides students an opportunity to obtain an introduction to the field of animal parasitology. Material presented emphasizes life cycle patterns of animal parasites, host-parasite interactions and pathology, disease patterns and zoonotic potential of parasites to human disease, economic importance of parasitic diseases, taxonomy and parasite control programs. Information presented in this course will be useful to students interested in pursuing a career in veterinary medicine or careers dealing with animal care and management. Evaluation of student performance is achieved by 6 quizzes, three examinations and 3 writing assignments. The course is offered each spring semester with an enrollment of 15 to 25 students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 405 Laboratory Animal Science (3) Principles involved in maintaining laboratory animals. Emphasis is on management, preventive medicine, and surgical considerations used in laboratory animal colonies.

VB SC 405 Laboratory Animal Science (3)

This course in Laboratory Animal Science introduces students to the biology and characteristics of a variety of laboratory animal species, explores the care and use of animals in various research environments and examines ethical/legal issues pertaining to the use of animals in research and teaching. The laboratory section reinforces topics discussed in lecture and provides an opportunity for students to learn basic animal handling techniques in a safe and professionally supervised environment. Students work with live laboratory animals including mice, rats, hamsters, guinea pigs, and rabbits. They learn handling techniques, administration techniques (such as by injection), and sample collection techniques (such as blood collection). They also learn surgical principles and perform a surgical procedure using aseptic technique.

The Laboratory Animal Science course appeals to and benefits several general groups of students. Those who plan to pursue careers involving animal research such as in academia or industry receive a broad foundation in the field of laboratory animal science as well as an introduction to techniques commonly employed when handling animals. Those pursuing careers involving veterinary medicine or veterinary technology receive training and the opportunity to develop clinical/technical skills focused on a unique group of species. Students that are undecided in their career choice find that the field of laboratory animal science holds many opportunities for those with animal knowledge, handling skills and an understanding of the societal issues surrounding the use of animals in research.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201, AN SC 301, BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 418 Bacterial Pathogenesis (2) Study of molecular interactions between bacterial pathogens and their hosts.

Bacterial Pathogenesis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MICRB 201, MICRB 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 407 Dairy Herd Health Programs (2) A discussion of health programs for dairy herds to assist in the control of infectious and metabolic diseases of dairy animals.

VB SC 407 Dairy Herd Health Programs (2)

Dairy Herd Health Programs provides students interested in dairy farm management and/or herd health medicine the opportunity to integrate basic knowledge of dairy cattle diseases into a comprehensive and practical herd health program. Herd health management is discussed as it relates to infectious disease control including mastitis and calf diseases, reproductive management, metabolic disease control and parasite control. A text book is not required. Readings are provided via ANGEL and students are strongly encouraged to read current scientific and lay press literature in the appropriate subject areas.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AN SC 301, AN SC 310, AN SC 427, AN SC 431W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 420 General Animal Pathology (3) Nature and mechanisms of the disease process including degenerations, growth disturbances, inflammation, host-parasite relationships and neoplasia.

VB SC 420 General Animal Pathology (3)

The objectives of this course are to help the student develop an understanding of the concepts and general principles of disease processes in vertebrate species, attain skills required to observe and describe tissue changes in animals and develop critical thinking skills required for problem solving. In addition to text materials, photographs and photomicrographs of a variety of tissue lesions will be presented and discussed to emphasize concepts of disease processes as described in the course. Specific subjects that will be presented include cellular injury and necrosis, inflammation, blood coagulation, hemodynamic disorders, diseases of immunity, cell growth and adaptation and neoplasia. This course utilizes knowledge previously attained from courses in physiology, chemistry, immunology and biochemistry.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: AN SC 423 orBIOL 472, MICRB 201, AN SC 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 421 (BIOL 421) Comparative Anatomy of Vertebrates (4) The comparative anatomy of representative vertebrate animals, discussed from a descriptive and an evolutionary viewpoint.

VB SC (BIOL) 421 Comparative Anatomy of Vertebrates (4)

Upon completion of this course, students will understand the fundamentals of vertebrate anatomy and be able to employ comparisons between phylogenetically distinct vertebrate species to illustrate evolutionary adaptations and the relationship between structure and function. Unique adaptations such as those of ruminants and birds will be explored in addition to the more common fish, amphibians and mono-gastric mammals typically used to illustrate these principles. Laboratory activities utilizing specimens representative of higher and lower vertebrate species will emphasize structure identification and functional adaptations. Students will be evaluated by means of laboratory examinations which will focus on structure identification. Attendance in laboratory is mandatory and laboratory exercises to be completed at each laboratory period will be graded. Students that miss laboratory session due to an excused absence should arrange a make up assignment with the instructor.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 423W Pathology of Nutritional and Metabolic Diseases (3) Overview of nutritional and metabolic diseases of animals integrating concepts from biochemical and physiologic abberrations to clinical applications.

VB SC 423W Pathology of Nutritional and Metabolic Diseases (3)

Nutrition plays a critical role in health, disease and convalescence of man and animals. Understanding the role of nutrition in disease pathogenesis, recovery and prevention requires an integration of biochemical and physiologic sciences and clinical practice. The intent of this course is to help the student integrate their knowledge from various basic science disciplines to real-world clinical issues related to the role of nutrition in disease pathogenesis, management and prevention across various animal species. Common nutrition and metabolic disease of production and companion animals will be used to demonstrate various principles of disease pathogenesis from a biochemical to whole animal basis. Deficiency and toxicity diseases of all essential nutrients will be addressed. In addition, a secondary role of nutrition in disease susceptibility and recovery mediated through immunologic and physiologic processes will be highlighted. In completing the course, students will have an understanding of comparative gastrointestinal anatomy and how this influences essential nutrients required and unique nutritional disease conditions. Additionally, students will gain appreciation for clinical management of nutritional diseases from diagnosis to prevention. Course format will be lectures and case-based discussions. With the integrative approach to course content, students are required to have previous courses in biology, biochemistry and nutrition. The course can meet requirements for writing across the curriculum and satisfies 400-level course requirements for Animal Bioscience and Animal Science majors. Prerequisites fro the course include B M B 211 or B M B 401, and AN SC 301 or equivalent nutrition course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: B M B 211 orB M B 401, AN SC 301 or equivalent nutrition course

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 425 (AN SC 425) Principles of Avian Diseases (3) Principles of pathogenesis and control of diseases in poultry and other avian populations. Case material used where appropriate.

VB SC (AN SC) 425 Principles of Avian Diseases (3)

This course discusses the major diseases of domestic poultry, with etiology, prevention, and treatment reviewed on each disease. Since many of these diseases also affect wild birds and pet birds these are also reviewed. Lastly, avian disease with zoonotic (human public health) potential are also discussed in the course. This course is required by those seeking a poultry minor.

Previous coursework in pathogenic microbiology is beneficial.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: AN SC 201, BIOL 110, MICRB 201

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 430 Principles of Toxicology (3) Introduction to the biomedical aspects of toxicology with emphasis on the mechanisms and fate of chemical interaction with biological systems.

Principles of Toxicology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 110, BIOL 240W;B M B 211 orB M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 432 (B M B 432, MICRB 432) Advanced Immunology: Signaling in the Immune System (3) The study of signaling pathways that regulate the immune response.

Advanced Immunology: Signaling in the Immune System (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: B M B 400, MICRB 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 431 (E R M 431) Environmental Toxicology (3) Effects of pollutants on animal health at the chemical, physical, and cellular level.

VB SC (E R M) 431 Environmental Toxicology (3)

This ecotoxicology course is designed to provide a mechanistic understanding of how chemicals released into the environment affect individuals and populations. General concepts of fate and transport of chemicals in the environment, including sources and emission of pollutants, is a major focus of this course. In addition, the principals underlying the study of adverse health effects, toxicology, will be described. The experimental means used to assess toxicity and the regulation of chemical releases by governmental agencies will be included. Many of these concepts will be reinforced through the use of a case study approach where a pertinent, timely, environmental issue is incorporated into the ongoing lectures.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Future: Spring 2011
Prerequisite: BIOL 110, CHEM 110, CHEM 112

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 433 (B M B 433) Molecular and Cellular Toxicology (3) In-depth coverage of processes by which drugs/chemicals interact with biological systems and the experimental approaches used to study these interactions.

Molecular and Cellular Toxicology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: B M B 401

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 435 (B M B 435, MICRB 435) Viral Pathogensis (2) A study of the molecular, immunological, and pathological aspects of viral diseases as well as laboratory methods of diagnosis.

Viral Pathogensis (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MICRB 201;B M B 251 andB M B 252 orBIOL 110 andBIOL 230W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 444 Epidemiology of Infectious Diseases (3) An introduction to epidemiology of infectious diseases with emphasis on unders tanding epidemiologic concepts for identifying, preventing and controlling infectious diseases.

Epidemiology of Infectious Diseases (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 220, STAT 200 orSTAT 250

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 445 Molecular Epidemiology of Infectious Diseases (3) A discussion and practicum of the molecular laboratory techniques used to study molecular epidemiology of infectious diseases.

Molecular Epidemiology of Infectious Diseases (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: BIOL 220, STAT 200 orSTAT 250 andVB SC 444

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 448W Current Topics in Immunology (3) Study of current approaches and questions driving research in immunology and infectious diseases.

Current Topics in Immunology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: MICRB 410, B M B 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 451 Immunotoxicology of Drugs and Chemicals (3) An in depth discussion of the effect of xenobiotics and drugs on host immune mechanisms.

VB SC 451 Immune of Drugs and Chemicals (3)

Maintaining good health is a priority for animals and humans and a key element in maintaining health is a properly functioning immune system. However, we are constantly exposed to a barrage of chemicals in the environment both natural and man-made. Some of the key questions include: 1) do environmental chemicals affect the generation of immunity? 2) Is our environment responsible for poor health?, and 3) can natural compounds cause immunologist? These questions and more will be addressed in this course. The course will focus primarily on the effects of chemicals in the environment, but will also cover the impact of other sources of exposure such as therapeutics, recreational drugs and dietary factors on the immune system. Immune mechanisms will be examined at the systemic, cellular and molecular levels. Discussions will include theory, principles and methodology and key issues in immunologist, host immune mechanisms, and unhurriedness. Evaluation will be based on an evaluation of classroom participation, a midterm examination and a final examination. The objective is to provide a bridge between the sciences of immunology and toxicology with an introduction to the basic mechanisms by which environmental, occupational and therapeutic agents may interfere with immunologic systems.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: VB SC 433 andMICRB 410

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Vet & Biomed Sci (VB SC)

VB SC 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Veterinary Science (V SC)

V SC 489 (BIOTC 489) Animal Cell Culture Methods (3) AN OVERVIEW OF ANIMAL CELL CULTURE METHODOLOGY, AND ITS PRACTICAL APPLICATION IN BIOPROCESS TECHNOLOGY.

Animal Cell Culture Methods (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996
Prerequisite: MICRB 201, MICRB 202;BIOL 230W ORB M B 251

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 101 Introduction to Wildlife Management (3) Basic principles of wildlife management. Introduction to general ecology and wildlife population dynamics.

Introduction to Wildlife Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 103 Animal Identification (3) Identification of mammals, birds, reptiles, and amphibians; introduction to their life histories.

Animal Identification (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 204 Wildlife Mensuration (4) Estimation and analysis of animal populations and their habitats, including sampling considerations and basic biometry.

Wildlife Mensuration (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: 3 credits in mathematics

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 106 Wildlife Management Techniques (4) Overview of laboratory and field techniques for natural resource research and management; scientific writing and computer applications emphasized.

Wildlife Management Techniques (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1990
Prerequisite: WILDL 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 207 Outdoor Recreation (3) Sociology, history, and economics of recreational demand; recreational areas and management procedures.

Outdoor Recreation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 207H Outdoor Recreation (3) Sociology, history, and economics of recreational demand; recreational areas and management procedures.

Outdoor Recreation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 208M Terrestrial Wildlife Management (3) Ecological characteristics and manipulation of terrestrial habitats; control of wildlife populations.

Terrestrial Wildlife Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: FORT 150, FORT 160, WILDL 101, WILDL 103, WILDL 106, WILDL 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 208W Terrestrial Wildlife Management (3) Ecological characteristics and manipulation of terrestrial habitats; control of wildlife populations.

Terrestrial Wildlife Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000
Prerequisite: FORT 150, FORT 160, WILDL 101, WILDL 103, WILDL 106, WILDL 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 209 Animal Handling and Care (4) Techniques in capturing, marking, and maintaining wild animals in captivity. Wildlife physiology, parasitology, and necropsy procedures are covered.

Animal Handling and Care (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1988
Prerequisite: WILDL 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 211 Aerial Photo Interpretation (4) Techniques of photo interpretation; type mapping of wildlife environments; photo censusing of wild animals.

Aerial Photo Interpretation (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1985

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 213 Wetlands and Fisheries Management (3) Introduction to basic limnology. Ecology and management of swamp, marsh, pond, and stream habitats and their animal populations.

Wetlands and Fisheries Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1990
Prerequisite: WILDL 101, WILDL 103, WILDL 106, WILDL 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 213H Wetlands and Fisheries Management (3) Introduction to basic limnology. Ecology and management of swamp, marsh, pond, and stream habitats and their animal populations.

Wetlands and Fisheries Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010
Prerequisite: WILDL 101, WILDL 103, WILDL 106, WILDL 204

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 295 Internship in Wildlife Technology (1-6) Supervised off-campus field experience related to student's major.

Internship in Wildlife Technology (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983
Prerequisite: prior approval of proposed assignment by instructor.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife (WILDL)

WILDL 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 209 (GN) Wildlife and Fisheries Conservation (3) Survey of current and historical issues in wildlife and fisheries conservation; emphasis on vertebrate biodiversity, habitat management and protection, and populations.

W F S 209 Wildlife and Fisheries Conservation (3) (GN)

(BA) This course meets the Bachelor of Arts degree requirements.

Management of our natural resources is critical to all aspects of human existence. Wildlife and fishery resources are integral to our food supplies, the quality of our lands, and form a deep foundation of our culture. Learning to manage our fisheries and wildlife resources will impact our current generation, and future generations. Integrating natural laws with social responsibilities will require students to make management decisions that will ensure a future rich in resources. The basics concepts of ecology will help establish the limits required for sustainable development. This course will introduce students to fisheries and wildlife and basic ecological principles as they relate both to the natural and human-built environment. Students will learn to appreciate the role of humans in the natural world and the effects of human actions upon fisheries and wildlife management. Students will learn tools and techniques used in the management of fish and wildlife. We will discuss the major types of ecosystems and how these are managed, and we will become familiar with the history of wildlife and fisheries conservation and current legislation and policies.

General Education: GN
Diversity: None
Bachelor of Arts: Natural Sciences
Effective: Summer 2002
Prerequisite: BIOL 110 orBIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 296 Independent Studies (1-18) Creative projects, including research and design, that are supervised on an individual basis and that fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 300 The Vertebrates (2) Overview of the evolution, systematics, ecology, and behavior of the subphylum vertebrata.

W F S 300 The Vertebrates (2)

The purpose of this course is to introduce students to vertebrate zoology and will include overviews of vertebrate evolution, systematics, anatomy, physiology, ecology, and behavior. The course will begin by introducing the phylum Chordata. The cephalochordata, amphioxus (Branchiostoma lanceolatum), will be discussed and used as a model of a prevertebrate. The basic organization and theories of vertebrate evolution will be reviewed. The superclasses, Agnatha and Gnathostomata, will be introduced. The origin of each of the major group of vertebrates will be traced. The general approach will be phylogenetic and include discussions of the major changes associated with each group's evolution and selected elements of their extant diversity and biology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 301 Vertebrate Laboratory (2) Overview of the anatomy, identification, collection, and preservation of the vertebrates.

W F S 301 Vertebrate Laboratory (2)

The purposes of this course are to introduce students to the anatomy of the vertebrates and to expose students to the diversity of vertebrates that reside in Pennsylvania. Students will dissect and learn the anatomy of the dog, fish, frog, and cat or mink. Additional laboratory periods will concentrate on collecting/observing, and identifying fish, amphibians, reptiles, birds, and mammals. Museum curation techniques will be taught, and students will be required to construct dichotomous keys to specimens that inhabit Pennsylvania. The identification part of the course is meant to introduce students to representatives of the taxa that occur within the Commonwealth in preparation for higher-level courses in ichthyology, herpetology, ornithology, or mammalogy. Collection techniques will emphasize the proper collection and preservation of organisms for natural history museums.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: or concurrent:W F S 209;W F S 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 310 Wildlife and Fisheries Measurements (3) Introduction to field and laboratory approaches for collecting, analyzing, and communicating data regarding wildlife and fish populations and their habitats.

W F S 310 Wildlife and Fisheries Measurements (3)

This course will introduce students to basic measurements used to describe fish and wildlife populations and their habitats. Laboratory exercises will stress sampling approaches and implementation, common techniques for collecting information about amphibians, fish, birds, and mammals and their respective habitats, mapping and orienteering, and methods for summarizing and reporting findings.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: or concurrent:W F S 209, STAT 240

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 406 Ornithology Laboratory (1) Laboratory and field identification of Pennsylvania birds, avian ecology and behavior, field survey techniques.

W F S 406 Ornithology Lab (1)

Laboratory and field identification of Pennsylvania birds. Students will learn to identify Pennsylvania birds by sight and sound and to apply this knowledge in the field. They will be able to describe the distribution and abundance of selected species within the state, develop a basic understanding of taxonomy and life history traits for selected families, and develop an appreciation for birds. Most classes are conducted outdoors. This course is the lab component of W F S 407 Ornithology.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: or concurrent:W F S 209, W F S 407

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 407 Ornithology (3) Introduction to the biology, ecology, adaptations, and conservation of birds.

Ornithology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996
Prerequisite: BIOL 110, W F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 408 Mammalogy (3) Identification, systematics, characteristics, adaptations, ecology, behavior, natural history and conservation, and socio-economic aspects of mammals.

Mammalogy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 409 Mammalogy Laboratory (1) Laboratory and field identification of mammals, ecology and behavior of mammals, field survey techniques.

W F S 409 Mammalogy Laboratory (1)

Laboratory and field identification of mammals. Students will learn taxonomy and identification of many North American mammals. Students will also study the natural history, distribution, and identification of sign (e.g., tracks, scat, dens) of many Pennsylvanian mammals. Most classes are taught indoors. However, students will attend outdoor labs during the semester to observe mammals and their sign in the field. This course is the lab component of W F S 408 (Mammalogy).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2006
Prerequisite: or concurrent:W F S 209, W F S 408

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 410 General Fishery Science (3) Introduction to the study, management, and uses of fish populations; methods of investigation, culture, and harvest of fishes.

General Fishery Science (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: BIOL 210 orW F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 422 Ecology of Fishes (3) Role of fishes in aquatic communities and general ecosystems. Environmental factors influencing fish as individuals, populations, and communities.

Ecology of Fishes (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 220W orW F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 424 Aquaculture (2) Scientific basis of aquaculture. Fundamental management skills for hatchery managers.

Aquaculture (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1988
Prerequisite: one course in biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 430 (FOR 430) Conservation Biology (3) The application of biological principles to issues in the conservation of biodiversity.

Conservation Biology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 220W orFOR 308

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 435 (E R M 435) Limnology (3) Biogeochemistry and natural history of freshwater ecosystems.

W F S (E R M) 435 Limnology (3)

This course will define and describe major principles (physical, chemical, biological, and ecological) that govern the structure and function of freshwater ecosystems (ponds, lakes, and rivers). Current scientific literature will be critically reviewed and discussed in relation to comparative philosophy, methodology, and case studies that cover a range of topics in limnology. The objectives of E R M (W F S) 435 are to familiarize students with the major physical properties, chemical cycles, taxonomic groups of organisms, and ecological interactions that define and describe the natural function of aquatic ecosystems. The course will use case studies to illustrate and examine pertinent issues (e.g., excessive material loading, introduction to exotic species, habitat fragmentation, and climate change) that can alter the structure and function of aquatic ecosystems. Knowledge of these basic ecosystem principles will be applied towards formulating real-life resolutions to the issues identified in class, in order to better manage aquatic resources (methods to reduce material loads, transport controls of exotic species, habitat restoration, and reduction of global gases). This course will be useful to both undergraduate and graduate students seeking degrees in Environmental Resource Management, Wildlife and Fisheries Science, Ecology, and other related subjects. At the undergraduate level, the course will serve as a 400-level selection in both the Environmental Resource Management and Wildlife and Fisheries Science degree programs. At the graduate level, the course will compliment several Wildlife and Fisheries courses that form the compliment of that degree program. Moreover, the course can satisfy the course requirement for ecosystems ecology in the inter-college Ecology graduate program and serve as a breadth course in Water Resources for graduate students in the Watershed Stewardship program.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2007
Prerequisite: BIOL 110, BIOL 220W, CHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 436 (E R M 436) Limnological Methods (3) Application of current methodologies to evaluate the biological, chemical, and physical characteristics of aquatic ecosystems.

W F S (E R M) 436 Limnological Methods (3)

Limnological Methods will instruct students to apply state of the art analytical measurements in order to gain an understanding of how and why ecosystems support specific biodiversity and biogeochemical cycles. The course will help students define key ecological elements (e.g., ecosystem metabolism, resource limitation, predator-prey relations) in both qualitative and quantitative terms, thereby making them tangible, tractable, and readily understandable. The course will use an instructional rubric to integrate conceptual, analytical, and communicative exercises in order to instruct students about how to evaluate variation in natural ecosystems.

This course provides experiential training in the scientific process (rubric), so students can learn by doing, thereby internalizing their knowledge. Course content is organized into three 5-week sections, each of which will emphasize one component of the biogeochemical cycle (physical, chemical, biological). In each section, students will carry out a focused group study designed to evaluate how a pertinent environmental perturbation can affect that component of the aquatic biogeochemical cycle. The course content in each five-week block will have students: 1) review the experimental design and hypothesis, 2) implement the experimental design in the field or laboratory, 3 and 4) process and analyze samples in the laboratory, and 5) make statistical and graphical evaluations of the experimental results relative to their hypothesis (in class) and present these findings in written form. Knowledge of these basic ecosystem principles will be applied towards formulating real-life solutions to the issues identified in class, in order to better manage aquatic ecosystems.

This course will be useful to undergraduate students seeking degrees in Environmental Resource Management and Wildlife and Fisheries Science, as well as graduate students pursuing degrees in Ecology, Forest Science, Wildlife and Fisheries Science, Watershed Stewardship, and other related subjects. At the undergraduate level, the course will serve as a 400-level elective in Environmental Resource Management degree program, Wildlife and Fisheries Science degree program, and the inter-college Marine Science option. At the graduate level, the course will complement several Forest Science and Wildlife and Fisheries courses. Moreover, the course can also satisfy the requirements for the ecosystems ecology focus in the inter-college Ecology graduate program. Grades will be based on three research papers, and a final laboratory practical.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: BIOL 110 andCHEM 110

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 440 Natural Resources Public Relations (3) The course prepares students to integrate public relations concepts with principles of natural resources management at the community level.

W F S 440 Natural Resources Public Relations (3)

This course will bring together the elements of previous courses in speech, writing, resource management, and policy to enable the student to present concepts and ideas to the public about management options. The course introduces the student to techniques used in conducting public relations activities as natural resources professional or as a representative of a natural resources agency or NGO. The course will emphasize current topics of sustainability, stewardship, ecosystem management, and conservation, all of which involve integration of ecological, economic and institutional concerns with a strong focus on effectively communicating with citizens at a local community level.

Professional presentations will be a major component of the class. Teams will develop a series of photographs to accompany a news feature; write a popular article; edit their peers' work; design and build a public display on a resource issue; research a current natural resources topic; develop a presentation and present their team's work to the class for evaluation.

They will learn how to develop media contacts, the aspects of hiring, supervision and interviewing for positions, work with both the electronic and print media, write a news release on a controversial topic, which will be evaluated by a professional in the field. A number of guest lecturers will be used to discuss current concerns and relate practitioner's experiences in the field. The class will focus on individual skills and team oriented projects. Students will be evaluated by their peers, professionals, and through a written mid-term and an oral final.

The course is based on a distinctive sub-discipline in natural resources management, which focuses on "information and education", typically one of five main divisions of a natural resources agency or organization. The central theme of the class is to bring to bear many of the concepts and ideas from a variety of previous classes to focus on the importance of public relations to the resource management field.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: SPCOM 100 seventh-semester standing and 6 credits of W F S FOR or R P M

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 446 Wildlife and Fisheries Population Dynamics (3) Concepts and estimation of mammalian, avian, and fish populations; processes of mortality, natality, growth, and regulation.

Wildlife and Fisheries Population Dynamics (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994
Prerequisite: W F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 447W Wildlife Management (3) Management of renewable wildlife resources by applying ecological concepts, habitat evaluation, and decision-making; writing and editing reports are emphasized.

Wildlife Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: W F S 209 orW F S 309

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 450 (E R M 450) Wetland Conservation (3) Wetland types, classification, functions and values; hydrology, soils, and plants; introduction to wetland identification and delineation; wetland regulations.

W F S (E R M) 450 Wetland Conservation (3)

Wetlands are unique ecosystems , differing in many ways from both terrestrial and aquatic environments. They provide recognized values and functions to society, although these values and functions remain difficult to quantify. The study of wetlands is interdisciplinary, requiring background knowledge in science, management and policy disciplines. This course will explore the variety of wetland types and functions, and emphasize the diverse hydrological, biological, chemical, and physical interactions that occur within wetlands. Because wetlands are recognized as valuable assets in the landscape, issues surrounding wetland management and regulation have taken on increased importance; we will address these issues as well. Topics will also include the restoration of degraded wetlands and wetland creation, along with the construction of wetlands for pollution abatement.

Students will become familiar with different wetland types and how they are classified, and will develop skills in understanding the interactions between wetland hydrology, hydric soils and hydrophytic vegetation. They will also develop an understanding of important national and state policies and regulations pertaining to wetlands and their protection and delineation. Classroom assessment will be based on three cumulative exams, homework assignments, and a final project.

The course will fulfill 3 credits of electives or technical selections in the Wildlife and Fisheries Science major. Other students university-wide may be interested in the course, and the intention is to develop a course that is accessible to a wide variety of traditional and non-traditional students. For proper instruction, a technology classroom with computer projection equipment will be required.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001
Prerequisite: E R M 300 orW F S 209

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 452 Ichthyology (2) Study of the structure, taxonomy, systematics, and natural history of freshwater and marine fishes.

Ichthyology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: BIOL 110, BIOL 240W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 460 Wildlife Behavior (3) Scholarly discussion and critique of history, concepts, and application of wildlife behavioral concepts to conservation issues.

W F S 460 Wildlife Conservation Behavior (3)

The course will give an in-depth coverage of concepts related to an understanding of wildlife behavior. Particular focus will be given to a discussion, critique, and development of these concepts and their application to contemporary issues in conservation and natural resource management of wildlife because there is a general lack of understanding of behavior by conservationists and natural resource managers.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: at least 6 credits in general wildlife or biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 453 Ichthyology Laboratory (2) Identification of fishes, major fish families, use of keys.

Ichthyology Laboratory (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: BIOL 110, BIOL 240W . Prerequisite or concurrent:W F S 452

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 462 Amphibians and Reptiles (3) Critique of global evolution and conservation of amphibians and reptiles, focusing on Northeastern U.S. natural history and ecology.

W F S 462 Amphibians and Reptiles (3)

This course explores the evolution, ecology, and conservation of amphibians and reptiles. This course is open to all students with some background in biology. The objectives of this course are for students to 1) describe the evolution, anatomy, reproduction, and physiology of amphibians and reptiles, 2) place contemporary research in the context of the natural history traits and behavioral ecology of herps, and 3) critically evaluate the application of these concepts to natural resource management for salamander, frog, turtle, lizard, and snake species and populations. Evaluation methods include minute papers and exams.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: 5th semester standing or higher and 6 credits of general biology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 463W Fishery Management (3) Management of sport and commercial fisheries, including biological, political, social, and economic factors; regulations and other management techniques.

W F S 463W Fishery Management (3)

This course will introduce students to the management of recreational and commercial fisheries. The course emphasizes fishery management as a goal-oriented process that adapts over time to changes in fish populations and societal goals. Students will learn to recognize and understand that ecological, economic, political, and social forces shape this management process. Major methods of fisheries management involving people, population, and habitat management will be surveyed. Case studies highlighting the application of these management strategies to current fishery management are explored. Writing reports and management plans is emphasized.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: W F S 209, W F S 300, W F S 301, W F S 310

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 495 Wildlife/Fisheries Internship (1-6) Supervised field experience related to the student's major.

Wildlife/Fisheries Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1994
Prerequisite: approval of proposed assignment by instructor prior to registration

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 497A Field Ichthyology (3) One-week field course at Tom Ridge Environmental Center in Eric, Pennsylvania. Field collection techniques, identification and behavior of Pennsylvania fishes.

Field Ichthyology (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1989

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wildlife and Fisheries Science (W F S)

W F S 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 001 (GS;US;IL) Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.

WMNST 001 Introduction to Women's Studies (3)
(GS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an introductory survey course that fulfills general education requirements in social sciences and international and intercultural competence. The course is also a prerequisite for upper-level women's studies courses. Women's Studies 001 focuses on women's shared and unshared experiences, issues of gender roles and stereotyping, questions related to sex/gender systems, and the different disciplinary approaches to the study of women and gender. The course asks how women's behavior, activities, accomplishments, roles, sexuality and status have been shaped by biological, psychological, sociological, cultural, historical and political determinants, as well as by women's experiences based on their racial, class and sexual identities.

Topics studied may include the history of women's liberation movements, women's experiences in home, work and educational settings, gender roles and stereotyping as influenced by media, culture, education, and other social institutions, health and body image issues, and multiple forms of oppression. The course will focus primarily on the US, but will include information from non-Western cultures as well. Women's Studies 001 is therefore both interdisciplinary (drawing information and readings from history, psychology, sociology, as well as from literature and the natural sciences) and broadly inclusive (addressing at all times the relationship between gender, race, class, ethnicity and sexual orientation).

Depending on location, class meetings may be a mixture of lectures, group discussions, individual and group exercises, films and guest speakers. Assigned readings and class meetings may be designed to help students reassess predominant modes of thought and to give students tools to analyze the interactions of power in our society. Depending upon the location, evaluation methods will include a balanced selection from among short papers, longer research papers, journals, book reviews, quizzes, exams, group assignments or other creative activities.

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 001U (GS;US;IL) Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.

Introduction to Women's Studies (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 001S (GS;US;IL) Introduction to Women's Studies (3) Interdisciplinary consideration of the scholarly theories and research pertaining to women's experiences and women's status in contemporary American society.

Introduction to Women's Studies (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 003 (GH;US;IL) Introduction to Women, the Humanities, and the Arts (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.

WMNST 003 Introduction to Women, The Humanities, and the Arts (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This is an introductory survey course that fulfills general education requirements in humanities and international and intercultural competence. The course is also a prerequisite for upper level women's studies courses. Women's Studies 003 examines the experiences, achievements and status of women in the humanities and the arts. The course provides a broad interdisciplinary overview of scholarly research and theory pertaining to women and gender. Students acquire an expanded framework for responding to the humanities and integrating knowledge from other courses in the humanities and the arts.

Topics studied may include the creation of patriarchy, international women's movements in the 19th and 20th centuries, cross-cultural examinations of women's religious roles, women's spirituality and religious expression, and an overview of women in literature and in elite, popular and folk arts. Other topics may include religious witch-hunts of the 16th and 17th centuries (as the expression of misogyny and ethnic bias), and developing an appreciation for aesthetic objects from various media and ethnic origins (such as Pueblo pottery, Amish quilts, Black sculpture, Hispanic painting, Appalachian music, Jewish poetry, Chinese American fiction).

The course will focus primarily upon the United States with concerted diligence to include examples of work made by a wide diversity of aesthetically creative women differing by race, class, ethnicity, national origin and sexual orientation. Women's Studies 003 is therefore both interdisciplinary (drawing information and readings from literature and languages; art history, popular and folk arts; religion and philosophy; history, psychology, sociology) and broadly inclusive (addressing at all times the relationships among gender and class, ethnicity, national origin and sexual orientation).

Depending on the location teaching the course, class meetings may be a mixture of lectures, group discussions, individual and group exercises, films, and guest speakers. Assigned readings and class meetings may be designed to help students reassess predominant modes of thought and to give students tools to appreciate the creative work of highly diverse women. Depending again upon location, evaluation methods will include a balanced selection from among short papers, longer research papers, journals, book reviews, quizzes, exams, group assignments and other creative activities.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 003U (GH;US;IL) Introduction to Women, the Humanities, and the Arts (3) Interdisciplinary consideration of primary works and scholarship pertaining to women in the humanities and the arts.

Introduction to Women, the Humanities, and the Arts (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 005 (US) (S T S 005) Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.

WMNST (S T S) 005 Introduction to Women in Science, Technology, and Engineering (3) (US)

(BA) This course meets the Bachelor of Arts degree requirements.

Women's Studies 005 examines the experiences, achievements, and status of women in science, engineering, and technology. The course offers a broad interdisciplinary overview of scholarly research and theory pertaining to women and issues of gender in science, engineering, and technology. The course is interdisciplinary (drawing materials from the natural and social sciences) and cross-cultural (taking a comparative approach to western and non-western sciences and technologies). Students study great women scientists and also barriers institutional and ideological - that women have had to overcome in order to participate in science, asking how the presence and absence of women have effected those studies. Students will be graded by several quizzes and two short exams during the semester. To evaluate progress in developing critical thinking skills, the students will be required to write a response journal and/or response papers to major topic areas during the semester. Also, one individual or group presentation will be required. These instruments enable the instructor to assess students' acquisition of knowledge relevant to the general objectives of General Education. This course will satisfy 3 credits of the 16 credit requirement for the Natural and Social Science courses for the Women's Studies major. It may be used as a supporting course for the Science, Technology, and Society minor. The course will also satisfy the requirement for Women's Studies Natural and Social Sciences for the minor.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 005S (US) Introduction to Women in Science, Technology, and Engineering (3) The role of women and gender in science, technology, and engineering.

Introduction to Women in Science, Technology, and Engineering (3)

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 008 (GH) (PHIL 008) Philosophy and Feminism (3) Explores diverse feminist philosophies of culture and knowledge, and examines gender's role in accounts of reality, truth, morality, and justice.

WMNST (PHIL) 008 Philosophy and Feminism (3)
(GH)

(BA) This course meets the Bachelor of Arts degree requirements.

This course familiarizes students with concepts and problems of feminist philosophies. It seeks to examine the feminist critique of theories of knowledge and power, as well as the cultural, political, and linguistic implications of this critique. Students will be expected to evaluate existing epistemological assumptions, social organization, the character of power, and language from the vantage of contemporary feminism and its historical context. Students will be graded on participation, case study analyses, a group presentation and response, and a final paper. WMST/PHIL 008 satisfies the GH requirement and is geared towards non-Philosophy majors. It may be used to fulfill the minor requirement in philosophy.

General Education: GH
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 083S (GH;US;IL) First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.

WMNST 083S First-Year Seminar in Women's Studies (3)
(GH;FYS;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Through the reading of texts, discussions (in-class, study groups, listservs), debates, and collaborative research projects, students are introduced:
(a) to feminist analysis of literature and/or culture
(b) to the humanities and to the nature of research and scholarship
(c) to the concepts of interdisciplinary vs. multidisciplinary research and scholarship
(d) to cross-cultural issues (international)
(e) to scholarly conduct and responsibilities

Students develop international competence by cultivating curiosity about and empathy for other cultures; by recognizing that social variables such as gender, age, social class, religion, ethnicity, race, sexual orientation, and place of residence affect the way people view the world, behave, and communicate; and by developing the ability to locate, organize, and evaluate information about the culture(s) from a variety of sources (print, electronic, people, and personal observations). The points of departure for the development of all of these competencies are literary and cultural texts from international women writers and artists. Students will be evaluated through class discussions, writing projects, and collaborative group projects. This course will prepare the students for other courses in the humanities by giving them the opportunity to gain insights into the study of the humanities through literary and cultural texts.

In addition to the academic topic and issues of this course, students can expect to gain a general introduction to the University as an academic community and have the opportunity to explore their responsibilities as members of that community. Students will develop an understanding of the learning tools and resources available to them, including the opportunity to develop relationships with faculty and other students who share their academic interests.

This course fulfills the first-year seminar requirement as well as one of the humanities requirements in general education or a Bachelor of Arts humanities requirement.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 083T (GH;US;IL) First-Year Seminar in Women's Studies (3) Critical approaches to the dimensions and directions in Women's Studies.

First-Year Seminar in Women's Studies (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 101 (GH;US) (AAA S 101) The African American Woman (3) The sociological, historical and political experiences of African American women, their roles and contributions to society.

WMNST (AAA S) 101 African American Women (3)
(GH;US)

(**BA) This course meets the Bachelor of Arts degree requirements.**

The African American Woman is a survey course that examines how historic mileu has shaped the African American woman's experiences. The sociological, historical, and political experiences of African American women, their roles and contributions to society are covered in the course. This course is designed to cover the cultural, political, and economic experiences of African American women such as Sojourner Truth and Ida B. Wells to bell hooks. It also examines issues and experiences from the plantation to contemporary times. Students will be required to do written assignments, collaboration on group projects and will be engaged in discussion. The course is designed to encourage students to develop the capacity to pursue research for a paper and for oral reports. The course will require each student to conduct research for a group project and written and oral reports on the class reading assignments. These requirements will enhance the student's public speaking skills.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 102 (GH;IL) (AAA S 102) Women of Color: Cross-Cultural Perspective (3) Global examination of value systems of women of color; attention to minority ethnic groups in the United States and developing countries.

WMNST (AAA S) 102 Women of Color: Cross-Cultural Perspectives (3) (GH;IL)

Women of Color: Cross Cultural Perspectives is a survey course that examines the similarities and differences of various cultures and the influences that mainstream America has on these cultures. Stereotypes, perceptions, the media, and male influences are also examined. Students will be encouraged to identify contributions made to mainstream America by women representing these cultures. Students will also be required to submit written assignments, participate in group discussions and attend on-campus events relevant to the course. The course is designed to enhance students critical thinking, writing, and speaking skills. This course can be used to fulfill supporting courses and related areas in the Women's Studies and Africna and African American Studies majors and minors. Non majors may use this course to fulfill a general education humanities requirement.

General Education: GH
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 103 (US) (AAA S 103, SOC 103) Racism and Sexism (3) Critical analysis of the structure of race and gender inequality in the contemporary United States.

WMNST (AAA S/SOC) 103 Racism and Sexism (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course focuses on racism and sexism through a critical analysis of race and gender equality/inequality. A primary objective of this course is to provide students with information and conceptual tools necessary for understanding the structure and composition of race and gender inequality in the United States today. The focus on both racism and sexism provides a perspective that is quite different from those of courses that deal with race or sex alone. Racism and sexism have much in common that suggests their combined study. The course examines the way in which these processes are socially constructed and defined and how these constructions and definitions are experienced in daily life at an individual level and societal level. The course also examines how social control dependent on power, privilege, and advantage continues to perpetuate sexism and racism. This understanding is fundamental to considering the ways in which society and its individual members may motivate social change that enhances equality. Other objectives include developing an appreciation of the commonalities and differences among women and among men and women of diverse ethnic groups in terms of their real-life experiences with these processes; expanding the ability to read and/or view critically information/misinformation encountered in everyday life; enhancing the capacity to express knowledge and perspectives both orally and in writing. In addition, each student comes to the class with personal objectives that the instructor attempts to ascertain and incorporate. A common foundation of knowledge is established through consideration of current statistical data and academic research studies, as well as essays and novels based on subjective thought and experience. Also included are historical documents that have influenced the social and legal status of women and of men and women of color throughout our country's history. Videos and the media are supplementary sources. Students are encouraged to be alert to relevant current events and be prepared to discuss them from a critical perspective. The format of the class is informal, emphasizing group participation and responsibility. Grades are based on the evaluation of short papers on the readings, relevant events, and contemporary culture; class participation; a book report; and a final project or take-home exam. AAA S/WMNST/SOC 103 is a supporting course for both the women's studies and sociology majors and minors and the African and African American Studies major. It is an additional course for the African and African American Studies minor. The course also meets the requirement for 3 credits on the topic of women of color for the women's studies major and the minor.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 110 (GS;US) (SOC 110) Sociology of Gender (3) Changing sex role expectations and behavior for men and women in contemporary society.

WMNST (SOC) 110 Sociology of Gender (3)
(GS;US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course provides an introduction to the analysis and understanding of how men's and women's lives are different and how they intersect with each other. The course focuses on the social construction of gender and the impact of gender on experiences in a variety of social contexts and institutions throughout the life course, including cross-cultural comparisons of gender expectations. An overriding objective is to help students better assess and analyze the effects of gender throughout history and in their everyday lives.

Class sessions are a mixture of lectures, discussions, group exercises, guest speakers, and films designed to engage the students in the learning process. Each session helps students to critically evaluate the effects of gender discussed in their readings and experienced in their everyday lives. The evaluation tools used for this course extend this critical evaluation. Although the specific evaluation methods vary by sections, all sections use some form of reaction papers, book reviews, and/or journals. These writing assignments require students to demonstrate an understanding of the class readings, lectures, and activities, and to offer an evaluation and assessment of these readings and presentations. Because the social construction of gender is intertwined with family, work, religion, education, government, and all interpersonal interaction, the course overlaps with courses in each of these areas.

This course meets a General Education requirement in Social and Behavioral Sciences. It can be used as a lower-level sociology course in the Sociology BA major and the Sociology minor. It can also be used as a supporting course in the Women's Studies major and minor.

General Education: GS
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 104 (GH;US) (AM ST 104) Women and the American Experience (3) Selected aspects of the role of women in United States history and culture from colonial to modern times.

WMNST (AM ST) 104 Women and the American Experience (3)
(GH;US)

(BA) This course meets the Bachelor of Arts degree requirements.

WMNST/AM ST 104 is a broad-ranging introduction to women in American culture. While specific topics may vary from class to class, the course examines the history and literature of American women, paying particular attention to issues of race and diversity. Students will be evaluated on essay tests, papers, journal entries, and attendance. The course offers students valuable experience in critical thinking, analysis, and writing. The course offers students a broad introduction to American women's issues, and so serves as preparation for more advanced courses in American studies, American literature, American women's history, and Women's studies.

WMNST/AM ST 104 counts towards the American Studies major and minor and the Women's Studies major and minor. Non-American Studies majors and minors may use this course to fulfill a general education humanities (GH) or Bachelor of Arts humanities credit requirements.

General Education: GH
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 116 (GS;US;IL) (HIST 116) Family and Sex Roles in Modern History (3) Historical perspectives on the Western family since 1500: gender roles, marriage, sexuality, child rearing, and old age; emphasis on United States.

Family and Sex Roles in Modern History (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 117 (GH;US;IL) (HIST 117) Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.

WMNST (HIST) 117 Women in Modern History (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

History/Women's Studies 117 is an introductory survey of women in the United States and possibly elsewhere, from the seventeenth to the late twentieth century. The course examines women's history from several different perspectives. First, it introduces students to the methods, sources, and questions of the past thirty years of women's history-writing, and asks students how studying women transforms our understanding of history more generally. Second, it offers a survey of the narrative of modern women's history, stressing women's interactions with the larger processes of economic and political change, their relationship to changing ideologies of gender and feminism, and their complex identities not only as women but as members of a particular race, class, ethnic, and religious group. Throughout, students will ask when gender, and when some other aspect of women's lives and identities, is most salient in identifying the restrictions and opportunities they faced. Third, students will assume the perspective of historians themselves, as they examine primary sources and attempt to make analytic and historical judgments about what they say and why they matter to the larger narrative. Through significant essay-writing assignments, students will develop analytical and writing skills in learning to think historically about women. Questions about race, class, ethnicity, and sexual orientation, as well as gender, are intrinsic to this course. Students will be evaluated based on their class participation, papers, and final exam. This course is cross-listed in History and Women's Studies and fulfills requirements for both programs' majors and minors. HIST/WMNST 117 will be accepted, but not required, for the History Major, the Women's Studies Major, and the Women's Studies Minor.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 117M (GH;US;IL) (HIST 117M) Women in Modern History (3) Modernization and women: changing images and roles since mid-eighteenth century in the family, workshop, politics, society. Cross-cultural comparisons.

Women in Modern History (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 136 (US) (LER 136) Race, Gender, and Employment (3) Employment relations and legislative and policy responses to labor force issues of racial and gender inequality.

WMNST (L I R) 136 Race, Gender, and Employment (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

To accomplish the goals of the course, students will participate in a variety of in-class and out-of-class exercises designed to expose them to issues of inequality generally, and more specifically, to inequalities relating to employment. Activities are designed to connect real world experiences to class readings and discussion. For example, students may be asked to conduct their own job evaluation in conjunction with a reading on gender bias in job evaluation systems. The course also relies heavily on student participation via the reporting of the results of their activities, and in discussion of assigned readings. A semester-long group project will enable students to focus their interests and become experts in one sub-area. Group projects include a collaboratively written paper as well as a class presentation designed to inform the class about a topic previously not covered through class readings, discussions, or lectures.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 130 (IL) (RUS 130) Women in Russian Literature (3) Survey of Russian women characters and writers from the Medieval Period to the present.

Women in Russian Literature (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 137 (GH;US;IL) (RL ST 137) Women and Religion (3) Jewish and Christian religious views on womanhood; thought and lives of important religious women; and feminist understandings of these.

Women and Religion (3)

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: third-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 187 Women's Studies Freshman Seminar (3) The meaning and advantages of a Liberal Arts education in context of a specific discipline.

Women's Studies Freshman Seminar (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986
Prerequisite: first-semester standing and enrollment in the College of the Liberal Arts

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 194 (GH;US;IL) (ENGL 194) Women Writers (3) Short stories, novels, poetry, drama, and essays by British, American, and other English-speaking women writers.

WMNST (ENGL) 194 Women Writers (3)
(GH;US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

English 194 will constitute a wide ranging study of works by American, British, and other English-speaking women writers, including novels, short stories, poems, plays, and prose. The class will approach this literature from a variety of thematic, historical, and/or generic vantages. Authors under consideration will vary from class to class, but may include writers such as Bradstreet, Wollstonecraft, C. Rosefti, M. Shelley, Austen, C. Bronte, E. Bronte, G. Eliot, D. Wordsworth, Dickinson, Wharton, Stowe, Freeman, Jewett, Fuller, H.D., Moore, Sitwell, Bishop, Brooks, Plath, Cather, Woolf, Stein, Lessing, Bowen, O'Connor, Welty, Porter, Oates, Olsen, Sarton, Gordimer, Atwood, Morrison, Kinkaid, McCarthy, and Churchill. The course seeks to make students aware of the extensive body of literature written by women through the analysis, evaluation, and appreciation of specific works by women writers. The course also seeks to help students understand the female perspectives-the varying values and interests of women--reflected in the texts at hand and to position these perspectives within wider social, historical, and political contexts. The course also seeks to make students aware of the special problems faced by both women writers and the female inhabitants of the societies they describe in their work. As a course in women's literature, Engl/Wmnst 194 concerns itself with questions of gender. In so far as some of these women writers are black or women of color, it concerns itself with questions of race and ethnicity. In as far as the course looks at women's literature in the context of men's literature, it is concerned with the inter-relationship between dominant (male) and non-dominant (female) culture in the United States as well as in Britain. In so far as the course covers lesbian writers, it is concerned with sexual orientation. Topics under consideration will vary from class to class, but may include a chronological introduction to the development of women's literature, a consideration of a principle theme or themes common to women's literature through a number of works from across a number of historical periods, a consideration of a number of women's works in the context of historical events central to their creation, a consideration of a number of women's works in the context of formal or aesthetic elements common to those works and their various effects. Time allofted for the study of the works under consideration will vary. This class will prepare students for advanced courses in women's literature as well as other academic courses that engage in the verbal and written analysis of complex written texts. Students will be evaluated by means of essays written in and out of class, essay exams, term-long reading journals, and class participation. Students should expect to complete a minimum of three written assignments in the course of the term. The course may be used as English Major elective credit or as credit towards the English Minor.

General Education: GH
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 199 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 201 Career Implementation Strategies for Women (2) Determining career goals, developing strategies to achieve these goals, and developing skills to assist in the job search.

Career Implementation Strategies for Women (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 202 (GS;IL) (AAA S 202) Gender Dynamics in Africa (3) Critical analysis of multidisciplinary research on relations between men and women in Africa and critique of Western feminist theories.

WMNST (AAA S) 202 Gender Dynamics in Africa (3)
(GS;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

In terms of gender studies, western academics have dominated the field. The course will offer a very different, more African-centered, analysis of the gender relations of African. Important African women writers will be read and their works analyzed. The role of African gender dynamics on the African Diaspora (North American, South America, the Caribbean, and the Middle East) will also be studied in this course.

Feminism is one of the latest Western theoretical fashions to be applied to African societies. Following the one-size-fits all (or better still the Western-size fits all) approach to intellecual theorizing, it has taken its place in a long series of Western paradigms.

African scholars, in particular African women scholars and others, are challenging the very conceptualizations of gender that are used to define, describe or categorize women and men. This class will examine the historical relationships between men and women in Africa and examine the new approaches to the study of gender dynamics in Africa. The course will challenge your perceptions of gender. The ability to critically think and an open mind are requirements for this class. You will also be expected to participate in all class discussions.

This course represents a logical sequel to an exisiting course, AAA S/WMNST 102, Women in a Cross Cultural perspective; and three courses, AAA S/HIST 191, Early African History, AAA S/HIST 192, Modern African History, and WMNST 4, Global Perspectives on Feminism, which have already been approved by the Senate. This course can be used in both the African and African American Studies major and minors. Grades: map exam 10%, oral history 15%, mid term 30%, and final 45%.

General Education: GS
Diversity: IL
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 225 (GA;GH) (ENGL 225, ART H 225) Sexuality and Modern Visual Culture (3) An examination of the visual expression of gender and sexual identities in English-speaking cultures since the late nineteenth century.

WMNST (ART H/ENGL) 225 Sexuality and Modern Visual Culture (3)
(GA;GH)

The terms "feminist" and "homosexual" were invented by the Victorians and reflect profound shifts in conceptions of identity. Another invention of the nineteenth century was the idea of the literary and artistic "avant-garde," a minority contingent with politically and/or aesthetically advanced views. These ideas of minority culture were deeply enmeshed with one another, and have exerted profound influence ever since. This course explores that history with the objective of developing a more sophisticated understanding of how the history of ideas affects our sense of who we are and how we read both texts and images. The course will be relevant to students of American and English studies, art, art history, and women's and sexuality studies.

General Education: GA;GH
Diversity: None
Bachelor of Arts: None
Effective: Summer 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 205 (US) (COMM 205) Women, Minorities, and the Media (3) Analysis of historical, economic, legal, political, and social implications of the relationship between women, minorities, and the mass media.

WMNST (COMM) 205 Women, Minorities, and Media (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

Communications 205 explores the historical, economic, legal, political and social implications of the relationship between women, minorities, class and the mass media. In this class students explore how the media helps in constructing notions of social reality. The primary focus of the course is on media representations of marginalized groups in the United States.
The course objectives are as follows:
* To understand historical, political, economic and cultural influences that shape media representations of women, minorities and other marginalized groups.
* To understand culture -- what it is and the interplay between media and culture.
* From a cultural perspective, learn tools to help students understand and criticize media as related to representation of gender, race and class.
* To acquaint students with relevant media theory, as well as theories of representation.
* To encourage students to, think about ways that media depictions of marginalized and disempowered groups might be improved.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 250 (US) (HD FS 250) Sexual Identity Over the Lifespan (3) Concepts of affectional and sexual orientation over lifespan, with emphasis on lesbian and gay male personal, family, and community adaptation.

WMNST (HD FS) 250 Sexual Identity over the Life Span (3)
(US)

This course reviews concepts of sexual identity as informed by a human development perspective. Concepts of sexual orientation are discussed in the context of a review of lesbian, gay male, and bisexual lives. Developmental processes of lesbian and gay life are detailed: personal change from the teenage years through adulthood, changes in family and relationship patterns, and impact of communities, laws, and culture. These processes are contrasted to the developmental processes of women and men who identify themselves as heterosexual. The complex effect of gender, race, ethnicity, class status, and historical time on sexual orientation and its expression has generated ongoing controversies in scholarship as well as in public discourse. The course will be an introduction to these controversies as informed by human development research.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: 3 credits in Hd FS or 3 credits in behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 270 (FR 270) Race and Gender in Literature Translated from French (3) A critical presentation, taught in English, of changing ideas and values on race and gender in French and Francophone literatures.

Race and Gender in Literature Translated from French (3)

General Education: None
Diversity: None
Bachelor of Arts: Humanities
Effective: Spring 2005
Prerequisite: FR 351

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 280 (GH;IL) (J ST 280, RL ST 280) Women and Judaism (3) Explores the Jewish views of women that have influenced the roles of women within both the religion and Western culture.

WMNST (J ST;RL ST) 280 Women and Judaism (3)
(GH;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Women and Judaism will introduce students to the roles and views of women as seen in the Jewish tradition. Because Judaism is not monolithic, these views will vary even within time periods and even among rabbis. The goal of this course, therefore, is not for students to leave the class with one idea of what a Jewish woman is or one idea of what issues are at stake for women in Judaism. Rather, the goal is for students to understand the complex relationship women have to this religion. This course will also explore the views of Jewish women and the issues that concern then in contemporary society. Objectives include the following: students will begin to understand the stereotypes that influence how Western society views Jewish women, and as a result, how they have come to view themselves. They will be asked to examine the many important roles that Jewish women have played both in their religion and the society at large. They will be asked to examine how the Jewish tradition both helped and hindered women to play these roles. They will see how Jewish women contributed to the development of their own religion and to the larger culture in which they live. They will develop a deeper appreciation for the complexity of the relationship between women and religion. Topics include images of Jewish women in the Bible and the media, women and Jewish views of sexuality, Jewish ethics, Judaism and feminism, and women and Jewish theology.

General Education: GH
Diversity: IL
Bachelor of Arts: Humanities
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1986

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 294 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 299 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 300 (US) (LTNST 300) Latina Feminisms (3) This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States.

WMNST (LTNST) 300 Latina Feminisms (3)
(US)

This course examines the historical development, theoretical premises, and political, social, and artistic contributions of Latina feminisms in the United States. It shows the connections to as well as the divergences from Latin American feminism by beginning with an analysis of how the Spanish conquest, the imposition of Catholicism, and subsequent years of colonialism shaped gender and sexual identities. It examines the contemporary effects of these historical issues and inquires into the common concerns of Latin American feminists and Latina feminists. It asks how theories and practices have diverged given different geographies, both between the U.S. and Latin America and within the U.S. The course then moves to the 1960s and 1970s in the U.S., when Chicano and Puerto Rican nationalist movements also gave rise to a feminist consciousness amongst Latinas; the conjuncture of race, ethnicity, gender, and sexuality is considered, with attention to how Latinas critiqued Anglo feminism’s narrow focus on gender. The next unit focuses on family formations, considering social science and feminist discourse on the issues of patriarchy. How have Latina feminists valued yet also rearticulated the traditional family? What critiques have made been against heterosexism? How have lesbians and gays formulated new kinds of families? How does migration shape family relations? The final section of the course explores how Latina artists in different genres have responded to and resisted traditional gendered and sexual roles. Literature, film, performance art, and hip hop are all examined for their diverse representations of sexual desire.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2006
Prerequisite: LTNST 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 301 Introduction to Feminist Thought (3) An interdisciplinary survey of historical and contemporary feminist theories in both the United States and international contexts.

Introduction to Feminist Thought (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WMNST 001 orWMNST 003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 364 (GS;US) (AAA S 364) Black & White Sexuality (3) This course explains how narrow ways of thinking limit our understanding of the diverse expressions of human sexuality.

Black & White Sexuality (3)

General Education: GS
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 395 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 399 (IL) Foreign Studies (12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 400 (US;IL) Feminist Theory (3) Consideration of feminist theories of women's experience in transforming understanding, reconceptualizing old problems, raising new ones, and expanding traditional disciplines.

WMNST 400 Feminist Theory (3)
(US;IL)

This course focuses on theoretical analyses of gender as major components of contemporary thought. It is designed to help students develop knowledge of critical texts to better analyze women's issues and comprehend the realities of women's lives, past and present. The course will relate analyses of gender to analyses of race, class, religion, ethnicity, national origin, and sexual orientation. The course addresses theoretical issues rooted in an analysis of gender, critiques theories that do not attend to such issues, and investigates the premises and implications of feminist theory. The course will continue to have a prerequisite of WMNST 301: Introduction to Feminist Thought. For the Women's Studies major, WMNST 400 will fall under the heading of Additional Courses, where students will have a choice of this course or WMNST 401: Feminist Perspectives on Research and Teaching. These are our two most general courses at the 400-level. It may also be used to fulfill a US;IL requirement.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: WMNST 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 407 (US) (THEA 407) Women and Theatre (3) A study of theatre practice and dramatic literature as informed by issues of gender, race, and ethnic background.

WMNST (THEA) 407 Women and Theatre (3)
(US)

THEA/WMNST 407 approaches the study of theatre/performance as a valuable site for the exploration of race, class, and gender as social constructs. The focus will be on 20th century developments of women and theater. Feminist theory and theatrical practice will be a focus of the course and will reflect conflicts and differences present within feminism.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: THEA 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 401 Feminist Perspectives on Research and Teaching (3) Feminist approaches to methodological issues in research and teaching in the social sciences and the humanities.

WMNST 401 Feminist Perspectives on Research and Teaching (3)

The course explores current themes organizing debates and discussions within feminist discussions of teaching and research. Students will become familiar with various research perspectives that feminist researchers use including interviews, ethnography, and action research. The course will examine debates within feminist research and teaching including power, difference, and race. Key themes will include questions around the politics of representation, the relationship of research to colonialism, the authority of the researcher, researcher-researched relations, and power/knowledge relations in research, classrooms, and knowledge production broadly defined. The aim is not to identify a feminist orthodoxy but rather: 1) to identify and understand the varieties of feminism existing today; 2) to become knowledgeable about a range of themes currently emerging in feminist debates on teaching and research; and 3) to arrive at an appreciation of the transformative effect upon teaching and research these new paradigms, debates, and themes have meant across a range of disciplinary boundaries.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2009
Prerequisite: WMNST 001 orWMNST 003 orWMNST 301

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 410 (AAA S 410) Spirit, Space, Survival: Contemporary Black Women (3) How recent Black women have used spirit and space to survive.

Spirit, Space, Survival: Contemporary Black Women (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1995
Prerequisite: WMNST 101

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 412 (EDTHP 412) Education and the Status of Women (3) An examination of the relationship of education to the status of women in American society.

Education and the Status of Women (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 416 (US;IL) (AAA S 416, S T S 416) Race, Gender and Science (3) The class will focus on race and gender as products of science, and how societal values shape scientific activity.

WMNST (S T S/AAA S) 416 Race, Gender and Science (3) (US;IL)

The course's objective is to provide a seminar for students to integrate feminist theory, social theory, and science studies through class discussions, essays and research. The role of science in defining, producing, applying and policing of gender and race in society will be explored through the work of feminists and traditional scholars working in a variety of disciplines from cultural studies to science studies. Students will be encouraged to develop a critical analysis of race and gender in science in order to understand the impact of gender and race on the production of scientific knowledge. This course is designed for students in the humanities, social sciences, science and technical fields. Readings will be taken from past and contemporary social theory (i.e. students will be reading original works not textbooks). Students will be expected to read, understand and synthesize 75-100 pages of reading per class and to discuss them in a seminar fashion in order to analyze, critique and evaluate various theories to develop their own understanding of the interrelationship of science, race and gender. In addition they will do two professional-style book reviews during the semester. At the end of the semester students will integrate theory with social, cultural and historical data that they collect through library research (with a minimum of 50 sources). Students will present the paper to the class in a conference style presentation that will conclude with a Q&A session.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008
Prerequisite: 6 credits in S T S WMNST or AAA S

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 419 (US;IL) (HIST 419) The History of Feminist Thought (3) A critical analysis of European and United States feminist thought from the Renaissance to the present.

The History of Feminist Thought (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: WMNST 001, WMNST 003, WMNST 116 orWMNST 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 420 (US;IL) (CED 420, R SOC 420) Women in Developing Countries (3) Analysis of women's work, experiences, and development policies and practices in Africa, Asia, and Latin America.

WMNST (CEDEV, R SOC) 420 Women in Developing Countries (3)
(US;IL)

The purpose of this course is to increase understanding of women's lives in third world countries at the time when women's movements, grassroots activism, and feminism are on the rise in the third world. The course examines third world women's challenges to Western definitions of feminism and traces the theoretical shifts and practical changes related to women's issues in African, Asia, and Latin America. Students participate in studying specific community and agricultural development projects. Topics include feminist critiques of development and post-colonialism, ecofeminism and environment, sexuality and reproduction, global restructuring, and grassroots community activism. Students will be evaluated based on class participation, two written critiques of readings, a final course project, a mid-term, and a final exam. This course will add diversity to both the rural sociology, community and economic development, and women's studies curricula. International, gender, ethnic, and racial issues are core components of the course. The course will be an elective for Women's Studies majors and minors and will serve graduate students in rural sociology, women's studies, and other fields.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2009

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 423 (US) (CRIMJ 423, CRIM 423) Sexual and Domestic Violence (3) Legal, sociological, and psychological perspectives of sexual and domestic violence.

WMNST (CRIMJ/CRIM) 423 Sexual and Domestic Violence (3) (US)

This course investigates violence against women, specifically domestic, sexual, and relationship violence. Students will examine some of the legal, sociological, and psychological perspectives about sexual, domestic, and relationship violence as well as the social and cultural roots of violence against women. Students will also gain an understanding of the experiences of victims of domestic and sexual violence as well as the issues presented by perpetrators. Students will be evaluated based on performance on exams, and two research papers. CRIMJ/CRIM/WMNST 423 is a supporting course in both the WMNST major and minor as well as a supporting course in the CLJ major. It may also be used to satisfy a GI requirement.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIM 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 421 (IL) (HIST 421) The History of European Women (3) European women's lives from the Middle Ages to the present.

The History of European Women (3)

General Education: None
Diversity: IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: WMNST 001, WMNST 003, WMNST 116 orWMNST 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 424 (US) (KINES 424) Women and Sport (3) An interdisciplinary approach to contemporary issues related to women and sport from historical, physiological, psychological, and sociological perspectives.

Women and Sport (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 231, PSYCH 479, SOC 001 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 426Y (US;IL) (GEOG 426Y) Gender and Geography (3) Description and explanation of the links between gender relations and spatial structures; gender and work, social services, and neighborhood activism.

WMNST (GEOG) 426Y Gender and Geography (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

Until the 1970's women remained invisible in the analyses of social space: human geography was indeed just that (hu)man. Recently, feminist geography began to challenge the implicit masculinity of the subject of geography; this course will examine the evolution of the feminist challenge. The course addresses four major topics -- Gendering Space; Gendering Work; Gender, Place and Nationalism; and Gender and the Body. Students explore each of these through case studies and group projects, and will produce a series of essays throughout the semester. As a point of entry to discussion of place, space and gender, this course will explore the diverse ways in which feminists have seen space as central both to masculine power and to feminist resistance. In particular we will explore arguments from feminists of color and from poststructuralists which have influenced current discussion about maps and power in historical and contemporary contexts.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: GEOG 020, GEOG 126, GEOG 120, WMNST 001 orWMNST 187

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 428 (US;IL) (PL SC 428) Gender and Politics (3) Gender in politics in the United States and around the world; major areas of women and politics research.

WMNST (PL SC) 428 Gender and Politics (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

This course is designed as an overview to the field of women and politics. It examines the role that women play in politics in the United States and around the world. Students will begin by examining how women are socialized differently from men and how that socialization effects women's political attitudes and participation. Then students will focus on women in different political offices and how their behavior compares to that of their male counterparts. Students will then analyze the women's movement in the United States. Finally, students will turn to different theories of the ideal position of women and men in politics and use those theories to explore the issue of pornography. Students will be evaluated on a final exam, short essays (4 3-5 page essays), class participation, and a research paper (15 pages). This is an advanced course with 6 credits prerequisite in Women's Studies or Political Science. This course fulfills the American Politics and Comparative Politics distribution as well as the advanced course requirement for the Political Science major. It is an elective for a Women's Studies major. It also fulfills an United States Cultures and International Cultures requirement.

General Education: None
Diversity: US;IL
Bachelor of Arts: Social and Behavioral Science
Effective: Fall 2007
Prerequisite: 3 credits in political science or women's studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 430 (US) (AM ST 430) Women in American Society (3) A historical study of women's roles and experiences in the United States.

Women in American Society (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 6 credits of American Studies Sociology or Women's Studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 432 (US) Women in Politics in the U.S. (3) Course examines the U.S. women's movements, the participation of women in politics, and selected areas of public policy.

Women in Politics in the U.S. (3)

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 3 credits in political science or women's studies

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 452 (BB H 452, NURS 452) Women's Health Issues (3) Exploration of major health issues concerning women today, with an emphasis on social, cultural, and medical influences.

Women's Health Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOL 141 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 438 (PHIL 438) Feminist Philosophy (3) Examines the central currents of feminist philosophy, selected problems and concepts regarding difference, gender and sex, identity, and political culture.

Feminist Philosophy (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: 9 credits of philosophy including 6 credits of philosophy of the 200-level or 5th semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 453 (US) (CRIMJ 453, CRIM 453) Women and the Criminal Justice System (3) This course focuses on the experiences of women as offenders, victims, and professionals in the criminal justice system.

WMNST (CRIMJ/CRIM) 453 Women and the Criminal Justice System (3)
(US)

The course will examine the role of women in the criminal justice system and look at the issues related to women as offenders, victims of crime, and as professionals in the system. Students will gain an understanding of the issues concerning women in the criminal justice system, examine how societal arrangements affect women as offenders, victims, and criminal justice professionals, and better understand the overlooked problems faced by women in the criminal justice system. Students will be evaluated on the basis of exams, presentations, and papers. CRIMJ/CRIM/WMNST 453 is a supporting course for both WMNST and CLJ majors, as well as the WMNST minor. This course may also be used to satisfy a US requirement.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: CRIMJ 100 orWMNST 001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 455 (US) (CAS 455) Gender Roles in Communication (3) Explores the literature on gender research in the discipline of human communication.

WMNST (CAS) 455 Gender Roles in Communication (3)
(US)

This 400-level course is a theory and application course which also satisfies an intercultural requirement. CAS/WMNST 455 strives to ensure that students understand female and male differences and similarities in communication patterns, perceptions of the opposite sex, and expectations and stereotypes regarding the opposite sex. Many researchers find that gender communication is "cross cultural," i.e., that women and men come from two different cultures, and therefore misunderstanding of each others' intent and expectations may frequently occur. This course examines how distinctions in meaning and interpersonal dynamics may create these two differing cultures, and promotes understanding and possibilities for adaptation. It also investigates when and if changing communication styles is desirable, and in which settings. A goal of the course is to help students to solve puzzles toward understanding those we work with and relate to, as well as to apply their knowledge to their own lives and contexts. The course content and format reflects these goals. CAS/WMNST 455 begins with theoretical information, later applying it to situations of interest to most -- relationships, language use differences (verbal and nonverbal), media messages, and workplace issues. Lecture incorporates considerable discussion and exploration of gender issues and most topics are followed by activities, which illustrate how theories work in real life. This course is useful for any students seeking an intercultural course. It is recommended to Communication Arts and Sciences and Women's Studies majors and minors due to emphasis on communication theory and gender issues. Business, Counseling, Psychology, Sociology, Education and any Social Science majors may fulfill a US requirement through 455. Exams are geared toward testing ability to apply theory to life. Other evaluation methods encompass short reaction papers, a book review, application paper, and team research papers and presentations. These assignments and all class exercises focus on application of theory and course content to students' lives.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: CAS 202

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 456 (SOC 456) Gender, Occupations, and Professions (3) The role of gender in shaping contemporary North American patterns of employment, occupational roles, and statuses.

Gender, Occupations, and Professions (3)

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 1991
Prerequisite: WMNST 001 or 3 credits in Sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 457 (US;IL) (HIST 457, S T S 457) The History of Women in Science (3) Critical analysis of the roles women, gender, and minorities have played in the natural sciences.

The History of Women in Science (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Spring 2006
Prerequisite: WMNST 001, WMNST 003, WMNST 005, WMNST 116 orWMNST 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 458 (BB H 458) Critical Issues in Reproduction (3) Examination and analysis of the new reproductive technologies from the standpoint of medical ethics, feminism, and sociocultural influences.

Critical Issues in Reproduction (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2007
Prerequisite: BIOL 141 orPSYCH 100

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 462 (US) (ENGL 462) Reading Black, Reading Feminist (3) Female identity and its construction in textual representations of gender, class, color, and cultural difference in English-language literatures.

WMNST (ENGL) 462 Reading Black, Reading Feminist (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/WMNST 462 provides two important learning opportunities for undergraduate students. The first is to examine the construction of female identity in the textual representations of gender, class, color, and cultural differences by black American women. The second is to identify, explore, and analyze the major issues concerning the discovery and development of a black feminist literary tradition. Authors under consideration will vary from class to class, but may include writers such as Hortense Spillers, Harriet Jacobs, Harriet Wilson, E. Genovese, Hazel Carby, Francis Harper, J. Fauset, Nella Larsen, Zora Neale Hurston, Gwendolyn Brooks, Margaret Walker, Nikki Giovanni, Sonia Sanchez, Maya Angelou, Lorraine Hansberry, Adrienne Kennedy, E. Brown-Guillory, Toni Morrison, S. A. Williams, Alice Walker, Paula Marshall, and Octavia Butler. The course will focus on the complex relationship of slavery and post-slavery black experience to the literary imagination of African American women, and of issues of gender in black identity in America. Topics covered will vary, but will include issues of the legacy of slavery, the development of black feminist thought, nineteenth-century conceptions of black womanhood, women's roles in the Harlem Renaissance, representations of black womanhood by male writers, and self-representation by female writers, women "Black Power" poets, black female playwrights, neo-slave narratives, the aesthetics of contemporary black feminism, and post-modernism and the challenge to understandings of canonicity posed by black women's writing, and the like. This class will prepare students for advanced courses in African American and feminist literature, as well as other academic courses that engage in the verbal and written analysis of complex written forms. Students will be evaluated by class participation, a group oral presentation, small group problem solving exercises, three out-of-class essays (of 5-8 pages each), and an in-class final examination consisting of essays and short answers. In addition to satisfying requirements for students emphasizing in African American literature within the English major, this course will be important in the offerings of African/African American Studies, American Studies, Women's Studies, and History. The course may be used as English major elective credit or as credit towards the English minor. The course can be used to complete the major and minor in Women's Studies Arts and Humanities area and it also satisfies the Women of Color (WOC) sub-requirement.

General Education: None
Diversity: US
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 466 (US;IL) (HIST 466) Lesbian and Gay History (3) Critical exploration of the history of sexuality, focusing especially on the emergence of modern lesbian and gay identities.

WMNST (HIST) 466 Lesbian and Gay History (3)
(US;IL)

This course will explore the relationships in different cultures and historical periods between the dominant culture and homosexuals, whom the culture deemed, at different times, sinful, deviant, criminal or, more recently, a minority community. Students will confront the very nature of difference, and how it has been played out in European and American history. The course will challenge students to deal with how societies define difference itself; how they isolate or punish deviants; and how the creation of the "homosexual" helped establish not simply difference but "normalcy" in a highly sexualized modern culture. Finally, the course will explore notions of identity itself, focusing on the creation of a modern gay and lesbian identity and its impact on broader questions of gender, community, civil rights, and political discourse in the United States.

An example of evaluation methods would be: course presented in a seminar format with grades based on class participation, brief analytical papers, and a longer research or historiographic paper.

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2005
Prerequisite: WMNST 001, WMNST 117

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 464 (US) (BE SC 464) Feminine/Masculine (3) Study of sex role learning; investigating feminine/masculine labeling; implications for contemporary society.

WMNST (BE SC) 464 Feminine and Masculine (3)
(US)

This course provides a critical examination of the concepts of masculinity and femininity through a consideration of how these have shifted and changed historically and cross-culturally. It considers a variety of theories of gender difference. It investigates how gender is socially constructed and practiced. Thus, it examines how gender is enacted in interpersonal relationships and defined, reinforced, and challenged through processes of socialization as well as through the various institutional spheres of social life. The course addresses the diversity of masculinities and femininities within a single society. Thus, attention is given to race and class-based differences as well as to trans-genderism and homosexuality.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: general psychology or general sociology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 471 (US) (PSYCH 479) The Psychology of Gender (3) Theories and research on gender differences and gender roles. Emphasis on women's and men's current positions in society.

WMNST (PSY) 471 The Psychology of Gender (3)
(US)

(BA) This course meets the Bachelor of Arts degree requirements.

This course examines how psychologists have addressed questions relating to gender in past and present-day research. Our goal is to understand what "gender" is, and how and when gender matters in our evaluations of ourselves and in our interactions with others. The course focuses on four themes:
(1) When does gender matter? Gender as a system of power relations, as an aspect of personality, as a cue;
(2) Diversity within gender categories;
(3) Thinking critically about language and the power of naming;
(4) Connections between psychological research and social change.

Successful completions of the course will:
(1) give students an understanding of the major concepts, theories, and methodological issues in past and current psychological research on gender
(2) enable students to think critically about psychology's study of gender and its implications for social policy and social change
(3) enable students to relate their history of experience of gender to the academic literature on the topic
(4) give students an understanding of the importance and complexity of investigating gender in the context of other dimensions of social identity, such as racial ethnicity

Course grade is based on performance on quizzes/exams (30%), homework assignments (30%), a collaborative research project (35%), and class participation (5%). This course covers the psychology of gender in greater depth than does any other undergraduate PSY course, and provides a psychological perspective on topics covered in a variety of Women's Studies courses. It complements other PSY courses that cover related topics in social and personality psychology. The course can be counted as one of the required 400-level courses for the Psychology major and for the Women's Studies major.

General Education: None
Diversity: US
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2007
Prerequisite: PSYCH 100, PSYCH 221

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 472 (LER 472) Work-Life Practices and Policies (3) Explore the causes and consequences of conflicts between work, family, and other life commitments, and how these may be resolved.

WMNST (L I R) 472 Work-Life Practices and Policies (3)

(BA) This course meets the Bachelor of Arts degree requirements.

The interdisciplinary field of work-family and work-life developed as a result of middle-class women's entry into the labor force, a movement that generated conflict between family and paid work commitments. Overall, the course addresses the reasons the field developed, relevant theoretical perspectives regarding the issues, and related problems as well as proposed solutions at both the public and private sector levels. The overarching objectives of the course are to expand students' understanding of conflicts between work and family commitments, and how these might be resolved through private and public sector initiatives. Specifically, the course concerns how individuals, families, and organizations interact to help hinder the achievement of balance between work and life commitments, and relevant effects on those involved. The changing demographics of the family, laws and trends around working time, father and mother time with children, the expanded need for elder care, work-life programs such as flextime, concierge services, paid parental leave, part-time careers, paid time-off banks, and the role of unions, corporations and government legislation are covered. The course attempts to link the likely future needs of students to broader trends in society and how balance could be achieved at the level of individuals, families, other stakeholders in the community, and for society as well. Fields of research relevant to the course include labor studies, women's studies, Industrial/Organizational psychology, the sociology of work and of family, and child development.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2008
Prerequisite: 3 credits of LER

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 476W (ANTH 476W) Anthropology of Gender (3) Cross-cultural construction of gender and sex roles; theories of gender construction; case studies and practical effects.

WMNST 476W Anthropology of Gender (3)

(BA) This course meets the Bachelor of Arts degree requirements.

Students will learn the current theoretical approaches in anthropology to the cultural construction of gender and sex roles. The first 2-3 weeks of the course will concentrate on exploring and understanding theoretical approaches. The remaining weeks will focus on case studies of non-western gender systems, and on the practical effects of those systems, but students will also be encouraged to relate these systems to their own experience. Each meeting will be based on discussion of the readings assigned for that meeting and students will be expected to participate. During the period devoted to theoretical approaches, discussion will focus on the assumptions, advantages, and disadvantages of each approach. For the part of the course devoted to readings on individual societies, one reading each week will be the basis for a critical essay of approximately five pages. These essays will be expected to include:
1) an identification of the theoretical approach that informs the work
2) a statement of the author's arguments or questions
3) a discussion of the methods used to provide data in support of the arguments or to answer questions
4) a critique of the adequacy of data
5) a statement suggesting which additional elements might make for a better study

These essays will be graded for both content and form and students will have the option of rewriting essays (and improving their grade) after they receive comments. These essays will provide 60% of the course grade, while participation in discussions will provide another 15%. A short research paper will also be required. The paper must focus on a question or hypothesis concerning gender, and a preliminary proposal that includes the focus of the paper, its relevance to the course, and a beginning bibliography is required. A first draft of the paper will be required two weeks before the end of the semester. The research paper will provide 25% of the course grade.

The course complements other courses in Anthropology that deal with sex differences, but will provide a perspective on gender that is not available elsewhere in the curriculum. The course can be used to fulfill a Behavioral Anthropology requirement in both the major and minor in Anthropology and a writing-across-the-curriculum requirement. It will also provide students in other departments with the opportunity to study aspects of diverse, non-western cultures. The course is currently identified as one that may be taken to fulfill the requirements of the Women's Studies minor.

General Education: None
Diversity: None
Bachelor of Arts: Social and Behavioral Science
Effective: Spring 2001
Prerequisite: 3 credits in women's studies or anthropology

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 489 (ENGL 489) British Women Writers (3) A study of selected British women writers.

WMNST (ENGL) 489 British Women Writers (3)

This course provides the opportunity to study writing by British Women from a historical perspective and to explore the views these women have of themselves as artists. The course will concentrate on a careful reading of works by a variety of authors. It will address the question of the role gender plays in the selection of literary forms and the development of character, theme, symbols, and rhetorical strategies. It will also explore what particular dimensions British women writers have brought to the British literary tradition.

Students will be active learners through keeping reading journals, presenting background reports on the history of women in England, participating in small-group discussions about the texts, and writing 2 shorter essays and one longer research essay for the class. This course focuses on an area of British literature, which more traditionally structured courses tend to obscure. The course will be attractive to students from a variety of programs, including English majors, Women's Studies minors, and Interdisciplinary Humanities students.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 490 (US;IL) (ENGL 490) Women Writers and Their Worlds (3) American and British literature written from the perspective of women.

WMNST (ENGL) 490 Women Writers and Their Worlds (3)
(US;IL)

(BA) This course meets the Bachelor of Arts degree requirements.

ENGL/WMNST 490 covers particular aspects of American and British literature written from the perspective of women. The courses stresses the diversity of women's authorial worlds, both through time and/or space. The readings and specific focus vary from semester to semester. ENGL/WMNST 490 seeks to make students aware of the extensive body of literature written by women, but, unlike ENGL 194, which is a survey course of women's literature, ENGL/WMNST 490 can be a more intensive course, focusing on selected themes and topics of particular concern to women as reflected in the poetry and fiction of twentieth-century American and British women writers. The class can also be taught in relationship to earlier periods, dealing, for instance, with English women novelists from 1775-1865. In such a class, readings would include fiction by Fanny Burney, Mary Wolistonecraft, Ann Radcliffe, Jane Austen, Mary Shelly, Emily Bronte, Elizabeth Gaskell, and George Eliot. The course would then place each novel in its historical, social, intellectual, and literary context, and explore the various ways in which some of England's best writers transformed their female experience of the world into fiction that extended the range and influenced the development of the novel. Regardless of the particular focus, all sections of the course pose the following questions throughout: Do women use the same myths, archetypes, and literary conventions as male writers? Or do they sometimes have to modify the myths, archetypes, and literary conventions originated by their male precursors in order to adapt them to female experience? Is there such a thing as a distinctively female imagination, with a symbolic language of its own? Is there such a thing as a chain of literary influence linking women writers to each other? What are the strategies for coping with the anxieties of authorship? What is the interaction between gender and genre? In what ways are creativity and procreativity modes of defying prevailing ideologies? Does a woman's psychological development have an effect on the plots a woman novelist conceives? How does women's literature reflect the realities of women's lives? As a course in women's literature, ENGL/WMNST 490 concerns itself with questions of gender. In so far as some of these women writers are black or women of color, it concerns itself with questions of race and ethnicity. In as far as the course looks at women's literature in the context of men's literature, it is concerned with the inter-relationship between dominant (male) and non-dominant (female) culture in the United States as well as in Britain. In so far as the course covers lesbian writers, it is concerned with sexual orientation. The course not only prepares students for taking up literary and cultural analysis in English classes, but also in any other class that engages in the verbal and written analysis of complex written texts, and in other classes in Women's Studies or in other Penn State departments that address the social, cultural, or ethical issues of gender. The course may be used as English Major elective credit or as credit towards the English Minor; it may also be used in the Women's Studies major and minor.

General Education: None
Diversity: US;IL
Bachelor of Arts: Humanities
Effective: Summer 2005
Prerequisite: ENGL 015 orENGL 030

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 492W Current Feminist Issues (3) Critical analysis of major contemporary feminist research and writing in the arts, humanities, social and natural sciences.

WMNST 492W Current Feminist Issues

This course is the capstone course for the Women's Studies major. We keep the course small (15-20 students) and offer it every spring. It is constructed to provide you the opportunity to apply the knowledge and skills you have developed in Women's Studies to some of the major topics being addressed in current academic feminist discourse. The first goal of the course is for each student to become familiar with the major arguments and evidence regarding some of the current major topics in feminism. The second goal is for each student to learn more about the multidisciplinary perspectives of women's studies. The third goal of the course is for each student to develop and demonstrate her skill at carrying out feminist scholarship.

There are two core elements of the course. The first is class discussion of readings addressing some of the major current feminist issues. Each year a new set of these topics is put together by the instructor, drawing upon the suggestions of other Women's Studies faculty and majors. The second core element of the course is each individual student doing a term paper. Work on these papers will take place both publicly and privately, so that everyone in the course will learn something about how feminist projects are constructed in the various disciplines represented by the students' choices of topics for their papers.

Because this is a W course, 2/3 of your grade will be based on writing assignments. Throughout the course, you will write short (2 page) papers on the readings that we will be discussing in our seminars. You will also write a term paper and some preliminary assignments related to it, including a topic justification paper, an annotated bibliography accompanied by a text description of the major themes identified in the bibliography, a class presentation on your paper topic, and the final 10-15 page paper. The other third of your grade will be based on your participation in seminar discussions.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2002
Prerequisite: WMNST 301, WMNST 302

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 491 (AM ST 476, ENGL 492) American Women Writers (3) A study of selected American women writers.

American Women Writers (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008
Prerequisite: 6 credits of ENGL

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 494H Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 494 Research Project (1-12) Supervised student activities on research projects identified on an individual or small-group basis.

Research Project (1-12)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1994

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 495 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1998
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1983

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1984

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 497D (CRIMJ 497D, PSYCH 497D, SOC 497D) Family and Justice (3) Examination of the relationship between the family and the criminal justice system in which the family operates.

Family and Justice (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Women's Studies (WMNST)

WMNST 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 200W (FOR 200W) Professional Careers in Forest Resources (3) Introduction to managing forests for products and services to meet human needs; developing career goals and an academic plan.

Professional Careers in Forest Resources (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1996

Concurrent: W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 203 Anatomical Properties of Wood (1) Provide information on tree form/growth, cell wall formation/composition, structure of wood/bark cells; macroscopic/microscopic identification of hardwood/softwood cells.

W P 203 Anatomical Properties of Wood (1)

The purpose of this course is to introduce students to the basic concepts of the anatomical properties of wood and bark cells. Students taking this class will learn:
1) basic information on tree form and growth
2)basic information on cell wall chemical composition, formation and structure
3) identification and differentiation of different hardwood and softwood cells.

Course grade will be based on weekly quizzes.

W P 203 is a foundation course for the wood products major and a basic information course for the forest science major. The course will be taken by students in the fall semester in their sophomore or junior year for Wood Products major and in the their sophomore, junior or senior year for the Forest Science major.

This course provides essential background information for students in the Wood Products major. The information presented in this course will be needed for understanding advanced concepts present in 400-level courses. All wood products and forest science students will be required to take this course. It is listed as a prerequisite for most W P 400-level courses. The course is designed to provide information necessary for understanding advanced concepts presented in W P 400-level courses.

Macroscopic and microscopic hardwood and softwood cell identification will be taught in a specialized laboratory made available by the School of Forest Resources.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 337 Wood Technology (2) An introduction to forest tree structure, function, and growth and the identification of important commercial hardwoods and softwoods.

Wood Technology (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 400 Properties of Wood (2) Chemical Structure and Mechanical Properties of Wood Composites.

W P 400 Properties of Wood (2)

The Properties of Wood is an introductory course for students in the Wood Products Business and Marketing Option and as an elective course for non-wood products majors in the Wood Products Marketing minor. The course is designed for students to develop an understanding of the molecular structure of wood and the macroscopic mechanical properties of wood. Students will develop the skills necessary to analyze and explain the behavior of wood during processing and utilization. The concepts and skills developed by the students in this course will be integrated into the wood products business case studies developed in advanced wood products business and marketing courses. Students will be evaluated by using weekly quizzes with descriptive and essay questions and a final exam. The course will be required for students in the Wood Products Business and Marketing option. Students electing the Wood Products Processing and Manufacturing option will be restricted from registering for this course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: W P 200W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 411 Wood-Environmental Relationships (4) Material composition and structure; basic and derived physical properties; moisture movement in wood; methods and techniques of drying wood.

Wood-Environmental Relationships (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: or concurrent:W P 200W, W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 412 Wood in Structures (3) Behavior and design of solid, laminated, and plywood wood beams, trusses, columns, and foundations. Wood construction details.

Wood in Structures (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 413 The Chemistry of Wood (3) Chemical composition, reactions, and properties in relation to products and the uses of wood.

The Chemistry of Wood (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 416 Wood Industries Management Development (3) Managerial concepts and issues important to forest products organizations will help prepare students to assume management-level positions.

W P 416 Wood Industries Management Development (3)

This course will introduce students to managerial concepts and issues important to wood products manufacturers. The design of the course is to help students think more critically about problems and issues that are directly related to efficiency and effectiveness within the wood-based industry, with an emphasis on utilizing human capital to increase competitive advantage. The overall goal of the course is to prepare students to assume management-level positions within wood-based businesses. Course content will be designed to meet the unique production environments our graduates will face. For example, managing an hourly workforce that is under-motivated with insufficient skills, in an environment that is often unpleasant and physically challenging. The course will include case studies from relevant industrial settings and will expose students to current managerial issues (i.e., via field trips to mills and guest lecturers from industry). Students will give oral presentations based on assigned readings from a best selling managerial book and will also be asked to complete numerous in-class and out-of-class exercises (e.g., learning styles inventory, conflict style assessment, to-do lists, resume, etc.).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2004
Prerequisite: W P 200W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 417 Wood Products Manufacturing Systems and Processes (4) Description of systems and processes used in the manufacture of wood products.

Wood Products Manufacturing Systems and Processes (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: W P 200W, W P 203 and sixth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 418 Chemical Processing of Wood (4) Principles and practices of basic operations in converting wood and wood waste into useful chemicals and modified cellulose products.

Chemical Processing of Wood (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 423 Deterioration and Protection of Wood Products (2) Timber and wood deterioration from fungi, insects, fire; treatment of wood products for protection.

Deterioration and Protection of Wood Products (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996
Prerequisite: W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 437W Wood Industries Marketing Management (4) Examination of major international wood products market segments in terms of products, distribution, industry structure, and strategic management issues.

Wood Industries Marketing Management (4)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1997
Prerequisite: W P 200W, W P 203

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 435 Wood Products Production and Sales Management (3) Wood products production management with emphasis on investment decision- making, personal selling, and sales management.

Wood Products Production and Sales Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 1996
Prerequisite: W P 200W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 438 Business Concepts for Wood Manufacturing (4) The course will cover manufacturing strategies and related financial measures in a wood production environment.

W P 438 Business Concepts for Wood Manufacturing (4)

This course will introduce students to the challenges inherent in attempting to profitably manufacture quality products with wood as a raw material. This will lay the groundwork for student understanding that positive margins and profitability are not a given for all wood producers. Students will receive an overview of the operations function and how it should synergize with other business functions such as R&D and marketing. The remainder of the course will be dedicated to exposing students to (1) managerial finance and accounting topics pertinent to using wood as a raw materials in a manufacturing environment and (2) modern manufacturing strategies relevant to the wood products industry. The overall goal of the course is to give students a set of skills that will allow them to make informed economic decisions for a wood manufacturing organization. Knowledge of such topics as continuous process improvement from a business strategy standpoint should provide a framework for making decisions (using the managerial finance subject matter) that will improve the economic competitiveness of their employers. The course will include case studies from relevant industrial settings and will expose students to current managerial issues through field trips to mills and guest lecturers from industry. Students will also give an oral presentation based on assigned readings from a manufacturing-management text.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2003
Prerequisite: W P 200W

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 460 Wood Products Industrial Environmental Control (3) Wood products industrial environmental control technologies and strategies for pollution abatement.

Wood Products Industrial Environmental Control (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1995
Prerequisite: fifth semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 490 Wood Products Colloquium (1) Presentations and discussions of solutions to problems within the forest products industry.

Wood Products Colloquium (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: seventh-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 495 Wood Products Internship (1-6) Supervised field experience related to the student's major.

Wood Products Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993
Prerequisite: approval of proposed assignment by instructor prior to registration.

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1993

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Wood Products (W P)

W P 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 001 Education for Work: Trends and Issues (3) Overview of the history and philosophies of education for employment, current issues, and school to work transition system.

Education for Work: Trends and Issues (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 100 Orientation to Teaching Vocational Industrial Education/Health Occupations Education Subjects (2) Basic elements of preparing to teach vocational trade and industrial/health occupations education subjects in the schools of Pennsylvania.

Orientation to Teaching Vocational Industrial Education/Health Occupations Education Subjects (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 101 Early Field Experience in Teaching Vocational Industrial Education/Health Occupations Education Subjects (1) Discussion and observation of in-school practices to aid the student in making vocational industrial education/health occupations education career decisions.

Early Field Experience in Teaching Vocational Industrial Education/Health Occupations Education Subjects (1)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 106 Program and Facilities Management (3) Organization and management of learning laboratory to facilitate the delivery of a competency based program in a safe environment.

Program and Facilities Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 105 Integrated Curriculum Implementation (3) Occupational analysis for instructional planning; emphasis on instructional methods to deliver a competency based program in an integrated learning environment.

Integrated Curriculum Implementation (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: EDPSY 014

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 197 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 198 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 207W Assessment Techniques (3) Assessment, recording, and reporting of learning in an integrated competency based vocational education system.

Assessment Techniques (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WF ED 105

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 270 Introduction to Industrial Training (3) Overview of training profession. Introduction to economic and psychological foundations. Examination of relationship of industrial training to education.

WF ED 270 Introduction to Industrial Training (3)

This course is designed to prepare individuals for a variety of training practitioner roles in businesses and industry. This course is actually the first of two courses and is an introduction to the required core courses for emphasizing the training and development professional curriculum in the Department of Adult Education, Instructional Systems and Workforce Education and Development. It is the intent of this course to equip participants with entry-level knowledge and skill to successfully pursue other designated professional core courses on needs assessment, organization development, and cross-cultural training. All of theses courses fall into the category called Human Resource Development (HRD).

Industry trainers have had the opportunity to provide formal training to many persons with a wide variety of skills and competencies. Previous train-the-trainer courses in this series have addressed presentation techniques, assessment, facilities management and safety. This course will help trainers gain a total understanding of their role in the larger picture of Human Resource Development. Although traditional education is often focused on helping individuals lead better lives, training is usually focused specifically on the work that people do in one organizational setting. HRD deals with the financial value of human beings to organizations. In this course, the HRD field will be examined with respect to the training component with which participants are connected.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2003

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 296 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 395A Trade and Industrial Occupational Experience (1-8 per semester/maximum of 24) Individual work experience in manufacturing environment or skilled craft area to develop professional competence in specific occupation.

Trade and Industrial Occupational Experience (1-8 per semester/maximum of 24)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: completion of an occupational learning period in the field of certification or field of specialization

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 323 Vocational Student Organizations (3) Methods in originating, managing, and advising vocational student organizations.

Vocational Student Organizations (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 395B Occupational Home Economics Work Experience (1-8 per semester, maximum of 24) Individual work experience in service occupations such as food service, textile production, or child care.

Occupational Home Economics Work Experience (1-8 per semester, maximum of 24)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: completion of a two-year formal learning period in the field of specialization

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 395C Health Occupations Work Experience (1-8 per semester, maximum of 24) Individual work experience in an allied or professional healthcare setting.

Health Occupations Work Experience (1-8 per semester, maximum of 24)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: completion of a two-year formal learning period in the field of specialization

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 395D Occupational Work Experience (1-8 per semester, maximum of 24) Individual work experience in the manufacturing, health, service, or financial arena.

Occupational Work Experience (1-8 per semester, maximum of 24)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 402 Supervision of Vocational Education (3) For administrators, supervisors, and teachers responsible for improvement of instruction through supervision or for students preparing for supervisory work.

Supervision of Vocational Education (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 413 Vocational Education for Special-Needs Learners (3) Introduction to program modifications, supplementary services, and resources required for special-needs learners in vocational and practical arts education programs.

Vocational Education for Special-Needs Learners (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2001

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 422 Integrating Communication Skills into the Vocational Classroom (3) Students completing this course will demonstrate their ability to integrate oral, written, visual communication skills into their occupational classroom.

Integrating Communication Skills into the Vocational Classroom (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 441 Conceptual and Legal Bases for Cooperative Vocational Education (2) History, conceptual and legal bases for a cooperative vocational education program.

Conceptual and Legal Bases for Cooperative Vocational Education (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WF ED 445

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 442 Operating Cooperative Vocational Education Programs (2) Student and training station selection, training plan and related subject development, records and reporting systems, school-industry coordination.

Operating Cooperative Vocational Education Programs (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WF ED 441

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 445 Vocational Guidance (3) Problems and possibilities of vocational guidance; the field of guidance and guidance literature; methods of field work; school guidance techniques.

Vocational Guidance (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WF ED 105 ; fourth-semester standing

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 450 (US;IL) Cultural Diversity in the Workplace (3) Provides opportunities for students to explore different cultures and mores that are changing the dynamics of the workplace.

Cultural Diversity in the Workplace (3)

General Education: None
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2006

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 471 Training in Industry and Business (3) Appraisal of training functions and development of competencies in work analysis, design, development, delivery, and evaluation of training.

Training in Industry and Business (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2001
Prerequisite: seventh-semester standing or higher

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 495 Internship (1-6) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships. Written and oral critique of activity required.

Internship (1-6)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 495A Cooperative Education Practicum (2) Validation of competencies learned in prerequisite courses during interaction with professional staff while functioning under the supervision of a certified cooperative coordinator.

Cooperative Education Practicum (2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WF ED 445

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 495C Student Teaching (10) Supervised observation and practice teaching in approved vocational industrial schools/health occupations education settings.

Student Teaching (10)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 1997
Prerequisite: successfull completion of occupational competency evaluation. PA Act 34 clearance required. In addition non-Pennsylvania residents must provide evidence of an FBI background information check. (Forms: 228 Chambers)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 495D Instructional Internship in Industrial Training (5) Supervised internship in industrial training. Interns will be expected to perform instructional duties in industrial environments.

Instructional Internship in Industrial Training (5)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996
Prerequisite: WF ED 105, WF ED 106, WF ED 207W, WF ED 270, WF ED 471 ; successful completion of occupational competency examination

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 497A The Science and Art of Healing: Sustaining Healthy Living (3) Critically and scientifically evaluate complementary and alternative healing therapies, current research, and prospects for revised health care policies.

The Science and Art of Healing: Sustaining Healthy Living (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498A Project Management for Professionals (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Project Management for Professionals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1996

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498A Project Management for Professionals (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Project Management for Professionals (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498A (CN ED 498A) Facilitating Career Development (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Facilitating Career Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2011 Ending: Spring 2011 Future: Spring 2011

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498B Child Development (3) Teaching the Family & Consumer Sciences Academic Standards: Child Development and Balancing Family, Work and Community Responsibility.

Child Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498B (CN ED 498A) Facilitating Career Development (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Facilitating Career Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498C Mastering Supervision (3) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Mastering Supervision (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Workforce Education and Development (WF ED)

WF ED 498D (CN ED 498A) Facilitating Career Development (3) Students acquire relevant competencies to assist others in planning and managing careers. Upon successful completion, students may apply for the GCDF certification.

Facilitating Career Development (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2010 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 295A Early Field Experience for World Languages Teacher Preparation (3) Selected observation of schooling situations in Pre-K-1st grade settings focusing on language acquisition/language teaching.

WL ED 295A Early Field Experience for World Languages Teachers Preparation (3)

This course has two major parts: one that is conducted in a workshop-like classroom and the second part is the field experience. In this course, we will provide prospective World Language teachers with several opportunities to observe/work with infants while focusing on language acquisition processes. As part of the field experience, students will have the opportunity to observe and work in an early childhood environment. There, students will have opportunities to plan, design and deliver second language related activities. All these activities will include connections with language acquisition theories, Foreign Language National Standards and specific cognitive behavioral and communicative goals. During the workshop sessions, students will discuss their experiences, develop necessary didactic materials and teaching props, and receive guidance on how to develop their professional portfolios.
This course should be taken concurrently with a Foundations of Second Language Teaching (WL ED 300) course.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: Third-semester standing; PA Act 34 and Act 151 Clearances required; FBI background information check; and Professional Liability Insurance.
Concurrent: WL ED 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 300 Foundations of Second Language Teaching (3) Critical understanding of basic concepts and principles in second language acquisition and teaching.

WL ED 300 Foundations of Second Language Teaching (3)

This course is designed to give prospective World Languages teachers a critical understanding of basic concepts and principles in, first and second language acquisition and teaching. The core of the course explicates processes of language acquisition viewed from major theories of first and second language acquisition and common issues within these major theories are presented and debated.

This course should be taken concurrently with WL ED 295A (Early Field Experience for World Languages Teacher preparation). Using the field experience component, students will be able to critically examine language teaching methodologies derived and implied from first and second language acquisition theories and to apply them while in their field experience. This course requires participating in the field experience component, group-reflections and self-critique as well as to complete the required readings, and to develop a professional growth portfolio including the four domains stated in the Penn State model of Teacher Preparation (planning and preparing for student learning; teaching; inquiring and analyzing learning and teaching- and professionalism).

This course should be taken concurrently with the Early Field Experience for World Languages Teacher Preparation (WL ED 295A).

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004

Concurrent: WL ED 295A

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 400 Foundations of Language in Second Language Teaching (3) Critical understanding of basic concepts and principles in second language acquisition and teaching.

WL ED 400 Foundations of Language in Second Language Teaching (3)

This is an advanced course designed for practicing classroom teachers who want to further their knowledge of language acquisition/language teaching. It provides a critical understanding of basic concepts and principles in first and second language acquisition and teaching. The core of the course explicates processes of language acquisition viewed from major theories of first and second language acquisition and common issues within these major theories are presented and debated.

Using their classroom experiences, students will be able to critically examine language teaching methodologies derived and implied from first and second language acquisition theories and to apply them in their classrooms. This course requires active participation, group-reflections and self-critique, and completion of required readings; 20-30 hours of volunteer work in an ESL setting; and development of a professional growth portfolio including the four domains stated in the Penn State Model of Teacher Preparation (planning and preparing for student learning; teaching; inquiring and analyzing learning and teaching; and professionalism) and the competencies for English Usage and Developing Linguistic Awareness stated by the Pennsylvania Department of Education.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: PA Instructional I or II teaching certificate

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 411 Methods of Teaching World Languages in Grades 1-5 (3) Exploration of the complexity of teaching World Languages and development of curricular designs for teaching in grades 1-5 schools.

WL ED 411 Methods for Teaching World Languages in Grades 1-5

In this course prospective World Languages teachers will engage in a variety of theoretical, pedagogical and reflective events to explore the complex nature of language learning/teaching including (1) individual beliefs and knowledges, (2) issues related to language/power, (3) language/cultural diversity, and (4) development of curricular designs for teaching World Languages in grades l - 5. This course will be conducted in a workshop style. It will have three parallel strands: (a) we will review together basic concepts and principles of language learning/teaching through readings, class discussions and presentations; (b) make connections between the readings and the L2 experience in the Practicum-World Languages Teaching in grades 1-5 (WL ED 495B); and (c) as a group, the class will design thematic units, class plans, activities and didactic materials.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: EDPSY 014, EDTHP 115, WL ED 295A, WL ED 300
Concurrent: WL ED 495B

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 414 Methods of Teaching in Bilingual Education (3) Methods, techniques, materials, and language laboratory in dual-language instruction.

WL ED 414 Methods of Teaching in Bilingual Education (3)

This course is designed as an introduction to the history of Bilingual Education: its theories, methods, and socio-political implications. Readings and films will revolve around case studies of Bilingual Education programs and socio-cultural theories that underlie them. Completion of this course will give each student a better understanding of the theories which inform Bilingual Education programs, the methods which synthesize theory and practice, and how issues of language and power relate to language teaching and learning.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2005
Prerequisite: EDPSY 014, EDTHP 115, WL ED 295A, WL ED 300
Concurrent: WL ED 495B or WL ED 495C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 412W Methods of Teaching World Languages in Grades 6-12 (3) Exploring the complexity of teaching World Languages and development of curricular designs for teaching World Languages in grades 6-12.

WL ED 412W Methods of Teaching World Languages in Grades 6-12 (3)

The purpose of this course is to help students develop a principled approach to designing and implementing lessons in their World Language classroom. Specifically, students will work towards an understanding of the processes of developing abilities in a second language that acknowledges a range of theories and associated methods but that is also situated within a particular theoretical framework of language and language learning. In this way, students will be better positioned to make the myriad instructional decisions they will face in middle school and high school contexts, ranging from materials development to lesson planning and classroom management to assessment. This is a writing-intensive course. Students will engage in a variety of formal and informal writing activities both in and out of class. Taken together, these activities function to enhance students' abilities as both producers and consumers of a range of texts relevant to their teaching practice. In addition, writing is understood to be a process integral to the fulfillment of each of the course goals.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2010
Prerequisite: WL ED 411, WL ED 495B
Concurrent: WL ED 495C

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 422 Issues in Bilingual Education (3) Contemporary issues in foreign language and bilingual education for prospective and practicing teachers of foreign languages and bilingual education.

WL ED 422 Issues in Bilingual Education (3)

This course will examine the theoretical base of the language learning process, how it relates to classroom instruction and communication in the target language, i.e., French, German, Spanish. We will focus not only on the development and implementation of contextualized language teaching approaches, but also on learner factors such as native language, ethnicity, cultural background, and individual learning styles. Issues of assessment, test evaluation and development, textbook evaluation/selection will also be addressed. The course requires active participation through class discussion, opportunities for practice-teaching, evaluation and development of materials and instructional plans as well as reflection and self critique.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2004
Prerequisite: 12 credits or 12-credit level proficiency in the target languageEDPSY 014, EDTHP 115, WL ED 295A, WL ED 300

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 444 (CI ED 444) Language, Culture and the Classroom: Issues for Practitioners (3) Critical understanding of cultural linguistic diversity to facilitate the inclusion of English Language Learners in a globalized classroom.

WL ED (CI ED) 444 Language, Culture and the Classroom: Issues for Practitioners (3)

In this course we will focus on the issues of power raised by the use of Standard English as the school language while in its grounds there are an increasing number of students who are using more than one language/dialect to communicate. We will also discuss how language mutates into an exceptional hegemonic/counterhegemonic device central to the problematic regarding school socialization. Finally, we will critically understand teachers' and schools' roles in building a safe classroom where diversity of languages and cultures are welcome and encouraged.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Fall 2007
Prerequisite: WL ED 300 orWL ED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 483 Evaluating Schools Performances and Programs with English Language Learners (ELLs) (3) Using/adapting multiple techniques to asses English Language Learners (ELLs) language and other school subjects.

WL ED 483 Evaluating Schools Performances and Programs with English Language Learners (ELLs) (3)

This course provides students with knowledge of a variety of assessment instruments to identify and monitor levels of second language and content proficiencies of English Language Learners (ELLs). Students will learn multiple assessment models used in English as a Second Language (ESL) programs. Students will establish connections between assessment and instruction for English Language Learners, as well as gain knowledge about services available, such as instructional support, multidisciplinary teams, and other assessment services for English Language Learners. This course requires active participation, group-reflections, discussions and activities as well as to develop a professional growth portfolio including the four domains stated in the Penn State model of Teacher Preparation (planning and preparing for student learning; teaching; inquiring and analyzing learning and teaching; and professionalism) and the competences for English Language Learners (ELLS) Language and Support Services Knowledge stated by the Pennsylvania Department of Education.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2004
Prerequisite: WL ED 300 orWL ED 400

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 495B Field Experience for World Languages Teacher Preparation in Grades 1-5 (3) Practicum. Prospective World Language teachers demonstrate knowledge on second language learning/teaching and educational theories (Grades 1-5).

WL ED 495B Field Experience for World Languages Teacher Preparation in Grades 1-5 (3)

Practicum situation where Prospective World Language teachers will demonstrate acquired knowledge on second language learning/teaching and educational theories. Prospective World Language teachers will have assigned school placements and will attend a weekly seminar where issues in World Language learning and teaching will be discussed. At their assigned school placement, prospective World Language teachers will have many opportunities to observe/work with children in grades 1-5 (1) focusing on second language learning/teaching and the socio/cultural issues associated to classroom practices while implementing and self-evaluated own designed activities and lessons; (2) weekly seminars will engage students in reflective activities that will enable them to analyze each week's events; (3) inquiry projects on teaching and learning of World Languages.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: EDPSY 014, EDTHP 115, WL ED 295A, WL ED 300 ; PA Act 34 and Act 151 Clearances required; FBI background information check; and Professional Liability insurance.
Concurrent: WL ED 411

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

World Languages Education (WL ED)

WL ED 495C Field Experience for World Languages Teacher Preparation in Grades 6-12 (3) Practicum. Prospective World Language teachers demonstrate knowledge on second language learning/teaching and educational theories (Grades 6-12).

WL ED 495C Field Experience for World Languages Teacher Preparation in Grades 6-12 (3)

Practicum situation where prospective World Language teachers will demonstrate acquired knowledge on second language learning/teaching and educational theories. Prospective World Language teachers will have assigned school placements in grades 6-12 and will attend a weekly seminar where issues in World Language learning and teaching will be discussed. At their assigned school placement, prospective World Language teachers will have many opportunities to observe/work with students in grades 6-12 (1) focusing on second language learning/teaching and the socio/cultural issues associated to classroom practices while implementing and self-evaluating their own designed activities and lessons, (2) weekly seminars will engage students in reflective activities that will enable them to analyze each week's events, and (3) inquiry projects on teaching and learning of World Languages.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2009
Prerequisite: WL ED 411;WL ED 495B ; PA Act 34 and Act 151 Clearances required; FBI background information check; and Professional Liability insurance.
Concurrent: WL ED 412

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 211 (GS;US;IL) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

YFE (CIVIM) 211 (CAS 222) Foundations: Civic and Community Engagement (3) (GS;US;IL)

This course uses lectures, case studies, and hands-on practice to provide a foundation for students' orientation to public scholarship, civic engagement, and the relationship between learning and democratic practice. Core concepts about democracy in America, the land-grant university's historic mission, and about service learning and public scholarship are introduced. Students learn about a range of ways that citizens within the United States as well as in other countries participate in democratic decision making. Students also are introduced to diverse political perspectives and civic practices for different ethnic and cultural groups within the United States and internationally. Civic practices in different parts of the world are embedded in the economic conditions and cultural norms of the particular contexts. Students also are introduced to global citizenship/public issues such as environmental sustainability and labor and educational practices, and learn about opportunities for civic engagement within the U.S. and internationally.

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008 Ending: Summer 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 211 (GS;US;IL) (CAS 222, CIVCM 211) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

YFE (CIVIM) 211 (CAS 222) Foundations: Civic and Community Engagement (3)
(GS;US;IL)

This course uses lectures, case studies, and hands-on practice to provide a foundation for students' orientation to public scholarship, civic engagement, and the relationship between learning and democratic practice. Core concepts about democracy in America, the land-grant university's historic mission, and about service learning and public scholarship are introduced. Students learn about a range of ways that citizens within the United States as well as in other countries participate in democratic decision making. Students also are introduced to diverse political perspectives and civic practices for different ethnic and cultural groups within the United States and internationally. Civic practices in different parts of the world are embedded in the economic conditions and cultural norms of the particular contexts. Students also are introduced to global citizenship/public issues such as environmental sustainability and labor and educational practices, and learn about opportunities for civic engagement within the U.S. and internationally.

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 211S (GS;US;IL) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

Foundations: Civic and Community Engagement (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Summer 2008 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 211U (GS;US;IL) Foundations: Civic and Community Engagement (3) Conceptual foundations of public scholarship and orientation to contemporary themes and issues in civic and community engagement.

Foundations: Civic and Community Engagement (3)

General Education: GS
Diversity: US;IL
Bachelor of Arts: None
Effective: Fall 2010 Ending: Fall 2010 Future: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 295A Observation of Cooperative Extension Service Programs (1-2) Supervised observation of extension education in agriculture, community resource development; family living, 4-H programs; appraisal of responsibilities of extension professionals.

Observation of Cooperative Extension Service Programs (1-2)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 295 Internship (1-18) Supervised off-campus, nongroup instruction including field experiences, practica, or internships. Written and oral critique of activity required.

Internship (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 298 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 297 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 397 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 398 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 438 (US) Living in an Increasingly Diverse Society (1-3) Students in this course will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning.

YFE 438 Living In An Increasingly Diverse Soceity (1-3) (US)

Students in this course will increase awareness of, appreciation for, and valuing of diversity. Students will explore selected dimensions of diversity through lecture, discussion, speakers, active participation, and experiential learning. Topics will include, among others: the values, habit patterns, and beliefs of major cultural groups; issues of gender; gay/lesbian/bisexual/transgendered Americans; people with physical and mental challenges; socio-economic status; appearance and other diversity-related topics of interest to students. Students will be evaluated on their active participation in class discussions, a position paper, an experiential project and presentation, a lesson plan for use in formal or nonformal educational settings, and use of a reflection journal.

General Education: None
Diversity: US
Bachelor of Arts: None
Effective: Summer 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 439 Contemporary Youth Issues (3) This course focuses on empirically-supported interventions that promote resiliency and reduce risk for problem behaviors among youth in community settings.

YFE 439 Contemporary Youth Issues (3)

This course will focus on research-based preventive interventions designed to promote resiliency and reduce risk for problem behaviors among youth in community settings. As a group project, students will write a paper and present a panel presentation on the prevention of a particular problem behavior such as alcohol, tobacco, and other drug (ATOD) use, teen sexual activity, school failure, delinquency, or violence. Students also will be evaluated on class attendance, participation in class discussions, and quizzes.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 2000 Ending: Fall 2010
Prerequisite: a minimum of six credits in courses that focus on youth and/or families

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 455 Extension Youth Development Programs and Volunteer Management (3) A study of 4-H/Extension youth programs and the variety of roles played by volunteer leaders.

Extension Youth Development Programs and Volunteer Management (3)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999 Ending: Fall 2010
Prerequisite: 6 credits of social or behavioral sciences

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 470 Consumer and Financial Skills (3) Consumer and financial issues formal and non formal educators need to be informed about to function in today's society.

YFE 470 Consumer and Financial Skills (3)

This course focuses on consumer and financial topics that college students and educators (formal and non-formal) need to function successfully in today's society and to have a secure financial future. By the end of the course, students will have basic knowledge and skills related to topics such as making daily decisions on using money responsibility, managing credit, planning for retirement, using a process to make consumer decisions, risk management, and taxes. In addition, students will learn teaching techniques and ways to incorporate consumer and financial concepts within existing curricular if they work in formal educational settings such as community agencies or youth organizations. The course evaluation will consist of objective tests, quizzes, mini media reports, and a research report on a consumer or financial issue.

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2008 Ending: Fall 2010
Prerequisite: Six credits of social and behavioral sciences and six credits of quantification (math)

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 495 Internship in Youth and Family Education Programs (6-18) Supervised off-campus, nongroup instruction including field experiences, practicums, or internships.

Internship in Youth and Family Education Programs (6-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Summer 1999 Ending: Fall 2010
Prerequisite: prior approval of proposed assignment by instructor

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 496 Independent Studies (1-18) Creative projects, including research and design, which are supervised on an individual basis and which fall outside the scope of formal courses.

Independent Studies (1-18)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 497 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject which may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 498 Special Topics (1-9) Formal courses given infrequently to explore, in depth, a comparatively narrow subject that may be topical or of special interest.

Special Topics (1-9)

General Education: None
Diversity: None
Bachelor of Arts: None
Effective: Spring 2000 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Youth and Family Education (YFE)

YFE 499 (IL) Foreign Studies (1-12) Courses offered in foreign countries by individual or group instruction.

Foreign Studies (1-12)

General Education: None
Diversity: IL
Bachelor of Arts: None
Effective: Summer 2005 Ending: Fall 2010

Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

Baccalaureate Degree Programs

The following definitions, referring to baccalaureaate degrees, majors, options, minors, and concurrent or sequential majors programs, have been adopted by the University Faculty Senate:

Baccalaureate Degree--An award signifying a rank or level of educational attainment. Particular types of baccalaureate degrees identify educational programs having common objectives and requirements. Degree programs may provide academic, preprofessional, or professional experiences and preparation. Majors lead to a baccalaureate degree. Each student must select a major within a baccalaureate degree type. If options are offered within a major, a student selects one. The student may also elect to enroll in a minor to supplement the major. Alternatively, the student may seek to enroll in multiple majors within the same type of baccalaureate degree or to enroll in a simultaneous degree program. A baccalaureate program of study shall consist of no less than 120 credits. Students may elect to take courses beyond the minimum requirements of a degree program.

Major--A plan of study in a field of concentration within a type of baccalaureate degree. Colleges and other degree-granting units may have common requirements for all of their majors. Each major may have requirements identified in Prescribed, Additional, and Supporting categories of courses.

Option--A specialization within a major that should involve at least one-third of the course work credits required for the major, but need not be more than 18 credits. All options within a major must have in common at least one-fourth of the required course work credits in the major. A student can only be enrolled in an option within his/her own major.

Minor--A minor is defined as an academic program of at least 18 credits that supplements a major. A minor program may consist of course work in a single area or from several disciplines, with at least 6 but ordinarily not more than half of the credits at the 400 course level. Total requirements are to be specified and generally limited to 18 to 21 credits. Entrance to some minors may require the completion of a number of prerequisites, including courses, portfolios, auditions, or other forms of documentation that are not included in the total requirements for the minor. All courses for a minor require a grade of C or above.

Concurrent and Sequential Majors Programs--At the baccalaureate or associate degree level, students may be approved for admission to more than one major under the Concurrent Majors program. A Concurrent Majors program is one in which students take courses to concurrently meet the requirements of at least two majors, with graduation for all majors in the program occurring during the same semester. Concurrent majors must all be at the baccalaureate or associate degree level. Under the Sequential Majors program, upon graduation from an associate or baccalaureate degree program, a student may apply for re-enrollment in another undergraduate degree program.

Accounting

Capital College (ACCT)

JANE KOCHANOV, *Director of Undergraduate Studies, School of Business*

This major helps students prepare for careers in auditing and public accounting, industrial and managerial accounting, and in governmental and not-for-profit accounting. It also provides a sound background for students who plan to pursue graduate studies in accounting or related fields. Students who complete the prescribed courses and earn a Bachelor of Science degree will satisfy the academic requirements to sit for the Certified Public Accountant (CPA) examination. Graduates may also elect to pursue other professional certifications, including Certified Management Accountant (CMA), Certified Internal Auditor (CIA), Certified Fraud Examiner (CFE), and Certified Government Financial Manager (CGFM). Because the Harrisburg area is the center of industry and economic development for south-central Pennsylvania, students are provided with many opportunities to experience the world of business.

For a B.S. in Accounting a minimum of 120 credits is required. At least 50 percent of the business credit hours required for the degree must be taken at the Capital College. No more than 60 credits should be from business and business-related courses. Students wishing to fulfill the 150 credit-hour education option to become a CPA in Pennsylvania (which reduces the experience requirement for certification) are encouraged to enter Capital College's Master of Business Administration program or the Master of Science in Information Systems program subsequent to receiving their undergraduate accounting degree.

Entry to Major Requirements:
Entry to the Accounting major requires the completion of 8 entry-to-major courses: ACCTG 211(4)**[1]**; B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3)**[1]** or ENGL 030 GWS(3)**[1]**; MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; MIS 204(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; and a 2.00 or higher cumulative grade-point average. Additional information about this major is available in the office of the Director of Undergraduate Studies, School of Business Administration at Penn State Harrisburg.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education Course Requirements in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8 credits of non-business courses

REQUIREMENTS FOR THE MAJOR: 79 credits
(This includes 12 credits of General Education Courses: 3 credits of GWS courses; 3 credits of GS courses; 6 credits of GQ courses)

PRESCRIBED COURSES (55 credits)
ACCTG 211(4)**[1]** (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-4)
ENGL 202D GWS(3) (Sem: 1-4)
MIS 204(3) (Sem: 1-4)
B A 364Y US;IL(3), B A 462(3)**[1]**, FIN 301(3), MIS 390(3), SCM 310(3) (Sem: 5-8)
MGMT 301(3), MKTG 301(3) (Sem: 5-8)
ACCTG 310(3)**[1]**, ACCTG 340(3)**[1]**, ACCTG 403(3)**[1]**, ACCTG 471(3)**[1]**, ACCTG 472(3)**[1]**, ACCTG 473(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (18 credits)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 1-4)
Select 4 credits from MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-4)
Select 4 credits from SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-4)
Select 6 credits**[1]** from the following: ACCTG 410(3), ACCTG 431(3), ACCTG 432(3), ACCTG 440(3), ACCTG 461 IL(3), ACCTG 462(3), ACCTG 463(3), ACCTG 489(3), ACCTG 494(1-12), ACCTG 496(1-18), ACCTG 497(1-9) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from 200-400 level business courses from: ACCTG, B A, ECON, FIN, MGMT, MIS, MKTG, or SCM in consultation with an academic adviser and in support of the student's interests. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-05-020

Review Date: 2/24/09

UCA Revision #1: 8/2/06

Accounting

University Park, Smeal College of Business (ACCTG)

PROFESSOR PAUL FISCHER, *Chair of the Department of Accounting*

This major helps prepare students for careers in public, industrial, or governmental accounting and also provides an appropriate background for those planning to enter law school or graduate school. Public accounting is carried on by independent practitioners, most of whom are certified public accountants. In addition to independent audits, Certified Public Accountants (CPAs) render accounting, tax, and management advisory services.

There is a 150-credit requirement to sit for the CPA examination in Pennsylvania and many other states. The 120-credit Bachelor of Science degree in Accounting provides a solid foundation for students preparing for the exam.

The industrial accountant, as an executive in a business firm, is in charge of designing and supervising the financial and managerial accounting system, including the preparation and analysis of reports. Many are now taking the Certified Management Accountant (CMA) exam. It is a two-day exam covering economics, finance, management, decision analysis, information systems, and accounting. Governmental accountants occupy positions in federal, state, and local government and perform services similar to those of public or industrial accountants.

Entrance Requirement: To be eligible for entrance into the Accounting (ACCTG) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 102 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); and MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. In addition to the above requirements, the Executive Vice President and Provost of the University may approve administrative enrollment controls that limit the number of students who are admitted to majors in the Smeal College of Business. In each case, however, academic requirements are established for admission. For information on enrollment controls, consult the Smeal College of Business Web site (http://www.smeal.psu.edu).

For the B.S. degree in Accounting, a minimum of 120 credits is required with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 11 credits

REQUIREMENTS FOR THE MAJOR: 76 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses)

PRESCRIBED COURSES (52 credits)
ACCTG 211(4)**[1]**, ECON 102 GS(3), FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]** (Sem: 1-4)
B A 342(3), B LAW 341(3), ECON 104 GS(3), MIS 204(3), SCM 301(3), ENGL 202D GWS(3)**[1]** (Sem: 5-6)
ACCTG 403W(3), ACCTG 404(3), ACCTG 405(3)**[1]**, ACCTG 471(3)**[1]**, ACCTG 472(3)**[1]**, B A 411(3) (Sem: 5-8)

ADDITIONAL COURSES (14 credits)
MATH 110 GQ(4)**[1]**or MATH 140 GQ(4)**[1]** (Sem: 1-2)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)
Select 6 credits from the following: ACCTG 406(3), ACCTG 432(3), ACCTG 473(3), ACCTG 481(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (10 credits)
Select 4 credits: Attainment of 12th credit level proficiency in a single foreign language. Proficiency must be demonstrated by either examination or course work. (Sem: 1-4)
Select 6 credits of supporting coursework. See Department List. (Sem: 5-8)

Integrated B.S. in Accounting and Masters in Accounting Program

The Department of Accounting offers an integrated program allowing students to receive a B.S. in Accounting and Master of Accounting (M.Acc.) degrees within a five-year period. Students typically are admitted into the integrated program in the spring of the second year of the undergraduate program and the program is completed in the subsequent three years. The program is designed to meet the educational requirements for becoming a certified public accountant in Pennsylvania as well as most other states. Certified public accountants conduct independent audits and provide accounting, tax, and management advisory services. The program prepares students to enter into careers in public accounting, corporate accounting, management accounting, governmental accounting, financial analysis, and law enforcement. In addition, the program is appropriate for students having an interest in entering law school and graduate programs in business, such as M.B.A. programs or doctoral programs.

Admissions Requirements

Students will generally apply for the program in the spring of their second year of undergraduate study. To apply for the program students must:

(1) be enrolled in the Smeal College of Business or Division of Undergraduate Studies and intend to complete the entrance-to-major requirements by the end of the spring semester in which they apply

and

(2) complete a Graduate School application for graduate study.

Although the program has no fixed minimum grade-point requirement, an applicant is generally expected to have grade-point average of at least 3.20 on Penn State’s grading scale of A (4.00) to D (1.00).

In addition, the Department may request an interview with an applicant, or require a GMAT exam or other exam. Admissions decisions will be based upon the student’s application, undergraduate record, SAT scores and, if applicable, interviews and examination results.

Admitted students must have completed ACCTG 211 with superior performance by the end of the spring semester in which they apply for admission to the program. A student who has not satisfied this requirement by the admissions deadline may be provisionally admitted pending completion of ACCTG 211 with a superior performance.

Degree Requirements

Students must complete the requirements for a B.S. in accounting with the following alterations:

Some of prescribed courses for the B.S. must be taken in sections that are available only to students enrolled in the program. These prescribed courses, which all count toward the undergraduate degree in accounting, are: ACCTG 403W, ACCTG 404, ACCTG 405, ACCTG 471, and ACCTG 472.

The student need not satisfy the requirement that 6 credit hours be completed from the following list of courses: ACCTG 406, ACCTG 432, ACCTG 473, and ACCTG 481.

The following courses cannot be used to satisfy the degree requirements of the integrated program: ACCTG 406, ACCTG 410, ACCTG 411, ACCTG 422, ACCTG 450, ACCTG 473, and ACCTG 481.

Students must complete the Master of Accounting Requirements, which total 30 credit hours of graduate instruction, in addition to completing 120 credit hours of undergraduate instruction.

The following courses, totaling 9 credit hours, will double-count towards both the B.S. and Master of Accounting degrees: B LAW 444(3), FIN 531(3), and ACCTG 881(3).

Students must complete a minimum of 30 credits hours of graduate instruction over and above the 120 credit hours required of the B.S. degree in accounting. All 30 of these credit hours must be earned in 400-level, 500-level, or 800-level courses. At least 18 of the 30 credit hours must be earned in 500-level and 800-level courses, and at least 6 of the 30 credit hours must be earned in 500-level courses.

Students must complete the following required courses as part of the 30 credit hours of graduate instruction:
ACCTG 432(3), ACCTG 440(3), ACCTG 803(3), ACCTG 806(3), ACCTG 873(3), ACCTG 881(3), B A 517(3), B LAW 444(3), FIN 531(3).

These courses must be taken in sections that are available only to students enrolled in the integrated program. Note that these required courses satisfy 27 of the 30 credit hour minimum. In addition, after completing these courses, the student will have satisfied the requirement that 18 credit hours must be earned in 500-level or 800-level courses and the requirement that 6 credit hours must be earned in 500-level courses.

Student must have satisfactory academic performance to maintain enrollment in the program. A grade point average of 3.0 in the 30 credit hours of graduate instruction is required to receive the master's degree.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-037; Integrated 38-06-135

Review Date: 04/13/2010

Accounting

Penn State Erie, The Behrend College (ACNTG)

The Accounting major provides an opportunity to pursue a unique program that integrates knowledge and skill in accounting and information management. It helps prepare students for positions in public accounting firms, corporations, and government, where accounting skills are essential. In addition, the accounting major provides the necessary academic training for students interested in administrative responsibilities in the area of accounting.

Entry to Major Requirements:
Entry to the Accounting major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in Accounting, a minimum of 120 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 89 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (56 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
ACCTG 310(3), ACCTG 312(3), ACCTG 371(4), ACCTG 472(3), FIN 301(3), MGMT 301(3), MKTG 301(3), SCM 310(3) (Sem: 5-6)
ACCTG 340(3), ACCTG 403(3), ACCTG 422(3), ACCTG 450(3), MGMT 471W(3) (Sem: 7-8)

ADDITIONAL COURSES (21 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 3 credits from ECON 470(3), MGMT 461 IL(3), MKTG 445(3), or other 400-level international business course (Sem: 5-8)
Select 6 credits from ACCTG 410(3), ACCTG 411(3), ACCTG 440(3), ACCTG 495(1-18), B LAW 444(3), or other 300- to 400-level courses either within the major or from other business areas (see School list of approved courses) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from the nonbusiness supporting course list for the major. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-027

Review Date: 11/21/06

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

BD

Actuarial Science

University Park, Smeal College of Business (ACTSC)

PROFESSOR AUSTIN JAFFE, *Chair of the Department of Insurance and Real Estate*

An actuary is a business professional who uses mathematical skills to define, analyze, and solve business and social problems. Actuaries generally are employed in life, health, and casualty insurance companies, consulting firms, and government.

The courses in the Actuarial Science major stress the application of mathematical and statistical concepts to the measurement of life and other contingencies, while at the same time giving the student a broad understanding of the business environment.

Actuarial Science majors are encouraged to begin the series of professional examinations leading to Associateship and Fellowship in either the Society of Actuaries (A.S.A./F.S.A.) or the Casualty Actuarial Society (A.C.A.S./F.C.A.S.). Graduating students will have studied four of the six subjects that must be passed to qualify as an A.S.A. and four of the seven subjects needed to qualify as an A.C.A.S. They commonly have passed at least the first two parts of these professional examinations by the time they graduate.

Entrance Requirement: To be eligible for entrance into the Actuarial Science (ACTSC) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 102 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 140 GQ(4)**[1]**; and MATH 141(4)**[1],** FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. A minimum cumulative grade point average of 3.00 prior to and through to the end of the semester during which the entrance to major process is carried out.

For the B.S. degree in Actuarial Science, a minimum of 130 credits is required with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8 credits

REQUIREMENTS FOR THE MAJOR: 89 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (78 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
ACCTG 211(4)**[1]**, ECON 102 GS(3), FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]** (Sem: 1-4)
B A 342(3), B A 411(3), B LAW 341(3), ECON 104 GS(3), MIS 204(3), SCM 301(3), ENGL 202D GWS(3), MATH 220 GQ(2), MATH 230(4), STAT 414(3), STAT 415(3)
INS 301(3), INS 310W(3)**[1]**, INS 320(3), INS 401(3)**[1]**, INS 410(3)**[1]**, INS 411(3)**[1]**, INS 412(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (4 credits)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)

SUPPORTING COURSES AND RELATED AREAS (7 credits)
Select 4 credits: Attainment of 12th credit level proficiency in a single foreign language. Proficiency must be demonstrated by either examination or course work (credits count in Electives) (Sem: 1-4)
Select 3 credits of supporting coursework. See Department List. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-039

Review Date: 04/13/2010

UCA Revision #1: 8/2/06

BA

Administration of Justice

Abington College (AJAAB)
University College (AJACC): Penn State Fayette, Penn State Schuylkill, Penn State Wilkes-Barre

The Bachelor of Arts degree in Administration of Justice provides students with a broadly based liberal education focused on the understanding and analysis of justice systems. Having grappled with the many dilemmas and controversies presented by the problems of administering justice in a complex society, graduates of this program are given the background to be educated, thoughtful, and intelligent citizens.

For the B.A. degree in Administration of Justice, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4-7 credits of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 43-44 credits**[1]**
(This includes 4-7 credits of General Education courses; 0-3 credits of GH courses; 4 credits of GQ courses.)

PRESCRIBED COURSES (13 credits)
CRIM J 012 GS(3), CRIM J 100(3), CRIM J 221(3), STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (24-25 credits)
Select 3-4 credits in values and ethics from B A 243(4), PHIL 003 GH(3), PHIL 103 GH(3), PHIL 105 GH(3), PHIL 106 GH(3), or PHIL/S T S 107 GH(3), S T S 100 GH(3), S T S 101 GH(3) or S T S/PHIL 107 GH(3) (Sem: 5-6)
Select 3 credits from CRIM J 451 US(3) or CRIM J 453 US(3) (Sem: 5-8)
Select 18 credits in CRIM J, with at least 12 credits in the 400 level from: CRIM J 013 GS(3), CRIM J 083S GS(3), CRIM J 200(3), CRIM J 201(3), CRIM J 210(3), CRIM J 230(3), CRIM J 234(3), CRIM J 300H(3), CRIM J 301H(3), CRIM J 302H(4), CRIM J 345(3), CRIM J 406(3), CRIM J 412(3), CRIM J 414(3), CRIM J 421(3), CRIM J 421W(3), CRIM J 423(3), CRIM J 424(3), CRIM J 424W(3), CRIM J 425(3), CRIM J 426(3), CRIM J 430(3), CRIM J 439(3), CRIM J 441(3), CRIM J 441W(3), CRIM J 460(3), CRIM J 462(3), CRIM J 467(3), CRIM J 471(3), CRIM J 473(3), CRIM J 482(3), CRIM J 489W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits, in consultation with adviser, from University-wide offerings according to student's career plan (Sem: 5-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2003

Blue Sheet Item #: 31-06-032

Review Date: 5/2/07

UCA Revision #2: 7/26/07

Administration of Justice

Abington College (AJAAB)
University College (AJACC): Penn State Fayette, Penn State Schuylkill, Penn State Wilkes-Barre

The Bachelor of Arts degree in Administration of Justice provides students with a broadly based liberal education focused on the understanding and analysis of justice systems. Having grappled with the many dilemmas and controversies presented by the problems of administering justice in a complex society, graduates of this program are given the background to be educated, thoughtful, and intelligent citizens.

For the B.A. degree in Administration of Justice, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4-7 credits of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 43-44 credits**[1]**
(This includes 4-7 credits of General Education courses; 0-3 credits of GH courses; 4 credits of GQ courses.)

PRESCRIBED COURSES (13 credits)
CRIM J 012 GS(3), CRIM J 100(3), CRIM J 221(3), STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (24-25 credits)
Select 3-4 credits in values and ethics from B A 243(4), PHIL 003 GH(3), PHIL 103 GH(3), PHIL 105 GH(3), PHIL 106 GH(3), or PHIL/S T S 107 GH(3), S T S 100 GH(3), S T S 101 GH(3) or S T S/PHIL 107 GH(3) (Sem: 5-6)
Select 3 credits from CRIM J 451 US(3) or CRIM J 453 US(3) (Sem: 5-8)
Select 18 credits in CRIM J, with at least 12 credits in the 400 level from: CRIM J 013 GS(3), CRIM J 083S GS(3), CRIM J 200(3), CRIM J 201(3), CRIM J 210(3), CRIM J 230(3), CRIM J 234(3), CRIM J 300H(3), CRIM J 301H(3), CRIM J 302H(4), CRIM J 345(3), CRIM J 406(3), CRIM J 412(3), CRIM J 414(3), CRIM J 421(3), CRIM J 421W(3), CRIM J 423(3), CRIM J 424(3), CRIM J 424W(3), CRIM J 425(3), CRIM J 426(3), CRIM J 430(3), CRIM J 439(3), CRIM J 441(3), CRIM J 441W(3), CRIM J 460(3), CRIM J 462(3), CRIM J 467(3), CRIM J 471(3), CRIM J 473(3), CRIM J 482(3), CRIM J 489W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits, in consultation with adviser, from University-wide offerings according to student's career plan (Sem: 5-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2003

Blue Sheet Item #: 31-06-032

Review Date: 5/2/07

UCA Revision #2: 7/26/07

Administration of Justice

Abington College (AJSAB)
University College (AJSCC): Penn State Fayette, Penn State Schuylkill, Penn State Wilkes-Barre

The Bachelor of Science degree is intended to prepare students for careers in the administration of justice. Two emphases are provided: (1) for students interested in entry-level employment in justice agencies; (2) for students interested in academic or research positions and who may seek graduate education before beginning employment.

For the B.S. degree in Administration of Justice, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4-7 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 17-21 credits

REQUIREMENTS FOR THE MAJOR: 64-65 credits**[1]**
(This includes 4-7 credits of General Education courses; 0-3 credits of GH courses; 4 credits of GQ courses.)

PRESCRIBED COURSES (13 credits)
CRIMJ 012 GS(3), CRIMJ 100(3), CRIMJ 221(3), STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (39-40 credits)
(Some of the courses in this category may have prerequisites that are not included in the major.)
Select 3-4 credits in values and ethics from B A 243(4), PHIL 003 GH(3), PHIL 103 GH(3), PHIL 105 GH(3), PHIL 106 GH(3), or PHIL/S T S 107 GH(3), S T S 100 GH(3), S T S 101 GH(3) or S T S/PHIL 107 GH(3) (Sem: 5-6)
Select 3 credits from CRIMJ 451 US(3) or CRIMJ 453 US(3) (Sem: 5-8)
Select 18 credits in CRIMJ, with at least 9 credits in the 400 level from: CRIM J 013 GS(3), CRIMJ 083S GS(3), CRIMJ 200(3), CRIMJ 201(3), CRIMJ 210(3), CRIMJ 230(3), CRIMJ 234(3), CRIMJ 300H(3), CRIMJ 301H(3), CRIMJ 302H(4), CRIM J 345(3), CRIMJ 406(3), CRIMJ 412(3), CRIMJ 414(3), CRIMJ 421(3), CRIMJ 423 US(3), CRIMJ 424(3), CRIMJ 425(3), CRIMJ 426(3), CRIMJ 430(3), CRIMJ 439(3), CRIMJ 441(3), CRIMJ 460(3), CRIMJ 462(3), CRIMJ 467(3), CRIMJ 471(3), CRIMJ 473(3), CRIMJ 482(3), CRIMJ 489W(3) (Sem: 5-8)
Select 15 credits -- emphasis a or b:
a. Field Research emphasis: CRIMJ 240W(4), CRIMJ 290(1), CRIMJ 494(5), CRIMJ 495(5) (Sem: 5-8)
b. Research and Policy Analysis emphasis: Select 15 credits, at least 6 at the 400 level from: AM ST 491W(3-6), CRIMJ 424W(3), any CMPSC (3), ECON 004 GS(3), LER 101 GS(3), L ST 470(3), PL SC 002(3), PL SC 419(3), PL SC 490(3), SOC 409 GS;US(3), SOC 419(3), SOC 422(3), or SOC 423(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits, in consultation with adviser, from University-wide offerings according to student's career plan (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2001

Blue Sheet Item #: 29-07-023

Review Date: 5/2/07

UCA Revision #2: 7/26/07

Administration of Justice

Abington College (AJSAB)
University College (AJSCC): Penn State Fayette, Penn State Schuylkill, Penn State Wilkes-Barre

The Bachelor of Science degree is intended to prepare students for careers in the administration of justice. Two emphases are provided: (1) for students interested in entry-level employment in justice agencies; (2) for students interested in academic or research positions and who may seek graduate education before beginning employment.

For the B.S. degree in Administration of Justice, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4-7 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 17-21 credits

REQUIREMENTS FOR THE MAJOR: 64-65 credits**[1]**
(This includes 4-7 credits of General Education courses; 0-3 credits of GH courses; 4 credits of GQ courses.)

PRESCRIBED COURSES (13 credits)
CRIMJ 012 GS(3), CRIMJ 100(3), CRIMJ 221(3), STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (39-40 credits)
(Some of the courses in this category may have prerequisites that are not included in the major.)
Select 3-4 credits in values and ethics from B A 243(4), PHIL 003 GH(3), PHIL 103 GH(3), PHIL 105 GH(3), PHIL 106 GH(3), or PHIL/S T S 107 GH(3), S T S 100 GH(3), S T S 101 GH(3) or S T S/PHIL 107 GH(3) (Sem: 5-6)
Select 3 credits from CRIMJ 451 US(3) or CRIMJ 453 US(3) (Sem: 5-8)
Select 18 credits in CRIMJ, with at least 9 credits in the 400 level from: CRIM J 013 GS(3), CRIMJ 083S GS(3), CRIMJ 200(3), CRIMJ 201(3), CRIMJ 210(3), CRIMJ 230(3), CRIMJ 234(3), CRIMJ 300H(3), CRIMJ 301H(3), CRIMJ 302H(4), CRIM J 345(3), CRIMJ 406(3), CRIMJ 412(3), CRIMJ 414(3), CRIMJ 421(3), CRIMJ 423 US(3), CRIMJ 424(3), CRIMJ 425(3), CRIMJ 426(3), CRIMJ 430(3), CRIMJ 439(3), CRIMJ 441(3), CRIMJ 460(3), CRIMJ 462(3), CRIMJ 467(3), CRIMJ 471(3), CRIMJ 473(3), CRIMJ 482(3), CRIMJ 489W(3) (Sem: 5-8)
Select 15 credits -- emphasis a or b:
a. Field Research emphasis: CRIMJ 240W(4), CRIMJ 290(1), CRIMJ 494(5), CRIMJ 495(5) (Sem: 5-8)
b. Research and Policy Analysis emphasis: Select 15 credits, at least 6 at the 400 level from: AM ST 491W(3-6), CRIMJ 424W(3), any CMPSC (3), ECON 004 GS(3), LER 101 GS(3), L ST 470(3), PL SC 002(3), PL SC 419(3), PL SC 490(3), SOC 409 GS;US(3), SOC 419(3), SOC 422(3), or SOC 423(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits, in consultation with adviser, from University-wide offerings according to student's career plan (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2001

Blue Sheet Item #: 29-07-023

Review Date: 5/2/07

UCA Revision #2: 7/26/07

Advertising/Public Relations

University Park, College of Communications (AD PR)

PROFESSOR ROBERT A. BAUKUS, *Head, Department of Advertising/Public Relations*

This major is designed to provide a balance of theory, research, and practice. The course sequence provides professional skills courses in conjunction with applied theory and critical evaluative courses. Students develop an understanding of the role and effect of advertising and public relations within the business, social, and political arenas. Students develop abilities and skills that prepare them for a wide range of professional opportunities that include: media planning and relations, research, client services. Analytical abilities are equally stressed throughout the curriculum. Critical thinking skills, creative problem-solving, and the need to justify decisions are developed. Theory and practice from a wide range of disciplines including business, behavioral sciences, and applied statistics are used to equip the students to make informed decisions in a dynamic environment.

ADVERTISING OPTION: All courses in the advertising major emphasize the critical importance of integrated communication. The objective of the curriculum is to prepare students for entry-level opportunities in the advertising profession and to prepare for eventual managerial roles where an understanding of integrated communication concepts is essential.

The program reflects an integrated marketing communications approach to the design implementation and evaluation of advertising messages. In addition to mastering the core professional courses, students are expected to have an understanding of the convergence of mass communication theory and practice and are encouraged to select from courses in communication theory, communication law, mass media history, ethics, and the impact of advertising and public relations on society.

PUBLIC RELATIONS OPTION: The public relations curriculum prepares students for the challenges of public relations practice in a highly competitive, technological, multicultural, and global environment. In their course of study, students study the role and function of public relations in building cooperative mutually beneficial relations between organizations and their constituent publics through understanding, credibility, and trust.

Students complete a core set of courses that includes news writing, introduction to public relations, public relations methods, mass communication research, and public relations problems (campaigns).

Because of the critical importance of journalistic writing skills and an understanding of news media ethics, public relations majors are encouraged to take additional journalism courses to fulfill their communication electives.

Advertising and public relations students are encouraged to choose a minor from outside the College of Communications. The majority of majors select minors in business, English, sociology, psychology, political science, information systems and statistical analysis, foreign language, and speech communication.

Students must select at least 80 credits in courses outside the College of Communications, including at least 65 in the liberal arts and sciences.

For the B.A. degree in Advertising/Public Relations, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 26 credits

COLLEGE OF COMMUNICATIONS BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 35 credits**[1]**
(This includes 10 credits of General Education courses: 6 credits of GS courses; 4 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 17 credits

PRESCRIBED COURSES (14 credits)
COMM 160(1), COMM 420(3), ECON 102 GS(3), PSYCH 100 GS(3), STAT 200 GQ(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits of COMM courses (other than COMM 100 GS or COMM 120) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 18 credits

ADVERTISING OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
COMM 320(3) (Sem: 3-6)
COMM 421W(3), COMM 422(3) (Sem: 5-6)
COMM 424(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from COMM 370(3), COMM 410 IL(3), COMM 411(3), COMM 417(3), COMM 418(3), COMM 425(3), COMM 426(3), COMM 427(3), COMM 468(3), COMM 496(3), COMM 499 IL(1-9) (Sem: 5-8)

PUBLIC RELATIONS OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
COMM 260W(3) (Sem: 3-4)
COMM 370(3) (Sem: 5-6)
COMM 471(3) (Sem: 5-8)
COMM 473(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from COMM 320(3), COMM 401(3), COMM 403(3), COMM 409(3), COMM 410 IL(3), COMM 417(3), COMM 418(3), COMM 426(3), COMM 427(3), COMM 462(3), COMM 464W(3), COMM 468(3) or COMM 496(3), COMM 499 IL(1-9) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-071

Review Date: 4/13/10

UCA Revision #1: 8/2/06

CM

Aerospace Engineering

University Park, College of Engineering (AERSP)

PROFESSOR GEORGE A. LESIEUTRE, *Head, Department of Aerospace Engineering*

This major emphasizes the analysis, design, and operation of aircraft and spacecraft. Students learn the theories and practices in the fundamental subjects of aeronautics, astronautics, aerodynamics and fluid dynamics, aerospace materials and structures, dynamics and automatic control, aircraft stability and control and/or orbital and attitude dynamics and control, air-breathing and rocket propulsion, aircraft systems design and /or spacecraft systems design. All of these place significant weight on the development and use of teamwork and communications skills for effective problem-solving. Graduates in aerospace engineering find employment in the customary settings such as government laboratories, large and small aerospace firms, and in nontraditional positions that also require the use of systems-engineering approaches to problem-solving; they can also pursue graduate study in aerospace engineering and related fields.

Graduates with a Bachelor of Science in Aerospace Engineering will be able to:

1. analyze the dynamics and control characteristics of aerospace vehicles, including the basic translational and rotational dynamics, and the basic theory and practice used to control these motions,
2. analyze fluid dynamics, including the regimes of subsonic, transonic, and supersonic flows, inviscid and viscous flows, and laminar and turbulent flows,
3. apply knowledge of the fundamentals of aeronautics, including aerodynamic characteristics of aircraft, propulsion systems, airplane performance, and elementary aircraft stability and control,
4. apply knowledge of the fundamentals of astronautics, including orbital mechanics, attitude dynamics and control, rocket propulsion, and the space environment,
5. predict performance, and conduct preliminary design, of gas turbine and rocket-based propulsion systems and their components,
6. analyze the detailed dynamics, stability, and control of either aircraft or spacecraft,
7. analyze and design structural elements such as bars, beams, plates, and thin-walled structures,
8. make measurements to test hypotheses or to characterize the performance of physical systems (aerodynamic, structural, and control), and analyze and interpret the data in written reports,
9. complete the successive stages of conceptual, preliminary, and detailed design of an aircraft or spacecraft mission and the associated vehicles,
10. function effectively on teams to solve problems in complex aerospace systems that require knowledge of multiple disciplines,
11. apply an understanding of professional and ethical responsibility to realistic situations,
12. make effective oral and written presentations in a format appropriate for the setting,
13. explain how this profession affects society as a whole, and to demonstrate an appreciation of how technical issues guide societal actions,
14. demonstrate an awareness of the need to stay abreast of technical developments throughout their working careers, and demonstrate that they are able to maintain and extend their learning, and
15. make appropriate and effective use of computer software, hardware, and state-of-the-art laboratory instrumentation.

The first two years of study are similar to those in other engineering majors and provide students with a basic education for the engineering profession. Students need to complete E MCH 212, CMPSC 201, MATH 220, MATH 230, and MATH 250 prior to the start of the junior year in order to meet graduation requirements in the following two years. Six of the nine technical-elective credits taken in the senior year must be aerospace engineering courses.

For the B.S. degree in Aerospace Engineering, a minimum of 131 credits is required. This baccalaureate program in Aerospace Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org (Opens New Window).

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 113 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (72 credits)
CHEM 110 GN(3)**[1]**, EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
E MCH 212(3)**[1]**, M E 201(3), MATH 220 GQ(2-3), MATH 230(4), MATH 250(3), PHYS 212 GN(4), PHYS 214 GN(2) (Sem: 3-4)

AERSP 301(3)**[1]**, AERSP 304(3), AERSP 305W(3), AERSP 306(3)**[1]**, AERSP 309(3)**[1]**, AERSP 311(3)**[1]**, AERSP 312(3), AERSP 313(3)**[1]**, E MCH 315(2), E MCH 316(1) (Sem: 5-6)
AERSP 410(3), ENGL 202C GWS(3) (Sem: 7-8)

ADDITIONAL COURSES (29 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 1-2)
Select 5 credits from E MCH 210(5), E MCH 211(3), E MCH 213(3) (Sem: 3-4)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-4)
AERSP 401A(3), AERSP 401B(2); or AERSP 402A(3), AERSP 402B(2) (Sem: 7-8)
AERSP 413(3) or AERSP 450(3) (Sem: 7-8)
AERSP 440(3), E E 210(3), or E E 212(4) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 9 credits of Aerospace Technical Elective (ATE) courses from department list. (Sem: 7-8)

Select 3 credits of Limited Elective (LE) courses from department list. (Sem: 7-8)

(Students who complete Basic ROTC may substitute 6 of the ROTC credits for 3 credits of LE and 3 credits of GHA.)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-05-056

Review Date: 2/28/06

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

EN

African and African American Studies

University Park, College of the Liberal Arts (AASBA)

PROFESSOR IKUBOLAJEH LOGAN, *Interim Head*

This interdisciplinary major is designed to give students an integrated and critical understanding of the experiences and contributions of peoples of African descent. Students are encouraged to do research and evaluate the relationship between the political, social, and economic developments in Africa and the African Diaspora. Two options are available within the major and are described here.

AFRICAN AMERICAN STUDIES OPTION:
This option provides students with the opportunity to explore the experiences of African Americans using theories and methods originating in the field along with those adopted from the various disciplines. Students are also made aware of the potential to apply knowledge to discern better approaches for solving social, political, and economic problems. The curriculum also promotes greater understanding of the relationship between African American and other ethnic groups in the shaping of American society and culture.

Focus Areas: The African American Studies Option has three focus areas, which are described below.

1. **History Perspective:** While stressing the interdisciplinary nature of the field, this focus allows students to concentrate on the historical experience of the African Americans, including their political, social, and economic relations with other ethnic groups, as well as the shifting historical contexts in which they have contested and shaped the evolution of American society.
2. **Social Sciences and Community Development:** This focus area allows students to concentrate on contemporary political and economic experiences of African Americans as well as on public policy issues that pertain to the economic, political, and social engagement of African Americans in the search for equality in American society.
3. **Cultural and Gender Perspective:** This focus area allows students to concentrate on culture and gender in historical and contemporary terms.

AFRICAN STUDIES OPTION:
This option provides students with the opportunity to examine the geographical, cultural, historical, political, and economic aspects of Africa. This option has two focus areas as described below.

1. **Humanities Perspective:** This focus area enables students to concentrate on the history and culture of African societies and the evolution of Africa in world history.
2. **Social Science Perspective:** This focus area enables students to concentrate on political and economic developments, including state building and ethnic relations, development strategies, and Africa's position in the global system.

LAW AND SOCIAL JUSTICE OPTION:
This multi-disciplinary program would provide students with the opportunity to study the politics, culture, economics, and history of African Americans in our society and link this understanding with an in depth study of criminal justice and the legal system. Issues that students will focus on will be areas such as, Are African Americans discriminated against in criminal justice decision-making? What is the historic connection between race and punishment in the US legal system? How do issues of class, race and gender impact policy decisions about crime and punishment? What is the socioeconomic impact of high incarceration rates on the African American community? The program is designed to encourage students to think systematically about the relationship among public policy, the criminal justice system, and shifting notions of social justice that have characterized debates over the workings and goals of the prison system in American life and thought.

For the B.A. degree in African and African American Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-9 credits of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 9-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 45 credits**[1]**
(This includes 0-9 credits of General Education courses: African American Studies Option -- 0-3 credits of GA courses; 0-3 credits of GH courses; 0-3 credits of GS courses. African Studies Option -- 0-3 credits of GH courses; 0-3 credits of

GS courses. Law and Scoial Justice Option -- 0-3 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 12 credits

PRESCRIBED COURSES (12 credits)
AAA S 100 GS;US(3), AAA S 110 GS;IL(3), AAA S/HIST 211 GH/US;IL(3), SOC 207(3) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 33 credits

AFRICAN AMERICAN STUDIES OPTION: (33 credits)

PRESCRIBED COURSES (9 credits)
AAA S/WMNST 101 GH;US(3), AAA S/SOC/WMNST 103 US(3) (Sem: 1-4)
AAA S 401(3) (Sem: 5-8)

ADDITIONAL COURSES (24 credits)
Select 24 credits from one of the following three areas of concentration.
A minimum of 12 credits should be AAA S courses, and at least 12 of these credits must be at the 400 level or above.

1. **History Perspective:**
   AAA S/RL ST 146 GH;US(3), AAA S/RL ST 147 GH;US(3), AAA S/HIST 210 GH;US(3), SOC 119 GS;US(4) (Sem: 1-4)
   AAA S/SOC 409 US(3), AAA S 431 US;IL(3), AAA S/HIST 465 US(3), ENGL 461 US(3), ENGL 469 US(3), HIST 152 GH;US;IL(3), PL SC 474(3) (Sem: 5-8)
2. **Social Sciences and Community Development:**
   AAA S/WMNST 102 GH;IL(3), AAA S/RL ST 146 GH;US(3), AAA S/RL ST 147 GH;US(3), AAA S/HIST 210 GH;US(3), SOC 119 GS;US(4) (Sem: 1-4)
   CRIMJ 451 US(3), AAA S/SOC 409 US(3), AAA S 431 US;IL(3), AAA S/HIST 465 US(3), ECON 304 GS(3), ECON 436W US(3), EDTHP 411(3), PL SC 490(3) (Sem: 5-8)
3. **Cultural and Gender Perspective:**
   AAA S/WMNST 102 GH;IL(3), AAA S/RL ST 145 GH;US;IL(3), AAA S 200(3), AAA S/THEA 208 GA;US;IL(3), COMM/WMNST 205 US(3), ENGL 139 GH;US(3), ENGL 235 US;IL(3), MUSIC 007 GA;US(3), SOC 119 GS;US(4) (Sem: 1-4)
   AAA S/WMNST 410(3), AAA S/THEA 412 US;IL(3), AAA S/CAS 422 US(3), COMM 411(3), EDTHP 411(3), ENGL/WMNST 462 US(3), ENGL 463 US(3), ENGL 467 US(3), ENGL 469 US(3) (Sem: 5-8)

AFRICAN STUDIES OPTION: (33 credits)

PRESCRIBED COURSES (12 credits)
AAA S/HIST 191 GH;IL(3), AAA S/HIST 192 GH;IL(3) (Sem: 1-4)
AAA S 400(3), AAA S/PL SC 454 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)
Select 21 credits from one of the following two areas of concentration.
A minimum of 12 credits should be AAA S courses, and at least 12 of these credits must be at the 400 level or above.

1. **Humanities Perspective:**
   AAA S 202 GS;IL(3), CMLIT 003 GH;IL(3), SWA 001(4), SWA 002(4) (Sem: 1-4)
   AAA S 404(3), AAA S 431US;IL(3), AAA S/HIST 465 US(3), ANTH 447 IL(3), CMLIT 422 IL(3), CMLIT 423 IL(3), FR 458 IL(3), HIST 479 IL(3), R SOC/WMNST 420 US;IL(3) (Sem: 5-8)
2. **Social Science Perspective:**
   AAA S 202 GS;IL(3), SWA 001(4), SWA 002(4) (Sem: 1-4)
   AAA S 403(3), AAA S 404(3), AAA S 431US;IL(3), AAA S/HIST 465 US(3), ECON 304 GS(3), ECON 471(3), GEOG 444(3), PL SC 453 IL(3) (Sem: 5-8)

LAW AND SOCIAL JUSTICE OPTION: (33 credits)

PRESCRIBED COURSES (18 credits)
AAA S/HIST 210 GH;US(3), CRIMJ/CRIM/SOC 012 GS(3), CRIM 100(3), CRIMJ/CRIM 113(3) (Sem: 1-4)
AAA S 401(3), CRIM 451 US(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
AAA S/HIST 431 US;IL(3), AAA S/SOC 409 US(3), AAA S 440 US;IL(3), AAA S/LER/PL SC 445W, AAA S 465 US(3), CRIM 430(3), CRIM 433(3), CRIM 435(3), CRIM 441(3), CRIMJ/WMNST 453 US(3), CRIM/SOC 467(3), CRIM 490(3), ECON 436W US(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 33-01-130

Review Date: 08/31/04

UCA Revision #2: 7/26/07

Dept head updated by Publications: 5/24/10

LA

African and African American Studies

University Park, College of the Liberal Arts (AASBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR IKUBOLAJEH LOGAN, *Interim Head*

This interdisciplinary major is designed to give students an integrated and critical understanding of the experiences and contributions of peoples of African descent. Students are encouraged to do research and evaluate the relationship between the political, social, and economic developments in Africa and the African Diaspora. An African American Studies Option, African Studies Option, and a Law and Social Justice Option are available within the major. The methodology requirements of the proposed program would enable our students to engage in social science research. It would also prepare them better for graduate programs in the social sciences.

AFRICAN AMERICAN STUDIES OPTION: This emphasis provides students with the opportunity to explore the experiences of African Americans using theories and methods originating in the field along with those adopted from the various disciplines. Students are also made aware of the potential to apply this knowledge to the solution of social, political, and economic problems. The curriculum also promotes greater understanding of the relationship between African American and other ethnic groups in the shaping of American society and culture.

AFRICAN STUDIES OPTION: This option provides students with the opportunity to examine the geographical, cultural, historical, political, and economic aspects of Africa.

LAW AND SOCIAL JUSTICE OPTION: This multi-disciplinary program would provide students with the opportunity to study the politics, culture, economics, and history of African Americans in our society and link this understanding with an in depth study of criminal justice and the legal system. Issues that students will focus on will be areas such as, Are African Americans discriminated against in criminal justice decision-making? What is the historic connection between race and punishment in the US legal system? How do issues of class, race, and gender impact policy decisions about crime and punishment? What is the socioeconomic impact of high incarceration rates on the African American community? The program is designed to encourage students to think systematically about the relationship among public policy, the criminal justice system, and shifting notions of social justice that have characterized debates over the workings and goals of the prison system in American life and thought. The proposed program would enable us to foster a cadre of students who will be particularly suited to pursue graduate work in the area.

For the B.S. degree in African and African American Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 Credits
(4-10 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in the this bulletin)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20 credits

REQUIREMENTS FOR THE MAJOR: 64-65 credits**[1]**
(This includes 4-10 credits of General Education courses: 4 credits of GQ courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 16-17 credits

PRESCRIBED COURSES (13 credits)
AAA S 100 GS;US(3), AAA S 110 GS;IL(3), SOC 207(3), STAT 200(4) (Sem: 1-4)

ADDITIONAL COURSES (3-4 credits)
SOC 470(4) or PL SC 309(3) (Sem: 5-8)

AFRICAN AMERICAN STUDIES OPTION: (48 credits)

PRESCRIBED COURSES (9 credits)
AAA S 101 GH;US;IL(3), AAA S/HIST 211 GH;IL(3) (Sem: 1-4)
AAA S 401(3) (Sem: 5-8)

ADDITIONAL COURSES (39 credits)
Select 21 credits with at least 3 credits in AAA S courses
AAA S 083S GH;US;IL(3), AAA S/WMNST 102 GH;IL(3), AAA S/SOC/WMNST 103 US(3), AAA S/RL ST 146 GH;US(3), AAA S/RL ST 147 GH;US(3), AAA S 197(3), AAA S 199 IL(3), AAA S/HIST 210 GH;US(3), SOC 119 GS;US(3-4), ECON 002 GS(3), ECON 004 GS(3), ECON 304 GS(3) (Sem: 1-8)
Select 18 credits at the 400-level with at least 9 credits in AAA S courses

AAA S/SOC 409 US(3), AAA S 494(3), AAA S 495(3), AAA S 497(3), AAA S 499 IL(3), AAA S/HIST 431 US;IL(3), AAA S 440 US;IL(3), AAA S/HIST 465 US(3), AAA S/LER/PL SC 445W(3), CRIMJ 451(3), ECON 436W US(3), EDTHP 411(3), PL SC 490(3) (Sem: 1-8)

AFRICAN STUDIES OPTION: (48 credits)

PRESCRIBED COURSES (9 credits)
AAA S/HIST 191 GH;IL(3), AAA S/HIST 192 GH;IL(3) (Sem: 1-4)
AAA S 400(3) (Sem: 5-8)

ADDITIONAL COURSES (39 credits)
Select 21 credits with at least 3 credits of AAA S courses
AAA S 083S GH;US;IL(3), AAA S 197(3), AAA S 199 IL(3), AAA S/HIST 211 GH;US;IL(3), AAA S 297(3), AAA S 299 IL(3), AAA S 395(3), AAA S 397(3), AAA S 399 IL(3), AAA S/WMNST 202 GS;IL(3), ECON 102 GS(3), ECON 104 GS(3), ECON 304 GS(3), SWA 001(4), SWA 002(4) (Sem: 1-8)
Select 18 credits at the 400-level with at least 9 credits in AAA S courses
AAA S 403(3), AAA S/HIST 431 US;IL(3), AAA S 440 US;IL(3), AAA S 443 IL(3), AAA S/PL SC 454 IL(3), AAA S/HIST 465 US(3), AAA S/L I R/PL SC 445W(3), AAA S 494(3), AAA S 495(3), AAA S 497(3), AAA S 499 IL(3), ECON 471(3), GEOG 444(3), PL SC 453 IL(3) (Sem: 1-8)
Only 3 credits of AAA S 495 (internship) and 6 credits of AAA S 497, AAA S 495, AAA S 494, or AAA S 499 in any combination may be used to satisfy this requirement.

LAW AND SOCIAL JUSTICE OPTION: (48 credits)

PRESCRIBED COURSES: (18 credits)
AAA S 210 GH;US(3), AAA S 401(3), CRIMJ/CRIM/SOC 012 GS(3), CRIMJ/CRIM 100(3), CRIMJ/CRIM 113(3), CRIMJ/CRIM 451 US(3) (Sem: 1-8)

ADDITIONAL COURSES: (30 credits)
Select 30 credits from: AAA S/HIST 431 US;IL(3), AAA S/SOC 409 US(3), AAA S 440 US;IL(3), AAA S/L I R/PL SC 445W(3), AAA S/HIST 465 US(3), ECON 436W US(3), CRIMJ/WMNST 453 US(3), CRIM 490(3), CRIM 441(3), CRIM/SOC 467(3), CRIM 430(3), CRIM 433(3), CRIM 435(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-131

Review Date: 8/31/04

UCA Revision #2: 7/26/07

LA

Last department head update by Publications: 5/24/10

Agribusiness Management

University Park, College of Agricultural Sciences (AG BM)
University Park, The Smeal College of Business

PROFESSOR JAMES W. DUNN, *Program Coordinator*

Graduates can be found working in the food production, processing, financial services, wholesaling and retailing industries, both in the United States and abroad. A substantial number are employed by agricultural supply firms. Typically, B.S. degree holders begin their careers in sales or as management trainees, and then progress to management as they develop higher levels of expertise and experience. Penn State Agribusiness Management graduates chose careers in many other places. They also are employed in banking and the investment and mutual funds industries, and others have gone to law school, graduate school, or into rural development. The quality and diversity of the program enables Agribusiness majors to undertake a variety of jobs.

This major, which is offered jointly with The Mary Jean and Frank P. Smeal College of Business, includes a core of courses required of all business students. Combining the required specialization area with a minor or electives also allows a student to focus on a particular area of interest.

For the B.S. degree in Agribusiness Management, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12 credits

REQUIREMENTS FOR THE MAJOR: 78 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (43 credits)
AG BM 102(3)**[1]**, AG BM 106(3)**[1]**, ECON 104 GS(3) (Sem: 1-4)
ACCTG 211(4), AG BM 302(3)**[1]**, AG BM 308W(3)**[1]**, AG BM 320(3)**[1]**, AG BM 338 IL(3), ENGL 202D GWS(3), MIS 204(3), SCM 200 GQ(4) (Sem: 3-4)
B A 301(2), B A 302(2), B A 303(2), B A 304(2) (Sem: 5-6)

ADDITIONAL COURSES (23 credits)
AG BM 101 GS(3)**[1]** or ECON 002 GS(3)**[1]** (Sem: 1-4)**[77]**
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 2-6)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 3-4)
R SOC 011 GS(3) or SOC 001 GS(3) (Sem: 3-6)**[78]**
AG BM 407(3) or AG BM 408(3) (Sem: 5-8)
Select 6 credits of AG BM 440(3), AG BM 420(3), AG BM 460(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in a specialty area, in consultation with an adviser (at least 6 of these credits must be at the 300 or 400 level) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[77] AG BM 101 required unless ECON 002 was taken before entering the AG BM major.
[78] R SOC 011 required unless SOC 001 was taken before entering the AG BM major.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-001

Review Date: 1/15/08

UCA Revision #1: 8/2/06

AG/BA

Agricultural and Extension Education

University Park, College of Agricultural Sciences (AEE)

PROFESSOR JOHN C. EWING, *Program Coordinator*

This major helps prepare students for positions in education in agriculture, including schools and colleges, Cooperative Extension, business, trade and professional associations, and government agencies. The Department administers a program approved by the Pennsylvania Department of Education for the preparation of agriculture teachers in public school systems. This includes programs in agricultural production, mechanics, supplies, resources, products, forestry, horticulture, and other agricultural areas.

Students take courses in agricultural and natural resource sciences, leadership and communications, natural science, social science and general education. Students seeking teacher certification schedule professional courses in education and psychology.

Pennsylvania Teacher certification regulations require students to have a GPA of 3.0; pass a series of PRAXIS pre-certification teacher examinations; documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. At least 40 of these age-appropriate 80 hours must be with learners whose cultural, social, or ethnic backgrounds differ from the candidate's own; completion of an early field experience specified by the certification program; completion of at least 48 semester credit hours, including ENGL 015 or ENGL 030, 3 credits of literature, and 6 credits of quantification and secure occupational experience in the requested area of certification. (See also: Teacher Education Programs)

For students seeking teacher certification, the B.S. degree in Agricultural and Extension Education, a minimum of 125-129 credits is required. For students selecting the Leadership Development and Communications option, a minimum of 122 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(13-22 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin for additional information)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-14 credits

REQUIREMENTS FOR THE MAJOR: 76-103 credits
(This includes 13-22 credits of General Education courses: 22 for the teacher certification options--6 credits of GS courses; 9 credits of GN courses; 4 credits of GQ courses; 3 credits of GWS courses; and 13 credits for the non-teacher certification option--6 credits of GS courses; 4 credits of GN courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 19 credits

PRESCRIBED COURSES (19 credits)
AG BM 101 GS(3), BIOL 110 GN(4), ENGL 202C GWS(3) (Sem: 3-4)
AEE 311(3), INTAG 100 GS;IL(3) (Sem: 5-6)
AEE 495(3) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 57-84 credits

TEACHER CERTIFICATION OPTIONS

ENVIRONMENTAL SCIENCE OPTION: (84 credits)

PRESCRIBED COURSES (47 credits)
AGRO 028(3), AN SC 201(4), ASTRO 001 GN(3), CHEM 101 GN(3), CHEM 202(3), PHYS 001 GN(3) (Sem: 1-2)
EDPSY 014(3)**[1]**, EDTHP 115 US(3)**[1]**, WF ED 413(3) (Sem: 2-7)
AEE 100(2), AEE 295(1)**[1]**, SOILS 101 GN(3), STAT 200 GQ(4) (Sem: 3-4)
AEE 313(2)**[1]**, AEE 412(4)**[1]**, AEE 413(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (7 credits)
BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 2-7)
A S M 101(3) or A S M 217(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (30 credits)
Select 3 credits of W courses offered in the College (Sem:1-7)
Select 6 credits in biological, physical ecosystems (Sem: 1-7)
Select 6 credits in environmental impact management (Sem: 1-7)
Select 6 credits in environmental learning (Sem: 1-7)

Select 6 credits in social, political, and legal aspects of environmental science (Sem: 1-7)
Select 3 credits in agricultural systems management (Sem: 3-4)

PRODUCTION OPTION: (79 credits)

PRESCRIBED COURSES (40 credits)
ASTRO 001 GN(3), CHEM 101 GN(3), CHEM 202(3), PHYS 001 GN(3) (Sem: 1-2)
AEE 100(2), AEE 295(1)**[1]**, STAT 200 GQ(4) (Sem: 3-4)
EDPSY 014(3)**[1]**, EDTHP 115(3)**[1]**, SOILS 101 GN(3), WF ED 413(3) (Sem: 2-7)
AEE 313(2)**[1]**, AEE 412(4)**[1]**, AEE 413(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (4 credits)
BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 2-7)

SUPPORTING COURSES AND RELATED AREAS (35 credits)
Select 3 credits of W courses offered in the College (Sem:1-7)
Select 14 credits in agriculture (Sem: 1-7)
Select 6 credits in animal science (Sem: 1-7)
Select 6 credits in plant/soil science (Sem: 1-7)
Select 6 credits in agricultural systems management (Sem: 3-6)

NON-TEACHER CERTIFICATION OPTION

LEADERSHIP DEVELOPMENT AND COMMUNICATIONS OPTION: (57 credits)

PRESCRIBED COURSES (9 credits)
AEE 360(3)**[1]**, AEE 460(3)**[1]** (Sem: 5-6)
AEE 465(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS: (48 credits)
Select 3 credits of W courses offered in the College (Sem:1-7)
From an approved department list select the following:
Select 6 credits of communications courses in consultation with adviser (Sem: 1-8)
Select 6 credits of moral and ethical dimensions of leadership courses in consultation with adviser (Sem: 1-8)
Select 6 credits of leadership style courses in consultation with adviser (Sem: 1-8)
Select 6 credits of global and multicultural perspective courses in consultation with adviser (Sem: 1-8)
Select 3 credits of Animal Science courses in consultation with adviser (Sem: 1-8)
Select 3 credits of Soil and Plant Science courses in consultation with adviser (Sem: 1-8)
Select 3 credits of Agricultural Business Management and/or Rural Sociology courses in consultation with adviser (Sem: 1-8)
Select 12 credits of Natural Resources courses in consultation with adviser (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-01-001

Review Date: 8/25/09

UCA Revision #1: 8/2/06

AG

Agricultural Science

University Park, College of Agricultural Sciences (AG SC)

PROFESSOR JOHN C. EWING, *Program Coordinator*

This major enables students to develop programs of study to serve their individual needs by assembling courses selected from various departments within the College of Agricultural Sciences. The student develops either a broad background in agriculture or a special program of study not currently offered within departments of the college. Students are expected to focus study on one or more disciplines of the agricultural sciences by selecting a minor from the approved list of minors offered by the College of Agricultural Sciences. The student, in consultation with an adviser, is given considerable flexibility for selecting courses to satisfy individual interests and aspirations.

Students can prepare themselves for careers in agricultural and natural resource related sales, and /or public relations; food, agricultural and natural resource commodity groups, agricultural finance; governmental and conservation agencies; the Cooperative Extension Service; land use and appraisal; and international agriculture agencies.

For the B.S. degree in Agricultural Science, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 9-27 credits

REQUIREMENTS FOR THE MAJOR: 81-87 credits
(This includes 18-30 credits of General Education courses: 0-3 credits of GA courses; 0-3 credits of GHA courses; 9 credits of GN courses; 0-6 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (12 credits)
CAS 100 GWS(3), ENGL 015 GWS(3) (Sem: 1-2)
AEE 360(3), AEE 460(3) (Sem: 5-8)

ADDITIONAL COURSES (36-39 credits)
BIOL 011 GN(3) and BIOL 012 GN(1), or BI SC 003 GN(3) (Sem: 1-2)
CHEM 101 GN(3) or CHEM 110 GN(3) (Sem: 1-4)
Select 3 credits from ENGL 202C GWS(3), ENGL 202D GWS(3) (Sem: 3-4)
Select 3 credits from AEE 330W(3), AEE 440(3) (Sem: 4-7)
Select 3-4 credits from A S M 101(3), AGRO 028(3), FORT 220(4) (Sem: 5-6)
Select 3 credits from HORT 101 GN(3), HORT 202(3), SOILS 101 GN(3) (Sem: 5-6)
Select 3 credits from AG BM 101 GS(3), AG BM 200(3), CED 450 IL(3), INTAG 100 GS;IL(3), R SOC 011 GS;US(3), R SOC/WMNST 420 US;IL(3) (Sem: 5-6)
Select 3-4 credits from AN SC 201(4), AN SC 211(3), ENT 313(2) and ENT 314(1) or ENT 315(1) or ENT 316(1) (Sem: 5-6)
Select 3 credits from AEE 465(3), FD SC 105 GHA(3), FD SC 200(3), LARCH 060 GA;US;IL(3), S T S 200 GS(3) (Sem: 5-6)
Select 3 credits from AGECO 134 GN(3), AGECO 201(3), W F S 209 GN(3) (Sem: 5-6)
AEE 400(3) or INTAG 481(3) (Sem: 6-7)
AEE 311(3) or AEE 465(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (33-36 credits)
Select 6 credits from natural science (Sem: 3-8)
Select 9 credits from plant science, soil science, food science, or A S M (Sem: 5-8)
Select 18-21 credits for College Ag Sciences Minor**[1]** (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-01-002

Review Date: 8/30/05

UCA Revision #1: 8/2/06

AG

Agricultural Systems Management

University Park, College of Agricultural Sciences (A S M)

PROFESSOR JUDE LIU, *Program Coordinator*

Agricultural Systems Management graduates are employed in the production and management phases of agricultural enterprises. Graduates are employed as sales and field representatives, financial and technical consultants, and technical service or production personnel. Employment opportunities are found in the management and application of technology to power and machinery systems, soil and water systems, food production and processing systems, and agricultural structures and environmental systems.

This is an applied major that combines the study of agricultural sciences, engineering technology, natural resources, business, and management systems. The program is administered through the Department of Agricultural and Biological Engineering, which offers a series of courses to provide the technical background for the graduate. Basic study is emphasized in the agricultural and business management sciences, along with the application of the technical results of engineering research, design, and manufacturing. Graduates of this major apply their technology/management training to the diverse areas of food and fiber production, food processing, and management of land and water resources.

For the B.S. degree in Agricultural Systems Management, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 108 credits
(This includes 30 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (70 credits)
ACCTG 211(4), CAS 100A GWS(3), CHEM 110 GN(3), CHEM 111 GN(1), ECON 004 GS(3), EDSGN 100(3))**[1]**, ENGL 015 GWS(3), MATH 110 GQ(4)**[1]**, PHYS 250 GN(4)**[1]** (Sem: 1-2)
A S M 221(3)**[1]**, AG BM 106(3)**[1]**, AG BM 220(3)**[1]**, AN SC 201(4), SOILS 101 GN(3), STAT 200 GQ(4) (Sem: 3-4)
A S M 310(3)**[1]**, A S M 327(3)**[1]**, A S M 391 GWS(2), A S M 422(3), A S M 425(3) (Sem: 5-6)
A S M 392 GWS(2), A S M 428(3), A S M 429W(3) (Sem: 7-8)

ADDITIONAL COURSES (20 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 3-4)
AG 301W(3) or B LAW 243(3) (Sem: 3-4)
BIOL 110 GN(4)**[1]** or BIOL 011 GN(3)**[1]** and BIOL 012 GN(1)**[1]** (Sem: 3-4)
AGRO 028(3) or HORT 101 GN(3) (Sem: 5-6)
Select 6 credits from the following list: AG BM 308W(3), AG BM 338(3), AG BM 407(3), ENGR 310(3), ENGR 407(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 3 credits in A S M from department list (Sem: 5-8)
Select 6 credits in agriculture/biology from department list (Sem: 5-8)
Select 6 credits in business management from department list (Sem: 7-8)
Select 3 credits of a supporting course from department list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-001

Review Date: 02/23/2010

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

AG

Agroecology

University Park, College of Agricultural Sciences (AGECO)

PROFESSOR PAUL A. BACKMAN, *Program Coordinator*

The coordinator position will rotate between faculty members in the Departments of Crop and Soil Sciences, Entomology, Horticulture, and Plant Pathology.

Agroecology is concerned with the principles and practices applicable to the management of plant agroecosystems. There are two options: Integrated Crop Management (ICM) or Plant Science. Education in the Integrated Crop Management option emphasizes the principles of plant and soil management and the basic sciences upon which these principles are based. The Plant Science option requires additional emphasis in the basic sciences (mathematics, chemistry, physics, and biotechnology). The opportunity is available in either option to specialize in agronomy with emphasis on agronomic crops and conservation of soils; or horticulture with emphasis on horticultural crops; or entomology with emphasis on insects and their impact on the ecosystem; or plant pathology with emphasis on plant diseases. Students must develop, communicate, and apply technical information about plants, soils, environment, and production practices for food, feed, fiber, or ornamental crops. Business management skills can be developed by appropriate course selection in the ICM option.

Graduates in Agroecology have a wide choice of careers. Over 90% get jobs in service to the agricultural industry as farm managers, farm chemical and fertilizer store managers, sales representatives, field and laboratory technicians, crop management consultants, extension agents, soil and water conservationists and inspectors for various state and federal regulatory agencies. Some may return to the farm and become producers of farm products.

Those students who anticipate enrollment in graduate school should elect the Plant Science option while those preparing to enter the profession with a B.S. degree should select the Integrated Crop Management option.

For the B.S. degree in Agroecology, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 2-8 credits

REQUIREMENTS FOR THE MAJOR: 97-103 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GH courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 56 credits

PRESCRIBED COURSES (47 credits)
BIOL 110 GN(4)**[1]**, BIOL 222(3) (Sem: 1-4)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3)**[1]**, PHIL 010 GH(3) (Sem: 1-4)
AG 160 GH(3) (Sem: 1-4)
CMPSC 203 GQ(4) (Sem: 3-4)
SOILS 101 GN(3)**[1]**(Sem: 3-4)
AGECO 201(3), AGECO 457(3), AGECO 461(3) (Sem: 3-8)
AGRO 410W(4), AGRO 438(4) (Sem: 5-8)
PPATH 405(3) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 1-4)
AGRO 028(3)**[1]** or HORT 101 GN(3)**[1]**(Sem: 3-4)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 41-47 credits

INTEGRATED CROP MANAGEMENT OPTION: (41 credits)

PRESCRIBED COURSES (15 credits)
BIOL 127 GN(3)**[1]** (Sem: 1-2)
MATH 022 GQ(3) (Sem: 1-4)
AEE 440(3) (Sem: 3-6)
AGECO 295(1), AGECO 495(1), AGECO 490(1) (Sem: 3-8)
SOILS 402(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
AGRO 423(3) and AGRO 425(3); or HORT 202(3) and HORT 315(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (20 credits)
In consultation with an adviser, select 20 credits in a specialty area as follows:
Select 6 credits from business-related course list (Sem: 3-8)
Select 11 credits from general course list (Sem: 3-8)
Select 3 credits from insect biology and pest management (Sem: 5-6)

PLANT SCIENCE OPTION: (46-47 credits)

PRESCRIBED COURSES (23 credits)
CHEM 113B GN(1), MATH 140B GQ(4), MATH 141B GQ(4) (Sem: 1-4)
AGECO 295(1) (Sem: 3-5)
AGECO 495(1), AGECO 490(1), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-8)
STAT 250 GQ(3) (Sem: 7-8)

ADDITIONAL COURSES (6-7 credits)
CHEM 202(3) or CHEM 210(3) (Sem: 1-4)
BIOL 230W GN(4) or B M B 251(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (17 credits)
Select 14 credits from department science option list (Sem: 3-8)
Select 3 credits from insect biology and pest management (Sem: 5-6)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-05-001

Review Date: 2/24/09

UCA Revision #1: 8/2/06

AG

Air Force Aerospace Studies (AIR)

The Air Force ROTC program trains qualified young men and women for service as commissioned officers in the United States Air Force.

The program is offered at the University Park campus and by special arrangement as follows: students attending Penn State Worthington Scranton, Penn State Hazleton, or Penn State Wilkes-Barre may complete freshman and sophomore requirements at Wilkes College, Wilkes-Barre, Pa.; students attending Penn State Abington or Penn State Brandywine may complete freshman and sophomore requirements at St. Joseph's University, Philadelphia, Pa.; students attending Penn State Altoona may complete freshman and sophomore requirements at the University Park campus. The junior and senior requirements may then be completed upon relocation to University Park campus.

Four-, three-, two-, and one-year (limited) scholarships are available to selected applicants. These scholarships provide $250-$400 per month along with full tuition and textbook allowance. Also, all cadets in the junior and senior courses are paid at the rate of $350 to $400 per month (tax free), resepectively, even if not on scholarship. Uniforms and ROTC textbooks are provided for free by the Air Force.

COURSE -- The instruction consists of a General Military Course (freshmen and sophomores) and a Professional Officer Course (juniors and seniors) of four semesters each. Subjects and credits appear under course descriptions (ROTC) in this bulletin. Students have an opportunity to visit Air Force bases throughout the school year and summer months, where they may receive instruction on parachuting, flying gliders, and other Air Force-related activities.

Completion of eight semesters and one four-week summer training period confers eligibility for a commission in the Air Force Reserve and assignment to active duty in the USAF with the rank of second lieutenant. For students graduating in fewer than four years, there is also a two-year program in which a six-week summer training period replaces both the General Military Course and the normal four-week summer training period. Those students not participating in the four-year program but who will have four or more full academic semesters available, either undergraduate or graduate, after completion of the six-week summer training period are eligible for this two-year program, which leads to an Air Force commission.

Effective Date: Current

Review Date: 4/19/04

American Studies

Abington College (AMSAB)
Penn State Harrisburg (AMSCA)
University College (AMSCC): Penn State Brandywine, Penn State Worthington Scranton

This interdisciplinary major is designed to provide students with an integrated and critical knowledge of American culture, drawing on courses in American Studies and in the traditional disciplines and culminating in two senior seminars. A number of interests may be pursued within the major, including popular culture, art, technology, business, law, archives, museology, and conservation. The major helps prepare students for careers in business, teaching, government, and a number of other areas, and for enrollment in law and other professional programs.

For entrance into the major, the following must be met:
1. At the end of the sophomore year, any student in good standing may gain entrance into the major without having completed specific courses.
2. Any student seeking entrance during the fifth semester will be granted entrance at the discretion of the American Studies Committee and/or Director following evaluation of the student's record.
3. Any student seeking entrance during or after the sixth semester will be expected to have completed at least 12 credits, which may be counted toward the major in American Studies.

For the B.A. degree in American Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 33 credits**[1]**

PRESCRIBED COURSES (6 credits)
AM ST 491W(6) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
AM ST 100 GH(3) or AM ST 100W GH(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
(Include 12 credits at the 400 level distributed in at least two of the areas.)
Select 9 credits in each of two of the following areas; select 6 credits in one other of the areas: (Sem: 3-8)
a. American literature
b. American history
c. American art, philosophy, and religion (humanities)
d. American social sciences

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-05-120

Review Date: 4/23/04

UCA Revision #2: 7/26/07

AB

American Studies

Abington College (AMSAB)
Penn State Harrisburg (AMSCA)
University College (AMSCC): Penn State Brandywine, Penn State Worthington Scranton

This interdisciplinary major is designed to provide students with an integrated and critical knowledge of American culture, drawing on courses in American Studies and in the traditional disciplines and culminating in two senior seminars. A number of interests may be pursued within the major, including popular culture, art, technology, business, law, archives, museology, and conservation. The major helps prepare students for careers in business, teaching, government, and a number of other areas, and for enrollment in law and other professional programs.

For entrance into the major, the following must be met:
1. At the end of the sophomore year, any student in good standing may gain entrance into the major without having completed specific courses.
2. Any student seeking entrance during the fifth semester will be granted entrance at the discretion of the American Studies Committee and/or Director following evaluation of the student's record.
3. Any student seeking entrance during or after the sixth semester will be expected to have completed at least 12 credits, which may be counted toward the major in American Studies.

For the B.A. degree in American Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 33 credits**[1]**

PRESCRIBED COURSES (6 credits)
AM ST 491W(6) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
AM ST 100 GH(3) or AM ST 100W GH(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
(Include 12 credits at the 400 level distributed in at least two of the areas.)
Select 9 credits in each of two of the following areas; select 6 credits in one other of the areas: (Sem: 3-8)
a. American literature
b. American history
c. American art, philosophy, and religion (humanities)
d. American social sciences

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-05-120

Review Date: 4/23/04

UCA Revision #2: 7/26/07

AB

American Studies

Abington College (AMSAB)
Penn State Harrisburg (AMSCA)
University College (AMSCC): Penn State Brandywine, Penn State Worthington Scranton

This interdisciplinary major is designed to provide students with an integrated and critical knowledge of American culture, drawing on courses in American Studies and in the traditional disciplines and culminating in two senior seminars. A number of interests may be pursued within the major, including popular culture, art, technology, business, law, archives, museology, and conservation. The major helps prepare students for careers in business, teaching, government, and a number of other areas, and for enrollment in law and other professional programs.

For entrance into the major, the following must be met:
1. At the end of the sophomore year, any student in good standing may gain entrance into the major without having completed specific courses.
2. Any student seeking entrance during the fifth semester will be granted entrance at the discretion of the American Studies Committee and/or Director following evaluation of the student's record.
3. Any student seeking entrance during or after the sixth semester will be expected to have completed at least 12 credits, which may be counted toward the major in American Studies.

For the B.A. degree in American Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 33 credits**[1]**

PRESCRIBED COURSES (6 credits)
AM ST 491W(6) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
AM ST 100 GH(3) or AM ST 100W GH(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
(Include 12 credits at the 400 level distributed in at least two of the areas.)
Select 9 credits in each of two of the following areas; select 6 credits in one other of the areas: (Sem: 3-8)
a. American literature
b. American history
c. American art, philosophy, and religion (humanities)
d. American social sciences

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-05-120

Review Date: 4/23/04

UCA Revision #2: 7/26/07

AB

American Studies

Berks College (AMSBL)

The Bachelor of Arts in American Studies at Berks College offers students a liberal arts education with a critical focus on the American experience. It provides students significant opportunities to explore American literature and history and to acquire an interdisciplinary perspective on the American experience through offerings in American Studies, communication arts and sciences, sociology, theatre, and other areas. Many of the courses in the program emphasize multicultural perspectives. Through course selection, internships, research projects, and study abroad opportunities, students are encouraged to individualize their major programs in ways that best serve their intellectual and vocational objectives.

Students are encouraged to meet with an adviser early in their academic program to design a program that will help them to meet their career goals, whether these include graduate school, law (or other professional) school, or other careers.

A minimum of 127 credits is required for the B.A. degree in American Studies.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 42 credits**[1]**

PRESCRIBED COURSES (21 credits)
HIST 020 GH;US(3), HIST 021 GH;US(3) (Sem: 1-2)
AM ST 100 GH(3) (Sem: 3-4)
ENGL 231W(3), ENGL 232W(3) (Sem: 3-6)
AM ST 322 US(3) (Sem: 5-6)
AM ST 491W(3) (Sem: 7-8)

ADDITIONAL COURSES (21 credits)
Select 3 credits of Internship, Research, or Foreign Study from the following:
AM ST 295(1-18), AM ST 494(1-12), AM ST 499 IL(1-12) (Sem: 7-8)
Select 6 credits of Multicultural from the following:
AM ST 104 GH;US(3), ENGL 135 GH;US(3), ENGL 139 GH;US(3), HIST 152 GH;US;IL(3), HIST 179 GH;IL(3), SOC 103 US(3) (Sem: 1-4)
THEA 208 GA;US;IL(3) (Sem: 3-4)
Select 3 credits from the following:
AM ST 105 GH;US(3), AM ST 140W GH;US(3), PL SC 001 GS(3), SOC 001 GS(3) (Sem: 1-4)
ART H 307 GA(3) (Sem: 3-6)
Select 9 credits from the following:
AM ST 421(3), AM ST 404(3), AM ST 405(3), AM ST 430 US(3), HIST 458W(3), HIST 459Y US(3), HIST 467 US;IL(3), HSTRY 488(3), ENGL 430(3), ENGL 431 US(3), ENGL 434(3), ENGL 437(3), CAS 415(3), CAS 478(3), SOC 409 US(3), SOC 432(3), THEA 405(3), THEA 412 US;IL(3) (Sem: 5-8)
AM ST 491W(3)* (Sem: 7-8)

*may be repeated for up to 6 credits total

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2004

Blue Sheet Item #: 32-01-026

Review Date: 1/23/06

UCA Revision #2: 7/26/07

BK-LV

Animal Sciences

University Park, College of Agricultural Sciences (ANSCI)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR HAROLD W. HARPSTER, *Program Coordinator*
COOPERATING DEPARTMENTS: Dairy and Animal Science and Poultry Science

Animal Science may be defined as the study and integration of all disciplines that relate to the function and care of animals for the benefit of humankind by providing companionship, food, fiber, and research. The Animal Sciences major includes references to all types of animals.

The educational experiences included in this major should prepare the student for a wide range of entry-level positions in production agriculture agribusiness, and allied industries, and provide preparation for the pursuit of post-baccalaureate studies leading to professional or advanced degrees. The student is expected to develop a comprehensive understanding of the biological and physical sciences underlying the functioning of all types of animals.

Realizing the wide range of career possibilities requiring diverse types of academic preparation, two options of study are available: the Business/Management Option and the Science Option.

For the B. S. degree in Animal Sciences, a minimum of 124 credits is required.

BUSINESS/MANAGEMENT OPTION: The primary objective of this option is to prepare the student for entry-level positions in agribusiness organizations and in the animal and food industries. The student may develop a program with specie specialization or diversity. The student may develop a foundation in accounting, economics, finance, marketing, and other business-related areas. Graduates seek entry-level employment opportunities as loan officers with financial institutions; technical service and sales representatives for pharmaceutical, agri-chemical, feed or food producing companies; field representatives for breed organizations or producer cooperatives; public relations and human resources personnel for agribusiness companies; management trainees for numerous agribusiness firms; and management trainees or assistant managers of animal production units.

SCIENCE OPTION: The primary objective of this option is to prepare the student for entry into post-baccalaureate study programs in the animal and related sciences. Graduates who have obtained the proper qualifications may pursue advanced studies in a wide variety of disciplines, including animal science, biotechnology, genetics, microbiology, nutrition, physiology, pharmaceutical research, and veterinary medicine. Graduates not desiring to pursue advanced studies seek entry-level employment opportunities as research technicians, technical service representatives for various industrial companies, food inspectors, laboratory animal caretakers, and public relations personnel.

TO VIEW THE Animal Sciences Minor (ANSCI)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18-21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-13 credits

REQUIREMENTS FOR THE MAJOR: 87-97 credits
(This includes 18-21 credits of General Education courses: 0-3 credits of GA courses; 9 credits of GN courses; 3 credits of GS courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 35-41 credits

PRESCRIBED COURSES (21 credits)
AN SC 201(4)**[1]**, AN SC 207(2)**[1]**, AN SC 208(1)**[1]**, AN SC 290W(1), AN SC 300 GN(3)**[1]**, CHEM 202(3) (Sem: 3-4)
AN SC 301(3)**[1]**, B M B 211(3) (Sem: 3-6)
AN SC 400(1) (Sem: 7-8)

ADDITIONAL COURSES (11-15 credits)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 1-2)
Select 6-8 credits from:
-- select 3-4 from MATH 021 GQ(3), MATH 022 GQ(3), MATH 110 GQ(4), or MATH 140 GQ(4) (Sem: 1-2)
-- select 2-4 from CMPSC 101 GQ(3), CMPSC 203 GQ(4), MATH 022 GQ(3), MATH 111 GQ(2), MATH 141 GQ(4), STAT 100 GQ(3), STAT 200 GQ(4), or STAT 250 GQ(3) (Sem: 1-2)
Select 2-4 credits)**[1]** from AN SC 305(3), AN SC 306(3), AN SC 308(4), AN SC 309(4), AN SC 310(3), AN SC 311(4), AN SC 314(2), AN SC 324(3), or AN SC 327(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (3-5 credits)
Select 3-5 credits in communication skills courses from department list. Certain courses may double count as general education courses; consult with your adviser. (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 52-56 credits

BUSINESS/MANAGEMENT OPTION: (53-56 credits)

PRESCRIBED COURSES (10 credits)
CHEM 101 GN(3) (Sem: 1-2)
ACCTG 211(4) (Sem: 3-4)
AN SC 322(3) (Sem: 5-6)

ADDITIONAL COURSES (20-23 credits)
BIOL 011 GN(3), BIOL 012 GN(1); or BIOL 110 GN(4) (Sem: 1-4)
AG BM 102(3) or MKTG 221(3) (Sem: 3-4)
AG BM 200(3) or MGMT 100(3) (Sem: 3-4)
MICRB 106 GN(3), MICRB 107 GN(1); or MICRB 201(3), MICRB 202(2) (Sem: 5-6)
Select 3-4 credits from AN SC 305(3), AN SC 306(3), AN SC 308(4), AN SC 309(4), AN SC 310(3), AN SC 311(4), AN SC 324(3), AN SC 327(3), AN SC 405(3), AN SC 407(3), or AN SC 410(4)(Sem: 5-8)
Select 3-4 credits from AN SC 420(4), AN SC 423(3), AN SC 427(3), AN SC 431W(4), or AN SC 442(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (23 credits)
Select 23 credits (at least 9 credits of business and 9 credits of production courses; 12 credits must be 400-level courses) from department list (Sem: 5-8)
(Students may apply 6 credits of ROTC.)

SCIENCE OPTION: (52-55 credits)

PRESCRIBED COURSES (34 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1) (Sem: 1-2)
BIOL 110 GN(4), CHEM 203(3) (Sem: 3-4)
B M B 212(1), B M B 221(2) (Sem: 5-6)
MICRB 201(3), MICRB 202(2), PHYS 250 GN(4) (Sem: 5-6)
AN SC 423(3), AN SC 431W(4) (Sem: 7-8)

ADDITIONAL COURSES (13-14 credits)
BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 3-4)
AGRO 028(3), AN SC 213(3), or SOILS 101 GN(3) (Sem: 5-6)
AN SC 322(3), BIOL 133 GN(3), or BIOL 222(3) (Sem: 5-6)
Select 3-4 credits from AN SC 306(3), AN SC 308(4), AN SC 309(4), AN SC 405(3), AN SC 407(3), AN SC 410(4), or AN SC 413(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (5-7 credits)
Select 5-7 credits of 400-level courses from department list
(Students may apply 6 credits of ROTC.) (Sem: 7-8)

Integrated B.S. in Animal Sciences and Master of Biotechnology in Biotechnology

Qualified students should formally apply to the Master of Biotechnology degree when they have earned a minimum of 75 credits in their B.S. curriculum. To make sure students finish within the shortest time-to-degree, students intending to apply to the integrated program will be closely mentored by their respective undergraduate program coordinators to guide their progress through their B.S. curriculum. The undergraduate program coordinators will be directly consulted by the Director of the Master of Biotechnology in Biotechnology program regarding admission of a student applicant to the Master of Biotechnology in Biotechnology program.

Students admitted to the integrated program will follow their undergraduate curriculum until the beginning of their fourth year, at which time, they start taking courses required for the Master of Biotechnology degree. In the summer following the Spring semester of their fourth year, students will participate in off-campus internships and have the option of either continuing at their off-campus location for their research project in the following Fall semester, or coming back to campus to do a research project. The final Spring semester will be devoted to completing the course and credit requirements for the Master of Biotechnology degree. As designed, students can opt to graduate with a B.S. degree at the end of the Spring semester of their 4th year, when they should have completed the credit requirements of the B.S. degree program (125 credits). The following table outlines the program of study for students in this program:

Year	Semester	B.S. Animal Sciences (125 credits required) credits completed
I	Fall	15
	Spring	16
II	Fall	15.5
	Spring	16

III	Fall	15
	Spring	15.5
IV	Fall	15*
	Spring	17*
Total credits for B.S.		**125**

* The following courses to be taken in these semesters will be cross-counted towards the B.S. and Master of Biotechnology. degrees:
BIOTC 479. Methods in Biofermentation OR CH E 409 (3 credits)
B M B 400. Molecular Biology of the Gene (2-3 credits)
IBIOS 571. Current Issues in Biotechnology (2 credits)
IBIOS 591. Ethics in the Life Sciences (1 credit)
IBIOS 593. Molecular Biology Laboratory (3 credits)

Total credits cross-counted in B.S. and Master of Biotechnology degrees	**12 credits, 6 of which are 500-level credits**

Master of Biotechnology in Biotechnology (30 credits required, 18 of which must be 500-level)

IV	Summer	IBIOS 595 or equivalent in AN SC (2 credits) Internship
V	Fall	IBIOS 594. Research Project (3-6 credits)
	Spring	IBIOS 590. Colloquium (1 credit) Electives, 500-level (3-6 credits) Other graduate level electives (6 credits)
Minimum total credits earned for Summer and 5th year		**18 credits, at least 12 of which are 500-level credits**

Admission Requirements

Students must have a GPA of 3.5 at the time of application to the integrated degree program when they have completed at least 75 credits of their B.S. curriculum. The GRE scores normally required in the Master of Biotechnolgy in Biotechnology program will be waived for applicants to the integrated B.S.-Master of Biotechnology degree.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006 (ANSCI); Summer Session 2006 (Integrated B.S./Master of Biotechnology in Biotechnology-Grad. Degree Name Change)

Blue Sheet Item #: 34-01-003 (ANSCI); 34-06-001 (Integrated B.S./Master of Biotechnology in Biotechnology)

Review Date: 6/9/08

UCA Revision #1: 8/2/06

AG

Anthropology

University Park, College of the Liberal Arts (ANTH)

PROFESSOR NINA G. JABLONSKI, *Head*

Anthropology is a holistic scientific discipline having links to the humanities. Anthropologists document, describe, and explain the physical and cultural differences of societies, both past and present. Anthropology sees the individual as part of a larger social order that both impinges upon and is molded by those who belong to it. Anthropology investigates how cultures interact and relate within specific economic, political, and ecological frameworks over time.

The Bachelor of Arts major focuses on the biological and cultural variations of human populations through archaeology, biological anthropology, and cultural anthropology. In addition to class work, students receive practical training in laboratory and field work.

For the B.A. degree in Anthropology, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR.)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 16 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 40 credits**[1]**
(This includes 4 credits of General Education GQ courses.)

PRESCRIBED COURSES (13 credits)
ANTH 002 GS(3), ANTH 021 GN(3), ANTH 045 GS;US;IL(3), STAT 200 GQ(4) (Sem: 1-6)

ADDITIONAL COURSES (27 credits)
Select 15 credits in ANTH courses other than ANTH 001 GS;US;IL(3) (no more than 6 credits from 190-199, 290-299, 390-399, and 490-499, other than 297 and 497) (Sem: 1-8)
Select 12 credits from the following ranges (at least 3 credits must be in each range):
a. Archaeology: ANTH 420-439 (Sem: 3-6)
b. Biological anthropology: ANTH 400-419, ANTH 460-473 (Sem: 3-6)
c. Cultural anthropology: ANTH 440-459, ANTH 474-479 (Sem: 3-6)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 1998

Blue Sheet Item #: 26-04-035

Review Date: 4/21/05

Dept head updated by Publications: 5/21/07

LA

Applied Behavioral Science

Capital College (ABESC)

PROFESSOR KAMINI M. GRAHAME, *Program Coordinator*

The Applied Behavioral Science major is an interdisciplinary program that provides a base of theoretical and empirical knowledge from the social and behavioral sciences and the hands-on skills needed to apply that knowledge effectively in working with people. The major helps students prepare for careers that provide direct service to individuals in need of assistance. These careers are in a variety of human services both in the public and private sectors or in personnel-related positions such as human resources. The major is especially useful for adult learners who are interested in augmenting their professional skills and advancing their career positions through an academic program which combines course work from selected social and behavioral science fields.

Graduates may also pursue advanced degrees in fields such as community psychology, social work, human resource management, gerontology, urban planning, and counseling. The strengths of the program include: internships directly related to the student's area of interest, flexibility in course selection that allows students to focus on particular interests, a solid foundation of knowledge on which to build skills, and skill development courses.

Entry to Major Requirements:
Entry to the Applied Behavioral Science major requires a 2.00 or higher cumulative grade-point average.

For a B.S. degree in Applied Behavioral Science, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(9 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education Course Requirements in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 4-10 credits

REQUIREMENTS FOR THE MAJOR: 74-80 credits
(This includes 9 credits of General Education courses: 3 credits of GWS courses; 6 credits of GS courses.)

PRESCRIBED COURSES (23-29 credits)**[1]**
ENGL 202A GWS(3), PSYCH 100 GS(3) (Sem: 1-4)
SO SC 480W(4), SO SC 481(4), SO SC 492(3) (Sem: 5-8)
SOC 405(3) (Sem: 5-8)
BE SC 395(3-9) (Sem: 7-8)

ADDITIONAL COURSES (45 credits)**[1]**
Select 3 credits from: SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-4)
Select 3 credits from: ANTH 045 GS;US;IL(3), GEOG 020 GS(3), PL SC 001 GS(3), PL SC 003 GS;IL(3) (Sem: 1-4)
Select 30 credits (a minimum of 3 credits at the 400 level) in consultation with an adviser from the following: AAA S 192 GH;IL(3) or AAA S 212 US(3) or any BE SC, HD FS, or SOC course.
--Take a minimum of 9 credits from BE SC
--Take a minimum of 9 credits from SOC
--Take a minimum of 6 credits from HD FS) (Sem: 5-8)

Select 9 credits (a minimum of 3 credits at the 400 level) in consultation with an adviser form PSYCH, PUBPL, PL SC, CRIMJ (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)**[1]**
Select 6 credits from department list in consultation with an adviser (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-05-021

Review Date: 2/24/09

UCA Revision #1: 8/14/06
UCA Revision #2: 7/26/07

CL

Applied Psychology

Berks College (APSYC)
University College (APSCC): Penn State Beaver, Penn State Lehigh Valley, Penn State Greater Allegheny, Penn State Hazleton, Penn State New Kensington

This major is designed for students who are interested in a liberal arts degree with a concentration in applied psychology. The program features both active and collaborative classroom experiences in addition to intensive internship experiences, and is most appropriate for students who wish to develop a set of applied scientific and human relations skills that will prepare them for entry-level employment in a wide range of government and private human service organizations and agencies, and in business and industry. Because of the flexible and broad nature of the degree, students might also use this major as a preparation for graduate or professional school in business, human services, law, or the social sciences.

This program differs most notably from traditional majors in psychology in three ways: 1) it is intended for students who may not be planning to pursue a doctoral degree in psychology that would prepare them for a career as a psychologist; 2) it requires that students learn and apply skills during 12 credits of internship experiences; 3) it requires that students demonstrate skill proficiency in a comprehensive assessment in order to graduate.

For the B.A. degree in Applied Psychology, a minimum of 127 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 50 credits**[1]**
(This includes 0-4 credits of General Education GQ courses.)

PRESCRIBED COURSES (28 credits)
PSYCH 100 GS(3) (Sem: 1-2)
PSYCH 212 GS(3), PSYCH 296(1) (Sem: 1-4)
PSYCH 301W(4) (Sem: 3-6)
PSYCH 404/EDPSY 450(3), PSYCH 495(12) (Sem: 5-8)
PSYCH 496(2) (Sem: 7-8)

ADDITIONAL COURSES (16 credits)
PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 12 credits from the following groups, including a minimum of 3 credits from each category (a total of 9 credits must be at the 400 level):

1. Abnormal, Clinical, Personality:
   PSYCH 238 GS(3) (Sem: 3-6)
   PSYCH 470(3), PSYCH 479 US(3), PSYCH 481(3) (Sem: 5-8)
2. Developmental, Cognitive, Learning:
   ED PSY 014(3), PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 412(3), PSYCH 415(3), PSYCH 456(3) (Sem: 3-6)
   PSYCH 416/HD FS 445(3) (Sem: 5-8)
3. Industrial/Organizational, Social, Interpersonal:
   PSYCH 221 GS(3), PSYCH 281 GS(3), PSYCH 420(3) (Sem: 3-8)
   PSYCH 423(3), PSYCH 424(3) (Sem: 5-8)
4. Health, Wellness, Adjustment:
   PSYCH 243 GS(3) (Sem: 3-6)
   PSYCH 441(3), PSYCH 471(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits of 200-level psychology in consultation with an adviser (Sem: 1-2)
Select 3 credits in consultation with an adviser (Sem: 1-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 31-04-017

Review Date: 1/14/03

UCA Revision #1: 8/14/06

BK-LV

Applied Psychology

Berks College (APSYC)
University College (APSCC): Penn State Beaver, Penn State Lehigh Valley, Penn State Greater Allegheny, Penn State Hazleton, Penn State New Kensington

This major is designed for students who are interested in a liberal arts degree with a concentration in applied psychology. The program features both active and collaborative classroom experiences in addition to intensive internship experiences, and is most appropriate for students who wish to develop a set of applied scientific and human relations skills that will prepare them for entry-level employment in a wide range of government and private human service organizations and agencies, and in business and industry. Because of the flexible and broad nature of the degree, students might also use this major as a preparation for graduate or professional school in business, human services, law, or the social sciences.

This program differs most notably from traditional majors in psychology in three ways: 1) it is intended for students who may not be planning to pursue a doctoral degree in psychology that would prepare them for a career as a psychologist; 2) it requires that students learn and apply skills during 12 credits of internship experiences; 3) it requires that students demonstrate skill proficiency in a comprehensive assessment in order to graduate.

For the B.A. degree in Applied Psychology, a minimum of 127 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 50 credits**[1]**
(This includes 0-4 credits of General Education GQ courses.)

PRESCRIBED COURSES (28 credits)
PSYCH 100 GS(3) (Sem: 1-2)
PSYCH 212 GS(3), PSYCH 296(1) (Sem: 1-4)
PSYCH 301W(4) (Sem: 3-6)
PSYCH 404/EDPSY 450(3), PSYCH 495(12) (Sem: 5-8)
PSYCH 496(2) (Sem: 7-8)

ADDITIONAL COURSES (16 credits)
PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 12 credits from the following groups, including a minimum of 3 credits from each category (a total of 9 credits must be at the 400 level):

1. Abnormal, Clinical, Personality:
   PSYCH 238 GS(3) (Sem: 3-6)
   PSYCH 470(3), PSYCH 479 US(3), PSYCH 481(3) (Sem: 5-8)
2. Developmental, Cognitive, Learning:
   ED PSY 014(3), PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 412(3), PSYCH 415(3), PSYCH 456(3) (Sem: 3-6)
   PSYCH 416/HD FS 445(3) (Sem: 5-8)
3. Industrial/Organizational, Social, Interpersonal:
   PSYCH 221 GS(3), PSYCH 281 GS(3), PSYCH 420(3) (Sem: 3-8)
   PSYCH 423(3), PSYCH 424(3) (Sem: 5-8)
4. Health, Wellness, Adjustment:
   PSYCH 243 GS(3) (Sem: 3-6)
   PSYCH 441(3), PSYCH 471(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits of 200-level psychology in consultation with an adviser (Sem: 1-2)
Select 3 credits in consultation with an adviser (Sem: 1-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 31-04-017

Review Date: 1/14/03

UCA Revision #1: 8/14/06

BK-LV

Archaeological Science

University Park, College of the Liberal Arts (ARSCI)

PROFESSOR NINA G. JABLONSKI, *Head, Department of Anthropology*
(The Bachelor of Science degree in Archaeological Science is offered by the Archaeology Program in the Department of Anthropology.)

This degree provides the opportunity to develop a strong foundation in research methods, quantification, field methods, and laboratory science. It prepares students with the skills and competencies needed to pursue careers in cultural resource management. Students contemplating futures in nonacademic archaeology should consider this degree or some of its recommended courses.

For the B.S. degree in Archaeological Science, a minimum of 123 credits is required.

GENERAL EDUCATION: 45 credits
(11 of these 45 credits are included in REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 9 credits

REQUIREMENTS FOR THE MAJOR: 80 credits**[1]**
(This includes 11 credits of General Education courses: 4 credits of GQ courses; 4 credits of GN courses; 3 credits of GH courses.)

PRESCRIBED COURSES (55 credits)
ANTH 002 GS(3), ANTH 011 GS;IL(3), ANTH 021 GN(3), ANTH 045 GS;US;IL(3), ANTH 285 GS;IL(3), ANTH 321W(3), ANTH 380(3), ANTH 423(3), ANTH 428(3), ANTH 456(3), 3 credits from ANTH 492(3-6), 3 credits from ANTH 493(3-6), GEOG 160 GS(3), GEOG 363(3), GEOSC 001(3), SOILS 101 GN(3), STAT 200 GQ(4), STAT 460(3) (Sem: 1-6)

ADDITIONAL COURSES (25 credits)
Select 3 credits from ANTH 146 GS;US(3) or ANTH 152(3) (Sem: 3-8)
Select 4 credits from the following: BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111 GN(l), CHEM 112 GN(3), CHEM 113 GN(l) (Sem: 3-8)
Select 3 credits from the following: PHIL 011 GH(3), PHIL 116 GH(3), PHIL 132 GH(3), or PHIL 221 GH(3) (Sem: 3-8)
Select 3 credits from GEOSC 340(3) or GEOSC 418/SOILS 419(4) (Sem: 3-8)
Select 3 credits from ANTH 410(4) or ANTH 411(3) (Sem: 3-8)
Select 3 credits in consultation with adviser from the following ranges: ANTH 320-329 or ANTH 420-429 (Sem: 3-8)
Select 6 credits in consultation with adviser either in ANTH electives other than ANTH 001, ANTH 492, and ANTH 493, or carry out a senior project under ANTH 496(6) (Sem: 3-8)

NOTE: Internships will be counted as elective credits.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 30-07-102

Review Date: 03/11/05

UCA Revision #1: 8/2/06

Dept head updated by Publications: 5/21/07

LA

Architectural Engineering

University Park, College of Engineering (A E)

PROFESSOR CHIMAY J. ANUMBA, *Head, Department of Architectural Engineering*

This major emphasizes the application of scientific and engineering principles to the planning, design, and construction of buildings and building systems. The goal of the program is to provide engineering graduates with the best education available for careers in the building professions. Graduates will have the ability to practice as registered professional engineers in a variety of areas, both public and private, related to the planning, design, construction, and operation of buildings and to assume a place of leadership in society.

Four options are available in the ten-semester major: the Construction option, which emphasizes building construction engineering and construction management; the Lighting/Electrical option, which emphasizes the design of lighting and electrical systems for buildings; the Mechanical option, which emphasizes the design of heating, ventilating and air-conditioning systems in buildings; and the Structural option, which emphasizes the analysis and design of building structural systems. Courses in architectural design are included in all options to give the engineering student an understanding of architectural design and its relation to engineering. Courses in engineering design are provided throughout the program. The design experience is culminated in a year-long capstone design course.

A limited number of undergraduate students in the B.A.E. program will be considered for admission to the integrated undergraduate/graduate program leading to the B.A.E. and the M.A.E. degrees. Students who are currently enrolled in the 7th semester of the B.A.E. degree program may be admitted to the integrated B.A.E./M.A.E. program, following a positive review of an application specific to this program by the faculty committee on graduate admissions. Students must have attained a GPA of at least 3.0 and must have attained a grade of C or better in all classes listed as A E. Students admitted to the integrated program must maintain a GPA in all classes used toward the M.A.E. degree of at least 3.0.

The professional degree, Bachelor of Architectural Engineering, is granted upon the satisfactory completion of the five-year program.

Graduates, after several years in practice, are engaged in a professional career in the building industry as follows.

- Graduates, with the appropriate experience, are qualified and competent to sit for the professional engineering exam.
- Graduates are capable to meet the challenges of the engineering work environment. The graduates have assumed some leadership responsibilities.
- Graduates are capable of solving design and project related problems based on sound engineering principles as demanded by their work.
- Graduates are successfully conducting multi-disciplinary/inter-disciplinary interactions as required by their work.
- Graduates are engaged in service activities in the public and professional realms.

For the B.A.E. degree in Architectural Engineering, a minimum of 160 credits is required. This baccalaureate program in Architectural Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: 410-347-7700; www.abet.org(Opens New Window).

For the integrated B.A.E./M.A.E. degrees, a minimum of 172 credits of course work is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(33 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 148 credits
(This includes 33 credits of General Education courses: 9 credits of GN courses; 6 credits of GA courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 112 credits

PRESCRIBED COURSES (102 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), E G 130(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
A E 202(3), A E 221(3), A E 222(3), ARCH 130A(6), E MCH 211(3), E MCH 213(3), MATH 220 GQ(2-3), MATH 231(2), PHYS 212 GN(4), PHYS 213 GN(2) (Sem: 3-4)
A E 308(4)**[1]**, A E 309(3), A E 310(3)**[1]**, A E 311(3)**[1]**, A E 372(3)**[1]**, A E 481W(4), A E 482(4), ARCH 210 GA(3), ARCH 211 GA(3), E E 211(3), E MCH 212(3), M E 201(3), MATH 250(3), STAT 401(3) (Sem: 5-6)
ARCH 441(3), ARCH 443(1) (Sem: 7-8)
ENGL 202C GWS(3) (Sem: 9-10)

ADDITIONAL COURSES (10 credits)

Select A E 124S(1) or 1 credit of another First-Year Seminar (Sem: 1-2)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 36 credits

CONSTRUCTION OPTION: (36 credits)

PRESCRIBED COURSES (24 credits)
A E 404(3), A E 475(3), A E 476(3), C E 336(3), C E 337(1), MGMT 326(3)**[19]** (Sem: 7-8)
A E 472(3), A E 473(3), C E 209(2) (Sem: 9-10)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits from technical courses on department list (Sem: 7-8)
Select 5 credits from technical courses on department list**[19]** (Sem: 9-10)
Select 4 credits of geotechnical courses (Sem: 9-10)

LIGHTING/ELECTRICAL OPTION: (36 credits)

PRESCRIBED COURSES (24 credits)
A E 404(3), A E 454(3), A E 461(3), A E 467(3), ARCH 442(3)**[19]** (Sem: 7-8)
A E 444(3), A E 464(3), A E 466(3) (Sem: 9-10)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits from technical courses on department option list (Sem: 7-8)
Select 9 credits from technical courses on department option list **[19]** (Sem: 9-10)

MECHANICAL OPTION: (36 credits)

PRESCRIBED COURSES (27 credits)
A E 404(3), A E 454(3), A E 455(3), A E 457(3), A E 467(3) ARCH 442(3)**[19]**, M E 320(3), M E 410(3) (Sem: 7-8)
A E 458(3) (Sem: 9-10)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits from technical courses on department option list**[19]** (Sem: 7-8)
Select 6 credits from technical courses on department option list (Sem: 9-10)

STRUCTURAL OPTION: (36 credits)

PRESCRIBED COURSES (23 credits)
A E 401(3), A E 402(3), A E 403(3), A E 430(3), ARCH 442(3)**[19]**, E MCH 315(2), E MCH 316(1) (Sem: 7-8)
A E 431(3), C E 209(2) (Sem: 9-10)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select 9 credits from technical courses on department list**[19]** (Sem: 7-8)
Select 4 credits in Geotechnical (Sem: 7-8)

Note: The following substitutions are allowed for students attending campuses where the indicated course is not offered: ED&G 100(3) can be substituted for E G 130(3).

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[19] Students having successfully completed ROTC upon graduation, may apply 3 credits of ROTC to these courses. Additionally, 3 credits of ROTC may be applied to GHA.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-319

Review Date: 4/10/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

EN

Department head updated by Publications: 7/23/08

Architecture

University Park, College of Arts and Architecture (ARCBS and BARCH)

PROFESSOR DANIEL E. WILLIS, *Head, Department of Architecture*

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture and the Bachelor of Architecture degree is accredited by the National Architectural Accrediting Board. The major provides for the education of architects at the professional and pre-professional levels.

"In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree." (Excerpt from NAAB Conditions for Accreditation, 2004 Edition)

Bachelor of Architecture

The professional program (BARCH) is a five-year curriculum leading to the Bachelor of Architecture degree requiring 162 credits. It prepares those who seek careers as practicing architects. It also provides professional preparation for those who wish to enter related design fields. Graduates of the Bachelor of Architecture program are eligible, after appropriate internship experience, to sit for the Architect Registration Examination. Successful completion of all parts of the Architect Registration Examination is required for registration as an architect. The Bachelor of Architecture curriculum includes coursework in architectural design, history, theory, structural systems, building materials, environmental control systems, visual communications, professional practice, and systems integration. Supporting courses provide students with the flexibility to explore a range of interests, develop concentrations, or pursue minors. A required semester abroad at the Department's facilities in Rome, Italy, is also a component of this program. All students admitted to the University in the Department of Architecture are enrolled in the five-year professional program leading to the Bachelor of Architecture degree. Students enrolled in this program are required to meet standards for retention in the program at two points in their academic career.

Architecture students are reviewed at the end of the fourth semester (second year) for retention in the program. A portfolio of architectural design work examples will be submitted by each student and evaluated by a committee of faculty members. The review will be based on criteria which evaluates growth over the four-semester period and architectural design competence as evidenced in the architectural design work examples presented in the student's portfolio. A positive review will permit the student to continue in the major. A negative review will not permit continuance in the Architecture program. For students who receive a negative review, every effort will be made to advise them into a related discipline.

At the end of the fourth year (135 credits completed), students are again reviewed for retention in the five-year BARCH program. This review evaluates a student's performance by reviewing the overall University grade-point average which must be a minimum of 2.5 and the student's performance in architectural design studio courses where the minimum grade-point average must be 2.67 on the 4.0 scale. In cases where either of these minimums are not met, a portfolio of design work examples will be requested of the student and reviewed by the committee. In cases where retention in the BARCH (five-year) program is not permitted, students having already completed the ARCBS (four-year, 135 credits) requirements will be given a "change of major" and awarded the Bachelor of Science degree in Architecture. Students may also elect to leave Penn State after completing the requirements of the four-year (ARCBS) program and receive the Bachelor of Science degree.

Bachelor of Science

The pre-professional Bachelor of Science degree program in Architecture (ARCBS) is a four-year curriculum which requires a minimum of 135 credits. The curriculum mirrors the first four years of the professional (BARCH) program. The ARCBS program prepares prepares graduates to pursue careers in fields such as construction, real estate development, public administration, or historic preservation. Students may also continue their education at the graduate level in fields such as architecture, urban planning, or law. Enrollment in the pre-professional (ARCBS) program is limited to those students who transfer from the professional (BARCH) program.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

Bachelor of Architecture

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 123 credits**[1]**
(This includes 6 credits of General Education GA courses.)

PRESCRIBED COURSES (93 credits)
A E 210(3), ARCH 121(2), ARCH 122(2), ARCH 131S(4), ARCH 132(4), ART H 201 GA;IL(3), ART H 202 GA;US;IL(3) (Sem: 1-2)
A E 421(3), A E 422(3), ARCH 203(3), ARCH 204(3), ARCH 210(3), ARCH 231(6), ARCH 232(6) (Sem: 3-4)
A E 211(3), A E 424(3), ARCH 311W(3), ARCH 331(6), ARCH 332(6) (Sem: 5-6)
ARCH 499B IL(3), ARCH 499C IL(3) (Sem: 7-8)
ARCH 451(3), ARCH 480(3), ARCH 491(6), ARCH 492(6) (Sem: 9-10)

ADDITIONAL COURSES (12 credits)
ARCH 431(6) and ARCH 432A IL(6); or ARCH 431A IL(6) and ARCH 432(6) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 3 credits in non-Western traditions in architecture from approved department list (Sem: 1-8)
Select 15 credits in consultation with an academic adviser. This category of course work gives students the freedom to explore a range of academic interests, develop concentrations, or pursue minors. (Sem: 3-10)

Bachelor of Science

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 96 credits**[1]**
(This includes 6 credits of General Education GA courses.)

PRESCRIBED COURSES (75 credits)
A E 210(3), ARCH 121(2), ARCH 122(2), ARCH 131S(4), ARCH 132(4), ART H 201 GA;IL(3), ART H 202 GA;US;IL(3) (Sem: 1-2)
A E 421(3), A E 422(3), ARCH 203(3), ARCH 204(3), ARCH 210(3), ARCH 231(6), ARCH 232(6) (Sem: 3-4)
A E 211(3), A E 424(3), ARCH 311W(3), ARCH 331(6), ARCH 332(6) (Sem: 5-6)
ARCH 499B IL(3), ARCH 499C IL(3) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
ARCH 431(6) and ARCH 432A IL(6); or ARCH 431A IL(6) and ARCH 432(6) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits in non-Western traditions in architecture from approved department list (Sem: 1-8)
Select 6 credits in consultation with an academic adviser. (Sem: 3-8)

Integrated BARCH-MARCH Program

The Department of Architecture offers a limited number of academically superior students enrolled in the fourth year of the program leading to the Bachelor of Architecture degree the opportunity to enroll in an integrated program leading to both the Bachelor of Architecture and the Master of Architecture degrees. The program permits the student to integrate the fifth year of study for the professional BARCH degree with the program of study for the post-professional MARCH degree into a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in a shorter period. In particular, the program encourages students to integrate the undergraduate thesis design project with the master's thesis, thereby achieving a greater depth of inquiry.

The number of openings to this special program is limited; admission is by invitation of the faculty and is extremely selective.

Admission Requirements

Applicants to the integrated program must be enrolled in the fourth year of a BARCH program or otherwise qualified to apply for admission to the fifth year of the BARCH program at Penn State. To be admitted, applicants must be able to meet the following requirements:

--Must have completed a Bachelor of Science in Architecture, or other degree qualifying for admission to the BARCH program, prior to entry into the Integrated Degree program.

--Must be fully accepted into the fifth year of the BARCH program at Penn State.

--Must be unconditionally accepted into the MARCH program at Penn State (see application requirements for the MARCH degree in the Penn State *Graduate Degree Programs Bulletin*.)

--Must have a minimum 3.20 junior/senior overall grade-point average (on a 4.0 scale) as well as: (1) a minimum 3.20 GPA in architectural design courses (studio), and (2) a minimum 3.20 GPA in all course work except architectural design courses (studio).

--In addition to the normal application requirements for the MARCH degree, the student applicant shall provide a Plan of Study of not more than 1,500 words. The plan shall clearly describe the student's proposed general thesis topic and a strategy for pursuing it, including a list of proposed courses and a list of faculty whom the student foresees as contributing to the course of study.

The best-qualified students will be accepted up to the number of spaces available for new students. Acceptance to the program prior to the completion of all required course work is provisional, contingent upon meeting the previous requirements.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-009 BARCH and 36-06-008 ARCBS

Review Date: 4/15/08

AA

Army (ARMY)

The Army Reserve Officers' Training Corps (Army ROTC) is an elective program of instruction and training that offers qualified students the opportunity to earn a commission as an officer (Second Lieutenant) and to serve in the United States Army, Army National Guard, or United States Army Reserve while working toward a baccalaureate degree as a full-time student. The program emphasizes student learning and participation in applied leadership, leadership theory, decision making, management skills, time management, and military knowledge and skills. The four-year program is conducted in two successive phases--the Basic Course and Advanced Course (20 total credits). At least 6 Army ROTC credits may be applied toward baccalaureate degree requirements in all majors, usually as elective credits. Course subjects and credits appear under ROTC course descriptions in this bulletin.

The Basic Course is a four-course series, usually taken in the freshman and sophomore years. Freshman and sophomore courses are 2 credits each. The Basic Course trains the student in a variety of topics, including the national defense structure, leadership theory and principles, land navigation, small-unit operations and tactics, military history, and basic military skills and knowledge. The student incurs no military service obligation while enrolled in the Basic Course, and may dis-enroll at any time (except for sophomores on Army ROTC scholarships). Enrollment in the Basic Course is open to all Penn State full-time students. Also, uniforms, textbooks, and most equipment are furnished at no charge by the government to all enrolled students.

The Army ROTC program is much more than just taking classes. Each semester, the Army ROTC program consists of five activity segments: classroom lectures (one or two fifty-minute classes per week), a 100-minute Leadership Laboratory, Physical Training sessions, day trips and field training exercises, and extracurricular activities that include numerous clubs and social events. While the latter three activities are generally optional for enrolled Basic Course students, most students become progressively involved to enhance their training, develop esprit de corps, and take part for the social and fun aspects of the program.

The Advanced Course consists of a series of four courses, each for 3 credits. The Advanced Course instructs and evaluates in such areas as leadership and management, tactical operations, strategy, personnel administration, logistics, military justice, and ethics. Advanced Course students incur a service obligation when contracted, after which they receive a cash stipend of up to $400 per month (tax free) up to $4,000 per academic year. Normally, in the summer between the junior and senior years, students attend a five- to six-week National Advanced Leader's Course, for which salary and travel expenses are paid for the student. National Advanced Leader's Course is a critical hurdle that students must pass to receive a commission. In addition, students must complete at least one University course in each of five areas prior to commissioning: written communications, human behavior, computer literacy, mathematical reasoning, and American military history. These courses may also fulfill the student's General Education or academic major curriculum requirements.

Students may enter Army ROTC during their baccalaureate studies up until the start of their junior year via several lateral entry methods. These methods include compressing the Basic Course into one year (for sophomores), attending a four-week summer training program called Army ROTC Leader's Training Course, or by receiving constructive credit for prior military service. Entry after this time is possible only when an enrolling student will be continuing his/her education after baccalaureate graduation. Contracted students who wish to continue their education at a graduate level may request an education delay before starting their service obligation.

Three-year Army ROTC scholarships are available to students on a competitive basis. These merit scholarships pay full tuition, a book allowance ($600 per year), and a tax-free subsistence stipend of up to $400 per month up to $4,000 per academic year. Four-year scholarships are available only through competition in the high school senior year. Army ROTC scholarships are awarded in five major categories: engineering, analytic/physical sciences, nursing, technical/management, and generalists (all other majors except theology). In particular, Army ROTC has a strong program for Nursing majors with numerous scholarship and enrollment options.

Penn State Army ROTC is one of the largest and most successful ROTC programs in the United States. Army ROTC is offered at the following campuses: Abington, Altoona, Hazleton, and University Park. However, only the University Park campus offers the complete four-year program within the Penn State Army ROTC system. Army ROTC is also available at most other campuses through cross-enrollment agreements with other colleges and universities. For additional information on Army ROTC, see the enrollment officer at 212 Wagner Building on the University Park campus or call 814-863-0368 (toll free: 1-866-558-3513) or visit us at www.psu.edu/dept/armyrotc (Opens New Window) on the Web.

Effective Date: Current

Review Date: 4/19/04

Art

University Park, College of Arts and Architecture (ARBFA)

PROFESSOR CHARLES GAROIAN, *Director, School of Visual Arts*

The Bachelor of Fine Arts degree requires thorough preparation and is intended to develop a level of competence that will enable persons who wish to pursue professional careers in art to prepare themselves for specialized graduate studies, specialized professional training, and/or immediate participation in creative work.

Students enrolled in the School of Visual Arts may seek entrance into the B.F.A. program no earlier than the second semester and no later than the fourth semester.

There will be a continuous review of portfolio and performance of students enrolled in the B.F.A. program throughout the entire program. Students who do not meet the standards or who do not want to continue in the B.F.A. program may return to the B.A. program in art or choose another program of study.

For the B.F.A. degree in Art, a minimum of 122 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(6 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 83 credits
(This includes 6 credits of General Education GA courses.)

PRESCRIBED COURSES (15 credits)**[1]**
ART 110S(3), ART 111 (3) (Sem: 1-2)
ART 122Y US(3), ART H 111 GA;IL(3), ART H 112 GA;IL(3) (Sem: 1-4)

ADDITIONAL COURSES (15 credits)**[1]**
Select 15 credits at the beginning level from ART 201(3), ART 203(3), ART 211 US(3), ART 217(3), ART 220(3), ART 223(3), ART 230(3), ART 240(3), ART 250(3), ART 251(3), ART 260(3), ART 280(3), ART 296(3), ART 297(3), ART 299(3), PHOTO 10 GA(3), or PHOTO 201(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (53 credits)
Select 47 credits in Art at the 300 or 400 level, 24 of which must be in an area of concentration from the following: ceramics, drawing and painting, new media, photography, printmaking, or sculpture**[1]** (Sem: 3-8)
Select 6 credits in art history (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-06-013

Review Date: 4/15/08

AA

Art

Abington College (ARTAB)
University Park, College of Arts and Architecture (ARTBA)

PROFESSOR CHARLES GAROIAN, *Director, School of Visual Arts*

The B.A. degree in art provides a comprehensive liberal education coupled with professional resident instruction in art. Depending on each student's objectives and course choices, this degree provides preparation for a professional career, a foundation for graduate studies, or a liberal arts education in art. Each student must elect an area of concentration from one of the following: ceramics, drawing and painting, new media, photography, printmaking, or sculpture. In addition, a concentration in new media and in photography is available at the University Park Campus.

For a B.A. degree in Art, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR. See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 51 credits
(This includes 6 credits of General Education GA courses.)

PRESCRIBED COURSES (15 credits)**[1]**
ART 110S(3), ART 111(3) (Sem: 1-2)
ART 122Y US(3) (Sem: 1-4)
ART H 111 GA;IL(3), ART H 112 GA;IL(3) (these credits may also be counted toward the General Education Arts requirement) (Sem: 1-4)

ADDITIONAL COURSES (15 credits)**[1]**
Select 15 credits from ART 201(3), ART 203(3), ART 211 US(3), ART 217(3), ART 220(3), ART 223(3), ART 230(3), ART 240(3), ART 250(3), ART 251(3), ART 260(3), ART 280(3), ART 296(3), ART 297 IL(3), ART 299(3), PHOTO 100 GA(3), or PHOTO 201 (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
(Include at least 15 credits**[1]** at the 300 or 400 level.)
Select 15 credits from one of the following areas of concentration: ceramics, drawing and painting, new media, photography (only available at University Park), printmaking, and sculpture (Sem: 3-8)
Select 6 credits in art history (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-06-010

Review Date: 4/15/08

AA

Art

Abington College (ARTAB)
University Park, College of Arts and Architecture (ARTBA)

PROFESSOR CHARLES GAROIAN, *Director, School of Visual Arts*

The B.A. degree in art provides a comprehensive liberal education coupled with professional resident instruction in art. Depending on each student's objectives and course choices, this degree provides preparation for a professional career, a foundation for graduate studies, or a liberal arts education in art. Each student must elect an area of concentration from one of the following: ceramics, drawing and painting, new media, photography, printmaking, or sculpture. In addition, a concentration in new media and in photography is available at the University Park Campus.

For a B.A. degree in Art, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR. See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 51 credits
(This includes 6 credits of General Education GA courses.)

PRESCRIBED COURSES (15 credits)**[1]**
ART 110S(3), ART 111(3) (Sem: 1-2)
ART 122Y US(3) (Sem: 1-4)
ART H 111 GA;IL(3), ART H 112 GA;IL(3) (these credits may also be counted toward the General Education Arts requirement) (Sem: 1-4)

ADDITIONAL COURSES (15 credits)**[1]**
Select 15 credits from ART 201(3), ART 203(3), ART 211 US(3), ART 217(3), ART 220(3), ART 223(3), ART 230(3), ART 240(3), ART 250(3), ART 251(3), ART 260(3), ART 280(3), ART 296(3), ART 297 IL(3), ART 299(3), PHOTO 100 GA(3), or PHOTO 201 (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
(Include at least 15 credits**[1]** at the 300 or 400 level.)
Select 15 credits from one of the following areas of concentration: ceramics, drawing and painting, new media, photography (only available at University Park), printmaking, and sculpture (Sem: 3-8)
Select 6 credits in art history (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-06-010

Review Date: 4/15/08

AA

Art Education

University Park, College of Arts and Architecture (A ED)

PROFESSOR CHARLES GAROIAN, *Director, School of Visual Arts*

This major offers two options: Art Education for Schools, and Art Education for Museums and Cultural Institutions. The purpose of the program is to prepare knowledgeable, skilled, and caring professional educators to become critical, reflective practitioners, researchers and artists, and agents of change for social justice in diverse contexts of educational practice; generate and disseminate knowledge that leads to new pedagogical understandings on which more effective policies and practices can be grounded; and collaborate across disciplines, professions, and constituencies to promote social change that leads to educational improvement and transformation. An integral part of each option involves a variety of observational and participatory experiences in art learning environments, and an extensive pre-practice internship. Upon completion of the option, employment prospects and/or acceptance for advanced graduate studies depends upon individual achievement and qualifications. (See also Teacher Education Programs.)

All candidates seeking entrance to Art Education for Schools option must meet the following entrance to major criteria:

1. Minimum 3.00 cumulative GPA and at least 48 credits completed (at the time of application).
2. Meet PRAXIS PPST-READING current qualifying scores
3. Meet PRAXIS PPST-WRITING current qualifying scores
4. Meet PRAXIS PPST-MATHEMATICS current qualifying scores
5. Complete 6 credits in Quantification (GQ)
6. Complete ENGL 015 or 030
7. Complete 3 credits in literature (GH) (C or higher required)
8. Complete early field experience: A ED 101S (C or higher required)
9. Complete education foundation courses: EDPSY 014, PSYCH 100 (C or higher required)
10. Complete art education foundation courses: A ED 201W, 211, 212
11. Complete art studio & art history foundations: ART 110S, 111, 122Y, ART H 111, 112 (C or higher required)
12. Complete and document a minimum of 80 hours of paid or volunteer work with age appropriate population. At least 40 of these age-appropriate 80 hours would be satisfied by working with "under-represented" learners whose cultural, social, or ethnic backgrounds differ from the candidate's own.

For the B.S. degree in Art Education with an option in Art Education for Museums and Cultural Institutions, a minimum of 120 credits is required; with an option in Art Education for Schools, a minimum of 133 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 82 -103 credits
(This includes 9 credits of General Education courses in the Art Education for Museums and Cultural Institutions option, and 15 credits for the Art Education for Schools option: 6 credits of GA courses; 3 credits of GS courses; 3-6 credits of GH courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 40 credits

PRESCRIBED COURSES (40 credits)**[1]**
A ED 101S(3), ART 110S(3), ART 111(3), ART 122Y(3), ART H 111 GA;IL(3), Sem: 1-2)
A ED 201W(3), A ED 211 GA(3), A ED 212(1), ART H 112 GA;IL(3) (Sem: 3-4)
A ED 225 GA;US(3), A ED 322(3), A ED 401(3), A ED 490(3), PSYCH 100 GS(3) (Sem: 3-8)

REQUIREMENTS FOR THE OPTION: 42-63 credits

ART EDUCATION FOR MUSEUMS AND CULTURAL INSTITUTIONS OPTION: (42-46 credits)

PRESCRIBED COURSES (19-21 credits)**[1]**
A ED 440(3), A ED 488(1-3), A ED 495E(15) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)**[1]**
Select 3 credits from ART 409(3), ART H 409(3) or ANTH 380(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (20-22 credits)
Select 18 credits from one of the following emphases a, b, c, d, e, or f (Students may apply 6 credits of ROTC.)
a. Studio Emphasis in ART and/or PHOTO with at least 6 credits at the 300 or 400 level (Sem: 3-6)
b. Art History with at least 6 credits at the 300 or 400 level (Sem: 3-8)
c. Human Development and Family Studies with at least 6 credits at the 300 or 400 level (Sem: 3-8)

d. Women's Studies with at least 6 credits at the 300 or 400 level (Sem: 3-8)
e. International Arts Minor with at least 6 credits at the 300 or 400 level (Sem: 3-8)
f. Individualized cluster of courses approved in advance by the Art Education Program, including at least 6 credits at the 300 or 400 level (Sem: 3-8)
Select 2-4 credits from non-art education courses (Sem: 3-8)

ART EDUCATION FOR SCHOOLS OPTION: (63 credits)

PRESCRIBED COURSES (31 credits)**[1]**
EDPSY 014(3) (Sem: 1-3)
A ED 323(3), SPLED 400(4) (Sem: 3-6)
SPLED 403B(3) (Sem:3-8)
A ED 489(3) (Sem: 7-8)
A ED 495A(7) and A ED 495B(8); or A ED 495C(7) and A ED 495D(8) (Sem: 8)

ADDITIONAL COURSES (18 credits)**[1]**
Select 12 credits at the beginning level from ART 201(3), ART 211 US(3), ART 217(3), ART 220(3), ART 223(3), ART 230(3), ART 240(3), ART 250(3), ART 251(3), ART 260(3), ART 280(3), ART 296(3), ART 297(3), ART 299(3), PHOTO 100 GA(3), PHOTO 200(3), or PHOTO 201(3) (Sem: 3-8)
Select 3 credits in literature (GH) courses (Sem: 1-4)
Select 3 credits from APLNG 200 GH:IL(3), C I 280(3), or APLNG 210(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (14 credits)
Select 8 credits in Art at the 300 or 400 level (Sem: 3-8)
Select 6 credits in Art History at the 300 or 400 level (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-03-026

Review Date: 11/17/2009

UCA Revision #1: 8/2/06

AA

Art History

University Park, College of Arts and Architecture (ART H)

PROFESSOR CRAIG ZABEL, *Head, Department of Art History*

For the B.A. degree in Art History, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (15 credits)
ART H 111 GA(3), ART H 112 GA(3), ART H 201 GA(3), ART H 202 GA(3) (Sem: 1-4)
ART H 350W(3) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)
(At least 6 credits must be taken at the 400 level, excluding ART H 496, ART H 297, ART H 397, and ART H 497 also may be used to fulfill the additional course requirements when the subject matter is appropriate.)
Select 3 credits from ART H 120 GA;IL(3), ART H 130 GA;US;IL(3), ART H 320 GA;IL(3), ART H 330 GA;IL(3), or ART H 340 GA;IL(3) (Sem: 3-8)
Select 3 credits from ART H 301 GA(3), ART H 311 GA(3), ART H 401(3-9), or ART H 411(3-9) (Sem: 3-8)
Select 3 credits from ART H 302 GA(3), ART H 312 GA(3), ART H 402(3), ART H 412(3), ART H 422(3-9), ART H 442(3), or ART H 452(3) (Sem: 3-8)
Select 3 credits from ART H 303 GA(3), ART H 304 GA(3), ART H 313 GA(3), ART H 314 GA(3), ART H 324 GA(3), ART H 404(3), ART H 414(3), ART H 423(3-9), ART H 424(3), ART H 454(3), ART H 456 IL(3), ART H 458 IL(3), or ART H 464(3) (Sem: 3-8)
Select 3 credits from ART H 305 GA(3), ART H 307 GA(3), ART H 325 GA(3), ART H 405(3-6), ART H 415(3), ART H 416(3), ART H 430(3), ART H 435(3-6), ART H 450(3), or ART H 470(3) (Sem: 3-8)
Select 6 credits of art history (excluding ART H 100 GA) (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1998

Blue Sheet Item #: 27-01-027

Review Date: 2/11/03

AA

Asian Studies

University Park, College of the Liberal Arts (ASIA)

PROFESSOR ERIC HAYOT, *Director of Asian Studies, in charge*

This is an interdisciplinary major, with a strong disciplinary core, for students who want a basic understanding of the background and contemporary aspect of East, Southeast, or South Asia. Students are expected to focus their coursework largely on one major Asian area.

For the B.A. degree in Asian Studies, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 31 credits**[1]**

PRESCRIBED COURSES (6 credits)
ASIA 100 GH;IL(3) (Sem: 1-4)
ASIA 405Y IL(3) (Sem: 5-8)

ADDITIONAL COURSES (7 credits)
Select 4 credits beyond the 12-credit level of proficiency in an Asian language:
CHNS 110(4), JAPNS 110 IL(4), or the equivalent (Sem: 3-6)

Select 3 credits from the following: HIST 174 GH;IL(3), HIST 175 GH;IL(3), or HIST 176 GH;IL(3) (Sem 1-4)

SUPPORTING COURSES AND RELATED AREAS (18 credits)

Select 18 credits from a department list with at least 12 credits of which are to be at the 400-level; independent study credits selected in consultation with adviser; additional further credits in language studies may be permitted up to 6 credits (credit received for a specific course will not count in more thant one category) (Sem: 1-8)

Courses not on the list that deal substantially with some aspect of Asia in any discipline may also count, pending approval of an adviser.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-054

Review Date: 4/14/09

UCA Revision #2: 7/27/07

LA

Astronomy and Astrophysics

University Park, Eberly College of Science (ASTRO)

PROFESSOR LAWRENCE W. RAMSEY, *Head*

Astronomy involves the study of the properties, physical nature and origins of the planets, stars, galaxies and universe as a whole. It involves development of instrumentation, observations of celestial objects with ground- and space-based telescopes, and interpretation of findings using the mathematical laws of physics such as gravity, electromagnetism and quantum mechanics. The undergraduate major provides a strong and broad foundation in mathematics, physical science and computation as well as a detailed understanding of modern astronomy. Many research opportunities are available to complement the formal classwork. Graduates proceed to advanced degrees in astronomy and other sciences, and into a wide variety of technical professions.

In order to be eligible for entrance to the Astronomy and Astrophysics major, a student must have: 1) Attained at least a 2.00 cumulative grade-point average. 2) Completed ASTRO 291 GN(3), CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), and PHYS 212 GN(4); and earned a grade of C or better in each of these courses.

For the B.S. degree in Astronomy and Astrophysics, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.*)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 98 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 64 credits

PRESCRIBED COURSES (49 credits)
ASTRO 291 GN(3)**[1]**, ASTRO 292 GN(3)**[1]**, ASTRO 320 GN(2), ENGL 202C GWS(3), MATH 230(4), MATH 251(4), PHYS 237(3) (Sem: 3-4)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** , PHYS 211 GN(4)**[1]**, PHYS 212 GN(4)**[1]**, PHYS 213 GN(2)**[1]**, PHYS 214 GN(2)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits**[1]** from 400-level ASTRO courses except 496 (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 34 credits

GRADUATE STUDY OPTION: (34 credits)

PRESCRIBED COURSES (10 credits)
PHYS 400(3), PHYS 410(3-4), PHYS 419(3) (Sem: 5-8)

ADDITIONAL COURSES (9-10 credits)
Select 3 credits from MATH 405(3), MATH 411(3), or MATH 417(3) (Sem: 3-4)
Select 6-7 credits from PHYS 401(3), PHYS 402(4), PHYS 406(3), PHYS 411(3), PHYS 420(3), PHYS 457(1-3), PHYS 457W(3), PHYS 461(3), and E E 471(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (14-15 credits)
Select 3 additional credits from advanced courses in computer science and engineering, mathematics, or statistics (Sem: 5-6)
Select 11-12 credits in consultation with adviser from department list (Sem: 3-8)

COMPUTER SCIENCE OPTION: (34 credits)

PRESCRIBED COURSES (9 credits)
CMPSC 122(3), CMPSC 221(3) (Sem: 5-6)
CMPSC 451(3) (Sem: 6-8)

ADDITIONAL COURSES (9 credits)
Select 3 credits from STAT 318(3), STAT 319(3), STAT 401(3), or STAT 414(3) (Sem: 5-6)
Select 6 credits from CMPEN 271(3), CMPEN 331(3), CMPSC 360(3), or CMPSC 465(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (16 credits)
Select 3 additional credits from advanced courses in computer science and engineering, mathematics, or statistics (Sem: 5-8)
Select 13 credits in consultation with adviser from department list (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-03-069

Review Date: 11/27/07

UCA Revision #1: 8/14/06
UCA Revision #2: 7/26/07

Comments

SC

Bachelor of Philosophy Degree

Intercollege Program (B PH)

OFFICE OF THE VICE PRESIDENT AND DEAN FOR UNDERGRADUATE EDUCATION

The Bachelor of Philosophy degree is designed to allow students to plan their own programs in conjunction with a faculty mentor and is intended for those few students for whom the present degree requirements are restrictive and not responsive to their needs. While the educational goals of most students are adequately met by existing degree programs, those who can demonstrate that the usual requirements of conventional programs prevent them from adequately meeting their goals may apply. An important standard for admission to the Bachelor of Philosophy degree program will be the ability of students to demonstrate that their stated goals are viable and worthy of a college degree.

The faculty mentor is responsible for assisting the student in planning the program and in achieving the proposed goals. The mentor must be able to certify to the Bachelor of Philosophy Degree Committee that the student has achieved the stated goals. The basis of this certification might be a comprehensive examination (written or oral), a written report, a public seminar or performance, or the presentation of a paper to a national meeting of a professional society, etc. A faculty member may serve as mentor for only one student at any given time.

The program is administered by an intercollege committee under the Office of the Vice President and Dean for Undergraduate Education. The Bachelor of Philosophy Degree Committee is responsible for selecting the students and their faculty mentors for the program, annually examining the progress of all students in the program, and approving the completion of the degree based on the certification made by the faculty mentor.

Requirements for Admission
1. An entry interview with the candidate, the faculty mentor, and the members of the Bachelor of Philosophy Degree Committee is required prior to admission to the program. This preliminary interview provides an opportunity for the candidate to discuss and justify the intended use of the Bachelor or Philosophy degree program, and the unique circumstances that surround the applicant.
2. Second-, third-, and fourth-semester students may apply; those selected will begin their programs the following semester. Exceptions may be approved by the committee.
3. Evidence of successful completion of course work requiring independent research is required. In addition, the committee will consider the applicant's cumulative grade-point average as an index of academic performance and responsibility. Applicants must possess the capability of performing at a**3.0** minimum level.
4. Approval of the student's program by the committee is required.

Requirements for Graduation
1. Satisfactory completion of General Education.
2. Satisfactory completion of a program approved by the committee: (a) a minimum of 120 credits to include at least 18 credits at the 400 or 500 level; (b) certification by the faculty mentor; (c) and approval of a thesis, or thesis equivalent, by the faculty mentor.
3. Approval by the committee for graduation.

Last Revised by the Department: Summer Session 1991

Review Date: 12/20/02

Last updated by Publications: 2/22/10

Biobehavioral Health

University Park, College of Health and Human Development (BB H)

PROFESSOR LYNN T. KOZLOWSKI, *Head of the Department*

This major provides interdisciplinary training designed to integrate biological, behavioral, and social science approaches to the study of human health and illness. Emphasis is placed on the study of physical health. The goal of this major is to help students gain working familiarity with multiple perspectives, approaches, and methods needed to address and solve problems of human health and illness. Students may select courses in the supporting courses category that will fulfill requirements for admission to graduate and professional programs. This major helps prepare graduates for entry-level jobs in a range of biomedical and health-related areas, including roles as research assistants, laboratory managers, biomedical product representatives, technical support positions in biomedical and health-related fields. This major also will provide excellent preparation for advanced study in natural and social science disciplines and related professional areas such as epidemiology, public health, environmental health and safety, and human services.

For the B.S. degree in Biobehavioral Health, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(22 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3 credits

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 22 credits of General Education courses: 4 credits of GQ courses; 9 credits of GN courses; 6 credits of GS courses; 3 credits of GHA courses.)

PRESCRIBED COURSES (38 credits)
BIOL 110 GN(4), CHEM 110 GN(3)**[1]** (Sem: 1-2)
BB H 101 GHA(3)**[1]**, BIOL 141 GN(3)**[1]**, NUTR 251 GHA(3), PSYCH 100 GS(3)**[1]**, STAT 200 GQ(4)**[1]** (Sem: 1-4)
BB H 310(3)**[1]**, BB H 311(3)**[1]**, BB H 316(3)**[1]**, BB H 411W(3)**[1]**, BB H 440 US;IL(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (45 credits)
BIOL 033 GN(3) or BIOL 222(3) (Sem: 1-2)
Select 12 credits from: CHEM 112 GN(3), CHEM 111 GN(1), CHEM 113 GN(1) (Sem: 1-2)
CHEM 202(3), CHEM 203(3), CHEM 213(2), CHEM 2108(3), CHEM 212(3), MICRB 106 GN(3), MICRB 107 GN(1), PSY 203(3) (Sem: 3-4)
B M B 211(3), BIOL 055 GN(3), BIOL 129 GN(4), BIOL 142(1), BIOL 230W GN(4), BIOL 341 GN(3), BIOL 422(3), BIOL 409(3), BIOL 479(3), PHYS 250 GN(4), PHYS 251 GN(4), PSYCH 453(3), PSYCH 461(3), PSYCH 460(3), PSYCH 470(3), PSYCH 462(3), PSYCH 463(3) (Sem: 5-8)
Select 15 credits from: BB H 302 US(3)**[1]**, BB H 315 US(3)**[1]**, BB H 368(3)**[1]**, BB H 410(3)**[1]**, BB H 416(3)**[1]**, BB H 417(3), BB H 432(3)**[1]**, BB H 446(3)**[1]**, BB H 451(3)**[1]**, BB H 452(3)**[1]**, BB H 458(3)**[1]**, BB H 469(3)**[1]**, BB H 470(3)**[1]** (Sem: 5-8)
Select 9 credits from: H P A 057 GHA(3), H P A 101(3), H P A 310(3), HD FS 311(3), HD FS 315 US3), HD FS 418(3); HD FS 428(3) or HD FS 429(3); HD FS 433(3) or HD FS 445(3); HD FS 468(3), NURS 401(3), NURS 452(3), NUTR 358(2), PSYCH 441(3) (Sem: 5-8)
Select 3 credits from: HD FS 129 GS(3), HD FS 229 GS(3), HD FS 239 GS(3), or HD FS 249 GS(3) (Sem: 5-8)
Select 3 credits from: BB H 301(3), PHIL 110 GH(3), PHIL 132 GH(3), PHIL 221 GH(3), PHIL 432(3), S T S 122 GH(3), S T S 123 GH(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (11 credits)
(Must include at least 6 credits at the 400 level)
Select 3 credits in health promotion from approved list, in consultation with adviser (Sem: 5-8)
Select 8 credits in University-wide offerings from approved list, in consultation with advisor (Students may apply 6 credits of ROTC.) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-01-073

Review Date: 9/2/03

UCA Revision #1: 9/20/06

Biochemistry and Molecular Biology

University Park, Eberly College of Science (B M B)

PROFESSOR PHILIP W. MOHR, *in charge*

Students in this major apply basic principles of chemistry and physics to the study of living cells and their components to explain biology at molecular, genetic, and cellular levels. Students will develop a strong foundation in quantitative and analytical biological sciences, including molecular biology, biochemistry, enzymology, metabolism, cell biology, and molecular genetics. The Biochemistry Option is offered for students who have interests in the structures, properties and functions of macromolecules, and in the quantitative and analytical techniques used to characterize these macromolecules.The Molecular and Cell Biology Option is available to students whose interests relate to the growth, reproduction and differentiation of cells and to signaling processes that occur in multicellular systems that activate and modulate these processes. The curriculum is designed to prepare students for advanced study leading to careers in research, medicine, and education, or to secure employment in biotechnology and health-related industries, including government, academic, and private laboratories.

In order to be eligible for entrance to the Biochemistry and Molecular Biology major, a student must have: 1) attained at least a 2.00 cumulative grade-point average, and 2) completed CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), and MATH 140 GQ(4); and 3) earned a grade of C or better in each of these courses.

For the B.S. degree in Biochemistry and Molecular Biology, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 95 credits**[86]**
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 55 credits

PRESCRIBED COURSES (55 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4), PSU 016(1) (Sem: 1-2)
B M B 251(3)**[85]**, B M B 252(3)**[85]**, B M B 442(3), BIOL 322(3), CHEM 210(3), CHEM 212(3), CHEM 213(2), MICRB 201(3) **[85]**, MICRB 202(2) (Sem: 3-4)
B M B 400(2), B M B 401(3), B M B 402(3), B M B 443W(3) (Sem: 5-6)
B M B 445W(2) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 40 credits

BIOCHEMISTRY OPTION: (40 credits)

PRESCRIBED COURSES: (21 credits)
PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 2-4)
CHEM 450(3), CHEM 452(3) (Sem: 5-8)
B M B 474(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (19 credits)
Select 7-9 credits from any 400-level B M B/CHEM/MICRB course (Sem: 5-8)
Select 2-3 credits in the mathematical sciences from department list B (Sem 5-8)
Select 7-10 credits from department list C (Sem: 5-8)

MOLECULAR AND CELL BIOLOGY OPTION: (40 credits)

PRESCRIBED COURSES: (9 credits)
B M B 430(3), B M B 460(3) (Sem: 5-8)
MICRB 410(3) (Sem: 5-8)

ADDITIONAL COURSES: (11-18 credits)
PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 1-4)
CHEM 450(3), CHEM 452(3); or B M B 428(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (13-20 credits)
Select 5-6 credits from any 400-level B M B/MICRB course

Select 2-3 credits in the mathematical sciences from department list B (Sem: 5-8)
Select 4-13 credits from department list C (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[85] To graduate, a grade of C or better is required in two of the following courses: MICRB 201, B M B/MICRB 251, B M B/MICRB 252.
[86] To graduate, a grade of C or better is required in 9 credits of any B M B or MICRB 400-level course except B M B 442, B M B 443W, B M B 444, B M B 445W, B M B 446, B M B 496, MICRB 421W, MICRB 422, MICRB 447, MICRB 496.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-141

Review Date: 02/23/2010

UCA Revision #1: 8/2/06

SC

Bioengineering

University Park, College of Engineering (BIO E)

PROFESSOR HERBERT H. LIPOWSKY, *Head of the Department of Bioengineering*

The Bioengineering curriculum emphasizes the continuous integration of classical and modern engineering principles with the life sciences and health care. Bioengineers apply these skills to innovation in the health care industry, basic biological sciences, and the underpinning of medical practice.

Consistent with the mission of Penn State University and the College of Engineering, the Penn State Bachelor of Science program in Bioengineering aims to create world-class engineers who will, after graduation, contribute to social and economic development through the application of engineering to the solution of problems in medicine and biology.

Specific program objectives are that three to five years after graduation, graduates will be:

- employed in industry positions which include, but are not limited to, research and development, manufacturing, quality assurance and sales and marketing, or,
- enrolled in graduate school, continuing education, or other professional development programs related to biomedical sciences and engineering, or,
- enrolled in medical school, dental school, or other health-related professional training programs.

For the B.S. degree in Bioengineering, a minimum of 131 credits is required. The baccalaureate program in Bioengineering at University Park is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Students in residence at the Commonwealth campuses may satisfy the course requirements for semesters 1-3. They should then transfer to University Park to begin studies in their major beginning with semester 4.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of the *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 113-114 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 94 credits

PRESCRIBED COURSES (72 credits)
BIOL 141 GN(3), BIOL 142(1), EDSGN 100(3) (Sem: 1-2)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1) (Sem: 1-2)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
BIOE 201(3)**[1]** (Sem: 3-4)
E MCH 210(5) (Sem: 3-4)
MATH 230(4), MATH 251(4)**[1]**, PHYS 212 GN(4) (Sem: 3-4)
BIOE 301(3)**[1]**, BIOE 302(1), BIOE 303(3)**[1]**, BIOE 313(3)**[1]**, BIOE 401(3)**[1]**, BIOE 402(3)**[1]**, BIOE 403(1), BIOE 404(1) (Sem: 5-6)
ENGL 202C GWS(3) (Sem: 5-6)
BIOE 440(1), BIOE 450W(3) (Sem: 7-8)

ADDITIONAL COURSES (13 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPSC 121 GQ(3) or CMPSC 200 GQ(3) or CMPSC 201 GQ(3) (Sem: 3-4)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 credits of BIOE courses (Sem: 7-8)
Select 3 credits of Science or Engineering Elective courses (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 19-20 credits

CHEMICAL ENGINEERING OPTION: (20 credits)

PRESCRIBED COURSES (9 credits)

BIOE 409(3), BIOE 413(3) (Sem: 5-6)
BIOE 423(3) (Sem: 7-8)

ADDITIONAL COURSES (11 credits)
CHEM 202(3) or CHEM 210(3) (Sem: 6-8)
Select 8 credits from the following list. At least 3 credits in additional courses must be from the College of Engineering:
B E 468(3), B M B 401(3), B M B 402(3), B M B 437(2), BIOE 419(3), BIOE 443(3), BIOE 444 IL(3), CH E 340(3), CH E 438(3); CHEM 203(3), CHEM 212(3), CHEM 213(2), E SC 483(3), E SC 484(3), or other BIOE 400 and 500 level courses by petition. (Sem: 6-8)

ELECTRICAL ENGINEERING OPTION: (19-20 credits)

PRESCRIBED COURSES (7 credits)
E E 210(4) (Sem: 3-4)
BIOE 406(3) (Sem: 7-8)

ADDITIONAL COURSES (3-4 credits)
CMPEN 271(3) and CMPEN 275(1)or CMPEN 270(4) or E E 310(4) or E E 330(4) or E E 351(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from Electrical Engineering Option department list (Sem: 7-8)

MATERIALS SCIENCE OPTION: (20 credits)

PRESCRIBED COURSES (20 credits)
CHEM 210(3), PHYS 214 GN(2) (Sem: 3-4)
MATSE 201(3), MATSE 443(3) (Sem: 5-6)
MATSE 403(3), MATSE 404 IL(3), MATSE 430(3) (Sem: 7-8)

MECHANICAL ENGINEERING OPTION: (20 credits)

PRESCRIBED COURSES (11 credits)
E MCH 212(3), E MCH 315(2), E MCH 316(1), MATH 220 GQ(2) (Sem: 3-4)
BIOE 409(3) (Sem: 5-6)

ADDITIONAL COURSES (3 credits)
M E 360(3) or M E 370(3), MATSE 403(3) or MATSE 404 IL(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from Mechanical Engineering Option department list (Sem: 6-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-04-029

Review Date: 01/12/2010

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

EN

Biological Anthropology

University Park, College of the Liberal Arts (BANTH)

PROFESSOR NINA G. JABLONSKI, *Head, Department of Anthropology*
(The Bachelor of Science degree in Biological Anthropology is offered by the Biological Anthropology Program in the Department of Anthropology.)

The Bachelor of Science degree provides the opportunity to develop a strong foundation in research methods, quantification, and laboratory science. It prepares students with the skills and competencies needed to pursue graduate study or careers in professions associated with biological anthropology. Students contemplating futures in biomedical or forensic sciences should consult with Penn State's Premedicine Office or the specific forensic science graduate program to make certain that additional courses in organic chemistry and physics that are required for admission are completed.

For the B.S. degree in Biological Anthropology, a minimum of 125 credits is required.

GENERAL EDUCATION: 45 credits
(18 of these credits are included in REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12-15 credits

REQUIREMENTS FOR THE MAJOR: 83-86 credits **[1]**
(This includes 18 credits of General Education courses: 9 credits GN courses; 6 credits GQ courses; 3 credits GH courses.)

PRESCRIBED COURSES (51 credits)
ANTH 002 GS(3), ANTH 021 GN(3), ANTH 045 GS;US;IL(3), BIOL 110 GN(4), BIOL 129 GN(4), BIOL 240W GN(4), B M B 251(3), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 250 GN(4), STAT 200 GQ(4) STAT 460(3) (Sem: 1-6)

ADDITIONAL COURSES (32-35 credits)
Select 3-4 credits from ANTH 460(3) or ANTH 460H(4) (Sem: 3-8)
Select 15 additional credits in consultation with adviser from the following ranges: ANTH 401-419(3) or ANTH 460-473(3) (Sem: 3-8)
Select 3-4 credits from the following: BIOL 230W GN(4), BIOL 141 GN(3), or CHEM 202(3) (Sem: 3-8)
Select 2-3 credits from the following: B M B 401(3), BIOL 411(3), or KINES 202(4) (Sem: 3-8)
Select 3 credits from the following: PHIL 011 GH(3), PHIL 116 GH(3), PHIL 132 GH(3), PHIL 221 GH(3) (Sem: 3-8)
Select 6 additional credits in consultation with adviser either in ANTH electives other than ANTH 001, or carry out a senior project under ANTH 496(6), as advised (Sem: 3-8)

NOTE: Internships will be counted as elective credits.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 30-07-105

Review Date: 4/8/03

UCA Revision #1: 8/2/06

Dept head updated by Publications: 5/21/07

LA

Biological Engineering

University Park, College of Agricultural Sciences
University Park, College of Engineering (B E)

PROFESSOR ROY E. YOUNG, *Head of the Department of Agricultural and Biological Engineering*

This major helps prepare students for careers involving the application of engineering principles to agricultural and biological production systems, processing systems, and conservation of land and water resources. Education in mathematics, physics, and engineering sciences common to all engineering disciplines is provided along with specialized training in biological and agricultural sciences. The curriculum covers all areas of biological engineering, including development of machines for biological processing and agriculture, postharvest handling and processing of natural resource management and utilization, biological processes, food engineering, and structures and their environmental modifications. A student must select the Agricultural Engineering option, Food and Biological Engineering option or the Natural Resources Engineering option.

Early career Biological Engineering graduates will:

1. Enter careers and/or advanced studies in bio-based production, processing, and sustainable environments;
2. Lead teams in analyzing and resolving technical challenges;
3. Qualify for pursuit of professional engineering registration; and
4. Keep abreast of contemporary issues in the field and workplace.

Principles of engineering design experiences are integrated throughout the junior-year curriculum by having students solve problems typical of those encountered in the agricultural and biological engineering profession. A minimum requirement of three major design experiences in the senior year emphasize that biological engineers must learn not only how to develop engineering solutions to unique, practical problems using the newest technology, but also to assess and integrate the social and ethical implications of their solutions.

Careers for graduates include design, development, and research engineering positions involving biological processes, machinery development, natural resources management, materials handling, biological product development, and structural systems for animals, plants, and crop storage. Biological engineers are employed in industry, consulting firms, and governmental agencies in the United States and abroad. Graduates deal with the various engineering aspects associated with production and processing of food, fiber, and other biological materials, within the constraints of environmental protection and natural resource conservation.

For the B.S. degree in Biological Engineering, a minimum of 130 credits is required. The baccalaureate program in Biological Engineering at University Park is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org .

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-28.5 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.)*

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 112-113.5 credits
(This includes 27-28.5 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses; and 1.5 credits of GHA courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 79 credits

PRESCRIBED COURSES (72 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), E MCH 211(3)**[1]**, EDSGN 100(3), ENGL 015 GWS(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
E MCH 212(3)**[1]**, E MCH 213(3)**[1]**, M E 300(3)**[1]**, MATH 231(2), MATH 251(4), PHYS 212 GN(4) (Sem: 3-4)
B E 300(3)**[1]**, B E 301(3)**[1]**, B E 302(3)**[1]**, B E 304(3)**[1]**, B E 305(3)**[1]**, B E 308(3)**[1]**, B E 391 GWS(2), I E 424(3), (Sem: 5-6)
B E 392 GWS(2), B E 469W(3) (Sem: 7-8)

ADDITIONAL COURSES (7 credits)
CAS 100A GWS(3) or CAS 100B GWS(3)
Select 1 credit of First-Year Seminar (Sem: 1-2)
AG BM 101 GS(3) or ECON 002 GS(3), or ECON 004 GS(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 33-34.5 credits

AGRICULTURAL ENGINEERING OPTION: (33 credits)

PRESCRIBED COURSES (3 credits)
C E 360(3)**[1]** (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (30 credits)
Select 3 credits in math/basic science**[26]** (Sem: 3-6)
Select 6 credits from B E 303(3)**[1]**, B E 306(3)**[1]**, B E 307(3)**[1]** (Sem: 5-6)
Select 6 credits in engineering science/design**[26]** (Sem: 5-8)
Select 3 credits in agricultural/biological science**[26]** (Sem: 7-8)
Select 6 credits in biological engineering**[26]** (Sem: 7-8)
Select 6 credits in technical selection**[26]** (Sem: 7-8)
(Students may apply 3 credits of ROTC to the technical selection category and 3 credits to the GHA category upon completion of the ROTC program.)

FOOD AND BIOLOGICAL PROCESSING ENGINEERING OPTION: (34.5 credits)

PRESCRIBED COURSES (16.5 credits)
B M B 211(3), CHEM 202(3), M E 320(3)**[1]**, NUTR 100 GHA(1.5) (Sem: 5-6)
B E 465(3), B E 468(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 6 credits in emphasis technical elective**[26]** (Sem: 7-8)
Select 6 credits in any engineering science/design**[26]** (Sem: 7-8)
Select 6 credits in technical selection**[26]** (Sem: 7-8)
(Students may apply 3 credits of ROTC to the technical selection category and 3 credits to the GHA category upon completion of the ROTC program.)

NATURAL RESOURCES ENGINEERING OPTION: 33 credits

PRESCRIBED COURSES (21 credits)
SOILS 101 GN(3) (Sem: 1-4)
A S M 309 (3)**[1]**, B E 307(3)**[1]**, C E 360(3)**[1]** (Sem: 5-6)
B E 467(3), B E 477(3), B E 487(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits in engineering science/design**[26]** (Sem: 5-8)
Select 3 credits in biological/environmental sciences**[26]** (Sem: 7-8)
Select 3 credits in technical selection**[26]** (Sem: 7-8)
(Students may apply 3 credits of ROTC to the technical selection category and 3 credits to the GHA category upon completion of the ROTC program.)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[26] Courses to be selected from a list approved by the Agricultural and Biological Engineering faculty. These courses must be chosen so that the engineering design and engineering science requirements for the major are met.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-035

Review Date: 02/23/2010

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

Comments

EN

Biology

Penn State Erie, The Behrend College (BIOBD)

The curriculum in Biology is designed to provide students with a strong background in the biological sciences. It provides preparation for students who intend to secure advanced degrees through graduate study, students who intend to prepare for careers in medicine or health-related fields, and students preparing for careers with companies or agencies requiring employees with biological backgrounds. The curriculum has six options allowing students to choose an area of specialization which will best meet their career goals. In addition to selecting an option, students are strongly encouraged to participate in faculty supervised research. The options are:*General Biology* - various areas of modern biology; *Ecology, Evolution, and Behavior* - theoretical, practical, and applied ecology and evolution of plants and animals; *Genetics and Developmental Biology* - genetics and developmental biology of plants and animals; *Molecular and Cellular Biology and Biochemistry* - molecular and cellular mechanisms of biology; *Medical Technology* - prepares students for careers in clinical laboratories; and *Accelerated Health Programs* - allows exceptional students, who gain early admission to a professional school, to fulfill option requirements with a set number of academic credits taken during the first professional year.

Entrance Requirement: In addition to the requirements described by University policies, all students applying for entrance to the biology major at Behrend College: 1) attained at least a 2.00 cumulative grade point average; 2) completed BIOL 110 GN(4), CHEM 110 GN(3), MATH 140 GQ(4), and earned a grade of C or better in each of these courses; and 3) completed at least one of the following courses with a grade of C or better: BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4).

For the B.S. degree in Biology, a minimum of 124 credits is required. Each student must earn at least a grade of C in each 200-, 300-, and 400-level BIOL, B M B, and MICRB course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 97-99 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 42 credits

PRESCRIBED COURSES (42 credits)
CHEM 110 GN(3), CHEM 111 GN(l), CHEM 112 GN(3), CHEM 113 GN(l) (Sem: 1-2)
BIOL 110 GN(4), BIOL 220W GN(4)**[1]**, BIOL 230W GN(4)**[1]**, BIOL 240W GN(4)**[1]**, MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)
ENGL 202C GWS(3), STAT 250 GQ(3) (Sem: 3-6)
BIOL 223(1)**[1]**, BIOL 322(3)**[1]**, (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 55-57 credits

ECOLOGY, EVOLUTION, AND BEHAVIOR OPTION: (55 credits)
Students can select courses in theoretical or applied ecology, evolution, field biology and animal behavior to build a strength in ecological science. The option prepares students for graduate study in ecology and evolution, or careers in zoo science, environmental consulting, environmental management, environmental education or positions with regulatory agencies.

PRESCRIBED COURSES (9 credits)
BIOL 402W(3)**[1]**, B M B 406(3)**[1],** BIOL 427(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (23-27 credits)
Select 6-8 credits from one of the following sequences:
a. CHEM 202(3), CHEM 203(3) (Sem: 3-4)
b. CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 8-10 credits from one of the following sequences:
a. PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-8)
b. PHYS 211 GN(4), PHYS 212 GN(4); PHYS 213 GN(2) or PHYS 214 GN(2) (Sem: 5-8)
Select 9 credits from the following:
BIOL 428(3)**[1]**, BIOL 429(3)**[1]**, BIOL 435(3)**[1]**, BIOL 438(3)**[1]**, BIOL 446(3)**[1]** (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (19-23 credits)
Select 3 credits of 400-level BIOL courses excluding BIOL 400, BIOL 495, BIOL 496, BIOL 497, BIOL 498, BIOL 499, B M B

496, B M B 497, B M B 498, B M B 499, MICRB 496, MICRB 497, MICRB 498, MICRB 499 (Sem: 5-8)
Select 16-20 credits from school approved list (Sem: 1-8)

GENERAL BIOLOGY OPTION: (55 credits)
Students can select courses from a variety of areas of contemporary biology. The option provides the flexibility to enable students to tailor their program for graduate study in many fields of biology or careers requiring broad backgrounds and diverse skills in the biological sciences.

PRESCRIBED COURSES (6 credits)
BIOL 402W(3)**[1]**, BIOL 427(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (14-18 credits)
Select 6-8 credits from one the following sequences:
a. CHEM 202(3), CHEM 203(3) (Sem: 3-4)
b. CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 8-10 credits from one of the following sequences:
a. PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-8)
b. PHYS 211 GN(4), PHYS 212 GN(4); PHYS 213 GN(2) or PHYS 214 GN(2) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (31-35 credits)
Select 15 credits of 400-level BIOL courses excluding BIOL 400, BIOL 495, BIOL 496, BIOL 497, BIOL 498, BIOL 499, B M B 496, B M B 497, B M B 498, B M B 499, MICRB 496, MICRB 497, MICRB 498, MICRB 499 (Sem: 5-8)
Select 16-20 credits from school approved list (Sem: 1-8)

GENETICS AND DEVELOPMENTAL BIOLOGY OPTION: (55 credits)
Students can select courses to develop strengths in various areas of transmission, medical, population or molecular genetics and/or study the developmental process at the organismal, histological or molecular levels. The option prepares students for admission to professional programs in the health sciences, graduate programs in genetic counseling, plant or animal breeding, developmental biology, or careers in research or biotechnology.

PRESCRIBED COURSES (16 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
MICRB 201(3)**[1]**, MICRB 202(2)**[1]** (Sem 3-6)
BIOL 427(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (17-19 credits)
Select 9 credits from the following:
B M B 406(3)**[1],** BIOL 410(3)**[1]**, BIOL 428(3)**[1]**, BIOL 430(3)**[1]**, BIOL 460(3)**[1]**, (Sem: 5-8)
Select 8-10 credits form one of the following sequences:
a. PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-8)
b. PHYS 211 GN(4), PHYS 212 GN(4); PHYS 213 GN(2) or PHYS 214 GN(2) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (20-22 credits)
Select 9 credits of 400-level BIOL courses excluding BIOL 400, BIOL 495, BIOL 496, BIOL 497, BIOL 498, BIOL 499, B M B 496, B M B 497, B M B 498, B M B 499, MICRB 496, MICRB 497, MICRB 498, MICRB 499 (Sem: 5-8)
Select 11-13 credits from school approved list (Sem: 1-8)

MEDICAL TECHNOLOGY OPTION: (55-57 credits)
Students spend approximately twelve months at an affiliated hospital**[12]** during their senior year to complete the clinical phase of their baccalaureate studies. A fixed number of spaces are available on a competitive basis of grade-point average and hospital approval. The Bachelor of Science degree in Biology is awarded upon successful completion of the clinical study. The graduate is also eligible to take the national examination for certification and registry as a medical technologist.

PRESCRIBED COURSES (44 credits)
MICRB 201(3)**[1]**, MICRB 202(2)**[1]** (Sem: 3-4)
PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-6)
MICRB 405A(8)**[1]**, MICRB 405B(1)**[1]**, MICRB 405C(6)**[1]**, MICRB 405D(5)**[1]**, MICRB 405E(7)**[1]**, MICRB 405F(3)**[1]**, MICRB 408(1)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (8-10 credits)
Select 8-10 credits from one the following sequences:
a. CHEM 202(3), CHEM 203(3), CHEM 221(4) (Sem: 3-4)
b. CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 of 400-level BIOL from:
BIOL 402W(3)**[1]**, BIOL 460(3)**[1]**, BIOL 472(3)**[1]**, B M B 402(3)**[1]**, or B M B 406(3)**[1]** (Sem: 5-6)

MOLECULAR AND CELLULAR BIOLOGY AND BIOCHEMISTRY OPTION: (55 credits)
Students can select courses to develop strengths in the study of biology at the cellular and molecular levels, including basic metabolism and its regulations, DNA recombinant technology, bioinformatics and genomics. The option prepares students for admission to professional programs in the health sciences, graduate study, or careers in biotechnology or research.

PRESCRIBED COURSES (29 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2), MICRB 201(3)**[1]**, MICRB 202(2)**[1]** (Sem 3-6)
B M B 402(3)**[1]**, B M B 403(1)**[1]**, B M B 406(3)**[1]**, BIOL 427(3)**[1]**, CHEM 472(3) (Sem: 5-8)
Select 3 credits from: B M B 465(3)**[1]**, BIOL 404(3)**[1]**, or MICRB 410(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (8-10 credits)
Select 8-10 credits from one of the following sequences:
a. PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-8)
b. PHYS 211 GN(4), PHYS 212 GN(4); PHYS 213 GN(2) or PHYS 214 GN(2) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (16-18 credits)
Select 5 credits of 400-level BIOL courses excluding BIOL 400, BIOL 495, BIOL 496, BIOL 497, BIOL 498, BIOL 499, B M B 496, B M B 497, B M B 498, B M B 499, MICRB 496, MICRB 497, MICRB 498, MICRB 499 (Sem: 5-8)
Select 11-13 credits from school approved list (Sem: 1-8)

ACCELERATED HEALTH PROGRAMS OPTION: (55 credits)
Exceptional students who are admitted into a "3+4" accelerated or early acceptance program at an approved or affiliated professional school are granted 21 credits toward the Bachelor of Science degree following the successful completion of the first professional academic year.

PRESCRIBED COURSES (21 credits)
MICRB 201(3)**[1]**, MICRB 202(2)**[1]** (Sem: 1-2)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
BIOL 421(4)**[1]**, B M B 402(3)**[1]**, B M B 403(1)**[1]** (Sem: 5-6)

ADDITIONAL COURSES (8-10 credits)
Select 8-10 credits from one of the following sequences:
a. PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 5-8)
b. PHYS 211 GN(4), PHYS 212 GN(4); PHYS 213 GN(2) or PHYS 214 GN(2) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (24-26 credits)
Select 3-5 credits from school approved list (Sem: 1-8)
Select 21 credits of professional school academic courses (Sem: 7-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[12]Current affiliation is with St. Vincent Health Center, School of Medical Technology, Erie, PA.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-048A

Review Date: 4/15/08

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

BD

Biology

Abington College (BIOAB)
Altoona College (BIOAL)
Berks College (BIOBL)
University Park, Eberly College of Science (BIOL)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR DOUGLAS CAVENER, *Head*

The curriculum in Biology is planned for preparation for professions requiring competence in biological science or for gaining an understanding of the world of living things. The professional group includes students who intend to secure advanced degrees through graduate study, students who are interested in work with various governmental agencies or industries having biological responsibilities, and students who want to prepare for careers in medicine or other health-related professions. Students whose interests are not professional select the curriculum because its broad approach can result in an educated view of the structure and function of living things. Achievement of these goals, including a special interest in a particular area of biology, can be met by selecting one of five options offered by the Department of Biology that will lead to the B.S. degree in Biology. The options and their key areas are 1) Plant Biology--morphology, systematics, and physiology of plants and fungi; 2) Ecology--behavior, and population and community biology of plants and animals; 3) General Biology--all aspects of modern biology; 4) Genetics and Developmental Biology--genetics, genetic engineering, and plant and animal development; 5) Neuroscience--development, biochemistry, physiology and aging of the central and peripheral nervous system; 6) Vertebrate Physiology--pre-medicine, pre-dentistry, pharmacology, and animal physiology.

In order to be eligible for entrance to the Biology major, a student must have: 1) attained at least a 2.00 cumulative grade point average; 2) completed BIOL 110 GN(4), CHEM 110 GN(3), MATH 140 GQ(4), and earned a grade of C or better in each of these courses; and 3) completed at least one of the following courses with a grade of C or better: BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4).

TO VIEW THE Biology Minor (BIOL)

For the B.S. degree in Biology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 40-44 credits

PRESCRIBED COURSES (32 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]**, BIOL 220W GN(4)**[1]**, BIOL 230W GN(4)**[1]**, BIOL 240W GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (8-12 credits)
PHYS 250 GN(4), PHYS 251 GN(4); or PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 50-54 credits

ECOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (30-33 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4) or STAT 240 GQ(3) or STAT 250 GQ(3) (Sem: 3-4)
Select 3 credits from STAT 462(3) or STAT 464(3) (Sem: 7-8)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (courses in Group IV--except BIOL 496, SC 295, SC 395, SC 495--may be used to satisfy requirements in other groups) (Sem: 5-8)

Group I: BIOL 412(3), BIOL 419(3), BIOL 435(3), BIOL 436(3), BIOL 444(3), BIOL 450W(3-5), BIOL 463(3), BIOL 482(3-4), BIOL 499A IL(3)

Group II: BIOL 414(3), BIOL 427(3), BIOL 428(3), BIOL 429(3), BIOL 448(3), BIOL 464(3), BIOL 474(3)

Group III: BIOL 406(3), BIOL 415(3), BIOL 417(4), BIOL 446(3), PPATH 425(4)

Group IV: BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 482(3-4), BIOL 496(3), BIOL 499A IL(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3) (A maximum of 3 credits of BIOL 496 or 4 credits of SC 295, SC 395, SC 495 may be used to fulfill the 18-credit minimum in the 400-level biology course requirement.)

SUPPORTING COURSES AND RELATED AREAS (17-24 credits)
Select 17-24 credits from department list (Sem: 1-8)

GENERAL BIOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (24-27 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (each course may be used to satisfy a requirement in only one group) (Sem: 5-8)

Group I -- BIOL 407(3), BIOL 410(3), BIOL 414(3), BIOL 441(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 428(3), BIOL 430(3), BIOL 432(3), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 499A IL(3), HORT 407(3)

Group IV -- BIOL 406(3), BIOL 412(3), BIOL 414(3), BIOL 415(3), BIOL 417(4), BIOL 419(3), BIOL 428(3), BIOL 429(3), BIOL 435(3), BIOL 436(3), BIOL 444(3) BIOL 446(3), BIOL 448(3), BIOL 450W(3-5), BIOL 463(3), BIOL 464(3), BIOL 474(3), BIOL 499A IL(3),

Group V -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 472(3), BIOL 479(3)

Group VI -- BIOL 400(1-3), BIOL 407(3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (23-30 credits)
Select 23-30 credits from department list (Sem: 1-8)

GENETICS AND DEVELOPMENTAL BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
BIOL 322(3), BIOL 430(3) (Sem: 5-6)
B M B 401(2), B M B 402(3) (Sem: 5-8)

ADDITIONAL COURSES (17-21 credits)
Select 2-5 credits from MATH 220 GQ(2-3), MATH 231(2), MICRB 201(3), MICRB 202(2) (Sem: 3-6)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or STAT 319(3) (Sem: 5-6)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 427(3), BIOL 428(3), BIOL 432(3), BIOL 437(4), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 469(3), HORT 407(3), MICRB 410(3)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 407(3), BIOL 437(4), BIOL 439(3), BIOL 448(3), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), B M B 442(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (10-18 credits)
Select 10-18 credits from department list (Sem: 1-8)

NEUROSCIENCE OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)

B M B 401(2), B M B 402(3) (Sem: 5-8)
BIOL 469(3), BIOL 470(3) (Sem: 5-8)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 12 credits of 400-level biology courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- B M B 400(2-3), BIOL 404(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 437(4), BIOL 443(3), BIOL 460(3), BIOL 471(3), BIOL 472(3), BIOL 473(2), BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

PLANT BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (22 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 407(3), BIOL 414(3), BIOL 441(3) (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or an advanced statistics course (Sem: 3-4)

Select a minimum of 9 credits of 400-level biology courses, with at least 6 credits from Group I and 3 credits from Group II (Sem: 5-8)

Group I -- BIOL 410(3), BIOL 413(3), BIOL 427(3), BIOL 430(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), BIOTC 459(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 400(1-3), BIOL 414(3), BIOL 419(3), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

VERTEBRATE PHYSIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (18 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 472(3), BIOL 473(2) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 5-8)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 412(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 471(3) BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(2), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (16-21 credits)
Select 16-21 credits from department list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-520

Review Date: 4/10/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

SC

Biology

Abington College (BIOAB)
Altoona College (BIOAL)
Berks College (BIOBL)
University Park, Eberly College of Science (BIOL)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR DOUGLAS CAVENER, *Head*

The curriculum in Biology is planned for preparation for professions requiring competence in biological science or for gaining an understanding of the world of living things. The professional group includes students who intend to secure advanced degrees through graduate study, students who are interested in work with various governmental agencies or industries having biological responsibilities, and students who want to prepare for careers in medicine or other health-related professions. Students whose interests are not professional select the curriculum because its broad approach can result in an educated view of the structure and function of living things. Achievement of these goals, including a special interest in a particular area of biology, can be met by selecting one of five options offered by the Department of Biology that will lead to the B.S. degree in Biology. The options and their key areas are 1) Plant Biology--morphology, systematics, and physiology of plants and fungi; 2) Ecology--behavior, and population and community biology of plants and animals; 3) General Biology--all aspects of modern biology; 4) Genetics and Developmental Biology--genetics, genetic engineering, and plant and animal development; 5) Neuroscience--development, biochemistry, physiology and aging of the central and peripheral nervous system; 6) Vertebrate Physiology--pre-medicine, pre-dentistry, pharmacology, and animal physiology.

In order to be eligible for entrance to the Biology major, a student must have: 1) attained at least a 2.00 cumulative grade point average; 2) completed BIOL 110 GN(4), CHEM 110 GN(3), MATH 140 GQ(4), and earned a grade of C or better in each of these courses; and 3) completed at least one of the following courses with a grade of C or better: BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4).

TO VIEW THE Biology Minor (BIOL)

For the B.S. degree in Biology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 40-44 credits

PRESCRIBED COURSES (32 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]**, BIOL 220W GN(4)**[1]**, BIOL 230W GN(4)**[1]**, BIOL 240W GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (8-12 credits)
PHYS 250 GN(4), PHYS 251 GN(4); or PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 50-54 credits

ECOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (30-33 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4) or STAT 240 GQ(3) or STAT 250 GQ(3) (Sem: 3-4)
Select 3 credits from STAT 462(3) or STAT 464(3) (Sem: 7-8)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (courses in Group IV--except BIOL 496, SC 295, SC 395, SC 495--may be used to satisfy requirements in other groups) (Sem: 5-8)

Group I: BIOL 412(3), BIOL 419(3), BIOL 435(3), BIOL 436(3), BIOL 444(3), BIOL 450W(3-5), BIOL 463(3), BIOL 482(3-4), BIOL 499A IL(3)

Group II: BIOL 414(3), BIOL 427(3), BIOL 428(3), BIOL 429(3), BIOL 448(3), BIOL 464(3), BIOL 474(3)

Group III: BIOL 406(3), BIOL 415(3), BIOL 417(4), BIOL 446(3), PPATH 425(4)

Group IV: BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 482(3-4), BIOL 496(3), BIOL 499A IL(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3) (A maximum of 3 credits of BIOL 496 or 4 credits of SC 295, SC 395, SC 495 may be used to fulfill the 18-credit minimum in the 400-level biology course requirement.)

SUPPORTING COURSES AND RELATED AREAS (17-24 credits)
Select 17-24 credits from department list (Sem: 1-8)

GENERAL BIOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (24-27 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (each course may be used to satisfy a requirement in only one group) (Sem: 5-8)

Group I -- BIOL 407(3), BIOL 410(3), BIOL 414(3), BIOL 441(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 428(3), BIOL 430(3), BIOL 432(3), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 499A IL(3), HORT 407(3)

Group IV -- BIOL 406(3), BIOL 412(3), BIOL 414(3), BIOL 415(3), BIOL 417(4), BIOL 419(3), BIOL 428(3), BIOL 429(3), BIOL 435(3), BIOL 436(3), BIOL 444(3) BIOL 446(3), BIOL 448(3), BIOL 450W(3-5), BIOL 463(3), BIOL 464(3), BIOL 474(3), BIOL 499A IL(3),

Group V -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 472(3), BIOL 479(3)

Group VI -- BIOL 400(1-3), BIOL 407(3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (23-30 credits)
Select 23-30 credits from department list (Sem: 1-8)

GENETICS AND DEVELOPMENTAL BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
BIOL 322(3), BIOL 430(3) (Sem: 5-6)
B M B 401(2), B M B 402(3) (Sem: 5-8)

ADDITIONAL COURSES (17-21 credits)
Select 2-5 credits from MATH 220 GQ(2-3), MATH 231(2), MICRB 201(3), MICRB 202(2) (Sem: 3-6)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or STAT 319(3) (Sem: 5-6)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 427(3), BIOL 428(3), BIOL 432(3), BIOL 437(4), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 469(3), HORT 407(3), MICRB 410(3)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 407(3), BIOL 437(4), BIOL 439(3), BIOL 448(3), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), B M B 442(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (10-18 credits)
Select 10-18 credits from department list (Sem: 1-8)

NEUROSCIENCE OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)

B M B 401(2), B M B 402(3) (Sem: 5-8)
BIOL 469(3), BIOL 470(3) (Sem: 5-8)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 12 credits of 400-level biology courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- B M B 400(2-3), BIOL 404(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 437(4), BIOL 443(3), BIOL 460(3), BIOL 471(3), BIOL 472(3), BIOL 473(2), BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

PLANT BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (22 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 407(3), BIOL 414(3), BIOL 441(3) (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or an advanced statistics course (Sem: 3-4)

Select a minimum of 9 credits of 400-level biology courses, with at least 6 credits from Group I and 3 credits from Group II (Sem: 5-8)

Group I -- BIOL 410(3), BIOL 413(3), BIOL 427(3), BIOL 430(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), BIOTC 459(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 400(1-3), BIOL 414(3), BIOL 419(3), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

VERTEBRATE PHYSIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (18 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 472(3), BIOL 473(2) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 5-8)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 412(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 471(3) BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(2), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

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Select 16-21 credits from department list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-520

Review Date: 4/10/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

SC

Biology

Abington College (BIOAB)
Altoona College (BIOAL)
Berks College (BIOBL)
University Park, Eberly College of Science (BIOL)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR DOUGLAS CAVENER, *Head*

The curriculum in Biology is planned for preparation for professions requiring competence in biological science or for gaining an understanding of the world of living things. The professional group includes students who intend to secure advanced degrees through graduate study, students who are interested in work with various governmental agencies or industries having biological responsibilities, and students who want to prepare for careers in medicine or other health-related professions. Students whose interests are not professional select the curriculum because its broad approach can result in an educated view of the structure and function of living things. Achievement of these goals, including a special interest in a particular area of biology, can be met by selecting one of five options offered by the Department of Biology that will lead to the B.S. degree in Biology. The options and their key areas are 1) Plant Biology--morphology, systematics, and physiology of plants and fungi; 2) Ecology--behavior, and population and community biology of plants and animals; 3) General Biology--all aspects of modern biology; 4) Genetics and Developmental Biology--genetics, genetic engineering, and plant and animal development; 5) Neuroscience--development, biochemistry, physiology and aging of the central and peripheral nervous system; 6) Vertebrate Physiology--pre-medicine, pre-dentistry, pharmacology, and animal physiology.

In order to be eligible for entrance to the Biology major, a student must have: 1) attained at least a 2.00 cumulative grade point average; 2) completed BIOL 110 GN(4), CHEM 110 GN(3), MATH 140 GQ(4), and earned a grade of C or better in each of these courses; and 3) completed at least one of the following courses with a grade of C or better: BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4).

TO VIEW THE Biology Minor (BIOL)

For the B.S. degree in Biology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 40-44 credits

PRESCRIBED COURSES (32 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]**, BIOL 220W GN(4)**[1]**, BIOL 230W GN(4)**[1]**, BIOL 240W GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (8-12 credits)
PHYS 250 GN(4), PHYS 251 GN(4); or PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 50-54 credits

ECOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (30-33 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4) or STAT 240 GQ(3) or STAT 250 GQ(3) (Sem: 3-4)
Select 3 credits from STAT 462(3) or STAT 464(3) (Sem: 7-8)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (courses in Group IV--except BIOL 496, SC 295, SC 395, SC 495--may be used to satisfy requirements in other groups) (Sem: 5-8)

Group I: BIOL 412(3), BIOL 419(3), BIOL 435(3), BIOL 436(3), BIOL 444(3), BIOL 450W(3-5), BIOL 463(3), BIOL 482(3-4), BIOL 499A IL(3)

Group II: BIOL 414(3), BIOL 427(3), BIOL 428(3), BIOL 429(3), BIOL 448(3), BIOL 464(3), BIOL 474(3)

Group III: BIOL 406(3), BIOL 415(3), BIOL 417(4), BIOL 446(3), PPATH 425(4)

Group IV: BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 482(3-4), BIOL 496(3), BIOL 499A IL(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3) (A maximum of 3 credits of BIOL 496 or 4 credits of SC 295, SC 395, SC 495 may be used to fulfill the 18-credit minimum in the 400-level biology course requirement.)

SUPPORTING COURSES AND RELATED AREAS (17-24 credits)
Select 17-24 credits from department list (Sem: 1-8)

GENERAL BIOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (24-27 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (each course may be used to satisfy a requirement in only one group) (Sem: 5-8)

Group I -- BIOL 407(3), BIOL 410(3), BIOL 414(3), BIOL 441(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 428(3), BIOL 430(3), BIOL 432(3), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 499A IL(3), HORT 407(3)

Group IV -- BIOL 406(3), BIOL 412(3), BIOL 414(3), BIOL 415(3), BIOL 417(4), BIOL 419(3), BIOL 428(3), BIOL 429(3), BIOL 435(3), BIOL 436(3), BIOL 444(3) BIOL 446(3), BIOL 448(3), BIOL 450W(3-5), BIOL 463(3), BIOL 464(3), BIOL 474(3), BIOL 499A IL(3),

Group V -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 472(3), BIOL 479(3)

Group VI -- BIOL 400(1-3), BIOL 407(3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (23-30 credits)
Select 23-30 credits from department list (Sem: 1-8)

GENETICS AND DEVELOPMENTAL BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
BIOL 322(3), BIOL 430(3) (Sem: 5-6)
B M B 401(2), B M B 402(3) (Sem: 5-8)

ADDITIONAL COURSES (17-21 credits)
Select 2-5 credits from MATH 220 GQ(2-3), MATH 231(2), MICRB 201(3), MICRB 202(2) (Sem: 3-6)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or STAT 319(3) (Sem: 5-6)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 427(3), BIOL 428(3), BIOL 432(3), BIOL 437(4), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 469(3), HORT 407(3), MICRB 410(3)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 407(3), BIOL 437(4), BIOL 439(3), BIOL 448(3), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), B M B 442(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (10-18 credits)
Select 10-18 credits from department list (Sem: 1-8)

NEUROSCIENCE OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)

B M B 401(2), B M B 402(3) (Sem: 5-8)
BIOL 469(3), BIOL 470(3) (Sem: 5-8)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 12 credits of 400-level biology courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- B M B 400(2-3), BIOL 404(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 437(4), BIOL 443(3), BIOL 460(3), BIOL 471(3), BIOL 472(3), BIOL 473(2), BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

PLANT BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (22 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 407(3), BIOL 414(3), BIOL 441(3) (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or an advanced statistics course (Sem: 3-4)

Select a minimum of 9 credits of 400-level biology courses, with at least 6 credits from Group I and 3 credits from Group II (Sem: 5-8)

Group I -- BIOL 410(3), BIOL 413(3), BIOL 427(3), BIOL 430(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), BIOTC 459(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 400(1-3), BIOL 414(3), BIOL 419(3), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

VERTEBRATE PHYSIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (18 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 472(3), BIOL 473(2) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 5-8)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 412(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 471(3) BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(2), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (16-21 credits)
Select 16-21 credits from department list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-520

Review Date: 4/10/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

SC

Biology

Abington College (BIOAB)
Altoona College (BIOAL)
Berks College (BIOBL)
University Park, Eberly College of Science (BIOL)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR DOUGLAS CAVENER, *Head*

The curriculum in Biology is planned for preparation for professions requiring competence in biological science or for gaining an understanding of the world of living things. The professional group includes students who intend to secure advanced degrees through graduate study, students who are interested in work with various governmental agencies or industries having biological responsibilities, and students who want to prepare for careers in medicine or other health-related professions. Students whose interests are not professional select the curriculum because its broad approach can result in an educated view of the structure and function of living things. Achievement of these goals, including a special interest in a particular area of biology, can be met by selecting one of five options offered by the Department of Biology that will lead to the B.S. degree in Biology. The options and their key areas are 1) Plant Biology--morphology, systematics, and physiology of plants and fungi; 2) Ecology--behavior, and population and community biology of plants and animals; 3) General Biology--all aspects of modern biology; 4) Genetics and Developmental Biology--genetics, genetic engineering, and plant and animal development; 5) Neuroscience--development, biochemistry, physiology and aging of the central and peripheral nervous system; 6) Vertebrate Physiology--pre-medicine, pre-dentistry, pharmacology, and animal physiology.

In order to be eligible for entrance to the Biology major, a student must have: 1) attained at least a 2.00 cumulative grade point average; 2) completed BIOL 110 GN(4), CHEM 110 GN(3), MATH 140 GQ(4), and earned a grade of C or better in each of these courses; and 3) completed at least one of the following courses with a grade of C or better: BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4).

TO VIEW THE Biology Minor (BIOL)

For the B.S. degree in Biology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 40-44 credits

PRESCRIBED COURSES (32 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]**, BIOL 220W GN(4)**[1]**, BIOL 230W GN(4)**[1]**, BIOL 240W GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (8-12 credits)
PHYS 250 GN(4), PHYS 251 GN(4); or PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 50-54 credits

ECOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (30-33 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4) or STAT 240 GQ(3) or STAT 250 GQ(3) (Sem: 3-4)
Select 3 credits from STAT 462(3) or STAT 464(3) (Sem: 7-8)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (courses in Group IV--except BIOL 496, SC 295, SC 395, SC 495--may be used to satisfy requirements in other groups) (Sem: 5-8)

Group I: BIOL 412(3), BIOL 419(3), BIOL 435(3), BIOL 436(3), BIOL 444(3), BIOL 450W(3-5), BIOL 463(3), BIOL 482(3-4), BIOL 499A IL(3)

Group II: BIOL 414(3), BIOL 427(3), BIOL 428(3), BIOL 429(3), BIOL 448(3), BIOL 464(3), BIOL 474(3)

Group III: BIOL 406(3), BIOL 415(3), BIOL 417(4), BIOL 446(3), PPATH 425(4)

Group IV: BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 482(3-4), BIOL 496(3), BIOL 499A IL(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3) (A maximum of 3 credits of BIOL 496 or 4 credits of SC 295, SC 395, SC 495 may be used to fulfill the 18-credit minimum in the 400-level biology course requirement.)

SUPPORTING COURSES AND RELATED AREAS (17-24 credits)
Select 17-24 credits from department list (Sem: 1-8)

GENERAL BIOLOGY OPTION: (50-54 credits)

ADDITIONAL COURSES (24-27 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 18 credits of 400-level biology courses, with at least 3 credits from each of the following groups (each course may be used to satisfy a requirement in only one group) (Sem: 5-8)

Group I -- BIOL 407(3), BIOL 410(3), BIOL 414(3), BIOL 441(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 428(3), BIOL 430(3), BIOL 432(3), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 499A IL(3), HORT 407(3)

Group IV -- BIOL 406(3), BIOL 412(3), BIOL 414(3), BIOL 415(3), BIOL 417(4), BIOL 419(3), BIOL 428(3), BIOL 429(3), BIOL 435(3), BIOL 436(3), BIOL 444(3) BIOL 446(3), BIOL 448(3), BIOL 450W(3-5), BIOL 463(3), BIOL 464(3), BIOL 474(3), BIOL 499A IL(3),

Group V -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 472(3), BIOL 479(3)

Group VI -- BIOL 400(1-3), BIOL 407(3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (23-30 credits)
Select 23-30 credits from department list (Sem: 1-8)

GENETICS AND DEVELOPMENTAL BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
BIOL 322(3), BIOL 430(3) (Sem: 5-6)
B M B 401(2), B M B 402(3) (Sem: 5-8)

ADDITIONAL COURSES (17-21 credits)
Select 2-5 credits from MATH 220 GQ(2-3), MATH 231(2), MICRB 201(3), MICRB 202(2) (Sem: 3-6)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or STAT 319(3) (Sem: 5-6)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- AN SC 442(3), B M B 400(2-3), B M B 450(2), BIOL 404(3), BIOL 405(3), BIOL 407(3), BIOL 410(3), BIOL 411(3), BIOL 413(3), BIOL 416(3), BIOL 422(3), BIOL 426(3), BIOL 427(3), BIOL 428(3), BIOL 432(3), BIOL 437(4), BIOL 439(3), BIOL 443(3), BIOL 448(3), BIOL 460(3), BIOL 469(3), HORT 407(3), MICRB 410(3)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 407(3), BIOL 437(4), BIOL 439(3), BIOL 448(3), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), B M B 442(3), PPATH 425(4), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (10-18 credits)
Select 10-18 credits from department list (Sem: 1-8)

NEUROSCIENCE OPTION: (50-54 credits)

PRESCRIBED COURSES (19 credits)

B M B 401(2), B M B 402(3) (Sem: 5-8)
BIOL 469(3), BIOL 470(3) (Sem: 5-8)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 3-4)

Select a minimum of 12 credits of 400-level biology courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- B M B 400(2-3), BIOL 404(3), BIOL 409(3), BIOL 411(3), BIOL 413(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 437(4), BIOL 443(3), BIOL 460(3), BIOL 471(3), BIOL 472(3), BIOL 473(2), BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

PLANT BIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (22 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 407(3), BIOL 414(3), BIOL 441(3) (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or an advanced statistics course (Sem: 3-4)

Select a minimum of 9 credits of 400-level biology courses, with at least 6 credits from Group I and 3 credits from Group II (Sem: 5-8)

Group I -- BIOL 410(3), BIOL 413(3), BIOL 427(3), BIOL 430(3), BIOL 443(3), BIOL 444(3), BIOL 446(3), BIOL 448(3), BIOL 499A IL(3), BIOTC 459(3), HORT 407(3), HORT 440W(3), PPATH 416(2-4), PPATH 425(4)

Group II -- BIOL 400(1-3), BIOL 414(3), BIOL 419(3), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 496(1-3), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (15-20 credits)
Select 15-20 credits from department list (Sem: 1-8)

VERTEBRATE PHYSIOLOGY OPTION: (50-54 credits)

PRESCRIBED COURSES (18 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
B M B 401(2), B M B 402(3), BIOL 472(3), BIOL 473(2) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
Select 3-4 credits from STAT 200 GQ(4), STAT 240 GQ(3), or STAT 250 GQ(3) (Sem: 5-8)

Select a minimum of 12 credits of 400-level courses, with at least 6 credits from Group I, 3 credits from Group II, and 3 credits from Group III (Sem: 5-8)

Group I -- BIOL 404(3), BIOL 406(3), BIOL 409(3), BIOL 411(3), BIOL 412(3), BIOL 413(3), BIOL 416(3), BIOL 421(4), BIOL 426(3), BIOL 430(3), BIOL 432(3), BIOL 437(4), BIOL 443(3), BIOL 446(3), BIOL 460(3), BIOL 469(3), BIOL 470(3), BIOL 471(3) BIOL 479(3) (may select up to 6 credits from department list)

Group II -- BIOL 405(3), BIOL 411(3), BIOL 414(3), BIOL 417(4), BIOL 420(3), BIOL 421(4), BIOL 425(4), BIOL 427(3), BIOL 428(3), BIOL 438(3), BIOL 443(3), BIOL 460(3), BIOL 474(3)

Group III -- BIOL 400(1-3), BIOL 414(3), BIOL 417(4), BIOL 419(3), BIOL 421(4), BIOL 437(4), BIOL 439(3), BIOL 444(3), BIOL 448(3), BIOL 450W(3-5), BIOL 461(3), BIOL 471(3), BIOL 473(2), BIOL 496(2), BIOL 499A IL(3), SC 295(1-3), SC 395(1-3), SC 495(1-3)

SUPPORTING COURSES AND RELATED AREAS (16-21 credits)
Select 16-21 credits from department list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-520

Review Date: 4/10/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

SC

Biotechnology

University Park, Eberly College of Science (BIOTC)

PROFESSOR PHILIP W. MOHR, *in charge*

Biotechnology may be broadly defined as the application of principles of molecular and cell science in the production of biologically important or industrially useful products. Therefore, students in the Biotechnology major will (1) acquire a strong foundation in the life and chemical sciences, (2) learn how fundamental science is applied to problems through biotechnology, (3) develop basic laboratory skills, perform standard techniques, work with state-of-the-art instrumentation, describe and evaluate analytical methodology used in biotechnology, and (4) become familiar with societal concerns and governmental regulations regarding the biotechnology industry. One very important strength of this major is the extensive laboratory experience each student receives. In the General option, students are very strongly encouraged to consider Cooperative Education with industry as an integral part of their curriculum. In addition to the General option in Biotechnology, the major also offers the Clinical Laboratory Science option.

In order to be eligible for entrance to the Biotechnology major, a student must have: (1) attained at least a 2.00 cumulative grade-point average, and (2) completed CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), and MATH 140 GQ(4) and earned a grade of C or better in each of these courses.

For the B.S. degree in Biotechnology, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 95 credits**[87]**
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 42 credits

PRESCRIBED COURSES (42 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4), PSU 016(1) (Sem: 1-2)
PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 1-4)
B M B 251(3)**[85]**, B M B 252(3)**[85]**, BIOL 322(3), MICRB 201(3)**[85]**, MICRB 202(2) (Sem: 3-4)
MICRB 421W(3) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 53 credits

GENERAL BIOTECHNOLOGY OPTION: (53 credits)

PRESCRIBED COURSES (25 credits)
B M B 211(3), B M B 221(2), B M B 442(3), MICRB 410(3) (Sem: 5-6)
BIOTC 416(2), BIOTC 459(3), BIOTC 479(3), BIOTC 489(3), STAT 250 GQ(3) (Sem: 5-8)

ADDITIONAL COURSES (6-8 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (20-22 credits)
Select 14-16 credits from department list (Sem: 3-8)
Select 6 credits from any 400-level B M B/BIOTC/MICRB lecture course, FD SC 408(2) (Sem: 5-8)

CLINICAL LABORATORY SCIENCE OPTION: (53 credits)
This option provides both the academic and clinical preparation for students interested in a career as a clinical laboratory scientist. Positions are found in hospital, physician-office, reference, industrial, and research laboratories. To complete baccalaureate degree requirements, students enter a ten-month clinical practicum (MICRB 405A-F) at an affiliate hospital for the senior year. (Current affiliations are with Mount Nittany Medical Center, State College and Pennsylvania Hospital, Philadelphia.) Students are recommended for a fixed number of hospital positions on a competitive basis. Cumulative grade-point average and hospital school admission requirements serve as criteria for recommendation. The B.S. degree is awarded at the first commencement following completion of the clinical practicum.

PRESCRIBED COURSES (44 credits)
B M B 211(3), B M B 212(1), B M B 221(2), MICRB 410(3), MICRB 412(3), MICRB 422(2) (Sem: 5-6)
MICRB 405A(8), MICRB 405B(1), MICRB 405C(6), MICRB 405D(5), MICRB 405E(7), MICRB 405F(3) (Sem: 7-8)

ADDITIONAL COURSES (6-8 credits)

CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (1-3 credits)
Select 1-3 credits from department list (Sem: 3-8)

Integrated B.S. in Biotechnology - Master of Biotechnology in Biotechnology

The integrated B.S. in Biotechnology-Master of Biotechnology degree program is designed to enable qualified undergraduate students in the B.S. Biotechnology program to graduate in five years with the Master of Biotechnology degree. The requirements of the Master of Biotechnology degree are designed to prepare students for diverse career opportunities in the burgeoning biotechnology industry. The integrated B.S. Biotechnology-Master of Biotechnology program will enhance the preparation and qualifications of B.S. Biotechnology students seeking entry-level positions in biotechnology and related industries. At the same time, students develop a practical knowledge of the laboratory techniques that underlie current research in the life sciences that will serve as excellent preparation for those students in the Master of Biotechnology program who later decide to pursue further graduate degrees.

A maximum of 12 credits will be cross-counted towards the B.S. and Masters degrees, from the following courses:
B M B 400(2-3), BIOTC 479(3), IBIOS 571(2), IBIOS 591(1), and IBIOS 593(3).

B.S. Biotechnology Requirements:
Total credits required: 125
GENERAL EDUCATION: 46 credits (15 of these are included in the REQUIREMENTS FOR THE MAJOR)
REQUIREMENTS FOR THE MAJOR: 94-95 credits

Prescribed courses: 67 credits
Additional courses: 6-9 credits
Supporting courses and related areas: 18-21 credits

Master of Biotechnology Requirements:
Total credits required: 30 (18 of which must be from 500-level courses)

Required courses: 16-19 credits
Electives: 11-14 credits

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[85] To graduate with a B.S. degree in Biotechnology, a grade of C or better is required in two of the following courses: MICRB 201, B M B/MICRB 251, B M B/MICRB 252.
[87] To graduate with a B.S. degree in Biotechnology, a grade of C or better is required in 9 credits of any BIOTC, B M B, or MICRB 400-level course except B M B 442, B M B 443W, B M B 444, B M B 445W, B M B 446, B M B 496, MICRB 421W, MICRB 422, MICRB 447, MICRB 496.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-143

Review Date: 02/23/2010

UCA Revision #1: 8/3/06

SC

Business

Abington College (BSBAB)
Altoona College (BSBAL)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The Bachelor of Science in Business (B.S.B.) is an upper-division, professionally oriented business degree for individuals who are seeking general preparation in business. The degree combines the theoretical underpinnings of core business disciplines, notably management, marketing, finance, and logistics, with applied study in a practical setting, especially the small-business climates across most of the Commonwealth. Through the choice of an 18-credit option, students develop a specialty related to a key business sector. Students also develop written and oral communication skills throughout the program, acquire contemporary computer skills, and engage in active and collaborative learning. The degree allows students throughout the Commonwealth to become familiar with the unique business environments of their local communities, a design that sets the degree apart from other business degrees offered both within the University and throughout the Commonwealth.

The associate degree in business administration at Penn State articulates with the degree. Advanced-standing students from other accredited colleges or universities will be admitted only with specified grade-point averages established annually in accordance with University policy.

ACCOUNTING OPTION: Preparation for positions in business with an emphasis on the areas of financial and managerial accounting, systems and controls, auditing, and taxation.

ENTREPRENEURSHIP OPTION (offered only at the Altoona College): Preparation for a variety of entrepreneurial careers from starting a new business venture to working as an entrepreneur within a larger organization.

FINANCIAL SERVICES OPTION: Preparation for positions in community financial organizations such as banks, real estate firms, insurance brokers, investment firms, and credit companies.

HEALTH SERVICES OPTION: Development of a background in the financial and administrative aspects of health care enterprises such as hospitals, managed-care organizations, clinical practices, and physicians' offices.

INDIVIDUALIZED BUSINESS OPTION: The selection of 18 credits of study based on an individualized plan of study submitted by the student and approved by an adviser. The option allows the tailoring of a program of study to suit specific student needs.

MARKETING AND MANAGEMENT OPTION: An emphasis on the skills and knowledge necessary for the business professional to function in community and regional centers of commerce.

Entrance Requirement: Completion of MATH 022 or higher (MATH 040, 041, 110, 140).

For the B.S. degree in Business, a minimum of 120 credits is required, 15 of which must be at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.*)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
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WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-16 credits

REQUIREMENTS FOR THE MAJOR: 71-79 credits
(This includes 12 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 53-61 credits

PRESCRIBED COURSES (32-37 credits)
ECON 002 GS(3) (Sem: 1-2)
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B A 321(1-3)**[1]**, B A 322(1-3)**[1]**, B A 420(1)**[1]**, FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]**, SCM 301(3)**[1]** (Sem: 5-6)
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Select 6-9 credits from B A 495A(3-9)**[1]**, B A 495B(3-9)**[1]**, or B A 495C(3-9)**[1]** (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 18 credits **[1]**
(Not all options are available at every campus.)

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Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-099

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UCA Revision #1: 8/3/06

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ADDITIONAL COURSES (18 credits)

1. Select 15 credits from the following (to include at least 3 credits in MGMT and 3 credits in MKTG and at least 3 credits at the 400 level):
   MGMT 321(3), MGMT 326(3), MGMT 331(3), MGMT 341(3), MGMT 401(3), MGMT 424(3); MGMT 431(3) or B A 250(3); MGMT 440(3), MGMT 445(3), MGMT 451W(3), MGMT 461 IL(3); MKTG 220(3) or MKTG 410(3); MKTG 310(3), MKTG 327(3), MKTG 330(3), MKTG 342(3), MKTG 422(3), MKTG 428(3), MKTG 445 IL(3), MKTG 450W(3), MKTG 478(3) (Sem: 5-8)
2. Select 3 credits from CAS 250(3), CAS 252(3), CAS 352(3), CAS 404(3) or ENGL 419(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Penn State Schuylkill/Individualized Business and Management/Marketing Options only (1/26/07)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-099

Review Date: 2/26/08

UCA Revision #1: 8/3/06

Comments

Business

Abington College (BSBAB)
Altoona College (BSBAL)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The Bachelor of Science in Business (B.S.B.) is an upper-division, professionally oriented business degree for individuals who are seeking general preparation in business. The degree combines the theoretical underpinnings of core business disciplines, notably management, marketing, finance, and logistics, with applied study in a practical setting, especially the small-business climates across most of the Commonwealth. Through the choice of an 18-credit option, students develop a specialty related to a key business sector. Students also develop written and oral communication skills throughout the program, acquire contemporary computer skills, and engage in active and collaborative learning. The degree allows students throughout the Commonwealth to become familiar with the unique business environments of their local communities, a design that sets the degree apart from other business degrees offered both within the University and throughout the Commonwealth.

The associate degree in business administration at Penn State articulates with the degree. Advanced-standing students from other accredited colleges or universities will be admitted only with specified grade-point averages established annually in accordance with University policy.

ACCOUNTING OPTION: Preparation for positions in business with an emphasis on the areas of financial and managerial accounting, systems and controls, auditing, and taxation.

ENTREPRENEURSHIP OPTION (offered only at the Altoona College): Preparation for a variety of entrepreneurial careers from starting a new business venture to working as an entrepreneur within a larger organization.

FINANCIAL SERVICES OPTION: Preparation for positions in community financial organizations such as banks, real estate firms, insurance brokers, investment firms, and credit companies.

HEALTH SERVICES OPTION: Development of a background in the financial and administrative aspects of health care enterprises such as hospitals, managed-care organizations, clinical practices, and physicians' offices.

INDIVIDUALIZED BUSINESS OPTION: The selection of 18 credits of study based on an individualized plan of study submitted by the student and approved by an adviser. The option allows the tailoring of a program of study to suit specific student needs.

MARKETING AND MANAGEMENT OPTION: An emphasis on the skills and knowledge necessary for the business professional to function in community and regional centers of commerce.

Entrance Requirement: Completion of MATH 022 or higher (MATH 040, 041, 110, 140).

For the B.S. degree in Business, a minimum of 120 credits is required, 15 of which must be at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.*)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-16 credits

REQUIREMENTS FOR THE MAJOR: 71-79 credits
(This includes 12 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 53-61 credits

PRESCRIBED COURSES (32-37 credits)
ECON 002 GS(3) (Sem: 1-2)
ACCTG 211(4), ECON 004 GS(3), MIS 204(3) (Sem: 3-4)
B A 321(1-3)**[1]**, B A 322(1-3)**[1]**, B A 420(1)**[1]**, FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]**, SCM 301(3)**[1]** (Sem: 5-6)
B A 421(1-2)**[1]**, B A 422W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (21-24 credits)

MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-4)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
B A 323(3)**[1]** or I B 303 IL(3)**[1]** (Sem: 5-8)
Select 6-9 credits from B A 495A(3-9)**[1]**, B A 495B(3-9)**[1]**, or B A 495C(3-9)**[1]** (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 18 credits **[1]**
(Not all options are available at every campus.)

ACCOUNTING OPTION: (18 credits)

PRESCRIBED COURSES (15 credits)
ACCTG 404(3), ACCTG 432(3), ACCTG 471(3), ACCTG 472(3) (Sem: 5-6)
ACCTG 403W(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
ACCTG 405(3) or FINSV 411(3) (Sem: 6-8)

ENTREPRENEURSHIP OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
ENTR 300(3), ENTR 320(3) (Sem: 5-6)
ENTR 400(3), ENGL 419(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
ENTR 410(3), ENTR 420(3), ENTR 430(3), or ENTR 440(3) (Sem: 5-8)
CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 7-8)

FINANCIAL SERVICES OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
FINSV 400(3), FINSV 411(3), INS 301(3) (Sem: 5-8)
ENGL 419(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
ECON 351(3), FINSV 420(3), INS 310W(3), or R EST 301(3) (Sem: 5-8)
CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 5-8)

HEALTH SERVICES OPTION: (18 credits)

PRESCRIBED COURSES (12 credits)
H P A 101(3) (Sem: 5-6)
H P A 310(3), H P A 332(3) (Sem: 5-8)
ENGL 419(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 5-8)
H P A 447(3) or H P A 455(3) (Sem: 7-8)

INDIVIDUALIZED BUSINESS OPTION: (18 credits)
Prepare an individualized plan of study consisting of 18 credits to be submitted for approval by an adviser. (Sem: 5-8)

MANAGEMENT AND MARKETING OPTION: (18 credits)

ADDITIONAL COURSES (18 credits)

1. Select 15 credits from the following (to include at least 3 credits in MGMT and 3 credits in MKTG and at least 3 credits at the 400 level):
   MGMT 321(3), MGMT 326(3), MGMT 331(3), MGMT 341(3), MGMT 401(3), MGMT 424(3); MGMT 431(3) or B A 250(3); MGMT 440(3), MGMT 445(3), MGMT 451W(3), MGMT 461 IL(3); MKTG 220(3) or MKTG 410(3); MKTG 310(3), MKTG 327(3), MKTG 330(3), MKTG 342(3), MKTG 422(3), MKTG 428(3), MKTG 445 IL(3), MKTG 450W(3), MKTG 478(3) (Sem: 5-8)
2. Select 3 credits from CAS 250(3), CAS 252(3), CAS 352(3), CAS 404(3) or ENGL 419(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Penn State Schuylkill/Individualized Business and Management/Marketing Options only (1/26/07)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-099

Review Date: 2/26/08

UCA Revision #1: 8/3/06

Comments

Business Economics

Penn State Erie, The Behrend College (BECON)

Business Economics is a quantitatively-oriented program of study in applied economics. Leading to a B.S. degree, this major combines in-depth study of economics with a general business background, the latter including courses in accounting, finance, management, management information systems, marketing, and quantitative business analysis. Students may choose upper-division economics courses in business and economic forecasting, econometrics, economic theory, industrial organization, international economics, labor economics, managerial economics, and urban and regional economics. Use of computers as analytical and problem-solving tools is emphasized in the program. The major also includes several non-business supporting areas of study from which students may choose courses.

Entry to Major Requirements:
Entry to the Business Economics major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. Degree in Business Economics, a minimum of 120 credits is required.

Each student enrolled in this major must earn at least a grade of C in each 300- and 400-level course.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 2 credits

REQUIREMENTS FOR THE MAJOR: 88 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (43 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
ECON 485(3), ECON 302 GS(3), ECON 304 GS(3), FIN 301(3), MGMT 301(3), MKTG 301(3), SCM 310(3) (Sem: 5-6)
ECON 470(3) (Sem: 5-8)
MGMT 471W(3) (Sem: 7-8)

ADDITIONAL COURSES (24 credits)
[Some courses in this category have prerequisites that are not required in the program.]
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 12 credits from ECON 410(3), ECON 430(3), ECON 342(3), ECON 442(3), ECON 481(3), or ECON 482(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 9 credits of 300- or 400-level economics or other business courses (see school list of approved courses) (Sem: 5-8)
Select any combination of 12 credits from the non-business supporting course list for the major. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-028

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UCA Revision #2: 7/26/07

BD

Business, Liberal Arts, and Science

Penn State Erie, The Behrend College (BLASC)

This interdisciplinary major provides students with considerable flexibility for customizing a program of study designed to meet individual interests and career goals. Depth of knowledge is achieved through the selection of modules that form the basis of the major. Students select three modules, each of which contains 15 or 16 credits and encompasses a discrete subject area. One of the modules involves course work in business disciplines; the other two modules involve course work in nonbusiness disciplines. Proper selection of modules helps provide strong preparation for careers in business and government or for entry into graduate school.

Entry to Major Requirements:
Entry to the Business, Liberal Arts, and Science major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in Business, Liberal Arts, and Science, a minimum of 122 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 91-92 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (31 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
FIN 301(3), MGMT 301(3), MKTG 301(3), SCM 310(3) (Sem: 5-6)
MGMT 471W(3) (Sem: 7-8)

ADDITIONAL COURSES (15 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 3 credits from ECON 470(3), MGMT 461 IL(3), MKTG 445 IL(3), or other 400-level international business course (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (45-46 credits)
[Some courses in this category may have prerequisites that are not required for the major.]
Select one module from Modules 1-5 (15-16) (Sem: 5-8)
Select one module from Modules 8, 11, 12, or 14 (15) (Sem: 5-8)
Select one module from Modules 6-18 (15) (Sem: 5-8)

Except where noted, courses taken to satisfy General Education requirements may not be used to satisfy module requirements.

Module 1 ACCOUNTING (16 credits)
ACCTG 310(3) Federal Income Taxation
ACCTG 340(3) Cost Accounting
ACCTG 371(4) Intermediate Accounting I
Select 6 credits in ACCTG (including at least 3 credits at the 400 level)
Completion of this module in addition to ACCTG 211(4) fulfills the requirements for a minor in Accounting.

Module 2 ECONOMIC ANALYSIS AND POLICY (15 credits)
Select 15 credits in ECON or ECNS (including at least 6 credits at the 400 level)
Completion of this module in addition to ECON 002 GS(3) and ECON 004 GS(3) fulfills the requirements for a minor in Economics.

Module 3 LABOR RELATIONS AND HUMAN RESOURCES MANAGEMENT (15 credits)
Select 15 credits from:
ECON 410(3) Economics of Labor Markets

LER 100 GS(3) Labor and Industrial Relations
MGMT 331(3) Organizational Processes and Structure
MGMT 341 US(3) Introduction to Human Resource Management
MGMT 420(3) Conflict Management
MGMT 440(3) Advanced Human Resource Management
Completion of 12 credits of MGMT courses in addition to MGMT 301(3) and MGMT 471W(3) fulfills the requirements for a minor in Management.

Module 4 QUANTITATIVE METHODS FOR BUSINESS (15 credits)
Select 15 credits from:
ECON 481(3) Business Forecasting Techniques
ECON 482(3) Advanced Business Forecasting Techniques
ECON 485(3) Econometric Techniques
MGMT 350(3) Problem Solving and Models for Management
SCM 445(3) Operations Planning and Control
SCM 455(3) Logistics Systems Analysis and Design
SCM 460(3) Purchasing and Material Management
Completion of 12 credits of MGMT courses in addition to MGMT 301(3) and MGMT 471W(3) fulfills the requirements for a minor in Management.

Module 5 MANAGEMENT INFORMATION SYSTEMS (15 credits)
Select 15 credits from:
MIS 336(3) Data Management Systems
MIS 430(3) Systems Analysis
Select 9 credits in CMPBD, CMPSC, or MISBD (including at least 3 credits at the 400 level)
Completion of this module in addition to MIS 204(3) fulfills the requirements for a minor in MISBD.

Module 6 COMMUNICATIONS (15 credits)
Select 15 credits in COMM, COMMU, or SPCOM (including at least 6 credits at the 400 level)

Module 7 ENGLISH (15 credits)
Select 15 credits in ELISH or ENGL (beyond the Writing/Speaking area of General Education, and including at least 6 credits at the 400 level)

Module 8 FOREIGN LANGUAGE (15 credits)
Select 12 credits in one foreign language
Select 3 credits in a corresponding area studies course in consultation with adviser [e.g., GER 200 GH;IL(3), HIST 179 GH;IL(3), PL SC 020 GS;IL(3)]

Module 9 HISTORY (15 credits)
Select 15 credits in HIST or HSTRY (including at least 6 credits at the 400 level)

Module 10 POLITICAL SCIENCE (15 credits)
PL SC 001 GS(3) Introduction to American National Government
PL SC 003 GS;IL(3) Introduction to Comparative Politics
Select 9 credits in PL SC or POLSC (including at least 6 credits at the 400 level)

Module 11 INTERNATIONAL CULTURAL STUDIES (15 credits)
CAS 471 US;IL(3) International and Intercultural Communication
INTST 100 GS;IL(3) Introduction to International Studies
INTST 400 IL(3) Seminar in International Studies
Select 6 credits from:
FR 139 GH;IL(3) France and the French-speaking World
GER 200 GH;IL(3) Contemporary German Culture
RL ST 001 GH;US;IL(3) Introduction to World Religions
RL ST 004 GH;US;IL(3) Jewish and Christian Foundation
RUS 100 GH;IL(3) Russian Culture and Civilization
RUS 130 IL(3) Women in Russian Literature
SPAN 130 GH;IL(3) Iberian Civilization
SPAN 131 GH;IL(3) Ibero-American Civilization or other international cultures courses in consultation with adviser

Module 12 INTERNATIONAL POLICY STUDIES (15 credits)
Select 15 credits from:
PL SC 003 GS;IL(3) Introduction to Comparative Politics
PL SC 014 GS;IL(3) International Relations
PL SC 020 GS;IL(3) Comparative Politics--Western Europe
PL SC 022 GS;IL(3) Politics of the Developing Areas
PL SC 452(3) Government and Politics of Central Europe
PL SC 423(3) Post-Soviet Politics
PL SC 487(3) International Law and Organizations
PL SC 488(3) Comparative Public Policy

Module 13 PSYCHOLOGY (15 credits)
PSYCH 100 GS(3) Psychology
Select 12 credits in PSY or PSYCH (including at least 6 credits at the 400 level)

Module 14 EDUCATION ABROAD (15 credits)
Select an Education Abroad Program in consultation with adviser

Module 15 COMPUTER STUDIES (15 credits)

Select 15 credits in CMPSC or CMPBD (including at least 6 credits at the 400 level)

Module 16 MATHEMATICS (15 credits)
Select 15 credits in MATH or MTHBD (including at least 6 credits at the 400 level)

Module 17 SCIENCE (15 credits)
Select 15 credits in the natural sciences (including at least 6 credits at the 400 level)

Module 18 STATISTICS AND QUALITY CONTROL (15 credits)
MATH 482(3) Mathematical Methods of Operations Research
Q C 450(3) Introduction to Quality Control Engineering
STAT 461(3) Analysis of Variance
STAT 460(3) Intermediate Applied Statistics
STAT 462(3) Applied Regression Analysis
STAT 464(3) Applied Nonparametric Statistics or other courses in MATH, MTHBD, Q C, or STAT in consultation with adviser

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-029

Review Date: 11/21/06

UCA Revision #1: 8/3/06
UCA Revision #2: 7/26/07

BD

Chemical Engineering

University Park, College of Engineering (CH E)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR ANDREW L. ZYDNEY, *Head, Department of Chemical Engineering*

Chemical Engineering is one of the most versatile professions--you'll find Chemical Engineers employed in a broad array of industries ranging from pharmaceutical and biotechnical companies to semiconductor manufacturing to start-up companies converting the latest laboratory discoveries to large-scale commercial production. Chemical Engineers work with catalysts to develop new ways to manufacture medicines and plastics; they develop control systems that enable the safe production of products from semiconductors to household soap; they design chemical and petroleum plants; they research the effects of artificial organs on blood flow; and they develop the equipment and processes necessary for advances in biotechnology. While chemistry emphasizes the facts and principles of science, chemical engineering emphasizes its practical application for the development of new products and processes.

The undergraduate program in Chemical Engineering provides students with fundamental skills in problem solving, analysis, and design, along with hands-on experience in practical applications. The curriculum builds upon the traditional foundation in the chemical and energy-related industries and introduces new material in the life sciences, polymers, and environmental fields. Students have numerous opportunities to pursue more specialized areas including formal options in Bioprocess and Biomolecular Engineering, Energy and Fuels, and Polymer Engineering.

The educational objectives of the undergraduate program in Chemical Engineering are specifically designed to produce graduates who will be able to:

1. identify and pursue their personal and professional goals using the foundation provided by the breadth of educational opportunities in chemical and biomolecular engineering offered at Penn State
2. pursue careers as practicing chemical engineers in traditional chemical and energy-related industries as well as in expanding areas of materials, environmental, biomedical, and biotechnology
3. apply their broad chemical engineering education--including their problem solving, analytical, design, research, and communication skills--in industry, government agencies, financial institutions, consulting firms, educational institutions, business, law, and medicine
4. provide the technical, educational, business, and political leadership needed in today's rapidly changing, increasingly technological, global society.

For the B.S. degree in Chemical Engineering, a minimum of 134 credits is required. This baccalaureate program in Chemical Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 116 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 98 credits

PRESCRIBED COURSES (88 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
B M B 251(3), CH E 210(3)**[1]**, CH E 220(3)**[1]**, CH E 300(1), CH E 320(3)**[1]**, CH E 330(3)**[1]**, CH E 340(3), CH E 350(3)**[1]**, CH E 360(3), CHEM 210(3), CHEM 212(3), CHEM 213(2), CHEM 457(2), MATH 230(4), MATH 251(4), PHYS 212 GN(4) ENGL 202C GWS(3) (Sem: 3-6)
CHEM 466(3) (Sem: 6)
CH E 410(3)**[1]**, CH E 430(3)**[1]**, CH E 470(3), CH E 480W(3) (Sem: 7-8)

ADDITIONAL COURSES (10 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
ECON 102 GS(3), ECON 104 GS(3), or ECON 014 GS(3) (Sem: 1-6)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 18 credits

BIOPROCESS AND BIOMOLECULAR ENGINEERING OPTION: 18 credits

PRESCRIBED COURSES (6 credits)
B M B 252(3), CH E 449(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits from: B M B 442(3), BIOTC 479(3), BIOTC 489(3) (Sem: 5-8)
Select 9 credits from: B E 468(3), B M B 401(3), B M B 474(3), BIOE 419(3), BIOL 472(3), CH E 438(3), CH E 501(3)**[91]**, MATSE 403(3), MICRB 201(3) (Sem: 7-8)

ENERGY AND FUELS OPTION: 18 credits

PRESCRIBED COURSES (3 credits)
EGEE 411(3) (Sem: 6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits from: F SC 401(3), I H S 400(3) (Sem: 5)
Select 12 credits from: EGEE 420(3), EGEE 430(3), F SC 431(3), CH E/F SC 432(3), F SC 435(3), GEOEE 427(3), I H S 420(3), I H S 445(3), I H S 447(3) I H S 450(3), I H S 470(3), P N G 410(3), P N G 480(3) (Sem: 7-8)

GENERAL OPTION: 18 credits

ADDITIONAL COURSES (18 credits)
Select 6 credits in 400-level CH E courses from department list (Sem: 5-8)
Select 6 credits of approved Engineering electives (Sem: 5-8)
Select 6 credits of approved Technical/Professional electives **[31]** (Sem: 5-8)

POLYMER ENGINEERING OPTION (18 credits)

PRESCRIBED COURSES (9 credits)
MATSE 441(3), MATSE 443(3), MATSE 446(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
Select 3 credits from: MATSE 444(3), MATSE 445(3) (Sem: 5-8)
Select 6 credits from CH E 441(3), MATSE 447(3), MATSE 448(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[31] Students may substitute 6 credits of ROTC for part of this requirement in consultation with department.
[91] "...senior, undergraduate students with an average of at least 3.5, and certain other students with averages of at least 3.00 who have been granted special permission to enroll through the Office of Graduate Enrollment Services." Penn State University 2003-2004 Graduate Degree Programs Bulletin. Instructor approval is also required.

Last Revised by the Department: Spring Semester 2010

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Review Date: 4/13/10

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UCA Revision #2: 7/26/07

EN

Chemistry

University Park, Eberly College of Science (CHEM)

PROFESSOR Mark Maroncelli, *Assistant Head for Undergraduate Education*

This major provides a strong foundation in the theory and practice of chemistry. Mathematics and physics are emphasized, since these subjects are essential to the understanding of chemistry. Courses in English and electives ensure study in non-technical subjects which broaden the student's general education and enables him or her to relate the major to other fields of knowledge.

In order to be eligible for entrance to the Chemistry major, a student must have: 1) Attained at least a 2.00 cumulative grade-point average. 2) Completed CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), MATH 140 GQ(4), and MATH 141 GQ(4); earned a grade of C or better in each of these courses; and earned a combined grade point average of at least 2.50 in these courses. (Note: If courses are repeated, only the better grade will be used in this calculation.)

For the B.S. degree in Chemistry, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR: 1-3 credits

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This requirement includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (54 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 1-4)
MATH 231(2) (Sem: 3-4)
CHEM 210(3)**[1]**, CHEM 212(3)**[1]**, CHEM 213(2)**[1]**, CHEM 227(4)**[1]**, CHEM 310(3)**[1]**, CHEM 316(1), CHEM 450(3)**[1]**, CHEM 452(3)**[1]**, CHEM 457(2)**[1]** (Sem: 5-6)

ADDITIONAL COURSES (23 credits)
Select 3 credits from MATH 250(3) or STAT 401(3) (Sem: 5-8)
Select 4 credits from advanced laboratory courses: CHEM 423W(4)**[1]**, CHEM 431W(4)**[1]**, CHEM 459W(4)**[1]** (Sem: 5-8)
Select 16 credits of chemistry at the 400 level. Up to 6 co-op credits (2 each of SC 295, SC 395, SC 495) may be used in this category. Chemical Research, CHEM 494(1-10) may be used, but the total of CHEM 494 credits plus co-op credits may not exceed 8. (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (17 credits)
These 17 credits may include any courses not on the Chemistry Department list of excluded courses except that CHEM 494 may not be used, and only one credit of each SC 295, SC 395, and SC 495 is allowed in this category. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-04-088

Review Date: 01/12/2010

UCA Revision #1: 8/3/06

SC

Chemistry

Penn State Erie, The Behrend College (CHMBD)

This major provides a strong foundation in chemistry and prepares students for graduate or professional programs and for careers with companies and agencies requiring chemistry or related areas. The major has five options that allow students to choose an area of specialization to meet their career goals. These options are: general chemistry, biochemistry, business, computer science, and chemistry education pre-certification. Students have the opportunity to participate in research with faculty members.

Entrance Requirement: In order to be eligible for entrance to the CHMBD major (all options), a student must have: (1) attained more than 27 credits (2) completed CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), MATH 140 GQ(4), MATH 141 GQ(4), and earned a grade of C orbetter in each of these courses.

For the B.S. degree in Chemistry, a minimum of 124 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field and must have earned a minimum 2.00 grade-point average.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-6 credits

REQUIREMENTS FOR THE MAJOR: 91-100 credits
(This includes 18-24 credits of General Education courses. For the General Chemistry Option, Biochemistry Option, and Computer Science Option, 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses. For the Business Option, 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses. For the Chemistry Education Pre-Certification Option, 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 57-58 credits

PRESCRIBED COURSES (52 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4)**[1]**, PHYS 213 GN(2)**[1]**, PHYS 214 GN(2)**[1]** (Sem: 1-4)
CHEM 210(3)**[1]**, CHEM 212(3)**[1]**, CHEM 213(2)**[1]**, CHEM 221(4)**[1]** (Sem: 3-6)
CHEM 400(1), CHEM 413W(4), CHEM 450(3) and CHEM 457(1), CHEM 440(3) (Sem: 5-8)

ADDITIONAL COURSES (5-6 credits)
Select 2 credits from CHEM 441(1), CHEM 443(1), CHEM 445(1) (Sem: 5-8)
Select 3-4 credits from MATH 220 GQ(2-3)**[1]** and MATH 231(2)**[1]** or MATH 250(3)**[1]** (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 34-42 credits

GENERAL CHEMISTRY OPTION:(34 credits)

PRESCRIBED COURSES (7 credits)
CHEM 452(3) and CHEM 457(1), ENGL 202C GWS(3)**[1]** (Sem: 3-8)

ADDITIONAL COURSES (9 credits)
Select 6 credits of 400-level CHEM courses (excluding CHEM 494, CHEM 495, and CHEM 496) (Sem: 5-8)
Select 3 credits from CHEM 494(1-12) or CHEM 496(1-18) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits from school-approved list. (Students may apply up to 6 credits of ROTC.) (Sem: 1-8)

BIOCHEMISTRY OPTION: (41-42 credits)

PRESCRIBED COURSES (22 credits)
B M B 402(3), BIOL 110S GN(4)**[1]**, BIOL 230W GN(4)**[1]** (Sem: 3-8)
CHEM 452(3) and CHEM 457(1), CHEM 472(3), B M B 403(1) (Sem: 5-8)
ENGL 202C GWS(3)**[1]** (Sem: 3-8)

ADDITIONAL COURSES (13-14 credits)
Select 7-8 credits from BIOL 322(3), BIOL 410(3), BIOL 430(3), B M B 406(3), BIOL 465(3), BIOL 240W GN(4)**[1]**, MICRB 201(3), MICRB 202(2) (Sem: 3-8)
Select 3 credits of 400-level CHEM courses (excluding CHEM 494, CHEM 495, and CHEM 496) (Sem: 5-8)

Select 3 credits from CHEM 494(1-12) or CHEM 496(1-18) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from school-approved list. (Students may apply up to 6 credits of ROTC.) (Sem: 1-8)

BUSINESS OPTION: (40-42 credits)

PRESCRIBED COURSES (15 credits)
ECON 002 GS(3)**[1]**, ENGL 202D GWS(3)**[1]**, MGMT 301(3), MKTG 301(3) (Sem: 3-8)
CHEM 496(3) (Sem: 5-8)

ADDITIONAL COURSES (19-21 credits)
Select 6 credits of 400-level CHEM courses (excluding CHEM 494, CHEM 495, and CHEM 496) (Sem: 5-8)
SCM 200(4) or STAT 200 GQ(4) (Sem: 3-6)
Select 9-11 credits in one of the following sequences:
a) SCM 310(3), MGMT 331(3), MGMT 410(3), MGMT 420(3) (Sem: 5-8)
b) MKTG 342(3), MKTG 330(3), MKTG 327(3), MKTG 410(3), MKTG 428(3) (Sem: 5-8)
c) CMPSC 203 GQ(4), MIS 204(3), MIS 336(3), MIS 430(3), MIS 445(4) (Sem: 5-8)
d) One selection each from a), b), and c) above (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from school-approved list. (Students may apply up to 6 credits of ROTC.) (Sem: 1-8)

COMPUTER SCIENCE OPTION: (37 credits)

PRESCRIBED COURSES (13 credits)
CHEM 452(3) and CHEM 457(1), CMPSC 121 GQ(3)**[1]**, CMPSC 122(3)**[1]**, ENGL 202C GWS(3)**[1]** (Sem: 3-8)

ADDITIONAL COURSES (18 credits)
Select 3 credits of 400-level CHEM courses (excluding CHEM 494, CHEM 495, and CHEM 496) (Sem: 5-8)
Select 3 credits from CHEM 494(1-12) or CHEM 496(1-18) (Sem: 5-8)
Select 12 credits from CMPSC 312(3)**[1]**, CMPSC 335(3), CMPSC 360(3)**[1]**, CMPSC 455(3), CMPSC 456(3), CMPSC 459(3), CMPSC 465(3), CMPSC 474(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from school-approved list. (Students may apply up to 6 credits of ROTC.) (Sem: 1-8)

CHEMISTRY EDUCATION PRE-CERTIFICATION OPTION: (40-41 credits)
This option helps prepare students for chemistry education teaching positions in secondary schools. It includes the academic requirements for the Chemistry Education Instructional I certificate issued by the Pennsylvania Department of Education. Students in this option must graduate with 3.0 GPA or better to be admitted to the fifth year teacher's certification program at Mercyhurst College, Erie, Pennsylvania.

PRESCRIBED COURSES (22-23 credits)
CHEM 452(3) and CHEM 457(1), CHEM 472(3), ENGL 202C GWS(3)**[1]**, PSYCH 100 GS(3)**[1]** (Sem: 3-8)
EDPSY 014(3) taken concurrent with C I 295(1), EDTHP 115 US(3) taken concurrent with C I 295(1) (Sem:3-8)
CHEM 395(1-2) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
Select 3 credits of 400-level CHEM courses (excluding CHEM 494, CHEM 495, and CHEM 496) (Sem: 5-8)
Select 3 credits from CHEM 494(1-12) or CHEM 496(1-18) (Sem: 5-8)
HD FS 129 GS(3)**[84]** or PSYCH 212 GS(3)**[84]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from school-approved list. (Students may apply up to 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[84] A student enrolled in this option must receive a grade of B or better to meet Mercyhurst College's requirements.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-003

Review Date: 1/13/09

UCA Revision #1: 10/10/06
UCA Revision #2: 7/26/07

BD

Childhood and Early Adolescent Education

Altoona College
University College: Penn State Brandywine, Penn State Lehigh Valley
University Park, College of Education (CEAED)

PROFESSOR GREGORY J. KELLY, *In Charge*

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

CHILDHOOD AND EARLY ADOLESCENT EDUCATION. Students successfully completing this major will have met all of the requirements for the PK-4, ENGLISH EDUCATION 4-8, or SOCIAL STUDIES EDUCATION 4-8 College Instructional 1 certificate issued by the Pennsylvania Department of Education. Students must apply for admission to the major. Students interested in the major should contact their advisor and enroll in a C I 295 field experience, which features participation in the classroom.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics
3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for Childhood and Early Adolescent Education must document 40 of these hours with learners who come from backgrounds that are different than the candidate's.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5. Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification.
9. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.S. degree in Education with an option in Early Education PK-4, a minimum of 128 credits is required; with an option in English 4-8, a minimum of 134 credits is required; with an option in Social Studies Education 4-8, a minimum of 137 credits is required. (See also Teacher Education Programs.)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST YEAR SEMINAR: 1 credit
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 109-119 credits **[1]**
(This includes 27 credits of General Education courses: Early Education PK-4 Option – 6 credits of GH courses, 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GS courses. English 4-8 Option – 6 credits of GH courses, 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GS courses. Social Studies 4-8 Option – 6 credits of GH courses, 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 73-74 credits

PRESCRIBED COURSES (55 credits)
C I 280 GH(3), EDPSY 014(3), EDTHP 115 US(3), MATH 200 GQ(3) (Sem: 1-4)
C I 495D(12), C I 495F(3), KINES 126(1.5), KINES 127(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), SCIED 458(3), SPLED 400(4), SPLED 403A(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (6-7 credits)
STAT 100 GQ(3), STAT 200 GQ(4), or EDPSY 101 GQ(3) (Sem: 1-4)
Any MATH GQ course (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature (GH) (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from biological science, earth science, and physical science (GN courses) (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 36-45 credits

EARLY EDUCATION PK-4 OPTION: (36 credits)

PRESCRIBED COURSES (21 credits)
C I 295A(3), HD FS 229 GS(3) (Sem: 3-4)
A ED 303(3), C I 495A(3) E C E 451(3), E C E 479(3), MUSIC 241(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits of Economic Geography (GS;US;IL) (Sem: 1-4)
Select 3 credits of US History (GS;US;IL) (Sem: 1-4)

Select 3 credits on family and relationships from:
E C E 453(3), HD FS 315(3), HD FS 415(3), HD FS 418(3), HD FS 424 US(3), HD FS 431(3), HD FS 469U IL(3), SOC 030 GS(3), or WL ED 444(3) (Sem: 1-4)

Select 6 credits of educational selections from:
APLNG 493 IL(3), E C E 452(3), E C E 454(3), LL ED 450(3), LL ED 467(3), HD FS 250 US(3), HD FS 330(6), HD FS 430(6), HD FS 415(3), HD FS 427(3), HD FS 428(3), HD FS 429(3), HD FS 430(6), HD FS 432(3), WL ED 400(3), or WL ED 483(3) (Sem: 5-8)

ENGLISH 4-8 OPTION: (42 credits)
OPTION CURRENTLY ON HOLD 6/24/09 - Pending Pennsylvania Department of Education Teaching Certification Amendments.

PRESCRIBED COURSES (24 credits)
C I 295B(3), HD FS 239 GS(3), SOC 119 GS;US(3) (Sem: 1-4)
C I 495B(3), LL ED 412W(3), LL ED 420(3), LL ED 450(3), LL ED 480(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 3 credits of British Literature from:
ENGL 221(3), ENGL 222(3), ENGL 440(3), ENGL 441(3), ENGL 442(3), ENGL 443(3), ENGL 444(3), ENGL 445(3), ENGL 446(3), ENGL 447(3), ENGL 448(3), ENGL 449 US;IL(3), ENGL 450(3), ENGL 451(3), ENGL 452(3), ENGL 453(3), ENGL 454(3), ENGL 455(3), ENGL 456(3), ENGL 457(3), or ENGL 458(3) (Sem: 1-6)

Select 3 credits of American Literature from:
ENGL 231(3), ENGL 232(3), ENGL 432(3), ENGL 433(3), ENGL 434(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), or ENGL 439(3) (Sem: 1-6)

Select 3 credits of Comparative Literature from:
ENGL 135 GH;US(3), ENGL 139 GH;US(3), ENGL 194 GH;US;IL(3), ENGL 226 GH;US;IL(3), ENGL 235 US(3), ENGL 245 GH;US(3), ENGL 431 US(3), ENGL 461 US(3), ENGL 462 US(3), ENGL 463 US(3), ENGL 466 US(3), ENGL 467 US(3), ENGL 468 US(3), ENGL 469 US(3), CMLIT 101 GH;US;IL(3), CMLIT 109 GH;US;IL(3), CMLIT 110 GH;US;IL(3), CMLIT 111 GH;IL(3), CMLIT 404 IL(3), CMLIT 422 IL(3), or CMLIT 423 IL(3) (Sem: 1-6)

Select 3 credits of Writing from:
ENGL 212(3), ENGL 213(3), ENGL 281(3), ENGL 215(3), ENGL 412(3), ENGL 413(3), ENGL 414(3), or ENGL 415(3) (Sem: 1-6)

Select 6 credits of Media Literacy from:
COMM 100 GS(3), COMM 120(3), COMM 150 GA(3), COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), COMM 453 IL(3), COMM 454(3), CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 271 US;IL(3), CAS 280W(3), CAS 375(3), CAS 422 US(3), or CAS 480(3) (Sem: 1-6)

SOCIAL STUDIES 4-8 OPTION: (45 credits)
OPTION CURRENTLY ON HOLD 6/24/09 - Pending Pennsylvania Department of Education Teaching Certification Amendments.

PRESCRIBED COURSES (24 credits)
C I 295B(3), PL SC 001 GS(3), HIST 020 GH;US(3), GEOG 010 GN(3), GEOG 020 GS;US;IL(3), HD FS 239 GS(3) (Sem: 1-6)
C I 495B(3), SS ED 412W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)

Select 21 credits from social sciences with at least 12 credits taken at the 100-level:

At least 3 credits in Economic Policy Issues from:
ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3), GEOG 123 GS;IL(3), GEOG 126 GS;US;IL(3), HIST 155 GS;US(3), HIST 156 US(3), PL SC 135 GS(3), or WMNST 456(3) (Sem: 3-8)

At least 6 credits in Civics and Society from:
AAA S/RL ST 145 GH;US;IL(3), AAA S/ENGL 235 US(3), AAA S/SOC 409 US(3), GEOG 130 GS(3), HIST 158 US;IL(3), PL SC 002(3), PL SC 003 GS;IL(3), PL SC 007 GS(3), PL SC 014 GS;IL(3), PL SC 017 GS(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), PL SC 130 GS;US(3), SOC 119 GS;US(3), S T S 130(3), S T S/PL SC 135 GS(3), S T S 151 GS;US(3), S T S 200S GS(3), WMNST/AM ST 104 GH;US(3), WMNST/AM ST 430 US(3), WMNST 432 US(3), or WMNST 466 US;IL(3) (Sem: 3-8)

At least 6 credits in Historical and Geographical Perspectives from:
AAA S 100 GS;US(3), AAA S/WMNST 101 GH;US(3), AAA S/HIST 210 GH;US(3), GEOG 030 GS(3), GEOG 040 GS;IL(3), GEOG 110 GN(3), GEOG 115 GN(3), GEOG 122 GH;US(3), GEOG 160 GS(3), HIST 010 GH;IL(3), HIST 011 GH;IL(3), HIST 012 (3), HIST 021(3), HIST 100(3), HIST 101(3), HIST 104(3), HIST 107(3), HIST 115(3), HIST 120 GS;IL(3), HIST 121 GH;IL(3), HIST 127 US(3), HIST 130 GH;US(3), HIST 144 GH;US;IL(3), HIST 150 US(3), HIST 152 GH;US;IL(3), HIST 153 GH;US(3), HIST 158 US;IL(3), HIST 161 US(3), HIST 165 IL(3), HIST 174 GH;IL(3), HIST 175 GH;IL(3), HIST 176 GH;IL(3), HIST 179 GH;IL(3), HIST 180 GH;IL(3), HIST 181 GH;IL(3), HIST 191 GH;IL(3), S T S/HIST 123 GH(3), WMNST/AAA S 102 GH;IL(3), WMNST/HIST

117 GH;US;IL(3), WMNST/GEOG 426Y US;IL(3) (Sem: 3-8)

Select 6 credits from areas above (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-012

Review Date: 1/13/09

ED

Childhood and Early Adolescent Education

Altoona College
University College: Penn State Brandywine, Penn State Lehigh Valley
University Park, College of Education (CEAED)

PROFESSOR GREGORY J. KELLY, *In Charge*

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

CHILDHOOD AND EARLY ADOLESCENT EDUCATION. Students successfully completing this major will have met all of the requirements for the PK-4, ENGLISH EDUCATION 4-8, or SOCIAL STUDIES EDUCATION 4-8 College Instructional 1 certificate issued by the Pennsylvania Department of Education. Students must apply for admission to the major. Students interested in the major should contact their advisor and enroll in a C I 295 field experience, which features participation in the classroom.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics
3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for Childhood and Early Adolescent Education must document 40 of these hours with learners who come from backgrounds that are different than the candidate's.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5. Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification.
9. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.S. degree in Education with an option in Early Education PK-4, a minimum of 128 credits is required; with an option in English 4-8, a minimum of 134 credits is required; with an option in Social Studies Education 4-8, a minimum of 137 credits is required. (See also Teacher Education Programs.)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST YEAR SEMINAR: 1 credit
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 109-119 credits **[1]**
(This includes 27 credits of General Education courses: Early Education PK-4 Option – 6 credits of GH courses, 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GS courses. English 4-8 Option – 6 credits of GH courses, 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GS courses. Social Studies 4-8 Option – 6 credits of GH courses, 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 73-74 credits

PRESCRIBED COURSES (55 credits)
C I 280 GH(3), EDPSY 014(3), EDTHP 115 US(3), MATH 200 GQ(3) (Sem: 1-4)
C I 495D(12), C I 495F(3), KINES 126(1.5), KINES 127(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), SCIED 458(3), SPLED 400(4), SPLED 403A(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (6-7 credits)
STAT 100 GQ(3), STAT 200 GQ(4), or EDPSY 101 GQ(3) (Sem: 1-4)
Any MATH GQ course (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature (GH) (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from biological science, earth science, and physical science (GN courses) (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 36-45 credits

EARLY EDUCATION PK-4 OPTION: (36 credits)

PRESCRIBED COURSES (21 credits)
C I 295A(3), HD FS 229 GS(3) (Sem: 3-4)
A ED 303(3), C I 495A(3) E C E 451(3), E C E 479(3), MUSIC 241(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits of Economic Geography (GS;US;IL) (Sem: 1-4)
Select 3 credits of US History (GS;US;IL) (Sem: 1-4)

Select 3 credits on family and relationships from:
E C E 453(3), HD FS 315(3), HD FS 415(3), HD FS 418(3), HD FS 424 US(3), HD FS 431(3), HD FS 469U IL(3), SOC 030 GS(3), or WL ED 444(3) (Sem: 1-4)

Select 6 credits of educational selections from:
APLNG 493 IL(3), E C E 452(3), E C E 454(3), LL ED 450(3), LL ED 467(3), HD FS 250 US(3), HD FS 330(6), HD FS 430(6), HD FS 415(3), HD FS 427(3), HD FS 428(3), HD FS 429(3), HD FS 430(6), HD FS 432(3), WL ED 400(3), or WL ED 483(3) (Sem: 5-8)

ENGLISH 4-8 OPTION: (42 credits)
OPTION CURRENTLY ON HOLD 6/24/09 - Pending Pennsylvania Department of Education Teaching Certification Amendments.

PRESCRIBED COURSES (24 credits)
C I 295B(3), HD FS 239 GS(3), SOC 119 GS;US(3) (Sem: 1-4)
C I 495B(3), LL ED 412W(3), LL ED 420(3), LL ED 450(3), LL ED 480(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 3 credits of British Literature from:
ENGL 221(3), ENGL 222(3), ENGL 440(3), ENGL 441(3), ENGL 442(3), ENGL 443(3), ENGL 444(3), ENGL 445(3), ENGL 446(3), ENGL 447(3), ENGL 448(3), ENGL 449 US;IL(3), ENGL 450(3), ENGL 451(3), ENGL 452(3), ENGL 453(3), ENGL 454(3), ENGL 455(3), ENGL 456(3), ENGL 457(3), or ENGL 458(3) (Sem: 1-6)

Select 3 credits of American Literature from:
ENGL 231(3), ENGL 232(3), ENGL 432(3), ENGL 433(3), ENGL 434(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), or ENGL 439(3) (Sem: 1-6)

Select 3 credits of Comparative Literature from:
ENGL 135 GH;US(3), ENGL 139 GH;US(3), ENGL 194 GH;US;IL(3), ENGL 226 GH;US;IL(3), ENGL 235 US(3), ENGL 245 GH;US(3), ENGL 431 US(3), ENGL 461 US(3), ENGL 462 US(3), ENGL 463 US(3), ENGL 466 US(3), ENGL 467 US(3), ENGL 468 US(3), ENGL 469 US(3), CMLIT 101 GH;US;IL(3), CMLIT 109 GH;US;IL(3), CMLIT 110 GH;US;IL(3), CMLIT 111 GH;IL(3), CMLIT 404 IL(3), CMLIT 422 IL(3), or CMLIT 423 IL(3) (Sem: 1-6)

Select 3 credits of Writing from:
ENGL 212(3), ENGL 213(3), ENGL 281(3), ENGL 215(3), ENGL 412(3), ENGL 413(3), ENGL 414(3), or ENGL 415(3) (Sem: 1-6)

Select 6 credits of Media Literacy from:
COMM 100 GS(3), COMM 120(3), COMM 150 GA(3), COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), COMM 453 IL(3), COMM 454(3), CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 271 US;IL(3), CAS 280W(3), CAS 375(3), CAS 422 US(3), or CAS 480(3) (Sem: 1-6)

SOCIAL STUDIES 4-8 OPTION: (45 credits)
OPTION CURRENTLY ON HOLD 6/24/09 - Pending Pennsylvania Department of Education Teaching Certification Amendments.

PRESCRIBED COURSES (24 credits)
C I 295B(3), PL SC 001 GS(3), HIST 020 GH;US(3), GEOG 010 GN(3), GEOG 020 GS;US;IL(3), HD FS 239 GS(3) (Sem: 1-6)
C I 495B(3), SS ED 412W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)

Select 21 credits from social sciences with at least 12 credits taken at the 100-level:

At least 3 credits in Economic Policy Issues from:
ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3), GEOG 123 GS;IL(3), GEOG 126 GS;US;IL(3), HIST 155 GS;US(3), HIST 156 US(3), PL SC 135 GS(3), or WMNST 456(3) (Sem: 3-8)

At least 6 credits in Civics and Society from:
AAA S/RL ST 145 GH;US;IL(3), AAA S/ENGL 235 US(3), AAA S/SOC 409 US(3), GEOG 130 GS(3), HIST 158 US;IL(3), PL SC 002(3), PL SC 003 GS;IL(3), PL SC 007 GS(3), PL SC 014 GS;IL(3), PL SC 017 GS(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), PL SC 130 GS;US(3), SOC 119 GS;US(3), S T S 130(3), S T S/PL SC 135 GS(3), S T S 151 GS;US(3), S T S 200S GS(3), WMNST/AM ST 104 GH;US(3), WMNST/AM ST 430 US(3), WMNST 432 US(3), or WMNST 466 US;IL(3) (Sem: 3-8)

At least 6 credits in Historical and Geographical Perspectives from:
AAA S 100 GS;US(3), AAA S/WMNST 101 GH;US(3), AAA S/HIST 210 GH;US(3), GEOG 030 GS(3), GEOG 040 GS;IL(3), GEOG 110 GN(3), GEOG 115 GN(3), GEOG 122 GH;US(3), GEOG 160 GS(3), HIST 010 GH;IL(3), HIST 011 GH;IL(3), HIST 012 (3), HIST 021(3), HIST 100(3), HIST 101(3), HIST 104(3), HIST 107(3), HIST 115(3), HIST 120 GS;IL(3), HIST 121 GH;IL(3), HIST 127 US(3), HIST 130 GH;US(3), HIST 144 GH;US;IL(3), HIST 150 US(3), HIST 152 GH;US;IL(3), HIST 153 GH;US(3), HIST 158 US;IL(3), HIST 161 US(3), HIST 165 IL(3), HIST 174 GH;IL(3), HIST 175 GH;IL(3), HIST 176 GH;IL(3), HIST 179 GH;IL(3), HIST 180 GH;IL(3), HIST 181 GH;IL(3), HIST 191 GH;IL(3), S T S/HIST 123 GH(3), WMNST/AAA S 102 GH;IL(3), WMNST/HIST

117 GH;US;IL(3), WMNST/GEOG 426Y US;IL(3) (Sem: 3-8)

Select 6 credits from areas above (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-012

Review Date: 1/13/09

ED

Chinese

University Park, College of the Liberal Arts (CHNS)

PROFESSOR ERIC HAYOT, *Director of the Asian Studies Program, in charge*

Currently more than a billion people speak Chinese, making it one of the most widely spoken languages in the world. As a rising superpower with an increasingly global impact, China is a major international presence. The major in Chinese is designed to develop skills in speaking, understanding, reading, and writing Chinese, as well as to promote an understanding of the diverse literatures, cultures, and traditions of the Chinese-speaking world, ranging from China itself to Chinese-speaking America. The major can help students prepare for professional careers in which knowledge of Chinese, especially Mandarin, is useful. Twelve credits of study abroad in a Chinese-speaking context (in a Penn State Education Abroad Program or another program subject to departmental approval) are included in the major.

Students planning to teach in public schools should schedule the appropriate courses leading to certification in consultation with an adviser in the College of Education.

For the B.A. degree in Chinese, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-9 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19-28 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**
(This includes 0-9 credits of General Education GA, GH, or GS courses.)
(At least 21 credits must be at the 400 level.)
(Students must take at least 12 of their credits as part of a study abroad program in a Chinese-speaking location. For curricular sequencing, this Education Abroad experience must occur in the fall semester of the junior year, unless otherwise approved by the department.)

PRESCRIBED COURSES (4 credits)
CHNS 110 IL(4) (Sem: 3-4)

ADDITIONAL COURSES (23 credits)
Select 3 credits from CHNS 120(3) or CHNS 121(3) (Sem: 1-6)
Select 4 credits from CHNS 401(4) or CHNS 402(4) (Sem: 1-6)
Select 16 credits in Chinese at the 400 level. Special Topics courses in English or other courses in English do not satisfy this requirement. (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits pertaining to China, such as courses in art history, Asian studies, comparative literature, economics, geography, history, philosophy, political science, religious studies, theatre arts, or other fields, selected from departmental list. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-052

Review Date: 4/14/09

LA

Chinese

University Park, College of the Liberal Arts (CHNS)

PROFESSOR ERIC HAYOT, *Director of the Asian Studies Program, in charge*

Currently more than a billion people speak Chinese, making it one of the most widely spoken languages in the world. As a rising superpower with an increasingly global impact, China is a major international presence. The major in Chinese is designed to develop skills in speaking, understanding, reading, and writing Chinese, as well as to promote an understanding of the diverse literatures, cultures, and traditions of the Chinese-speaking world, ranging from China itself to Chinese-speaking America. The major can help students prepare for professional careers in which knowledge of Chinese, especially Mandarin, is useful. Twelve credits of study abroad in a Chinese-speaking context (in a Penn State Education Abroad Program or another program subject to departmental approval) are included in the major.

Students planning to teach in public schools should schedule the appropriate courses leading to certification in consultation with an adviser in the College of Education.

For the B.A. degree in Chinese, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-9 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19-28 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**
(This includes 0-9 credits of General Education GA, GH, or GS courses.)
(At least 21 credits must be at the 400 level.)
(Students must take at least 12 of their credits as part of a study abroad program in a Chinese-speaking location. For curricular sequencing, this Education Abroad experience must occur in the fall semester of the junior year, unless otherwise approved by the department.)

PRESCRIBED COURSES (4 credits)
CHNS 110 IL(4) (Sem: 3-4)

ADDITIONAL COURSES (23 credits)
Select 3 credits from CHNS 120(3) or CHNS 121(3) (Sem: 1-6)
Select 4 credits from CHNS 401(4) or CHNS 402(4) (Sem: 1-6)
Select 16 credits in Chinese at the 400 level. Special Topics courses in English or other courses in English do not satisfy this requirement. (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits pertaining to China, such as courses in art history, Asian studies, comparative literature, economics, geography, history, philosophy, political science, religious studies, theatre arts, or other fields, selected from departmental list. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-052

Review Date: 4/14/09

LA

Civil Engineering

University Park, College of Engineering (C E)

PROFESSOR PEGGY JOHNSON, *Head, Department of Civil and Envrionmental Engineering*

The program in Civil and Environmental Engineering is designed to provide the basic undergraduate education required for private practice and public service in civil engineering, and/or continue formal education. Emphasis is placed on the fundamentals of civil engineering principles and design techniques. Students utilize basic engineering science concepts in several of the different specialty areas (e.g., construction/management, environmental, materials/pavement design/geotechnical, structures, transportation, and water resources). Finally the students are able to choose an area of specialization for professional practice or graduate studies.

The objective of the Civil Engineering program is to prepare students for a wide range of career paths that use civil engineering principles and methodologies. A curriculum is provided that prepares our recent graduates to:

- work in industries or state and federal government agencies such as departments of transportation and departments of environmental protection that design, implement, and maintain national and/or global infrastructure;
- effectively work in and lead interdisciplinary teams needed to design sustainable transportation, water, energy, environmental, and structural infrastructure; and
- stay current through continuing education opportunities, professional conferences, and other self-learning experiences; have the ability to obtain and maintain professional licensing; and have the ability to attend graduate school.

The program is broadened by courses in communication, arts, humanities, social and behavioral sciences, as well as other engineering disciplines. Students gain experience in working as members of a team and using interdisciplinary approaches to solve problems. These experiences, as well as those related to engineering principles and design, are provided through exercises in the classroom, laboratory, and field. The program culmination is a capstone design course wherein the students' knowledge and skills are applied to actual engineering problems.

For the B.S. degree in Civil Engineering, a minimum of 130 credits is required. The baccalaureate program in Civil Engineering at University Park is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 112 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (71 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), E MCH 211(3)**[1]**, EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
E MCH 212(3)**[1]**, E MCH 213(3)**[1]**, STAT 401(3), GEOSC 001(3), MATH 220 GQ(2), MATH 251(4), PHYS 212 GN(4) (Sem: 3-4)
C E 310(3)**[1]**, C E 321(3)**[1]**, C E 332(3)**[1]**, C E 335(3)**[1]**, C E 336(3)**[1]**, C E 340(3)**[1]**, C E 360(3)**[1]**, C E 370(3)**[1]**, ENGL 202C GWS(3) (Sem: 5-6)

ADDITIONAL COURSES (32-35 credits)
C E 100S(1) or 1 credit of First-Year Seminar or elective (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPSC 200 GQ(3) or CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-4)
ECON 102 GS(3), ECON 104 GS(3), or ECON 014 GS(3) (Sem: 3-4)
M E 201(3) or CH E 220(3)**[30]** (Sem: 5-6)
C E 337(1) or C E 475(4) (Sem: 5-6)**[+]**
E E 211(3) or E E 212(3)**[30]** (Sem: 7-8)
Select 9 credits from C E 341(3), C E 342(3), , C E 371(3), C E 422(3), C E 423(3), C E 424(3), C E 432(3), C E 435(3), C E 436(3), C E 441(3), C E 447(3), C E 461(3), C E 462(3), C E 475(4), C E 476(3), C E 479(3) (Sem: 5-8)**[#]**
Select 3 credits of C E 410W(3), C E 421W(3), C E 438W(3), C E 448W(3), C E 465W(3), C E 472W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (9 credits)
Select 9 credits of technical elective from C E 300-level courses, C E 400-level courses, or department list. (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[30] Students may substitute 6 credits of ROTC for 3 credits of 400-level C E courses and 3 credits of M E or E E .
[+] If C E 475 is taken, one credit goes toward lab requirement and remaining three go towards C E or general technical electives.
[#] Two of those courses must be selected from at least 2 of the 3 remaining technical areas in the Civil Engineering program-- structures (x40), hydrosystems (x60), and environmental (x70).

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-105

Review Date: 4/13/10

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

EN

Civil Engineering

Capital College (CE CA)

PROFESSOR Y. FRANK CHEN, *Program Coordinator, Penn State Harrisburg, The Capital College*

The program in Civil and Environmental Engineering is designed to provide the basic undergraduate education required for private practice and public service in civil engineering, and/or continue formal education. Emphasis is placed on the fundamentals of civil engineering principles and design techniques. Students utilize basic engineering science concepts in several of the different specialty areas (e.g., construction/management, environmental, materials/pavement design/geotechnical, structures, transportation, and water resources). Finally the students are able to choose an area of specialization for professional practice or graduate studies.

The objective of the Civil Engineering program is to prepare students for a wide range of career paths that use civil engineering principles and methodologies. A curriculum is provided that prepares our recent graduates to:

- work in industries or state and federal government agencies such as departments of transportation and departments of environmental protection that design, implement, and maintain national and/or global infrastructure;
- effectively work in and lead interdisciplinary teams needed to design sustainable transportation, water, energy, environmental, and structural infrastructure; and
- stay current through continuing education opportunities, professional conferences, and other self-learning experiences; have the ability to obtain and maintain professional licensing; and have the ability to attend graduate school.

The program is broadened by courses in communication, arts, humanities, social and behavioral sciences, as well as other engineering disciplines. Students gain experience in working as members of a team and using interdisciplinary approaches to solve problems. These experiences, as well as those related to engineering principles and design, are provided through exercises in the classroom, laboratory, and field. The program culmination is a capstone design course wherein the students' knowledge and skills are applied to actual engineering problems.

For the B.S. degree in Civil Engineering, a minimum of 130 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 112 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (63 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), E MCH 211(3)**[1]**, EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
E MCH 212(3)**[1]**, E MCH 213(3)**[1]**, STAT 401(3), GEOSC 001(3), MATH 220 GQ(2-3), MATH 251(4), PHYS 212 GN(4) (Sem: 3-4)
C E 310(3)**[1]**, C E 332(3)**[1]**, C E 337(1), C E 340(3)**[1]**, C E 360(3)**[1]**, C E 370(3)**[1]**, ENGL 202C GWS(3) (Sem: 5-6)

ADDITIONAL COURSES (40 credits)
C E 100S(1) or 1 credit of First-Year Seminar or elective (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-4)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 3-4)
M E 201(3) or CH E 220(3)**[30]** (Sem: 5-6)
C E 335(3)**[1]** or C E 336(3)**[1]** (Sem: 5-6)
E E 211(3) or E E 212(3)**[30]** (Sem: 7-8)
Select 15 credits from C E 321(3), C E 335(3), C E 336(3), C E 341(3), C E 342(3), C E 361(3), C E 371(3), C E 422(3), C E 423(3), C E 424(3), C E 432(3), C E 435(3), C E 436(3), C E 447(3), C E 462(3), C E 475(4), C E 476(3), C E 479(3) (Sem: 5-8) **[#]**
Select 3 credits of C E 410W(3), C E 421W(3), C E 438W(3), C E 448W(3), C E 465W(3), C E 472W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (9 credits)
Select 9 credits of technical elective from C E 300-level courses, C E 400-level courses, or department list. (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

[30] Students may substitute 6 credits of ROTC for 3 credits of 400-level C E courses and 3 credits of M E or E E .
[#] Those courses must be selected from at least 4 of the 5 technical areas in the Civil Engineering program--transportation (x20), construction (x30), structures (x40), hydrosystems (x60), and environmental (x70).

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-06-040

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

EN

Classics and Ancient Mediterranean Studies

University Park, College of the Liberal Arts (CAMS)

PROFESSOR PAUL B. HARVEY, *Head, Department of Classics and Ancient Mediterranean Studies*

Classics and Ancient Mediterranean Studies is concerned with the civilizations of the ancient Mediterranean world, including the ancient Greeks, Romans, and the peoples of Egypt and the Near East. The study of these civilizations includes their languages and literatures, history and politics, religion and mythologies, philosophies, and material culture. Students electing the CAMS major follow one of three options. The Ancient Languages Option requires study of Greek or Latin, one or more of the languages of the ancient Near East, or a combination of languages, and is recommended especially for students planning to pursue any classical, Near Eastern, or Egyptian subject in graduate school; planning rabbinic or seminary study; or preparing to teach Latin or Greek at the secondary level. Students in the Language Option are urged to schedule at least one course in historical linguistics or comparative grammar. The Ancient Mediterranean Archaeology (AMA) Option is designed for students interested in the physical evidence for ancient Mediterranean cultures, including the rise and development of settlements and cities; ceramics, metals, stone, and organic remains; and population changes over time. The Classics and Ancient Mediterranean Studies (CAMS) Option is suitable for students interested in a broadly interdisciplinary study of the cultures of the ancient Mediterranean and does not require study of language, although students are encouraged to study the appropriate ancient languages. All students in the major are particularly encouraged to participate in one of the Penn State Education Abroad Programs and/or archaeological field schools in the Mediterranean area. Approved archaeological fieldwork is required for the AMA Option. Up to 15 credits of appropriate education abroad courses may be applied to requirements for the major.

For the B.A. degree in Classics and Ancient Mediterranean Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20-24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 30-34 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 18 credits
No more than 15 credits in courses numbered 099, 199, 299, 399, or 499 may count toward the requirements for the major.

PRESCRIBED COURSES (6 credits)
CAMS 005 GH(3) (Sem: 1-6)
CAMS 400W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in Greek or Roman literature and language, civilization, or archaeology from approved department list (Sem: 1-8)
Select 3 credits in Near Eastern literature and language, civilization, or archaeology from approved department list (Sem: 1-8)
Select 6 credits, at or above the 100 level, from appropriate offerings in ancient Near Eastern languages and literatures, ancient history, anthropology, art history, classics and ancient Mediterranean studies, Greek, Hebrew, Jewish studies, Latin, linguistics, philosophy, or religious studies from approved department list (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 12-16 credits

ANCIENT MEDITERRANEAN ARCHAEOLOGY OPTION: (15-16 credits)
Students in this option must complete one season of approved archaeological fieldwork at an ancient Mediterranean or related site. Up to 6 credits of fieldwork may be applied to the COMMON REQUIREMENTS FOR THE MAJOR.

ADDITIONAL COURSES (3 credits)
CAMS 440W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12-13 credits)
Select 6 credits from the following courses: CAMS 492(3), CAMS 493(3), or other 400-level fieldwork course in an approved archaeological project in the Mediterranean region or Near East in consultation with major adviser. (Sem: 5-8)

Select 3 credits from the following course list:
CAMS 090 GH;IL(3) or J ST 090 GH;IL(3) or RL ST 090 GH;IL(3); CAMS 104 GH(3) or HIST 104 GH(3) or J ST 104(3) or RL ST 104 GH;US;IL(3); CAMS 133 GH(3) or J ST 133 GH(3) or RL ST 133 GH(3); CAMS 134 GH;IL(3) or J ST 134 GH;IL(3) or RL ST 134 GH;IL(3); CAMS 140 GH;IL(3), or CAMS 150 GH;IL(3) (Sem: 3-6)

Select 3-4 credits from the following course list:
ANTH 410(4), ANTH 420(3) or J ST 420(3); ANTH 426W(3) or ANTH 428(3) (Sem: 5-8)

ANCIENT LANGUAGES OPTION: (12 credits)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
At least 6 credits must be in one language.
Select 12 credits at the 400 level in either Greek or Latin or in Akkadian, Aramaic, Biblical Hebrew, Egyptian, Tittite, Sumerian, or other ancient Near Eastern language in consultation with major adviser. (Sem: 1-8)

CLASSICAL AND ANCIENT MEDITERRANEAN STUDIES OPTION: (12 credits)

SUPPORTING COURSES AND RELATED AREAS: 12 credits
Select 6 credits at the 400 level from Classics and Ancient Mediterranean Studies (CAMS), ancient Near Eastern languages, Greek, or Latin courses (Sem: 5-8)
Select 6 credits at the 400 level from appropriate courses in ancient Near Eastern languages and literature, ancient history, anthropology, Classics and Ancient Mediterranean Studies, Jewish studies, linguistics, philosophy, or religious studies from approved department list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-05-116

Review Date: 3/6/07

LA

Communication

Penn State Erie, The Behrend College (COMBA)

The B.A. major in Communication offers a liberal arts background with emphasis in mass media studies and corporate communication. It prepares students for careers in corporate communication, print and broadcast journalism, multi-media and video production, and advertising/public relations by providing an interdisciplinary study of spoken, written, visual, and technically mediated messages.

For the B.A. degree in Communication, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48 credits
(This includes 3 credits of General Education courses: 3 credits of GQ courses)

PRESCRIBED COURSES (12 credits)**[1]**
CMPSC 203 GQ(3) (Sem: 1-4)
CAS 204(3), COMM 242(3), COMM 315(3) (Sem: 5-6)

ADDITIONAL COURSES (21-24 credits)
CAS 201 GH(3) or CAS 375(3) (Sem: 1-4)
CAS 101 GS(3) or CAS 202 GS(3) (Sem: 1-4)
COMM 100 GS(3) or COMM 118 GS(3) (Sem: 1-4)
CAS 212(3) or CAS 252(3) (Sem: 5-6)
Select one 3-credit CAS "W" or COMM "W" course (Sem: 5-8)
CAS 471 US;IL(3) or COMM 410 IL(3); COMM 494(3) or COMM 495(3-6) (Sem: 7-8)**[1]**

SUPPORTING COURSES AND RELATED AREAS (12-15 credits)
Select 12-15 credits from the department approved list (9 credits must be taken at the 400 level)**[1]** (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-019

Review Date: 04/13/2010

UCA Revision #2: 7/27/07

BD

Communication Arts and Sciences

Berks College (CASBL)
University College (CASCC): Penn State Brandywine, Penn State York
University Park, College of the Liberal Arts (CAS)

PROFESSOR THOMAS BENSON, *Head*

This major provides increased understanding and practice in the ways humans use symbols to influence people and the world around them. The ability to communicate effectively with others in personal, social, work and multicultural situations is essential in modern society. A student of Communication Arts and Sciences will learn to think critically, analyze and solve problems, understand and manage conflict, argue persuasively, influence people, form and keep relationships, give effective presentations, and participate in the civic and political life of a community. The flexibility of the program offers preparation for a variety of careers such as administration, law, business, health, and human services fields. A CAS degree also lends itself well to a concurrent degree program in which students prepare themselves in several fields of study.

For the B.A. degree in Communication Arts and Sciences, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 25 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**

PRESCRIBED COURSES (9 credits)
CAS 201 GH(3), CAS 202 GS(3), CAS 204(3) (Sem: 3-6)

ADDITIONAL COURSES (6 credits)
Select 3 credits of skills courses from CAS 203 GS(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 216(2), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-8)
Select 3 credits of 300-level courses from CAS 302(2), CAS 311(3), CAS 321(3), CAS 352(3), CAS 373(3), CAS 375(3), CAS 383(3), CAS 398(1-9), CAS 399 IL(1-12) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits of other CAS courses; at least 12 credits must be at the 400 level. A maximum of 6 credits from CAS 494, 495, 496, and 499(IL) may satisfy this requirement. CAS 126(3) and CAS 195(1) may not be counted as part of the major (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-118

Review Date: 04/13/2010

LA

Communication Arts and Sciences

Berks College (CASBL)
University College (CASCC): Penn State Brandywine, Penn State York
University Park, College of the Liberal Arts (CAS)

PROFESSOR THOMAS BENSON, *Head*

This major provides increased understanding and practice in the ways humans use symbols to influence people and the world around them. The ability to communicate effectively with others in personal, social, work and multicultural situations is essential in modern society. A student of Communication Arts and Sciences will learn to think critically, analyze and solve problems, understand and manage conflict, argue persuasively, influence people, form and keep relationships, give effective presentations, and participate in the civic and political life of a community. The flexibility of the program offers preparation for a variety of careers such as administration, law, business, health, and human services fields. A CAS degree also lends itself well to a concurrent degree program in which students prepare themselves in several fields of study.

For the B.A. degree in Communication Arts and Sciences, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 25 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**

PRESCRIBED COURSES (9 credits)
CAS 201 GH(3), CAS 202 GS(3), CAS 204(3) (Sem: 3-6)

ADDITIONAL COURSES (6 credits)
Select 3 credits of skills courses from CAS 203 GS(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 216(2), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-8)
Select 3 credits of 300-level courses from CAS 302(2), CAS 311(3), CAS 321(3), CAS 352(3), CAS 373(3), CAS 375(3), CAS 383(3), CAS 398(1-9), CAS 399 IL(1-12) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits of other CAS courses; at least 12 credits must be at the 400 level. A maximum of 6 credits from CAS 494, 495, 496, and 499(IL) may satisfy this requirement. CAS 126(3) and CAS 195(1) may not be counted as part of the major (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-118

Review Date: 04/13/2010

LA

Communication Arts and Sciences

Berks College (CASBL)
University College (CASCC): Penn State Brandywine, Penn State York
University Park, College of the Liberal Arts (CAS)

PROFESSOR THOMAS BENSON, *Head*

This major provides increased understanding and practice in the ways humans use symbols to influence people and the world around them. The ability to communicate effectively with others in personal, social, work and multicultural situations is essential in modern society. A student of Communication Arts and Sciences will learn to think critically, analyze and solve problems, understand and manage conflict, argue persuasively, influence people, form and keep relationships, give effective presentations, and participate in the civic and political life of a community. The flexibility of the program offers preparation for a variety of careers such as administration, law, business, health, and human services fields. A CAS degree also lends itself well to a concurrent degree program in which students prepare themselves in several fields of study.

For the B.A. degree in Communication Arts and Sciences, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 25 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**

PRESCRIBED COURSES (9 credits)
CAS 201 GH(3), CAS 202 GS(3), CAS 204(3) (Sem: 3-6)

ADDITIONAL COURSES (6 credits)
Select 3 credits of skills courses from CAS 203 GS(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 216(2), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-8)
Select 3 credits of 300-level courses from CAS 302(2), CAS 311(3), CAS 321(3), CAS 352(3), CAS 373(3), CAS 375(3), CAS 383(3), CAS 398(1-9), CAS 399 IL(1-12) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits of other CAS courses; at least 12 credits must be at the 400 level. A maximum of 6 credits from CAS 494, 495, 496, and 499(IL) may satisfy this requirement. CAS 126(3) and CAS 195(1) may not be counted as part of the major (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-118

Review Date: 04/13/2010

LA

Communication Sciences and Disorders

University Park, College of Health and Human Development (CSD)

PROFESSOR GORDON W. BLOOD, *Head of the Department*

This major offers a comprehensive program of study for preparing students who want to become speech-language pathologists or audiologists. The curriculum is specifically designed for the sole purpose of preparing undergraduate students for graduate study in communication sciences and disorders or related areas. This occurs because state licensure laws and professional certifications require that a speech-language pathologist or audiologist must have a master's degree, pass a national test, and complete a clinical fellowship year.

Overall, the curriculum enables students to develop fundamental knowledge based on scientific principles, skills, and attitudes required for habilitating and rehabilitating persons of all ages with a wide range of speech, language, and hearing problems. Further, the curriculum allows students an opportunity to explore all aspects of communication sciences and disorders as well as elect courses of special interest.

The first two years of study emphasize general education and background study. The last two years of study emphasize normal and disordered aspects of speech, language, and hearing as well as professional management, concerns, and obligations. Clinical observation and diversity focused course work are included in the curriculum.

For the B.S. degree in Communication Sciences and Disorders, a minimum of 120 credits is required. (To satisfy graduation requirements, students must have completed 6 credits from courses offered in the college and outside the department in which the major is offered.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-10 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 23-28 credits

REQUIREMENTS FOR THE MAJOR: 57-58 credits
(This includes 6-10 credits of General Education courses: 6 credits of GS courses; 0-4 credits of GQ courses.)

PRESCRIBED COURSES (45 credits)
CSD 146 US;IL(3)**[1]**, CSD 230(3)**[1]**, CSD 245(2)**[1]**, CSD 269 US;IL(3)**[1]**, PSYCH 100 GS(3) (Sem: 1-4)
CSD 300(3)**[1]**, CSD 301(3)**[1]**, CSD 311(3)**[1]**, CSD 331(3)**[1]**, CSD 395W(1)**[1]** (Sem: 3-6)
CSD 433(3)**[1]**, CSD 442(3)**[1]**, CSD 444(3)**[1]**, CSD 451(3)**[1]**, CSD 459W(3)**[1]**, CSD 462 US;IL(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
EDPSY 014(3) or PSYCH 261 GS(3) (Sem: 1-4)
EDPSY 101 GQ(3), PSYCH 200 GQ(4), or STAT 200 GQ(4) (Sem: 3-4)
HD FS 129 GS(3) or PSYCH 212 GS(3) (Sem: 1-4)
HD FS 229 GS(3), HD FS 249 GS(3), HD FS 315 US(3), HD FS 411(3), HD FS 418(3), HD FS 432(3), PSYCH 470(3), or PSYCH 471(3) (Sem: 3-6)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-05-021

Review Date: 03/01/05

UCA Revision #1: 8/20/06

HH

Communications

Altoona College (COMAL)

The curriculum of this B.A. in Communications provides a general grounding in traditional media forms along with work in the area of media convergence. Students must do coursework at both the practical and theoretical level. On the theory side, coursework will be offered in the areas of media criticism and theory, visual communications, and media history at the introductory and advanced levels. On the applied side, coursework will be offered in video and audio production, news writing and photojournalism, radio and television studio production, and public relations and advertising at the introductory and advanced levels. In the Convergent Media News Service courses, which form the most distinctive component of the program, students will actually produce and deliver a college news service in print, broadcasting (TV and streaming radio), and a multimedia online format. This hands-on experience will provide students an opportunity to create materials suitable for inclusion in a portfolio. Although not required, students will be strongly encouraged to do an internship sometime during their junior or senior years. Finally, the capstone Convergent Media Seminar will bring seniors together to consider the larger, theoretical issues related to the fast-paced changes in communications today and into the future. With a degree in this program, students will be well-positioned to go right into industry, where they will be able to compete in a number of different job markets, or to graduate school for advanced training.

For the B.A. in Communications, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES OR GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 42 credits**[1]**

PRESCRIBED COURSES (12 credits)
COMM 100 GS(3), COMM 150 GA(3) (Sem: 1-3)
COMM 260W(3) (Sem: 2-3)
COMM 490(3) (Sem: 7-8)

ADDITIONAL COURSES (30 credits)
Select 12 credits from the following, including 6 credits at 400-level: COMM 001(1)**[2]**, COMM 002(2-3)**[2]**, COMM 215(3), COMM 241(3), COMM 242(3), COMM 251(3), COMM 269(3), COMM 270(3), COMM 287(3), COMM 296(1-6), COMM 337W(3), COMM 345(3), COMM 346(3), COMM 347(3), COMM 374(3) (Sem: 3-6)
COMM 360(3), COMM 374(3), COMM 415(3), COMM 421W(3), COMM 447(3), COMM 448(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), COMM 468(3), COMM 469(3), COMM 471(3) (Sem: 5-8)
COMM 436(3), COMM 472(3), COMM 481(3), COMM 495(1-9), COMM 496(1-18) (Sem: 7-8)

Select 12 credits from the following, including 6 credits at 400-level: COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), COMM 261 GH(3), COMM 292(3), COMM 296(1-6), COMM 294(1-3), COMM 320(3), COMM 331(3), COMM 370(3) (Sem: 3-6)
COMM 401(3), COMM 403(3), COMM 408(3), COMM 409(3), COMM 411(3), COMM 412(3), COMM 413W(3), COMM 454(3) (Sem: 5-8)
COMM 417(3), COMM 451(3), COMM 452(3), COMM 494(1-3), COMM 496(1-18) (Sem: 7-8)

Select 6 credits from COMM 470A(3), COMM 470B(3), COMM 470C(3)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] A student may apply only 6 credits total of COMM 001 and COMM 002 towards the requirements of the Communications degree.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-01-002

Review Date: 8/28/07

Comments

Communications

University College (COMCC): Penn State Beaver, Penn State Brandywine, Penn State Greater Allegheny, Penn State New Kensington

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

With the rapid development of digital technologies over the last decade, the field of communications has seen unprecedented growth and convergence of medium in media both technologically and structurally. The communications degree program addresses strongly articulated employer requirements for the workplace through an integrated program model. The degree provides the basic theoretical foundations of the discipline, allows for appropriate branching outside the traditional curriculum, and permits a drawing from appropriate courses in the disciplines of information sciences and technology, communications, arts and sciences, English and business.

The degree in communications provides two options for students who wish to develop their written and verbal skills in an effort to gain professional employment in fields such as public relations, publishing, speech writing, video and multimedia, production, and/or journalism.

CORPORATE COMMUNICATIONS OPTION: In extending traditional organizational communication and public relations to the digital age, this option prepares public relations specialists to compete in a global society. The program is also effective as preparation for e-commerce.

JOURNALISM OPTION: In today's workplace, journalism graduates are required to regularly engage rapidly converging media in their work. This option offers graduates a competitive advantage by complementing traditional options (newspaper, magazine, radio, TV) with convergent coursework designed to prepare students for professional journalism in the digital age.

For a B.A. degree in Communications, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(9-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 9-13 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 52-53 credits
(This includes 9-13 credits of General Education courses: 6 credits of GS courses; 3 credits of GH courses; 0-4 credits GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 27 credits

PRESCRIBED COURSES (15 credits)**[1]**
COMM 100 GS(3), IST 110 GS(3) (Sem: 1-2)
COMM 260W(3) (Sem: 3-4)
COMM 494(3), COMM 495(3) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
AM ST 105 GH;US(3) or PHIL 103 GH(3) (Sem: 1-2)
PSYCH 100 GS(3) or SOC 001 GS(3) (Sem: 1-2)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 3-4)
CAS 201 GH(3)**[1]** or CAS 202 GS(3)**[1]** (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 24 credits

CORPORATE COMMUNICATIONS OPTION: (24-25 credits)

PRESCRIBED COURSES (12 credits)**[1]**
CAS 252(3) (Sem: 3-4)
COMM 370(3) (Sem: 5-6)
COMM 471(3), MKTG 310(3) (Sem: 7-8)

ADDITIONAL COURSES (12-13 credits)**[1]**
(Some courses in this category have prerequisites that are not required in the program.)
MKTG 221(3) or MKTG 221W(3) or MKTG 301(3) or MKTG 301W(3) (Sem: 5-6)
Select 9 credits from the following (at least 3 credits must be at the 400 level):
B A 100 GS(3), B A 243(4), CAS 203 GS(3), CAS 214W(3), CAS 352(3), CAS 404(3), CAS 452W(3), CAS 471 US;IL(3), CC 401(3), COMM 270(3), COMM 283W(3), COMM 304(3), COMM 403(3), COMM 409(3), COMM 413W(3), COMM 473(3), COMM 496(3), ENGL 411(3), ENGL 419(3), ENGL 420(3), ENGL 421(3), STAT 200 GQ(4) (Sem: 5-8)

JOURNALISM OPTION: (24 credits)

PRESCRIBED COURSES (12 credits)**[1]**
COMM 403(3), COMM 409(3), COMM 460W(3), ENGL 420(3) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)**[1]**
(Some courses in this category have prerequisites that are not required in the program.)
Select 12 credits from the following: CAS 203 GS(3), CAS 426W(3), COMM 205 US(3), COMM 261 GH(3), COMM 269(3), COMM 270(3), COMM 283W(3), COMM 401(3), COMM 413W(3), COMM 461(3), COMM 470A(3), COMM 470B(3), COMM 470C(3), COMM 496(3), ENGL 210(3), ENGL 215(3), ENGL 411(3), ENGL 415(3), ENGL 416(3), ENGL 417(3) (Sem: 3-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-133

Review Date: 04/13/2010

UCA Revision #1: 8/3/06

UC

Communications

Capital College (COMCL)

PROFESSOR PETER KAREITHI, *Program Coordinator*

Communications is an interdisciplinary program that combines practical, professional instruction with critical and cultural examinations of mass media. Our interdisciplinary and theoretical approach enables our students to understand the contextual relationships between contemporary media and ethics, history, drama, and art, as well as the mechanics of emerging information technologies. We feature small classes, a multidisciplinary faculty with real-world professional experience, high-technology laboratories, and an excellent location for media internships. This major prepares students for careers in areas such as public relations, journalism, graphic design, photography, new media, advertising, media production, and telecommunications. Because of our analytical approach, students can use the major to prepare for postgraduate studies.

Entry to Major Requirements:
Entry to the Communications major requires a 2.00 or higher cumulative grade-point average.

For a B.Hum. degree in Communications, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 13-15 credits
(These elective credits may be applied to a minor in consultation with an academic adviser. The number of elective credits needed varies depending on whether the student participates in an internship.)

BACHELOR OF HUMANITIES DEGREE REQUIREMENTS: 18 credits
(See description of Bachelor of Humanities Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 42-44 credits
At least 12 credits of Communications courses must be taken at the 400 level.

PRESCRIBED COURSES (6 credits)**[1]**
COMM 251(3), COMM 456(3) (Sem: 5-8)

ADDITIONAL COURSES (18-20 credits)**[1]**
COMM 230W(3) or COMM 260W(3) (Sem: 3-8)
Select two courses (6-8 credits) in visual communication from the following: COMM 215(3), COMM 241(3), COMM 363(3), COMM 371(4), COMM 415(3), COMM 441(3), COMM 482(4) (Sem: 3-8)
Select 9 credits in Communications from the following: COMM 215(3), COMM 241(3), COMM 250(3), COMM 320(3), COMM 332(3), COMM 346(3), COMM 350(3), COMM 360(3), COMM 363(3), COMM 370(3), COMM 374(3), COMM 414(3), COMM 415(3), COMM 430(3), COMM 457(3), COMM 458(3), COMM 459(3), COMM 462(3), COMM 474(3), COMM 488(3), COMM 495(1-6) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 6 additional credits in Communications (Sem: 5-8)
Select 12 credits from the School of Humanities approved list in consultation with an academic adviser. These credits may be applied to a minor in support of the student's interests (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-07-130

Review Date: 6/12/07

CL

Community, Environment and Development

University Park, College of Agricultural Sciences (CED)

PROFESSOR JILL L. FINDEIS, *Program Coordinator*

The principal goal of the Community, Environment and Development (CED) major is to develop the knowledge and skills of undergraduate students to enable them to assist local people, their communities, and institutions effectively understand, respond to and ultimately shape economic and social changes, including those that pose risks to the environment. The CED major focuses on the fields of community and economic development, environment and natural resources, and the critically important interactions between these fields, both locally and globally. Building skills and knowledge to tackle important environment and development issues facing communities today requires a multi-disciplinary or trans-disciplinary program; the major bridges the disciplines of agricultural, environmental and regional economics on the one hand and rural sociology on the other. Foundation (Level I) courses introduce students to key concepts in economics and sociology, and examine how these disciplines contribute to the basic content knowledge encompassing community and economic development and environmental economics and sociology. Level II courses build on the Foundation courses by extending the content knowledge to address the interrelationship between environment and natural resources and community and economic development. Coursework in Methods, Quantification and Communication is also required, including methods and techniques such as Geographical Information Systems and Geographical Information Analysis, statistics and survey research methods. Finally, students select among three Options: 1) Community and Economic Development, 2) Environmental Economics and Policy, and 3) International Development. Students specialize in an option that further allows them to develop skills and competencies matching their specific education and career goals. It is expected that some students completing the program will choose to attend graduate school or law school, while others will choose employment after graduation.

For the B.S. degree in Community, Environment and Development, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.*)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION, or REQUIREMENTS FOR THE MAJOR course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 5-8 credits

REQUIREMENTS FOR THE MAJOR: 88-91 credits
(This includes 21 credits of General Education courses: 6 credits of GQ courses, 6 credits of GS courses, 9 credits of GWS.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 58-60 credits

PRESCRIBED COURSES (40 credits)
CED 152(3)**[1]**, CED 230(3)**[1]**, CED 201(3)**[1]**, ENGL 015 GWS(3) (Sem: 2)
ECON 004 GS(3), GEOG 160 GS(3) (Sem: 3)
CAS 100 GWS(3), CED 309(3)**[1]**, R SOC 327(3)**[1]**, STAT 200 GQ(4) (Sem: 4)
R SOC 417(3) (Sem: 5)
CED 404(3) (Sem: 6)
CED 475(3) (Sem: 8)

ADDITIONAL COURSES (18-20 credits)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 1)
R SOC 011 GS;US(3) or SOC 001 GS(3) (Sem: 1)
MATH 022 GQ(3) or MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1)
CMPSC 101 GQ(3) or CMPSC 203 GQ(4) (Sem: 3)
PL SC 001 GS(3) or PL SC 003 GS (3) or PL SC 014 GS(3) (Sem: 3)
ENGL 202A GWS(3), ENGL 202B GWS;IL(3), ENGL 202C GWS;IL(3), or ENGL 202D GWS(3) (Sem: 5)

REQUIREMENTS FOR THE OPTION: 30 credits

COMMUNITY AND ECONOMIC DEVELOPMENT OPTION (30 credits)

PRESCRIBED COURSES (15 credits)
SOC 023 GS(3), CEDEV 430(3) (Sem:5)
CEDEV 452(3) (Sem:6)
AEE 460(3) (Sem:7)
CED 409(3) (Sem: 8)

ADDITIONAL COURSES (3 credits)
E R M 411(3) or B LAW 425(3) (Sem: 7)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credit in specialization (Sem: 5-8)

ENVIRONMENTAL ECONOMICS AND POLICY (30 credits)

PRESCRIBED COURSES (12 credits)
ECON 302 GS(3) (Sem:5)
CED 431W(3), ECON 428(3) (Sem:7)
CED 429(3) (Sem: 8)

ADDITIONAL COURSES (3 credits)
E R M 411(3) or B LAW 425(3) (Sem:7)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits of Environmental Science from approved department list.
Select 12 credits in specialization (Sem: 5-8)

INTERNATIONAL DEVELOPMENT OPTION (30 credits)

PRESCRIBED COURSES (18 credits)
SOC 023 GS(3), R SOC 470(3) (Sem: 5)
CED 410(3) (Sem: 6)
CED 425(3), CED 450 IL(3) (Sem: 7)
R SOC 420 US;IL(3) (Sem: 8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credit in specialization (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-001

Review Date: 1/16/07

Comments

AG

Comparative Literature

University Park, College of the Liberal Arts (CMLIT)

PROFESSOR CAROLINE D. ECKHARDT, *Head*

Approaching literature with an interdisciplinary and global perspective, the major in Comparative Literature crosses the boundaries of geography, time, nationalities, languages, and cultures. The world of literature taught draws upon readings from the Americas, Europe, Africa, Asia, and the Middle East, and from a wide range of historical periods. The range includes recognized great books along with less-known works, including women's literature, colonial and postcolonial literatures, indigenous literatures, testimonies, legends, myths, and folktales, banned books, literatures of the occult, science and detective fictions, virtual worlds, and cultural theory. Students learn to appreciate different languages and cultures, develop the critical skills for literary and cultural analysis, and relate literature to other media, including film and digital media. The major also encourages students to explore the relationship between literature and ethics through course offerings focused on transnational identities, human rights, cultures of globalization, and the problem of violence. A senior seminar clarifies the mysteries of literary theory and provides opportunities for individual projects.

Students majoring in Comparative Literature take courses in the Department of Comparative Literature and in other literature departments. They also develop competence in a foreign language. Study abroad is encouraged: Students may count up to 18 Education Abroad credits toward the major.

Graduates of the Department of Comparative Literature have undertaken careers in teaching, completed advanced degrees in literature, librarianship, law, and similar fields, entered the Peace Corps or other types of government service, and pursued careers in writing and communications.

The department offers a minor in World Literature as well as the major in Comparative Literature.

For the B.A. degree in Comparative Literature, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**
(This includes 6 credits of GH General Education courses.)

PRESCRIBED COURSES (9 credits)
CMLIT 010 GH;IL(3), CMLIT 100 GH;IL(3) (Sem: 1-4)
CMLIT 400Y IL(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (27 credits)
(Must include at least 15 credits at the 400 level)
a. Language: select at least 6 and no more than 18 credits in the study of a single foreign language and/or literature beyond the 12th credit level. See department list. (Sem: 1-8)
b. Literatures: select at least 6 and no more than 18 credits in courses on literature. Up to 12 of these credits can be taken through departments other than Comparative Literature and the department used to fulfill the "Language" requirement in (a) above. Up to 12 credits may be taken as courses offered through an Education Abroad program with departmental approval. (Sem: 1-8)
c. 3 credits in Comparative Literature at the 400 level. (Sem: 4-8)

Integrated B.A./M.A. Program in Comparative Literature (CMLIT)

The Department of Comparative Literature offers an integrated B.A./M.A. program that is designed to allow academically superior baccalaureate students to obtain both the B.A. and the M.A. degrees in Comparative Literature within five years of study. The first two years of undergraduate coursework include the University General Education and Liberal Arts requirements in addition to language and literature study in the major. In the third year, students are expected to define areas of interest in two primary literatures in different languages. In addition, students in the B.A./M.A. program should begin to undertake work in a second foreign language. The fourth year includes graduate-level work in methodology and the student's selection of primary literatures which replaces comparable 400-level senior year courses. The fifth and final year of the program typically consists of graduate work in Comparative Literature courses as well as the chosen literatures. The program culminates with an M.A. paper.

By encouraging greater depth and focus in the course of study beginning in the third undergraduate year, this program will help the student more clearly define his/her area of interest and expertise in the otherwise vast field of international literatures. As a result, long-range academic planning for exceptional students pursuing doctoral degrees after leaving Penn State, or other professional goals, will be greatly enhanced. The student may also be more competitive in applying for admission to Ph.D. programs as well as for institutional and national grant monies and scholarships.

Admission Requirements

The number of openings in the integrated B.A./M.A. program is limited. Admission will be selective based on specific criteria and the unqualified recommendation of faculty. Applicants to the integrated program:

1. Must be enrolled in the Comparative Literature B.A. program**[1]**.
2. Must have completed 60 credits of the undergraduate degree program (it is strongly suggested that students apply to the program prior to completing 100 credits).
3. Must be accepted without reservation into the M.A. program in Comparative Literature.
4. Should have a recommended overall GPA of 3.2 (on a 4.0 scale) in undergraduate coursework and a minimum GPA of 3.5 in all coursework completed for the major.
5. Must present a departmentally approved plan of study in the application process.
6. Must be recommended by the chairs of the Department's undergraduate and graduate committees.

A typical sequence of coursework for the integrated program would appear as follows:

Year One:	6 credits:	CMLIT 010 CMLIT 100
Year Two:	6 credits:	Foreign Language (beyond the 12-credit level)
	6 credits:	Courses in Literature
Year Three:	9 credits:	400-level courses in Literature, including CMLIT 400Y
	(variable credits)	Work in foreign language (credits do not count towards the major, but reading proficiency is required for the M.A. degree)
Year Four:	3 credits:	CMLIT 501 (if offered)
	6 credits:	Comparative Literature courses
	6 - 9 credits:	500-level courses in two Literatures
Year Five:	3 credits:	CMLIT 501 (if offered)
	9-12 credits:	500-level courses in two Literatures
	6 credits:	500-level Comparative Literature Courses M.A. paper

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010 (CMLIT); Summer Session 2001 (Integrated B.A./M.A.)

Blue Sheet Item #: 38-05-099 (CMLIT); 28-08-020 (Integrated B.A./M.A.)

Review Date: 02/23/2010

LA

Computer Engineering

Penn State Erie, The Behrend College (CENBD)

This major provides students with a strong foundation in computer engineering through a combination of classroom study, design projects, and laboratory experience. Analysis and design of computer hardware and software systems are stressed. Built upon a core of science and mathematics courses, this major has the objective of educating graduates to be problem solvers. Students acquire the ability to work as members of a team toward successful attainment of a common goal, preparing them for industry or further study in graduate school. In addition, written and oral communication skills are developed from an early stage, culminating in a senior design project that stresses communication as well as engineering content.

In addition to completing a broad-based science core in mathematics, chemistry and physics, students pursue their interest in computer engineering by studying principles in digital hardware design, computer architecture, computer software, microelectronics, and computer data communications. The student will be required to analyze and solve a significant computer engineering design problem during the senior year.

Entrance Requirement: In addition to the Carnegie unit and minimum GPA requirements described by University policies, all students applying for entrance to any of the engineering majors at Behrend College must have at least a 2.0 cumulative GPA by the end of the semester prior to applying for entrance to the major and have completed, with a minimum grade of C: CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), and PHYSICS 211 GN(4). These courses must be completed by the end of the semester during which the admission to major process is carried out.

For the B.S. degree in computer engineering, a minmum of 130 credits is required. Each student must earn at least a grade of C in each 300-and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of the 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 105 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses; 3 credits of GS courses)

PRESCRIBED COURSES (93 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]** (Sem: 1-2)
CMPEN 271(3)**[1]**, CMPSC 121 GQ(3), CMPSC 122(3)**[1]**, CMPSC 275(1)**[1]**, CMPSC 360(3), E E 210(4)**[1]**, ENGL 202C GWS(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2-3)**[1]**, MATH 230(4)**[1]**, MATH 250(3)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 214 GN(2) (Sem: 1-4)
CMPEN 411(3), CMPEN 352W(3), CMPEN 371(3), CMPEN 431(3), CMPSC 465(3), E E 310(4), CMPEN 351(3), E E 352(4), STAT 301(3) (Sem: 5-6)
CMPEN 461(3), CMPEN 441(3), CMPEN 480(3), CMPEN 481(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical elective courses from school-approved list. (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-4.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-01-016

Review Date: 01/17/02

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

BD

Computer Engineering

University Park, College of Engineering (CMPEN)

PROFESSOR RAJ ACHARYA, *Head of the Department of Computer Science and Engineering*

The mission of the faculty of the undergraduate Computer Engineering program at Penn State is to provide students with the knowledge and experience needed to pursue a productive lifelong career in industry or to engage in further study at the graduate level. Students participate in a balanced program of instruction covering the basic principles of the design and application of computer systems. The program includes coverage in breadth and depth in basic science, engineering, and abstract concepts of information handling. Students will specialize in and be prepared for careers in the design, analysis and use of hardware, software and systems. The program is structured to ensure that graduates have a clear understanding of the design and applications of computers, as well as the ability to apply this knowledge throughout their professional careers. In particular within a few years after graduation, graduates in computer engineering should be able to:

1. Successfully enter a technical graduate degree program.
2. Complete an assigned portion of a significant hardware/software project that meets the specifications and complies with time and budget constraints.
3. Lead a design team in a significant hardware and/or software project.
4. Function as an engineer or graduate student in an ethical manner.
5. Engage in lifelong learning, keeping up to date with current engineering practice, tools, and technologies.
6. Effectively collaborate with co-workers, customers, and partners in diverse environments.
7. Effectively articulate and defend a technical position.

For the B.S. degree in Computer Engineering, a minimum of 129 credits is required. This baccalaureate program in Computer Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.)*

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 111 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (79 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CMPSC 121(3)GQ**[1]**, MATH 140 GQ(4), MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4) (Sem: 1-2)
CMPSC 122(3)**[1]**, CMPSC 221(3)**[1]**, CMPSC 360(3)**[1]**, CMPEN 362(3), E E 210(4)**[1]**, MATH 220 GQ(2-3), MATH 231(2), MATH 250(3), PHYS 214 GN(2) (Sem: 3-4)
CMPEN 331(3)**[1]**, CMPEN 431(3)**[1]**, CMPSC 311(3)**[1]**, CMPSC 465(3)**[1]**, E E 310(4)**[1]**, E E 353(3)**[1]**, ENGL 202C GWS(3), STAT 418(3) (Sem: 5-6)
CMPEN 482W(3), CMPSC 473(3) (Sem: 7-8)

ADDITIONAL COURSES (26 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPEN 270(4)**[1]**; or CMPEN 271(3)**[1]** and CMPEN 275(1) (Sem: 3-4)
ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3), or E B F 200 GS(3) (Sem: 3-4)
Select 6 credits from CMPEN 411(3), CMPEN 416(3), CMPEN 417(3), CMPEN 454(3), CMPEN 455(3),CMPEN 471(3), CMPEN 472(3), CMPEN 473(3), CMPEN 475(3), E E 453(3), E E 456(3) (Sem: 5-8)
Select 6 credits from any 400-level CMPEN or CMPSC course (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from department list (Students may apply up to 6 credits of ROTC and 3 credits of Co-op.)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-059

Review Date: 2/26/08

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

EN

Computer Science

Penn State Erie, The Behrend College (CMPBD)

The goal of the Computer Science major at Behrend is to produce graduates with a firm foundation in the fundamentals of computer science along with a significant background in one or more of the natural sciences to provide context. Students are encouraged to pursue a minor in one of the natural sciences (biology, chemistry), math, or statistics. Students prepare for the major by taking lower-division courses in programming, discrete math, computer organization, and data communications. They then complete upper-division courses in data structures and algorithms, data base management systems, net-centric programming, programming language fundamentals, and operating systems, and systems programming.

Graduates of this program will be prepared for a wide variety of computer-oriented careers in business, industry, and government, particularly in areas that require the practical application of computer science concepts and techniques to solving problems in the natural sciences. In addition, graduates will be prepared to pursue graduate study in computer science or in computationally intensive sub-disciplines of the natural sciences, such as bio-informatics, computational biology, computational physics, or computational chemistry.

Entrance Requirement: To be eligible for entrance to the Computer Science (CMPBD) major, a student must have completed MATH 140 GQ(4), MATH 141 GQ(4), CMPSC 121 GQ(3), CMPSC 122(3), and one of the following: BIOL 110 GN(4) or CHEM 110 GN(3) and CHEM 111 GN(1) or PHYS 211 GN(4) with a grade of C or better in each of these courses.

For a B.S. degree in Computer Science, a minimum of 122-123 credits is required. A student enrolled in this major must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 97-98 credits
(This includes 21 credits of General Education courses: 6 credits of GQ courses, 6 credits of GWS courses, 9 credits of GN courses.)

PRESCRIBED COURSES (57 credits)
CMPSC 121 GQ(3)**[1]**, CMPSC 122(3)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2) (Sem: 1-2)
CMPSC 221(3), CMPSC 312(3)**[1]**, CMPSC 335(3)**[1]**, CMPSC 360(3)**[1]**, CAS 100A GWS(3), ENGL 202C GWS(3) (Sem: 3-4)
CMPSC 465(3)**[1]**, CMPSC 471(3)**[1]**, MIS 336(3), STAT 301(3)**[1]** (Sem: 5-6)
CMPSC 461(3)**[1]**, CMPSC 474(3)**[1]**, CMPSC 484(2)**[1]**, CMPSC 485W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (25-26 credits)

Select one of the following sequences (10-11 credits):
a. CHEM 110 GN(3), BIOL 110 GN(4), BIOL 220W GN(4) or BIOL 230 GN(4) or BIOL 240 GN(4) (Sem:1-2)
b. CHEM 110 GN(3), CHEM 111 GN(l), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3) (Sem: 1-2)
c. PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2) or PHYS 214 GN(2) (Sem: 1-2)

Select at least 15 additional science credits from department approved list (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 6 credits from the school approved list [Students may apply 6 credits of ROTC] [Students may apply 6 credits of internship CMPSC 495] (Sem: 3-8)
Select 9 additional credits from CMPSC 302 or higher, CMPEN, SWENG. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-016

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

BD

Computer Science

University Park, College of Engineering (CMPSC)

PROFESSOR RAJ ACHARYA, *Head of the Department of Computer Science and Engineering*

Computer Science is concerned with the analysis, design, and applications of computing software and systems. It includes a core foundation in computer hardware and software with emphasis on the design of efficient, fault-free software. It includes programming languages, data structures, compilers, operating systems, databases, and artificial intelligence.

The major is designed to provide fundamental training in preparing graduates for positions in schools, commerce, industry, and government. Students should consult their advisers in formulating suitable programs.

For the B.S. degree in Computer Science, a minimum of 126 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 105-106 credits
(This includes 24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (64 credits)
CMPSC 121 GQ(3)**[1]**, CMPSC 122(3)**[1]**, CMPSC 360(3)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2), PHYS 211 GN(4)**[1],** PHYS 212 GN(4) (Sem: 1-2)
CMPEN 271(3)**[1]**, CMPEN 331(3)**[1]**, CMPSC 221(3)**[1]**, CMPSC 311(3)**[1]**, MATH 230(4), STAT 318(3) (Sem: 3-4)
CMPSC 461(3)**[1]**, CMPSC 464(3), CMPSC 465(3)**[1]**, CMPSC 473(3)**[1]**, ENGL 202C GWS(3), STAT 319(3) (Sem: 5-6)

ADDITIONAL COURSES (19 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
Select 6 credits from CMPEN 362(3), CMPEN 431(3), CMPEN 454(3), CMPSC 442(3), CMPSC 450(3), CMPSC 451(3), CMPSC 455(3), CMPSC 456(3), CMPSC 458(3), CMPSC 466(3), CMPSC 467(3), CMPSC 468(3), CMPSC 471(3), E E 456(3) (Sem: 7-8)
Select 3 credits from any 400-level CMPEN or CMPSC course (Sem: 7-8)
Select 3 credits from CMPSC 431W(3), or CMPSC 483W(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (22-23 credits)
Select 2-3 credits from PHYS 213 GN(2), PHYS 214 GN(2), or 3 credits from the approved list of natural sciences courses (Sem: 3-4)
Select 0-4 credits in a foreign language (second-semester proficiency) (Sem: 5-6)
Select 10-14 credits from department list (Students may apply 6 credits of ROTC and 6 credits for Co-Op.) (Sem: 7-8)
Select 6 credits in 400-level non-CMPEN or CMPSC courses in consultation with adviser (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-06-068

Review Date: 4/15/08

UCA Revision #2: 7/27/07

EN

Computer Science

Capital College (COMP)

PROFESSOR THANG N. BUI, *Program Chair*

This program is designed to prepare students for employment as computer scientists in engineering, scientific, industrial, and business environments as software developers, programmers, and systems analysts. While most students will enter the job market directly upon graduation, graduate school in computer science or related areas is also an option. Selection of electives can be tailored for students pursuing this path.

The Computer Science major provides a solid foundation in the areas of systems programming, algorithm design, artificial intelligence, and engineering large software systems using state-of-the-art methodologies and programming languages.

Students may expect to: develop a solid foundation in mathematical studies relevant to computer science; master skills in computer science; enjoy possibilities for internships and part-time employment with local companies; and become problem solvers. These goals are consistent with the goals outlined by the Association of Computing Machinery.

For a B.S. degree in Computer Science, a minimum of 120 credits is required.

Entry to Major Requirements:
Entry to the Computer Science major requires that the student has completed: MATH 140 GQ(4), MATH 141 GQ(4), CMPSC 121(3), and CMPSC 122(3). A 2.00 or higher cumulative grade-point average is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2).

GENERAL EDUCATION: 45 credits
(13 of these 45 credits are included in REQUIREMENTS FOR THE MAJOR.)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 87 credits
(This includes 13 credits of General Education courses: 3 credits of GWS courses, 6 credits of GQ courses, and 4 credits in GN courses.)

PRESCRIBED COURSES (63 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
CMPSC 121 GQ(3)**[1]** (Sem: 2)
PHYS 211 GN(4) (Sem: 2-3)
CMPSC 122(3)**[1]** (Sem: 3)
ENGL 202C GWS(3) (Sem: 3-4)
MATH 220(2) (Sem: 3-4)
SSET 295(1), CMPSC 312(3)**[1]**,CMPSC 360(3)**[2]** (Sem: 4)
CMPSC 425(3), CMPSC 430(3), CMPSC 452(3), CMPSC 460(3), CMPSC 462(3)**[1]**, CMPSC 463(3)**[1]**, CMPSC 469(3)**[1]**, CMPSC 470(3), CMPSC 472(3), CMPSC 487W(3) (Sem: 5-8)
MATH 315(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
MATH 414(3) or STAT 301 GQ(3) (Sem: 5-8)
Select 12 credits from the following: CMPSC 313(3), CMPSC 402(3), CMPSC 426(3), CMPSC 428(3), CMPSC 438(3), CMPSC 441(3), CMPSC 457(3), CMPSC 496(1-9), CMPSC 497(1-9), MATH 411(3), MATH 412(3), MATH 425(3), MATH 430(3), MATH 431(3), MATH 435(3), MATH 450(3), MATH 475W US:IL(3), MATH 496(1-9), MATH 497(1-9) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 credits of 300-400 level courses in consultation with an academic adviser and in support of the student's interests. (Sem: 5-8)
Select 3 credits of 100-400 level courses (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] It is recommended that Computer Science students take this course before MATH 315. If students are unable to take this course during Fall Semester of the second year, they must take it during Fall semester fo the third year.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 38-04-007

Review Date: 01/12/2010

UCA Revision #1: 8/3/06

UCA Revision #2: 7/27/07

CL

Corporate Communication

Abington College (CCBA)

PROFESSOR THOMAS R. SMITH, *Head, Division of Arts and Humanities*

Building on the interdisciplinary strengths of Penn State Abington, the Corporate Communication B.A. program prepares students for public information and media relations positions in profit and non-profit organizations. The program is distinguished by its cross-disciplinary course work in business, information systems, human behavior, and oral, written, and visual communication. In addition, there is a required field experience. The B.A. provides a broad foundation in business principles, including team projects and problem solving; ethics; oral, written and visual communication skills; and psychology. The major is designed to prepare students for a variety of career fields including human resources, public relations, training and development, and public information.

For the B. A. degree in Corporate Communication, a minimum of 122 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION courses)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-13 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 49-50 credits**[1]**

PRESCRIBED COURSES (31 credits)
ACCTG 211(4), IST 110 GS(3), MIS 204(2) (Sem: 1-2)
COMM 100 GS(3) (Sem: 1-4)
IST 250(3), MKTG 301(3), MGMT 301(3) (Sem: 3-4)
MKTG 310(3) (Sem: 5-6)
CC 403W(3), CC 495A(3) (Sem: 7-8)

ADDITIONAL COURSES (18-19 credits)
B A 243(4) or PHIL 103 GH(3) (Sem: 1-4)
MGMT 321(3) or PSYCH 221 GS(3) (Sem: 3-6)
CAS 252(3) or CAS 352(3), CC 401(3) or CC 402(3), ENGL 417(3) or ENGL 419(3), MGMT 424(3) or PSYCH 423(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-05-001

Review Date: 10/06/05

Publications update of division head: 09/15/06

UCA Revision #1: 8/3/06

AB

Creative Writing

Penn State Erie, The Behrend College (CWRIT)

The major will allow students to develop their writing skills through craft classes, literature classes, and writing workshops, in preparation for a variety of post-graduation options, from continuing on to M.F.A. degree programs to various positions in the publishing or editing fields. The program recognizes students must understand the relationship between tradition and individual talent, and provides a required sequence of literature courses designed to give students an overview of the historical literary traditions as well as the traditions of both modern and contemporary prose and poetry, options for additional literature courses (to broaden and/or deepen the nature of that relationship), and a course in creative writing theory. The program also includes a course which has students attending readings by Visiting Writers, and provides further professional development in a variety of ways. The program culminates in a capstone experience, the senior thesis, a collection of poetry or prose of publishable quality, with a critical preface to the collection demonstrating the students' ability to discuss the nature of their own writing and to place it in a literary context.

For the B.F.A. degree in Creative Writing, a minimum of 125 credits is required. A student enrolled in this major must earn at least a grade of C in each 300- and 400-level course.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 80 credits

PRESCRIBED COURSES (52 credits)
ENGL 006(1-8)*, ENGL 200(3)**[1]**, ENGL 212(3)**[1]**, ENGL 213(3)**[1]**, ENGL 215(3)**[1]** (Sem: 1-4)
ENGL 311(3)**[1]**, ENGL 312(3)**[1]**, ENGL 433(3)**[1]**, ENGL 434(3)**[1]** (Sem: 4-6)
ENGL 436(3)**[1]**, ENGL 437(3)**[1]** , ENGL 439(3), ENGL 444(3)**[1]**, ENGL 458(3)**[1]** (Sem: 5-8)
ENGL 401W(3)**[1]**, ENGL 494(6)**[1]** (Sem: 7-8)
*Students planning to major in creative writing should enroll in this course every semester (typically 8 semesters). A student is required to take this course a minimum of four times.

ADDITIONAL COURSES (19 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
Foreign Language Requirement (proficiency of 12 credits of coursework or equivalent)
Students must complete one of the following genre sequences (6 credits):

ENGL 412(3)**[1]** and ENGL 422(3)**[1]** (Sem: 4-8)
ENGL 413(3)**[1]** and ENGL 423(3)**[1]** (Sem: 4-8)
ENGL 415(3)**[1]** and ENGL 425(3)**[1]** (Sem: 4-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits from The Canon and Its Critics (Sem: 3-6)
Select 3 credits from Globality and Literature (Sem: 3-6)
Select 3 credits from Cultural Studies (Sem: 3-6)

In addition to the requirements above, for enrichment, students in the B.F.A. degree program have the opportunity of taking ENGL 209, Literary Magazine Practicum, and serving as genre editors or assistant editors on the staff of *Lake Effect*, the national literary journal published by the School of Humanities and Social Sciences at Penn State Erie, The Behrend College. This is a 1-credit course in which students may enroll for up to 8 credits over their time in the degree program.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-04-009

Review Date: 1/15/08

BD

Crime, Law, and Justice

University Park, College of the Liberal Arts (CLJBA)

PROFESSOR JOHN D. McCARTHY, *Head, Department of Sociology*

(The Bachelor of Arts degree in Crime, Law, and Justice is offered by the Crime, Law, and Justice Program in the Department of Sociology.)

This major provides students with a broadly based liberal education focused on the understanding and analysis of crime and justice systems. Students obtain a foundation of knowledge of the basic components of the criminal justice and legal systems as well as abilities to solve problems, think and read critically, and write effectively within the context of criminal justice and criminological research and theory.

The B.A. degree is suitable for students seeking entry-level positions in the criminal justice system and for students interested in graduate and law school. Students interested in acquiring strong quantitative skills should consider the B.S. degree.

For the B.A. degree in Crime, Law and, Justice, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 35 credits**[1]**
(This includes 4 credits of General Education GQ courses.)

PRESCRIBED COURSES (17 credits)
CRIM 100(3)/CRIMJ 100(3), CRIM 012 GS(3)/CRIMJ 012 GS(3)/SOC 012 GS(3), CRIM 113(3)/CRIM J 113(3) (Sem: 1-4)
STAT 200 GQ(4) (Sem: 1-8)
CRIMJ 240W(4) (Sem: 2-4)

ADDITIONAL COURSES (18 credits)
Select 3 credits from: CAS 283(3), CMPSC 100(3), CMPSC 101 GQ(3) (Sem: 1-8)
Select 3 credits from: CRIMJ 451 US(3), CRIMJ 453 US(3)/WMNST 453 US(3) (Sem: 5-8)
Select 6 credits from the core courses: CRIMJ 230(3), CRIM 432(3), CRIM 435(3), CRIMJ 441(3), CRIM 467(3)/CRIMJ 467(3)/SOC 467(3) (Sem: 5-8)
Select 6 additional credits at the 400 level in Criminology (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-03-064

Review Date: 2/20/04

UCA Revision #2: 7/27/07

LA

Publications updated department head: 2/04/08

Crime, Law, and Justice

University Park, College of the Liberal Arts (CLJBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JOHN D. McCARTHY, *Head, Department of Sociology*

This major provides the opportunity to develop a stronger foundation in research methods, quantification, and the sciences. It prepares students with relevant aptitudes for pursuing further studies or finding employment where such knowledge is advantageous. Students contemplating futures in social science research, business, forensics, public service, and paralegal positions should consider this degree or some of its recommended courses.

Either the B.A. or B.S. degree is suitable for students seeking entry level positions in the criminal justice system and for students interested in graduate and law school. Students interested in acquiring strong quantitative skills should consider the B.S. degree.

For the B.S. degree in Crime, Law, and Justice, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 16-18 credits

REQUIREMENTS FOR THE MAJOR: 62-64 credits**[1]**
(This includes 4 credits of GENERAL EDUCATION GQ courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 41 credits

PRESCRIBED COURSES (17 credits)
CRIM 100(3)/CRIMJ 100(3), CRIM 012 GS(3)/CRIMJ 012 GS(3)/SOC 012 GS(3), CRIM 113(3)/CRIM J 113(3) (Sem: 1-2)
STAT 200 GQ(4) (Sem: 1-8)
CRIMJ 240W(4) (Sem: 2-4)

ADDITIONAL COURSES (24 credits)
Select 3 credits from: CAS 283(3), CMPSC 100(3), CMPSC 101 GQ(3) (Sem: 1-8)
Select 6 credits in race, ethnicity and gender:
AAA S 100 GS;US(3), AAA S 101 GH;US(3), AAA S 103 US(3)/SOC 103 US(3)/WMNST 103 US(3), CRIMJ 453 US(3)/WMNST 453 US(3), AM ST 104 GH;US(3)/WMNST 104 GH;US(3), AM ST 105 GH;US(3), AM ST 432(3), ANTH 146 GS;US(3), CAS 271 US;IL(3), CAS 422 US(3), CAS 455 US(3), CAS 471 US;IL(3), CRIM 451(3), CMLIT 101 GH;US;IL(3), ENGL 135 GH;US(3), ENGL 139 GH;US(3), ENGL 462 US(3), HIST 154 GH;US(3), LER 136 US(3)/WMNST 136 US(3), PHIL 009 GH(3), PSYCH 432 US(3), SOC 119 GS;US(4), SOC 409 US(3), SOC 419(3), SOC 429(3) or WMNST 001 GS;US;IL(3) (Sem: 1-8)
Select 6 credits from the core courses CRIMJ 230(3), CRIMJ 441(3), CRIM 432(3), CRIM 435(3), CRIM 467(3)/SOC 467(3) (Sem: 5-8)
Select 3 credits from CRIMJ 451 US(3), CRIMJ 453 US(3)/WMNST 453 US(3) (Sem: 5-8)
Select 6 additional credits at the 400-level in Criminology (CRIM) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 21-23 credits

BUSINESS OPTION: (21 credits)

PRESCRIBED COURSES (6 credits)
ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-8)

ADDITIONAL COURSES (15 credits)
Select 15 credits with at least 3 credits each from groups a, b, c, d (Sem: 3-8)
a) ECON 302 GS(3), FIN 100(3)
b) MGMT 100(3), MKTG 221(3), PSYCH 281 GS(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3)
c) B LAW 243(3), LER 401(3), LER 411(3), LER 434(3), LER 435(3), LER 437(3), SOC 444(3), SOC 455(3)
d) Select 3 credits from CAS 404(3), CAS 450W(3), CAS 452(3), CAS 471 US;IL(3), CAS 483(3), ENGL 418(3), ENGL 419(3), ENGL 421(3), FR 408(3), GER 408 IL(3), HIST 425 IL(3), HIST 458W(3), LER 400-level course(s), PL SC 412(3), PL SC 417(3), PL SC 419(3), PL SC 490(3), PL SC 444(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3), SOC 444(3), SOC 455(3), SOC 456(3), SPAN 412(3)

COMPUTING AND STATISTICS OPTION: (21 credits)

PRESCRIBED COURSES (5 credits)
SOC 470(4), STAT 480(1) (Sem: 5-8)

ADDITIONAL COURSES (16 credits)
Select 16 credits from CAS 483(3), CMPSC 203 GQ(4), MATH 110 GQ(4) and MATH 111 GQ(2) or MATH 140 GQ(4) and MATH 141 GQ(4); MIS 204(3); STAT 460(3), STAT 462(3) or STAT 464(3) (Sem: 1-8)

LEGAL STUDIES OPTION: (21 credits)

PRESCRIBED COURSES (3 credits)
PHIL 012 GQ(3) (Sem: 1-8)

ADDITIONAL COURSES (18 credits)
Select 3 credits from CAS 213(3), CAS 215(3), CAS 321(3) or CAS 250(3) (Sem: 3-8)
Select 12 credits from B LAW 243(3), B LAW 410(3), CRIM 432(3) or CRIM 467(3)/SOC 467(3), CRIM 469(3), COMM 403(3), L ST 470(3), PHIL 105 GH(3), PHIL 108 GH(3), PHIL 408(3), PL SC 403(3), PL SC 431(3), PL SC 432(3), PL SC 471(3), PL SC 472(3), SOC 405(3) (Sem: 5-8)
Select 3 credits from HIST 449 US(3), HIST 450 US(3), PL SC 474(3) (Sem: 5-8)

PRE-FORENSICS OPTION: (21-23 credits)

ADDITIONAL COURSES (21-23 credits)
Select 6-8 credits from MATH 110 GQ(4) and MATH 111 GQ(2) or MATH 140 GQ(4) and MATH 141 GQ(4) (Sem: 1-8)
Select 15 credits from BIOL 011 GN(3) and BIOL 012 GN(1), BIOL 110 GN(4), BIOL 230W GH(4), CHEM 110 GN(3) and CHEM 111 GN(1) or CHEM 112 GN(3) and CHEM 113 GN(1), CHEM 202(3) and CHEM 203(3) or CHEM 210(3) and CHEM 212(3), CHEM 213(2), ENT 402W(3), ENT 412(3), PHYS 250 GN(4) (Sem: 1-8)

SOCIAL SCIENCE RESEARCH OPTION: (22-23 credits)

PRESCRIBED COURSES (5 credits)
SOC 470(4), STAT 480(1) (Sem: 5-8)

ADDITIONAL COURSES (17-18 credits)
Select 8-9 credits from MATH 110 GQ(4) and MATH 111 GQ(2) or MATH 140 GQ(4) and MATH 141 GQ(4), STAT 460(3), STAT 462(3), STAT 464(3) (Sem: 1-8)
Select 9 credits from HD FS 401(3), PL SC 490(3), PSYCH 403(3), any 400-level STAT course (Sem: 5-8)

NOTE: Internships will be counted as elective credits (CRIM 395).

NOTE: The following themes should be incorporated into all CRIM classes, as appropriate: ethical issues, ethnicity and gender issues, and theory.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-03-065

Review Date: 1/20/04

Publications updated department head: 2/04/08

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

LA

Criminal Justice

Altoona College (CJBA)

PROFESSOR TIMOTHY SLEKAR, *in charge*

Students receiving a baccalaureate degree in criminal justice should understand each of the three main components of the criminal justice system and their interrelationships, be able to evaluate critically both current and future crime control policy proposals and criminal justice research, and understand the complexity of the crime phenomenon and its relationship to individual, social, and cultural factors. This major includes study in law enforcement, courts and corrections individually and as components of a system, plus work in theories of crime causation, and crime control policy. Students should expect reading, writing, and critical thinking skills to be rigorously applied and developed throughout the degree program. The Bachelor of Arts degree in Criminal Justice provides a broadly based liberal arts background for the study of crime, justice and the criminal justice system. The Bachelor of Science degree offers an opportunity for educational enrichment in fields not traditionally considered part of the liberal arts. Either degree is excellent preparation for a career in criminal justice, graduate, or professional study, or informed citizenship.

For the B.A. degree in Criminal Justice, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20-24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48 credits**[1]**
(This includes 10-13 credits of General Education courses: 0-3 credits of GH courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (36 credits)
CRIMJ 100(3), SOC 012 GS(3), SOC 119 GS;US(4), SOC 207(3), STAT 200 GQ(4) (Sem: 1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), CRIMJ 290(1)(Sem: 3-6)
CRIMJ 441(3), CRIMJ 450W(3), CRIMJ 495(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
PHIL 103 GH(3) or CRIMJ 465(3) (Sem: 1-4)
Select 9 credits from any 400-level CRIMJ course that does not already fulfill another requirement in the major. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-010

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

AL

Criminal Justice

Altoona College (CJBS)

PROFESSOR TIMOTHY SLEKAR, *in charge*

Students receiving a baccalaureate degree in criminal justice should understand each of the three main components of the criminal justice system and their interrelationships, be able to evaluate critically both current and future crime control policy proposals and criminal justice research, and understand the complexity of the crime phenomenon and its relationship to individual, social, and cultural factors. This major includes study in law enforcement, courts and corrections individually and as components of a system, plus work in theories of crime causation, and crime control policy. Students should expect reading, writing, and critical thinking skills to be rigorously applied and developed throughout the degree program. The Bachelor of Arts degree in Criminal Justice provides a broadly based liberal arts background for the study of crime, justice and the criminal justice system. The Bachelor of Science degree offers an opportunity for educational enrichment in fields not traditionally considered part of the liberal arts. Either degree is excellent preparation for a career in criminal justice, graduate, or professional study, or informed citizenship.

For the B.S. degree in Criminal Justice, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 32-36 credits

REQUIREMENTS FOR THE MAJOR: 60 credits**[1]**
(This includes 10-13 credits of General Education courses: 0-3 credits of GH courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (36 credits)
CRIMJ 100(3), SOC 012 GS(3), SOC 119 GS;US(4), SOC 207(3), STAT 200 GQ(4) (Sem: 1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), CRIMJ 290(1)(Sem: 3-6)
CRIMJ 441(3), CRIMJ 450W(3), CRIMJ 495(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
PHIL 103 GH(3) or CRIMJ 465(3) (Sem: 1-4)
Select 9 credits from any 400-level CRIMJ course that does not already fulfill another requirement in the major. (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits, in consultation with the adviser, in one or two of the following skill enhancement areas: accounting, computers, composition and rhetoric, counseling, education, law and legal studies, foreign language, management, public speaking, research methods and statistics, science and engineering, biobehavioral health; or in the following topics: adolescence, deviant behavior, drugs, minorities (Sem: 3-6)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-011

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

AL

Criminal Justice

Capital College (CRIMJ): Penn State Harrisburg
World Campus

PROFESSOR BARBARA A. SIMS, *Program Chair, School of Public Affairs*

The Bachelor of Science degree program in Criminal Justice helps provide its graduates with the communications and analytical skills critical to succeed in criminal justice and related careers. Through an interdisciplinary approach to the problems of crime and society, the program also equips students to pursue graduate study in criminal justice or related disciplines, and educates students to become effective problem-solvers as professionals in the field of criminal justice.

The study of criminal justice is approached as an applied interdisciplinary science, teaching students both the theoretical and the practical aspects of crime control and the administration of justice. The Criminal Justice curriculum provides students with the opportunity and assistance to acquire knowledge of the roles of policing, courts, laws, and corrections as they relate to both the adult and juvenile justice system. Students also gain knowledge of the history, concepts, and critical issues related to the role of gender and race/ethnicity in the criminal justice system, victimology, and ethics in criminal justice. The curriculum further provides a theoretical foundation of the discipline, combined with a thorough understanding of the scientific method as it applies to criminal justice. This combination is expected to sharpen the students' talents of reasoning and judgment, qualities imperative to rational functioning in criminal justice and related professions.

For a B.S. degree in Criminal Justice, a minimum of 120 credits is required.

Admission Requirements for Transfer Students:
Transfer applicants must have at least a 2.0 cumulative grade-point average (4.0 scale). The evaluation of prior college work is conducted on an individual basis by the Office of Enrollment Services at both campuses.

Entry to Major Requirements:
The student must have a 2.00 cumulative grade-point average and an average of C (2.00) or better in any course already taken in the major.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.)*

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 13-17 credits

REQUIREMENTS FOR THE MAJOR: 62 credits
(This includes 0-4 credits of General Education courses: 0-4 credits of GQ courses.)

PRESCRIBED COURSES (25 credits)**[1]**
CRIMJ 012 GS(3), CRIMJ 100 GS(3), CRIMJ 113 US(3), CRIMJ 210(3), CRIMJ 230(3), CRIMJ 250W(4), CRIMJ 450W(3), CRIMJ 465(3) (Sem: 5-8)

(At least 9 credits in Additional Courses and/or Supporting Courses must be at the 400 level.)

ADDITIONAL COURSES (16 credits)
Select 4 credits from CRIMJ 260(3)/PUBPL 320(4) or STAT 200 GQ(4) (Sem: 5-8)
Select 6 credits from the following: CRIMJ 201(3), CRIMJ 220(3), CRIMJ 221(3), CRIMJ 234(3), CRIMJ 241(3) (Sem 5-8)
Select 6 credits from the following: CRIMJ 300H(3-6), CRIMJ 301H(3-6), CRIMJ 304(3), CRIMJ 389(3), CRIMJ 406(3), CRIMJ 407 US(3), CRIMJ 408(3), CRIMJ 410(3), CRIMJ 413(3), CRIMJ 414(3), CRIMJ 415(3), CRIMJ 421(3), CRIMJ 423 US(3), CRIMJ 425(3), CRIMJ 426(3-6), CRIMJ 430(3), CRIMJ 431(3), CRIMJ 441 US(3), CRIMJ 453 US(3), CRIMJ 460(3), CRIMJ 462(3), CRIMJ 489W(3), CRIMJ 495(3-12), CRIMJ 496(1-18), CRIMJ 497(1-9) (Sem: 5-8)
Or Select 12 credits from the following: CRIMJ 300H(3-6), CRIMJ 301H(3-6), CRIMJ 304(3), CRIMJ 389(3), CRIMJ 406(3), CRIMJ 407 US(3), CRIMJ 408(3), CRIMJ 410(3), CRIMJ 413(3), CRIMJ 414(3), CRIMJ 415(3), CRIMJ 421(3), CRIMJ 423 US(3), CRIMJ 425(3), CRIMJ 426(3-6), CRIMJ 430(3), CRIMJ 431(3), CRIMJ 441 US(3), CRIMJ 453 US(3), CRIMJ 460(3), CRIMJ 462(3), CRIMJ 489W(3), CRIMJ 495(3-12), CRIMJ 496(1-18), CRIMJ 497(1-9) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits: 3 credits at the 200 level and 3 credits at the 300 and 400 level or 6 credits at the 300 and 400 level from the following: AFRAS, BE SC, PL SC, PUBPL, PSYCH, SOC (Sem: 5-8)
Select 15 credits in consultation with an academic adviser and in support of the student's interests. For information about specific courses in this area, contact the School of Public Affairs. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-024

Review Date: 1/15/08

UCA Revision #1: 8/20/06
UCA Revision #2: 7/27/07

Change in program coordinator input by Publications: 9/29/06

CL

Earth Sciences

University College: Penn State DuBois
University Park, College of Earth and Mineral Sciences (EARTH)

PROFESSOR DAVID M. BICE, *Associate Head for Undergraduate Programs*

This major provides a comprehensive program in environmental sciences based on a strong emphasis in earth sciences. It is especially directed toward study of the problems that arise from the complex interaction of man's technological and social activities with the natural environment. Graduates are in demand for positions in government, industry, and consulting. Professional activities include gathering and evaluating data on environments; management and coordination of specialized programs in environmental control and modification; and industrial and government planning. Suitable choices of courses may qualify students for graduate work in several fields.

For the B.S. degree in Earth Sciences, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 99-101 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (31 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), EM SC 100S GWS(3)**[71]**, MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 1-4)
BIOL 110(4) (Sem: 3-4)

ADDITIONAL COURSES (36 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
Select 15 credits of introductory earth science from the following list (courses may not double count with minor requirements): EARTH 002 GN(3), EARTH 101 GN(3), EARTH 103 GN(3), EARTH 105 GN(3), METEO 003 GN(3), METEO 022(2), GEOG 030 GS(3), GEOG 110 GN(3), GEOG 111 GN(3), GEOG 115 GN(3), GEOG 160(3), GEOSC 001(3), GEOSC 021 GN(3), SOILS 101 GN(3) (Sem: 1-6)
Select 15 credits**[1]** of advanced earth science from the following list (courses may not double count with minor requirements): GEOG 430(3), GEOG 438W(3), GEOG 412W(3), GEOSC 204(4), GEOSC 320(3), GEOSC 340(3), GEOSC 402W(3), GEOSC 416(3), METEO 300(4), METEO 431(3), METEO 475(3) (Sem: 3-8)
Select 3 credits of writing-intensive courses from within Earth and Mineral Sciences to include, but not limited to: GEOG 412W(3), GEOG 310W(3), GEOSC 402W(3), GEOSC 470W(3), METEO 471W(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (32-34 credits)
Select 3-4 credits of advanced math, statistics, computer science in consultation with an adviser (Sem: 5-8)
Select 3 credits of field, laboratory experience in consultation with an adviser (Sem: 5-8)
Select 8-9 credits in other approved courses (Students may apply 6 credits of ROTC) (Sem: 5-8)
Select 18 credits**[1]**, in consultation from an adviser, from one of the following Earth and Mineral Sciences interdisciplinary minors:
CLIMATOLOGY
MARINE SCIENCE
WATERSHEDS & WATER RESOURCES
EARTH SYSTEMS
GLOBAL BUSINESS STRATEGIES FOR EARTH AND ENVIRONMENTAL INDUSTRIES

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-05-017

Review Date: 1/20/04

UCA Revision #1: 8/3/06

Department Head Change: 4/12/05

EM

Economics

University Park, College of the Liberal Arts (ECLBA)

PROFESSOR ROBERT C. MARSHALL, *Head, Department of Economics*

This major is designed for those who seek a broad understanding of the operation of the economic system and training in the methods and uses of economic analysis. Graduates are equipped for employment in many areas of business operations, labor unions, and agencies of government at all levels; and to undertake the graduate work necessary to become professional economists.

Students may choose either a Bachelor of Arts or a Bachelor of Science program. An honors program is also offered.

For the B.A. degree in Economics, a minimum of 120 credits is required.

Entrance Requirement: To be eligible for entrance into the Economics (ECLBA) major, a degree candidate must satisfy requirements for entrance to the major.

Specific entrance requirements include:

The degree candidate must have completed the following entrance to major requirements with a grade of C or better: ECON 102 and ECON 104.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 17-21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (18 credits)
ECON 102 GS(3), ECON 104 GS(3) (Sem: 3-4)
ECON 106(3), ECON 302 GS(3), ECON 304 GS(3), ECON 306(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits in Economics 300 or 400 level with department approval, including at least 9 credits at the 400 level (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-119

Review Date: 04/13/2010

UCA Revision #1: 8/3/06

LA

Economics

University Park, College of the Liberal Arts (ECLBS)

PROFESSOR ROBERT C. MARSHALL, *Head, Department of Economics*

This major is designed for those who seek a broad understanding of the operation of the economic system and training in the methods and uses of economic analysis. Graduates are equipped for employment in many areas of business operations, labor unions, and agencies of government at all levels; and to undertake the graduate work necessary to become professional economists.

The B.S. degree program is intended for students with a strong interest in quantitative skills. An honors program is also offered.

For the B.S. degree in Economics, a minimum of 120 credits is required.

Entrance Requirement: To be eligible for entrance into the Economics (ECLBS) major, a degree candidate must satisfy requirements for entrance to the major.

Specific entrance requirements include:

The degree candidate must have completed the following entrance to major requirements with a grade of C or better: ECON 102 and ECON 104.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 26 credits

REQUIREMENTS FOR THE MAJOR: 55 credits**[1]**
(This includes 6 credits of General Education GQ courses.)

PRESCRIBED COURSES (18 credits)
ECON 102 GS(3), ECON 104 GS(3) (Sem: 1-2)
ECON 302 GS(3), ECON 304 GS(3) (Sem: 3-4)
ECON 106(3), ECON 306(3) (Sem: 3-6)

ADDITIONAL COURSES (7 credits)
MATH 110 GQ(4) or MATH 140 GQ(4); CMPSC 101 GQ(3) or CMPSC 203 GQ(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (30 credits)
Select 3 credits in social and behavioral sciences from department list (Sem: 1-8)
Select 6 credits in arts, humanities, social and behavioral sciences from department list (Sem: 1-8)
Select 3 credits in quantification from department list (Sem: 1-8)
Select 18 credits in economics at the 300 or 400 level with department approval, including at least 9 credits at the 400 level (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-120

Review Date: 04/13/2010

LA

Economics

Penn State Erie, The Behrend College (ECNS)

The Economics major is a program of study with a liberal arts orientation. The broad liberal arts background serves as a foundation for advanced study in the methods and techniques of economic analysis. Use of mainframe and microcomputers as analytical and problem-solving tools is emphasized in the program's upper-division courses. Students may choose upper-division courses in several areas of specialization, including business cycles and forecasting, economic theory, industrial organization, international economics, labor economics, managerial economics, and regional economics.

For the B.A. degree in Economics, a minimum of 122 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 37 credits
(This includes 3 credits of General Education GS courses.)

PRESCRIBED COURSES (19 credits)
ECON 002 GS(3), ECON 004 GS(3), ECON 302 GS(3), ECON 304 GS(3) (Sem: 1-6)
ENGL 202A GWS(3) (Sem: 3-6)
SCM 200(4) (Sem: 3-6)

ADDITIONAL COURSES (18 credits)
Select 18 credits in BECON, ECNS, or ECON above the 300 level, in consultation with an adviser. [Where appropriate toward a specialized undergraduate field of study, the student may petition the director of the School of Business to take up to a maximum of 6 credits in closely related fields toward a major.] (Sem: 3-8)

Last Revised by the Department: Summer Session 1998

Blue Sheet Item #: 26-02-034

Review Date: 01/30/01 (Editorial Change)

UCA Revision #1: 8/3/06

BD

Education and Public Policy

University Park, College of Education (EPP)

PROFESSOR DAVID GAMSON *in charge*

The Education and Public Policy major (EPP) offers an interdisciplinary program for mission-driven students who want to make a difference in society by building democratic participation and improving civic capacity in and through educational institutions and communities.

The EPP major prepares students to work in political and economic global systems for the betterment of a diverse and democratic society. EPP students become discerning research consumers and policy analysts in order to work for educational reform and social justice. The EPP major blends core courses in educational policy with foundations courses in sociology, political science, economics, business, race and class, and research methods. Elective courses within the major include policy problems, public systems, leadership, ethics, diversity, equality, and equity. In addition to academic studies, the EPP major includes a semester field experience culminating in a real-world, meaningful research project. Opportunities for internships include organizations in State College, Harrisburg, Philadelphia, and Washington, D.C. Graduates of the EPP program will enter professional careers in educational organizations, government, community development, public service, non-profits, consulting, philanthropy, and interest groups.

Baccalaureate degree candidates must have a minimum 2.0 GPA by the end of their fourth semester to be admitted to the Education and Public Policy (EPP) major; thereafter, students must earn a C or better in all prescribed and required courses necessary for the major.

For the B.S. degree in Education and Public Policy, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: (45 credits)
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR. See description of General Education in the *Bull*
Bulletin.)

FIRST-YEAR SEMINAR
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 1-3 credits

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 87-88 credits
(This includes 12 credits of General Education courses: 6 credits of GS courses; 3 credits of GQ courses; and 3 credits of GH courses.)

PRESCRIBED COURSES (36 credits)**[1]**
PL SC 001 GS(3), PL SC 003 GS;IL(3), ECON 002 GS(3), ECON 004 GS(3), EDTHP 115 US(3), HIST 021 GH;US(3), SOC 005 GS(3) (Sem: 1-4)
EDTHP 200 GS(3), EDTHP 420(3), AYFCE 211 GS;US;IL(3) (Sem: 3-6)
EDTHP 394(3) (Sem: 5-6)
EDTHP 395(3) (Sem: 7-8)

ADDITIONAL COURSES (9-10 credits)
EDPSY 101 GS(3), STAT 100 GQ(3)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-3)
SOC 001 GS(3)**[1]** or R SOC 011 GS;US(3)**[1]** (Sem: 1-3)
SOC 007(3), SOC 023 GS(3), SOC 436(4), EDPSY 406(3), or PL SC 308(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (42 credits)
Select 9 credits of Educational Theory and Policy Studies at the 400 level (Sem: 3-8)
Select 15 credits of Policy Problems and Public Systems from approved department list (Sem: 3-8)**[1]**
Select 6 credits of Leadership and Citizenship from approved department list (Sem: 3-8)**[1]**
Select 6 credits of Diversity and Equity from approved department list (Sem: 3-8)**[1]**
Select 6 credits of Major-related courses in consultation with EDTHP adviser. (Sem: 3-8)

A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-065

Review Date: 4/15/08

Electrical and Computer Engineering Technology

Penn State Erie, The Behrend College (ECET)

This major prepares graduates for careers in such varied areas as electronics, microprocessors, computer hardware and software, communications, instrumentation and control, and power. The major consists of two options, one in Electrical Engineering Technology, the other in Computer Engineering Technology. Both options provide education in applied mathematics, physics, electrical and electronic circuit analysis and design, microprocessors, instrumentation and quality control. The Electrical Engineering Technology option provides specialty education in control theory, communication systems, and power systems. The Computer Engineering Technology option provides specialty education in software development, embedded computer systems, and networking. Both options in the major culminate with a capstone design project involving an actual design or manufacturing problem, often sponsored by industry. Graduates may qualify as engineering technologists working side-by-side with engineers, scientists, and other skilled workers in these capacities. Occupations include electrical and electronic systems design, microprocessor applications, instrumentation and control, computer programming, electrical testing, plant engineering, quality control, management, and technical sales and service.

For the B.S. degree in Electrical and Computer Engineering Technology, a minimum of 128 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in PRESCRIBED COURSES course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 107 credits
(This includes 24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GWS courses; and 3 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (All Options): 89 credits

PRESCRIBED COURSES (67 credits)
CMPET 005(1), CMPET 117(3)**[1]**, CMPET 120(1), CMPET 211(3), EET 101(3), EET 109(1), EET 114(4)**[1]**, EET 118(1)**[1]**, EET 205(1), EET 210(2), EET 213W(5), EET 216(3), EET 221(1), MATH 081 GQ(3), MATH 082 GQ(3), MATH 083 GQ(4) (Sem: 1-4)
CAS 100 GWS(3), ENGL 202C GWS(3) (Sem: 3-6)
MATH 210(3), MATH 211(3) (Sem: 4-6)
CMPET 301(3), CMPET 355(3), EET 315(3), EET 341(3) (Sem: 5-6)
EET 480(1), EET 490W(3) (Sem: 7-8)

ADDITIONAL COURSES (22 credits)
EET 002S(1) or ET 002(1) (Sem: 1-4)
EG T 101(1) and EG T 102(1) or EG T 119(2) (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-8)
CHEM 110 GN(3), CHEM 111 GN(1), PHYS 250 GN(4), and 2 credits of science GN(2) or PHYS 150 GN(3), PHYS 151 GN(3), and 4 credits of science GN(4)
EET 450(3) or Q C 450(3) (Sem: 5-8)
EET 275(3) or EET 220(2) and 1 credit in 200 level or higher of technical electives from school-approved list (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 18 credits

ELECTRICAL ENGINEERING TECHNOLOGY OPTION: (18 credits)

PRESCRIBED COURSES (9 credits)
EET 330(3) (Sem: 5-6)
EET 416(3), EET 440(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical electives at the 300 or 400 level from school-approved list (Students may apply 6 credits of ROTC.) (Sem: 7-8)

COMPUTER ENGINEERING TECHNOLOGY OPTION: (18 credits)

PRESCRIBED COURSES (9 credits)
CMPET 333(3) (Sem: 5-6)
CMPET 456(3), CMPET 457(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical electives at the 300 or 400 level from school-approved list (Students may apply 6 credits of

ROTC.) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-026

Review Date: 4/10/07

UCA Revision #1: 8/3/06

BD

Electrical Engineering

University Park, College of Engineering (E E)

PROFESSOR W. KENNETH JENKINS, *Head of the Department of Electrical Engineering*

Electrical Engineering (E E) is one of the broadest of all engineering majors and is much more than just building electrical circuits. Electrical engineering is the application of electronics, electrical science and technology, and computer systems to the needs of society. An electrical engineer is responsible for designing and integrating electronic/electrical systems in diverse industries such as defense, communications, transportation, manufacturing, health care, construction, and entertainment.

The mission of our undergraduate program is to provide a high-quality education in electrical engineering for our students and to instill in them the attitudes, values, and vision that will prepare them for lifetimes of success, continued learning, and leadership in their chosen careers. A combination of required and elective courses ensures that students acquire a broad knowledge base in electrical circuits, digital systems, electronic devices, electromagnetics, and linear systems, as well as expertise in one or more areas of specialization. Additional problem-solving skills and practical experience are developed through design projects and laboratory assignments, which also provide opportunities for developing team-building and technical communication skills.

The BSEE Program provides undergraduates with the broad technical education necessary for productive employment in the public or private sector, and it develops in them an understanding of fundamentals and current issues important for future years of learning. Our program prepares students following graduation for:

1. Electrical engineering practice in technical assignments such as design, product development, research, manufacturing, consulting, testing, sales, and management;
2. Proficiency in the use of modern design tools;
3. Participation and leadership on teams comprised of individuals with diverse professional and cultural backgrounds;
4. Effective written and oral communication skills;
5. Appreciation of the implications of design in a global, societal, and ethical context;
6. Continued learning through such activities as graduate school, distance education, professional training, and membership in professional societies.

For the B.S. degree in Electrical Engineering, a minimum of 129 credits is required. This baccalaureate program in Electrical Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 111-112 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (61 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4) (Sem: 1-2)
E E 210(4)**[1]**, E E 310(4)**[1]**, E SC 314(3)**[1]**, MATH 220 GQ(2), MATH 230(4), MATH 250(3), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-4)
E E 316(3)**[1]**, E E 330(4)**[1]**, E E 350(4)**[1]** (Sem: 5-6)
ENGL 202C GWS(3) (Sem: 7-8)

ADDITIONAL COURSES (23-24 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CMPSC 201 GQ(3) or CMPSC 121 GQ(3) (Sem: 1-2)
CMPEN 270(4)**[1]**; or CMPEN 271(3)**[1]** and CMPEN 275(1) (Sem: 3-4)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 3-4)
Select 3-4 credits from I E 424(3), PHYS 410(3-4), STAT 401(3), STAT 414(3), or STAT 418(3) (Sem: 5-6)
E E 402W(3) or E E 403W(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (27 credits)
Select 6 credits from program-approved list of 300-level courses (Sem: 5-6)
Select 6 credits from program-approved lists of 300-level or 400-level courses (Sem: 5-6)

Select 6 credits from program-approved list of 400-level courses (Sem: 7-8)
Select 3 credits of engineering /science courses from a program-approved list (Sem: 7-8)
Select 6 additional credits, which may include up to 6 credits of ROTC, up to 6 co-op credits, and others from a program-approved list (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-037

Review Date: 02/23/2010

UCA Revision #1: 8/16/06
UCA Revision #2: 7/27/07

EN

Electrical Engineering

Capital College (E ENG)

PROFESSOR JERRY F. SHOUP, *Program Chair*

The Bachelor of Science degree in Electrical Engineering provides a solid background in electrical engineering sciences. It also provides an opportunity for students to pursue interests in electrical and electronic circuits, including digital circuits and VLSI and its fabrication, microprocessors and their applications, electromagnetics, communications, control systems, and digital image processing and computer vision. Through participation in a senior capstone design, the curriculum emphasizes written as well as verbal communication and teamwork approach among the students to attain a common goal.

This program helps its graduates develop capabilities to analyze and design a variety of electrical and electronic systems found in many industrial and government settings as well as provide a foundation for further graduate studies. A strong background in the fundamentals is built through a broad base core in basic sciences (physics and chemistry) and mathematics as well as engineering sciences.

For a B.S. degree in Electrical Engineering a minimum of 134 credits is required.

Entry to Major Requirements:
Entry to the Electrical Engineering major requires that the student has completed: MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), and CHEM 110 GN(3), CHEM 111 GN(1). A 2.00 or higher cumulative grade-point average is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-4 credits

REQUIREMENTS FOR THE MAJOR: 110-113 credits
(This includes 21 credits of General Education courses: 3 credits of GWS courses; 3 credits of GS courses; 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (87 credits)
CHEM 110 GN(3), CHEM 111 GN(1), EDSGN 100(3) (Sem: 1-2)
SSET 295(1) (Sem: 4)
MATH 140 GQ(4), MATH 141 GQ(4), MATH 220 GQ(2-3), MATH 230(4), MATH 250(3), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 1-4)
CMPEN 271(3)**[1]**, CMPEN 275(1)**[1]**, E MCH 211(3), ENGL 202C GWS(3) (Sem: 3-4)
CMPEH 472(4), E E 310(4)**[1]**, E E 330(4), E E 341(3), E E 352(4)**[1]**, E E 485(3) (Sem: 5-6)
CMPSC 436(3), E E 311(3), E E 405(1), E E 406W(3)**[1]**, E E 461(4), E E 481(4) (Sem: 7-8)

ADDITIONAL COURSES (14-17 credits)
Select 3 credits from: ECON 002 GS(3) or ECON 004 GS(3) or ECON 014 GS(3) (Sem: 1-4)
Select 3 credits from: CMPSC 201 GQ(3), or CMPSC 121 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-4)
Select 3-4 credits from MATH 444(3)**[1]** or MATH 446(3)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 4-6)
Select 5-7 credits from E E 315(5)**[1]**; or E E 210(4)**[1]** and E E 314(3)**[1]** (Sem: 4-5)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in consultation with an academic adviser and in support of the student's interests. (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-216

Review Date: 4/10/07

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

CA

Electrical Engineering

Penn State Erie, The Behrend College (EE BD)

This major provides students with a strong foundation in electrical engineering through a combination of classroom study, projects, and laboratory experience. Analysis and design of electrical and computer systems are stressed. Built upon a core of science and mathematics courses, this major has the objective of educating graduates to be problem solvers. Students acquire the ability to work as members of a team toward successful attainment of a common goal, preparing them for work in industry, or further study in graduate school. In addition, written and oral communication skills are developed from an early stage, culminating in a senior design project that stresses communication as well as engineering content.

In addition to completing a broad-based science and mathematics core, students pursue their interest in electrical engineering by studying the principles of electrical circuits and microelectronics, digital and computer systems, control and communications systems, and electromagnetic fields and waves. Students obtain a broad-based electrical engineering education that is specialized through the selection of technical electives courses. The student will be required to analyze and solve a significant electrical engineering design problem during the senior year.

Entrance Requirement: In addition to the Carnegie unit and minimum GPA requirements described by University policies, all students applying for entrance to any of the engineering majors at The Behrend College must have at least a 2.0 cumulative GPA by the end of the semester prior to applying for entrance to the major and have completed, with a minimum grade of C: CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), and PHYSICS 211 GN(4). These courses must be completed by the end of the semester during which the admission to major process is carried out.

For the B.S. degree in Electrical Engineering, a minimum of 130 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 106 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses; 3 credits of GS courses.)

PRESCRIBED COURSES (91 credits)
CHEM 110 GN(3), CHEM 111 GN(1), BDENG 100S(3), CMPSE 201C GQ(3) (Sem: 1-2)
CMPEN 271(3)**[1]**, CMPEN 275(1)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2-3)**[1]**, MATH 230(4)**[1]**, MATH 250(3)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 214 GN(2) (Sem: 1-4)
E E 210(4)**[1],** E MCH 211(3), ENGL 202C GWS(3) (Sem: 3-4)
E E 310(4), E E 312(3), E E 313W(4), E E 316(3), E E 331(3), E E 352(4), E E 380(3), E E 383(1), STAT 301(3) (Sem: 5-6)
E E 360(3), E E 387(3), E E 400(3), E E 401(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-6)
CMPSC 122(3) or E MCH 012(3) or M E 201(3) or M E 300(3) or PHYS 237(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical courses from school-approved list.
(These credits must be selected to fulfill the engineering science and design requirements of the major.) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-01-017

Review Date: 7/11/02

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

BD

Electrical Engineering Technology

Capital College (E E T)
University College, Penn State Wilkes-Barre

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JERRY F. SHOUP, *Program Chair*

The Bachelor of Science graduate with a major in Electrical Engineering Technology (E E T) is an engineering technologist who can bridge the gap between scientific advancement and practical electrical devices and systems. Research in all fields of electrical engineering has produced an abundance of new knowledge in recent years. Many of these advanced scientific achievements have been unused due to the shortage of engineering technologists specifically educated to convert scientific information into practical devices and systems.

The E E T major helps equip students with the various skills necessary to adapt new scientific knowledge to new products. Technical selections are offered in the senior year to provide some degree of specialization, but all graduates receive a well-rounded basic education in electrical and electronic design principles. The strengths of the program include: an applied hands-on program; extensive laboratory experience; promising job placement; and accreditation by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone 410-347-7700, Web at www.abet.org (Opens New Window).

E E T graduates who wish to continue their professional development can take the Fundamentals of Engineering examination in Pennsylvania, a prerequisite for taking the Professional Engineering examination.

For a B.S. degree in Electrical Engineering Technology, a minimum of 128 credits is required.

Admission Requirements for Transfer Students:
Applicants must have earned a high school diploma or equivalent and have attempted at least 18 semester credits at a regionally accredited college or university with at least a 2.0 cumulative grade-point average (4.0 scale). The evaluation of prior college work is done on an individual basis by the Office of Enrollment Services at Penn State Harrisburg.

Entry to Major Requirements:
Entry to the Electrical Engineering Technology major requires a 2.00 or higher cumulative grade-point average.

Re-enrollment:
Associate degree students should file a re-enrollment form during the final semester of their associate degree. Students re-enrolling from an associate's degree into the bachelor's degree should run a degree audit from eLion, using the E E T major code, to determine their curriculum requirements. Similar considerations apply to students changing majors from programs in science or engineering.

Students are directed to http://www.psu.edu/bulletins/bluebook/gened/ for an explanation of the Penn State General Education requirements.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 5-16 credits

REQUIREMENTS FOR THE MAJOR: 85-96 credits
(This includes 18 credits of General Education courses: 3 credits of GWS courses; 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 59-70 credits

PRESCRIBED COURSES (27 credits)
CHEM 110 GN(3), CHEM 111 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-6)
EET 312(4)**[1]**, EET 331(4)**[1]**, ENGL 202C GWS(3) (Sem: 5-6)
EET 419(1), EET 420W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (32-43 credits)
Select 2*-3 credits from: EG T 101(1) and EG T 102(1) or EDSGN 100(3) (Sem: 1-2)
Select 3 credits from: CMPSC 101 GQ(3), CMPSC 121 GQ(3) or CMPSC 201 GQ(3) (Sem: 1-5)
Select 6*-8 credits from sequence a or b:
a.) PHYS 150 GN(3) and PHYS 151 GN(3) (Sem: 3-4)

b.) PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 1-4)
Select 3-4 credits from MATH 230(4), MATH 250(3), MATH 336(3), MATH 408(3), MATH 411(3), MATH 444(3), MATH 446(3), or STAT 200 GQ(4) (Sem: 5-6)
Select 5-8* credits from course sequence a, b, or c:
a.) EET 114(4) and EET 311(4)**[1]** (Sem: 1-6)
b.) E E 210(4)**[1]** and E E 314(3)**[1]** (Sem: 3-6)
c.) E E 315(5)**[1]** (Sem: 5-6)
Select 4* credits from: CMPEN 271(3) and CMPEN 275(1) or CMPET 117(3) and CMPET 120(1) (Sem: 1-4)
Select 3*-4 credits from: CMPEH 472(4) or CMPET 211(3) (Sem: 3-6)
Select 3*-4 credits from: EET 205(1) and EET 210(2) or E E 310(4) (Sem: 3-6)
Select 3-5* credits from: EET 213W(5) or E E 485(3) (Sem: 3-6)
**Courses required by PSU 2 EET programs*

REQUIREMENTS FOR THE OPTION: 26 credits

COMPUTER ENGINEERING TECHNOLOGY OPTION: (26 credits)

PRESCRIBED COURSES (11 credits)
CMPEN 431(3) , CMPET 403(4), CMPET 401(3), CMPET 402(1) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
2nd Programming Elective: Select 3 credits from: CMPSC 305(3), CMPSC 402(3), CMPSC 422(3), CMPSC 122(3) (Sem: 7-8)
Applications Elective: Select 4 credits of technical electives from: CMPET 412(4), EET 423(4), EET 456(4) (Sem: 7-8)
CMPET Technical Electives: Select 8 credits from CMPEH 449(3), E E 341(3), E E 418(3), E E 453(3), EET 402(4), EET 408(4), EET 413(4), EET 414(4), EET 431(4), EET 433(4), EET 478(4), ET 496(1) (Sem: 7-8)

GENERAL ELECTRICAL ENGINEERING TECHNOLOGY OPTION: (26 credits)

ADDITIONAL COURSES (26 credits)
System Elective: Select 8 credits of technical electives from: EET 408(4), EET 409(4), EET 433(4) (Sem: 7-8)
Electronics Elective: Select 4 credits from: EET 402(4), EET 423(4), EET 431(4) (Sem: 7-8)
GEET Technical Electives: Select 8 credits of GEET technical electives from: CMPEH 449(3), CMPET 401(3), CMPET 402(1), CMPEN 431(3), E E 418(3), E E 453(3), E E 458(3), EET 401(4), CMPET 403(3), EET 410(4), CMPET 412(4), EET 413(4), EET 414(4), EET 456(4), EET 478(4), ET 496(1) (Sem: 7-8)
Select 6 credits from any previous elective list plus CMPSC 452(3), E MCH 211(3), E MCH 212(3), M E 201(3) (Sem: 6-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-217

Review Date: 2/20/08

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

CL

Electro-Mechanical Engineering Technology

Altoona College
Berks College
University College: Penn State New Kensington, Penn State York (EMET)

PROFESSOR IRENE FERRARA, *Program Coordinator, Penn State Altoona*
PROFESSOR TERRY SPEICHER, *Program Coordinator, Penn State Berks*
PROFESSOR RONALD LAND, *Program Coordinator, Penn State New Kensington*
PROFESSOR CHARLES GASTON, *Program Coordinator, Penn State York*
PROFESSOR SVEN BILÉN, *Head, School of Engineering Design, Technology, and Professional Programs, University Park College of Engineering*

The Electro-Mechanical Engineering Technology (B.S. EMET) degree program provides the basic undergraduate education required for a career as an electro-mechanical engineering technologist. The program emphasizes a breadth of knowledge in all fields of engineering technology related to typical, highly-automated manufacturing, production, or assembly plant processes. Basic coverage is provided in all major areas to technology involved in the operation and control of manufacturing and production processes, including instrumentation and monitoring methods, principles of machine design, automated control techniques, thermal and fluid sciences, computerized manufacturing systems, principles of electrical and electronic circuit operation, computer-aided drafting and design, economics of production, and statistical analysis and quality control.

The primary aim of the EMET program is to provide graduates with the knowledge and skills necessary to apply current methods and technology to the development, design, operation, and management of electro-mechanical systems, particularly in those industries where automated systems are prevalent. Specific educational objectives of the program are to:

- Provide graduates with a broad knowledge of the electrical, electronic, and mechanical devices, and the instrumentation, machine technology, computer applications, and control equipment applicable to electro-mechanical systems.
- Prepare graduates who can apply technical knowledge to the development, operation, control, troubleshooting, maintenance, and management of electromechanical systems.
- Prepare graduates who can communicate effectively and work collaboratively in multi-disciplinary teams.
- Prepare graduates who are productive professionals in technical careers and who continue to adapt to changes in the technical fields.

The major is organized as a four-year baccalaureate program with the corresponding Penn State admission requirements. Graduates of an associate degree in either electrical or mechanical engineering technology from Penn State may re-enroll in the EMET program. The College of Engineering ENGR students may enroll through "Change of Major" procedures. Students from an engineering technology program at another institution or community college accredited by TAC of ABET may transfer into the program with advanced standing.

For the B.S. degree in Electro-Mechanical Engineering Technology, a minimum of 129 credits is required. This program is accredited at Penn State Altoona, at Penn State Berks, at Penn State New Kensington, and at Penn State York of the University College by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 105 credits
(This includes 21 credits of General Education courses: 6 credits of GQ courses; 9 credits of GN courses; 3 credits of GWS courses; 3 credits of GH or GS courses.)

PRESCRIBED COURSES (87 credits)
CMPET 117(3)**[1]**, CMPET 120(1)**[1]**, EDSGN 100(3), EET 105(3), MATH 040 GQ(5)**[1],** MATH 083 GQ(4)**[1],** MCH T 111(3)**[1]**, MCH T 112(1)**[1]**, MET 105(3) (Sem: 1-2)
EET 114(4)**[1]**, EET 118(1)**[1]**, EET 275(3), EG T 114(2), EMET 222(4)**[1]**, ENGL 202C GWS(3), IET 215(2), IET 216(2), MATH 210(3)**[1]**, MATH 211(3)**[1]** (Sem: 3-4)
CMPET 211(3), EET 212W(4)**[1]**, EMET 230(3)**[1]**, EMET 325(3), EMET 326(3), EMET 330(3)**[1]**, EMET 350(3) (Sem: 5-6)
EMET 405(3), EMET 410(4), EMET 440(3), IET 333(2) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
Select 9 credits of GN from: BIOL 011 GN(3) and BIOL 012 GN(1); BIOL 141 GN(3), CHEM 110 GN(3) and CHEM 111 GN(1);

CHEM 112 GN(3) or CHEM 113 GN(1); PHYS 150 GN(3) or PHYS 211 GN(4) or PHYS 250 GN(4); PHYS 151 GN(3) or PHYS 212 GN(4) or PHYS 251 GN(4) (Sem: 4-6)

Select 6 credits of electives from: CMPSC 201 GQ(3) or CMPSC 121 GQ(3); EMET 401(1), EMET 402(2), EMET 403(1), EMET 430(3), EMET 432(3), EMET 495(1-6), EMET 496(1-6), EMET 497(1-6), ENTR 300(3), ENTR 320(3), IST 402(3), IST 431(3), IST 432(3); MATH 220 GQ(2), MATH 231(2), MATH 250(3), MATH 251(4), MGMT 301(3); MKTG 301(3); STAT 200 GQ(4) or STAT 220(3) (Sem: 7-8)

Select 3 credits of GH or GS from: S T S 200 GS(3), S T S 233 GH(3), or S T S 245 GS;IL(3) (Sem: 2-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-017

Review Date: 1/13/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

Comments

EN

Elementary and Kindergarten Education

Altoona College (EEDAL): Elementary Education Teaching Option
Berks College (EEDBL)
University College: Penn State Lehigh Valley (EEDCC): Elementary Education Teaching Option
University Park, College of Education (EK ED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JACQUELINE EDMONDSON, *in charge*

This major offers teaching options in Early Childhood Education and in Elementary Education. Students successfully completing this major will have met all of the requirements for the N-3 or K-6 College Instructional I certificate issued by the Pennsylvania Department of Education. Students must indicate their choice of teaching option at the time they make application for admission to a teacher education major. Students who are undecided at this time about which teaching option to select should contact their adviser and enroll in a field experience featuring participation in the classroom.

EARLY CHILDHOOD TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the N-3 Instructional I certificate issued by the Pennsylvania Department of Education. Special courses in both human development and education are used to integrate understanding of preschool programs with relevant theories of child development.

ELEMENTARY EDUCATION TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the K-6 Instructional I certificate issued by the Pennsylvania Department of Education.

For the B.S. degree in Elementary and Kindergarten Education, a minimum of 129.5 credits is required for the Early Childhood Teaching Option and a minimum of 122 credits is required for the Elementary Education Teaching Option. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 101-117 credits
(This includes 27-30 credits of General Education courses: 6 credits of GS, 6 credits of GQ, 6 credits of GH, and 9 credits of GN courses for both options. The Early Childhood Teaching option permits 3 credits of GHA.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 84.5-85.5 credits**[1]**

PRESCRIBED COURSES (57.5 credits)
C I 295(2), EDPSY 014(3), ENGL 100(3), MATH 200 GQ(3) (Sem: 1-4)
A ED 303(3), C I 495B(3), C I 495D(12), C I 495F(3), KINES 126(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), MUSIC 241(3), SCIED 458(3), SPLED 400(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-3)
HIST 020 GH;US(3) or HIST 021 GH;US(3) (Sem: 1-4)
STAT 100 GQ(3), STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) or ECON 014 GS(3) (Sem: 1-8)
GEOG 020 GS;US;IL(3), GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 124 GS;IL(3), or GEOG 128 GS;IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature GH (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from the following GN biological science, earth science and physical science (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 16.5-30 credits

EARLY CHILDHOOD TEACHING OPTION: (27-30 credits)**[1]**

PRESCRIBED COURSES (15 credits)
E C E 451(3), E C E 452(3), E C E 453(2), E C E 454(3), E C E 479(3), C I 495A(1) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
H P A 101(3) or NUTR 251 GHA(3) (Sem: 1-2)
HD FS 315 US(3) or SOC 030 GS(3) (Sem: 1-4)
HD FS 229 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)
HD FS 428(3) or HD FS 429(3) (Sem: 5-8)

ELEMENTARY EDUCATION TEACHING OPTION: (16.5-19.5 credits)**[1]**

PRESCRIBED COURSES (1.5 credit)
KINES 127(1.5) (Sem: 5-8)

ADDITIONAL COURSES (3-6 credits)
HD FS 229 GS(3) or EDPSY 010 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in MATH or MTHED (Sem: 1-8)
Select 6 credits from EDTHP at the 400 level, ECE at the 400 level, SPLED at the 400 level, EDLDR 405(3), EDLDR 497(1-9), LL ED 497(1-9) (Sem: 5-8)
Select 3 credits in U.S. History (Sem:1-8)

[1] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-097

Review Date: 2/12/08

UCA Revision #1: 8/3/06

ED

Elementary and Kindergarten Education

Altoona College (EEDAL): Elementary Education Teaching Option
Berks College (EEDBL)
University College: Penn State Lehigh Valley (EEDCC): Elementary Education Teaching Option
University Park, College of Education (EK ED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JACQUELINE EDMONDSON, *in charge*

This major offers teaching options in Early Childhood Education and in Elementary Education. Students successfully completing this major will have met all of the requirements for the N-3 or K-6 College Instructional I certificate issued by the Pennsylvania Department of Education. Students must indicate their choice of teaching option at the time they make application for admission to a teacher education major. Students who are undecided at this time about which teaching option to select should contact their adviser and enroll in a field experience featuring participation in the classroom.

EARLY CHILDHOOD TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the N-3 Instructional I certificate issued by the Pennsylvania Department of Education. Special courses in both human development and education are used to integrate understanding of preschool programs with relevant theories of child development.

ELEMENTARY EDUCATION TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the K-6 Instructional I certificate issued by the Pennsylvania Department of Education.

For the B.S. degree in Elementary and Kindergarten Education, a minimum of 129.5 credits is required for the Early Childhood Teaching Option and a minimum of 122 credits is required for the Elementary Education Teaching Option. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 101-117 credits
(This includes 27-30 credits of General Education courses: 6 credits of GS, 6 credits of GQ, 6 credits of GH, and 9 credits of GN courses for both options. The Early Childhood Teaching option permits 3 credits of GHA.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 84.5-85.5 credits**[1]**

PRESCRIBED COURSES (57.5 credits)
C I 295(2), EDPSY 014(3), ENGL 100(3), MATH 200 GQ(3) (Sem: 1-4)
A ED 303(3), C I 495B(3), C I 495D(12), C I 495F(3), KINES 126(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), MUSIC 241(3), SCIED 458(3), SPLED 400(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-3)
HIST 020 GH;US(3) or HIST 021 GH;US(3) (Sem: 1-4)
STAT 100 GQ(3), STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) or ECON 014 GS(3) (Sem: 1-8)
GEOG 020 GS;US;IL(3), GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 124 GS;IL(3), or GEOG 128 GS;IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature GH (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from the following GN biological science, earth science and physical science (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 16.5-30 credits

EARLY CHILDHOOD TEACHING OPTION: (27-30 credits)**[1]**

PRESCRIBED COURSES (15 credits)
E C E 451(3), E C E 452(3), E C E 453(2), E C E 454(3), E C E 479(3), C I 495A(1) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
H P A 101(3) or NUTR 251 GHA(3) (Sem: 1-2)
HD FS 315 US(3) or SOC 030 GS(3) (Sem: 1-4)
HD FS 229 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)
HD FS 428(3) or HD FS 429(3) (Sem: 5-8)

ELEMENTARY EDUCATION TEACHING OPTION: (16.5-19.5 credits)**[1]**

PRESCRIBED COURSES (1.5 credit)
KINES 127(1.5) (Sem: 5-8)

ADDITIONAL COURSES (3-6 credits)
HD FS 229 GS(3) or EDPSY 010 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in MATH or MTHED (Sem: 1-8)
Select 6 credits from EDTHP at the 400 level, ECE at the 400 level, SPLED at the 400 level, EDLDR 405(3), EDLDR 497(1-9), LL ED 497(1-9) (Sem: 5-8)
Select 3 credits in U.S. History (Sem:1-8)

[1] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-097

Review Date: 2/12/08

UCA Revision #1: 8/3/06

ED

Elementary and Kindergarten Education

Altoona College (EEDAL): Elementary Education Teaching Option
Berks College (EEDBL)
University College: Penn State Lehigh Valley (EEDCC): Elementary Education Teaching Option
University Park, College of Education (EK ED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JACQUELINE EDMONDSON, *in charge*

This major offers teaching options in Early Childhood Education and in Elementary Education. Students successfully completing this major will have met all of the requirements for the N-3 or K-6 College Instructional I certificate issued by the Pennsylvania Department of Education. Students must indicate their choice of teaching option at the time they make application for admission to a teacher education major. Students who are undecided at this time about which teaching option to select should contact their adviser and enroll in a field experience featuring participation in the classroom.

EARLY CHILDHOOD TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the N-3 Instructional I certificate issued by the Pennsylvania Department of Education. Special courses in both human development and education are used to integrate understanding of preschool programs with relevant theories of child development.

ELEMENTARY EDUCATION TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the K-6 Instructional I certificate issued by the Pennsylvania Department of Education.

For the B.S. degree in Elementary and Kindergarten Education, a minimum of 129.5 credits is required for the Early Childhood Teaching Option and a minimum of 122 credits is required for the Elementary Education Teaching Option. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 101-117 credits
(This includes 27-30 credits of General Education courses: 6 credits of GS, 6 credits of GQ, 6 credits of GH, and 9 credits of GN courses for both options. The Early Childhood Teaching option permits 3 credits of GHA.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 84.5-85.5 credits**[1]**

PRESCRIBED COURSES (57.5 credits)
C I 295(2), EDPSY 014(3), ENGL 100(3), MATH 200 GQ(3) (Sem: 1-4)
A ED 303(3), C I 495B(3), C I 495D(12), C I 495F(3), KINES 126(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), MUSIC 241(3), SCIED 458(3), SPLED 400(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-3)
HIST 020 GH;US(3) or HIST 021 GH;US(3) (Sem: 1-4)
STAT 100 GQ(3), STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) or ECON 014 GS(3) (Sem: 1-8)
GEOG 020 GS;US;IL(3), GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 124 GS;IL(3), or GEOG 128 GS;IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature GH (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from the following GN biological science, earth science and physical science (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 16.5-30 credits

EARLY CHILDHOOD TEACHING OPTION: (27-30 credits)**[1]**

PRESCRIBED COURSES (15 credits)
E C E 451(3), E C E 452(3), E C E 453(2), E C E 454(3), E C E 479(3), C I 495A(1) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
H P A 101(3) or NUTR 251 GHA(3) (Sem: 1-2)
HD FS 315 US(3) or SOC 030 GS(3) (Sem: 1-4)
HD FS 229 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)
HD FS 428(3) or HD FS 429(3) (Sem: 5-8)

ELEMENTARY EDUCATION TEACHING OPTION: (16.5-19.5 credits)**[1]**

PRESCRIBED COURSES (1.5 credit)
KINES 127(1.5) (Sem: 5-8)

ADDITIONAL COURSES (3-6 credits)
HD FS 229 GS(3) or EDPSY 010 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in MATH or MTHED (Sem: 1-8)
Select 6 credits from EDTHP at the 400 level, ECE at the 400 level, SPLED at the 400 level, EDLDR 405(3), EDLDR 497(1-9), LL ED 497(1-9) (Sem: 5-8)
Select 3 credits in U.S. History (Sem:1-8)

[1] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-097

Review Date: 2/12/08

UCA Revision #1: 8/3/06

ED

Elementary and Kindergarten Education

Altoona College (EEDAL): Elementary Education Teaching Option
Berks College (EEDBL)
University College: Penn State Lehigh Valley (EEDCC): Elementary Education Teaching Option
University Park, College of Education (EK ED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JACQUELINE EDMONDSON, *in charge*

This major offers teaching options in Early Childhood Education and in Elementary Education. Students successfully completing this major will have met all of the requirements for the N-3 or K-6 College Instructional I certificate issued by the Pennsylvania Department of Education. Students must indicate their choice of teaching option at the time they make application for admission to a teacher education major. Students who are undecided at this time about which teaching option to select should contact their adviser and enroll in a field experience featuring participation in the classroom.

EARLY CHILDHOOD TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the N-3 Instructional I certificate issued by the Pennsylvania Department of Education. Special courses in both human development and education are used to integrate understanding of preschool programs with relevant theories of child development.

ELEMENTARY EDUCATION TEACHING OPTION: Students successfully completing this option will have met all of the requirements for the K-6 Instructional I certificate issued by the Pennsylvania Department of Education.

For the B.S. degree in Elementary and Kindergarten Education, a minimum of 129.5 credits is required for the Early Childhood Teaching Option and a minimum of 122 credits is required for the Elementary Education Teaching Option. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 101-117 credits
(This includes 27-30 credits of General Education courses: 6 credits of GS, 6 credits of GQ, 6 credits of GH, and 9 credits of GN courses for both options. The Early Childhood Teaching option permits 3 credits of GHA.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 84.5-85.5 credits**[1]**

PRESCRIBED COURSES (57.5 credits)
C I 295(2), EDPSY 014(3), ENGL 100(3), MATH 200 GQ(3) (Sem: 1-4)
A ED 303(3), C I 495B(3), C I 495D(12), C I 495F(3), KINES 126(1.5), LL ED 400(3), LL ED 401(3), LL ED 402(3), MTHED 420(3), MUSIC 241(3), SCIED 458(3), SPLED 400(3), SS ED 430W(3) (Sem: 5-8)

ADDITIONAL COURSES (15-16 credits)
EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-3)
HIST 020 GH;US(3) or HIST 021 GH;US(3) (Sem: 1-4)
STAT 100 GQ(3), STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) or ECON 014 GS(3) (Sem: 1-8)
GEOG 020 GS;US;IL(3), GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 124 GS;IL(3), or GEOG 128 GS;IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in literature GH (Sem: 1-4)
Select 9 credits: 3 credits each (including one course with a lab) from the following GN biological science, earth science and physical science (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 16.5-30 credits

EARLY CHILDHOOD TEACHING OPTION: (27-30 credits)**[1]**

PRESCRIBED COURSES (15 credits)
E C E 451(3), E C E 452(3), E C E 453(2), E C E 454(3), E C E 479(3), C I 495A(1) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
H P A 101(3) or NUTR 251 GHA(3) (Sem: 1-2)
HD FS 315 US(3) or SOC 030 GS(3) (Sem: 1-4)
HD FS 229 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)
HD FS 428(3) or HD FS 429(3) (Sem: 5-8)

ELEMENTARY EDUCATION TEACHING OPTION: (16.5-19.5 credits)**[1]**

PRESCRIBED COURSES (1.5 credit)
KINES 127(1.5) (Sem: 5-8)

ADDITIONAL COURSES (3-6 credits)
HD FS 229 GS(3) or EDPSY 010 GS(3) or PSYCH 100 GS(3) and PSYCH 212 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in MATH or MTHED (Sem: 1-8)
Select 6 credits from EDTHP at the 400 level, ECE at the 400 level, SPLED at the 400 level, EDLDR 405(3), EDLDR 497(1-9), LL ED 497(1-9) (Sem: 5-8)
Select 3 credits in U.S. History (Sem:1-8)

[1] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-097

Review Date: 2/12/08

UCA Revision #1: 8/3/06

ED

Elementary Education

Capital College (ELEM)

PROFESSOR COLLEEN WILLARD-HOLT, *Elementary Education Coordinator, School of Behavioral Sciences and Education*

The Elementary Education program at Penn State Harrisburg embodies the four tenets of our conceptual framework: constructivism, authenticity, reflectivity, and standards-based curriculum. constructivism entails a student-centered approach in which teachers help learners build their own understandings. Authenticity refers to developing professional and pedagogical skills in authentic classroom settings; for example, in the junior and senior years prior to student teaching, the program offers extensive field experiences in a variety of settings enrolling students with diverse backgrounds and needs. Reflectivity relates to consciously analyzing course content and one's own learning for the purpose of deeper understanding and self-improvement. Standards-based curriculum means that our candidates are steeped in Pennsylvania Academic Standards as well as the standards of relevant professional organizations. Taken together, these tenets enable our candidates to become *lifelong reflective professionals committed to the learning of all students*.

Prior to the full-time student teaching experience in the senior year, candidates are expected to complete all other courses required for certification, including two field placements. On-campus courses are scheduled three or four days a week, while field experiences in nearby schools are scheduled part-time, three or four days per week.

For a B. ELED. degree in Elementary Education, a minimum of 124 credits is required.

For a B. ELED. degree in Elementary Education with Early Childhood Education Certification, a minimum of 133 credits is required.

Admission Requirements:
Applicants should have completed most of their first two years of college as well as the Entry to Major Requirements listed below with at least a 3.0 cumulative GPA (4.0 scale). The evaluation of prior college work is done on an individual basis by the Office of Enrollment Services at Penn State Harrisburg.

Entry to Major Requirements:
Entry to the Elementary Education major or the Elementary Education major with Early Childhood Certification requires the completion of 57 or more credits in required courses and the state's minimum cumulative GPA criteria of 3.0. Candidates must complete, with a grade of "C" or better, six (6) credits of college-level mathematics (MATH or STAT prefix), three (3) credits of college-level English literature and three (3) credits of college-level English composition. Candidates thinking seriously about education should plan their freshman and sophomore years carefully. Semesters 5 through 8 are very structured.

Selective Retention:
Monitoring candidate progress in the elementary education program will occur each semester while the candidate is participating in the elementary education program. Candidates will be required to submit their scores for the Praxis I examinations in reading, writing, and mathematics prior to the end of their fifth semester. Candidates will be evaluated for retention in the program based on (1) maintaining a cumulative GPA of 3.0 or higher; (2) performance on the Praxis I tests; (3) satisfactory completion of required courses, including the field experience component; (4) adequate writing and speaking skills as demonstrated in various classroom assignments; and (5) a positive rating on the Penn State Harrisburg Professional Dispositions for Teacher Education Programs monitoring form.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education Course Requirements in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 105-114 credits**[1]**
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GH courses; 6 credits of GS courses)

PRESCRIBED COURSES (75 credits)
MATH 200 GQ(3) (Sem: 1-4)
EDPSY 014(3), EDTHP 115 US(3), C I 295(2) (Sem: 3-4)
EDUC 302(3), EDUC 305(3), EDUC 421(3), EDUC 462(3), EDUC 470W(3) (Sem: 5-6)
EDMTH 301(3), EDSCI 454(3), EDUC 304(3), EDUC 320(3), EDUC 352(3), EDUC 495A(1) (Sem: 5-6)
EDMTH 302(3), EDUC 303(3), EDUC 321(3), EDUC 353(3), EDUC 371(3), EDUC 385(3), EDUC 490(12), EDUC 495B(1), HLTH 306(2) (Sem: 7-8)

ADDITIONAL COURSES (27-36 credits)
Select 3 credits of GN physical science from: ASTRO, CHEM, EARTH, EM SC, GEOSC, MATSC, MATSE, METEO, PHYS (Sem: 1-4)
Select 3 credits of GN biological science from: B M B, BIOL, BI SC (Sem: 1-4)
Select 3 credits of GN environmental science from: BI SC 003 GN(3), BIOL 120A GN;US;IL(3), BIOL 120B GN;US(3), BIOL 120C GN;IL(3), BIOL 127 GN(3), or HORT 101 GN(3) (Sem: 1-4)
Select 3 credits from: ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 1-4)
Select 3 credits from: HIST 003 GH(3), HIST 012 GH;US(3), HIST 020 GH;US(3), or HIST 021 GH;US(3) (Sem: 1-4)
Select 3-5 credits from: MATH 017 GQ(3), MATH 018 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), MATH 026 GQ(3), MATH 040 GQ(5), MATH 110 GQ(4), MATH 220 GQ(2-3), STAT 100 GQ(3), STAT 200 GQ(4), STAT 250 GQ(3), or STAT 301 GQ(3) (Sem: 1-4)
Select 3 credits from: PSYCH 212 GS(3) or HD FS 229 GS(3) (Sem: 1-4)
Select 3 credits of literature from: CMLIT 001 GH;IL(3), CMLIT 001H GH;IL(3), CMLIT 002 GH;IL(3), CMLIT 003 GH;IL(3), CMLIT 004 GH;IL(3), CMLIT 004H GH;IL(3), CMLIT 005 GH;US;IL(3), CMLIT 006 GH;IL(3), CMLIT 010 GH;IL(3), CMLIT 011 GH;IL(3), CMLIT 100 GH;IL(3), CMLIT 101 GH;US;IL(3), CMLIT 105 GH;IL(3), CMLIT 106 GH;IL(3), CMLIT 107 GH;IL(3), CMLIT 108 GH;IL(3), CMLIT 110 GH;US;IL(3), CMLIT 111 GH;IL(3), CMLIT 141 GH;US;IL(3), CMLIT 184 GH;IL(3), CMLIT 185 GH;IL(3), CMLIT 189 GH;IL(3), ENGL 001 GH(3), ENGL 001W GH(3), ENGL 002 GH(3), ENGL 003 GH(3), ENGL 104 GH(3), ENGL 129 GH(3), ENGL 129H GH(3), ENGL 133 GH(3), ENGL 134 GH(3), ENGL 135 GH;US(3), ENGL 135S GH;US(3), ENGL 139 GH;US(3), ENGL 140 GH(3), ENGL 180 GH(3), ENGL 182A GH;US;IL(3), ENGL 182B GH;US(3), ENGL 182C GH;IL(3), ENGL 184 GH;IL(3), ENGL 184S GH(3), ENGL 185 GH;IL(3), ENGL 189 GH;IL(3), ENGL 191 GH(3), ENGL 194 GH;US;IL(3), ENGL 194H GH;US;IL(3), ENGL 262 GH(3), ENGL 263 GH(3), ENGL 265 GH(3), ENGL 268 GH(3) (Sem: 1-4)
Select 3-12 credits from one of the following:
a) for the degree in Elementary Education take EDUC 315W US(3) (Sem: 5-6)
b) for the degree in Elementary Education with Early Childhood Education Certification take EDUC 401(3), EDUC 403(3), EDUC 404(3), EDUC 410(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits of geography (Sem: 1-6)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2008

Blue Sheet Item #: 36-03-002

Review Date: 11/27/07

UCA Revision #1: 8/3/06

Comments

CL

PROGRAM CURRENTLY ON HOLD;
NOT ACCEPTING NEW STUDENTS
Begin Date of Enrollment Hold: April 15, 2010

Elementary Education in Multicultural Settings

University College (ELEDM): Penn State Brandywine

PROFESSOR SUELLEN BUTLER, *Program Head, Brandywine Campus*

This major offers extensive teacher preparation for those students seeking training to prepare for the challenges of teaching in schools with diverse student bodies. The program offers extensive field experiences beginning in the first year and continuing through student teaching, emphasizing the problems faced by teachers in multicultural and metropolitan environments.

Students successfully completing this major will have met all of the requirements for the Elementary Education, K-6 Instructional I certificates issued by the Pennsylvania Department of Education. Students apply for entry into this major prior to the completion of their sophomore year of collegiate study. (See also Teacher Education Programs.)

For the B.S. degree in Elementary Education in Multicultural Settings, 125-131 credits are required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(33 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR**)**

ELECTIVES: 0-2 credits

REQUIREMENTS FOR THE MAJOR: 113-117 credits**[18]**
(This includes 33 credits of General Education courses: 6 credits of GQ courses, 9 credits of GN courses, 6 credits of GA courses, 6 credits of GH courses, 6 credits of GS courses.)

PRESCRIBED COURSES (71 credits)
A ED 303(3), C I 295(2), EDPSY 014(3), EDTHP 115A GS;US(3), MATH 200 GQ(3) (Sem: 3-4)
EDTHP 411 US(3), KINES 127(1.5), MUSIC 241(3) ELEDM 400(3) (Sem: 5)
ELEDM 395W(6) (Sem: 5-7)
ELEDM 401A(3), ELEDM 401B(3), ELEDM 401C(3), KINES 126(1.5) (Sem: 5-6)
ELEDM 402(3), ELEDM 403(6), SPLED 400(3), SS ED 430W(3) (Sem: 7)
C I 495D(12), C I 495F(3) (Sem: 8)

ADDITIONAL COURSES (33-36 credits)
Select 9-10 credits; 3-4 credits each from a, b, and c, including at least one lab course (may double count for General Education GN):

1. ANTH 021 GN(3), BI SC 001 GN(3), BI SC 002 GN(3), BI SC 003 GN(3), BI SC 004 GN(3), BIOL 110 GN(4), BIOL 129 GN(4), BIOL 141 GN(3), (Sem: 1-4)
2. ASTRO 001 GN(3), CHEM 001 GN(3), CHEM 003 GN(3), CHEM 110 GN(3), CHEM 111 GN(1), MATSE 101 GN(3), MATSE 081 GN;IL(3), PHYS 001 GN(3) (Sem: 1-4)
3. EARTH 002 GN(3), EARTH 100GN(3), EM SC 150 GN;IL(3)/S T S 150 GN;IL(3), GEOG 010 GN(3), GEOSC 020 GN(3), GEOSC 021 GN(3), METEO 003 GN(3), METEO 101 GN(3) (Sem: 1-4)

Select 6 credits; 3 credits each from a and b (may double count for General Education GA):

1. ART H 112 GA;IL(3), ART H 120 GA;IL(3), ART H 130 GA;US;IL(3), ART H 320 GA;IL(3), INART 001 GA(3), INART 005 GA(3), INART 010 GA(3), MUSIC 005 GA(3), MUSIC 007 GA;US(3), MUSIC 009 GA;IL(3) (Sem: 1-4)
2. ART 010 GA(3), COMM 150 GA(3), ENGL 050 GA(3), THEA 100 GA US;IL(3), THEA 102 GA(3), THEA 105 GA(3) (Sem: 1-4)

Select 3 credits from (may double count for General Education GH): HIST 020 GH;US(3), HIST 021 GH;US(3) (Sem: 1-4)
Select 3 credits from (may double count for General Education GS): EDPSY 010 GS(3), HD FS 229 GS(3), PSYCH 212 GS(3) (Sem: 1-4)
Select 3-4 credits from (may double count for General Education GS): PSYCH 100 GS(3), SOC 005 GS(3) SOC 015 GS(3), SOC 119 GS;US(4), HD FS 129 GS(3), COMM 100 GS(3) (Sem: 1-4)
Select 3 credits from ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3) (Sem: 1-4)

Select 3 credits from GEOG 020 GS;US;IL(3), GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 124 GS;IL(3), GEOG 128 GS;IL(3) (Sem: 3-4)
Select 3-4 credits from (may double count for General Education GQ): STAT 100 GQ(3), STAT 200 GQ(4), EDPSY 101 GQ(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (9-10 credits)
Select 3 credits of literature courses from department list (may double count for General Education GH) (Sem: 1-4)
Select 3 credits of American History courses from department list (Sem: 1-4)
Select 3-4 credits of MATH, STAT, or CMPSC from department list (Sem: 1-4)

[18] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-04-067

Review Date: 1/17/06

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

UC

Energy Engineering

University Park, College of Earth and Mineral Sciences (ENENG)

PROFESSOR SARMA V. PISUPATI*, Undergraduate Program Officer*

The undergraduate program in energy engineering is designed to reflect the growing impact and demand for energy in society and to equip students with the knowledge necessary to achieve the following career and professional accomplishments or program educational objectives: become valuable contributors in addressing society's energy needs and demands; successful leaders in advancing the technology and management of energy; innovators and entrepreneurs in the energy sector; and educators, practicing engineers, and national leaders on energy and associated environmental, health and safety, and policy and economics issues. The program integrates skill sets in the physical sciences (chemistry, engineering, mathematics, and physics) and social sciences (economics, policy, and management) to ensure successful career opportunities and growth within energy-related industries, government agencies, and academia.

The courses are structured to enable students to understand engineering fundamentals and apply the knowledge to solve problems in the production, processing, storage, distribution, and utilization of energy using multiple techniques as synthesis, analysis, design and case studies. Inquiry-based teaching methods and lab experiences are emphasized. The faculty research and scholarly activities are integrated into the curriculum. The program is designed to train students to be lifelong learners, problem solvers, and energy industry leaders. The educational opportunities are sufficiently flexible, broad, and diverse to enable students to tailor their educational experience to particular interests, background, and expected role in society. Flexibility in the curriculum allows other students in energy related programs such as agricultural and biological, chemical, civil, electrical, environmental, mechanical, mining, nuclear, and petroleum engineering, materials science and engineering, industrial health and safety, and energy business and finance to have dual or concurrent degrees, minors, or options (e.g., energy and fuels engineering option in chemical engineering).

The integration of knowledge and skills acquired should enable graduates of the program to accomplish the following program educational outcomes:
- Solve energy and associated environmental problems using the fundamental knowledge in basic mathematical, chemical, physical, and social sciences learned.
- Design and conduct experiments, acquire data, and define, analyze, and interpret data, and solve practical, complex, energy engineering problems.
- Integrate professional, ethical, social, and environmental factors in energy engineering design and problem solving and understand the impact of these factors on global energy issues.
- Develop the ability to communicate effectively in writing and orally and build teamwork.
- Acquire the desire for lifelong learning to maintain technical competence and keep abreast of new developments in the field.

For the B.S. in Energy Engineering, a minimum of 131 credits is required.

GENERAL EDUCATION: 45 credits
(30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 116 credits
(This includes 30 credits of General Education courses: 3 credits of GH courses; 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (89 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), EM SC 100S GWS(3)**[88]**, MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4) (Sem: 1-2)
CHEM 210(3), E E 211(3), MATH 231(2), MATH 251(4), PHIL 103 GH(3), PHYS 212 GN(4) (Sem: 3-4)
EGEE 012(1), EGEE 302(3)**[1]**, EGEE 304(3)**[1]**, EGEE 411(3)**[1]**, EGEE 430 (3)**[1]**, EGEE 438(3)**[1]**, EME 301(3)**[1]**, EME 303(3)**[1]**, F SC 431(3), MATSE 201(3) (Sem: 5-6)
ENGL 202C GWS(3), EGEE 437(3), EGEE 441(3)**[1]**, EGEE 451(3)**[1]**, EGEE 464W(3)**[1]**, EGEE 494(2)**[1]**, F SC 432(3) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
E B F 200 GS(3) or ECON 002 GS(3) or ECON 014 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-4)
I E 302(3) or P N G 489(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits of EGEE electives from an approved list in consultation with an adviser.
Select 6 credits of professional courses from an approved list in consultation with an adviser. Other substitutions outside the approved list must be approved by petition.
Select 6 credits of technical electives from a broad list of energy related courses across colleges at Penn State. A list of

suggested courses from energy-related departments at Penn State is provided. (Students may apply 6 credits of ROTC to some of the elective choices.) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[88] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS can be substituted for EM SC 100S GWS; and an appropriate electrical circuits course may be approved as a substitute for E E 220.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-093

Review Date: 04/13/2010

EM

Energy Business and Finance

University Park, College of Earth and Mineral Sciences (EBF)
University Park, Smeal College of Business

The major in Energy Business and Finance, offered jointly by the College of Earth and Mineral Sciences and the Smeal College of Business, combines training in business, economics, finance, and the physical sciences with a core of courses focusing on energy and related industries. The major helps students prepare for careers in the energy industry, as well as financial institutions, nonprofit groups, and international organizations dealing with energy issues. The curriculum also provides a strong base for further study in business, economics, law, and social sciences.

GENERAL OPTION
The General option of the Energy Business and Finance major is appropriate for students who want a broad understanding of the earth and environmental sciences in preparation for careers in industry, commerce, and government.

GEOGRAPHIC INFORMATION SYSTEMS OPTION
This option in the major in Energy Business and Finance is appropriate for students who want a broad understanding of the earth and environmental sciences in preparation for careers in industry, commerce, and government. Such an understanding is available through the designated course work in Geographic Information Systems. The option is designed to develop competence in description, analysis, explanation, and management of problems arising from human use of natural resources and natural systems. GIS is an important tool that can be used to assess natural resources and environmental impacts across various geographic environments. Using GIS brings further depth to the analysis of the impacts of a variety of policy measures. These issues are of great prominence in the energy and natural resource industries, and the regulation of those industries. This curriculum also provides a strong base for further study in business, economics, law, and social sciences.

ENERGY SYSTEMS OPTION
EBF graduates will spend much of their professional careers working with engineers on a variety of energy related projects, or will desire a strong understanding of energy technologies and processes in order to make good financial and management decisions. The Energy Systems Option is designed to give EBF graduates a more rigorous background in engineering principles and applications together with a demanding economics and business curriculum. The option will give students a basic understanding of chemistry, physics, and other engineering principles critical to energy industries and technologies. Students will also take advanced courses in both energy engineering and economics.

For the B.S. degree in Energy Business and Finance, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-25 credits

REQUIREMENTS FOR THE MAJOR: 84-97 credits
(This includes 30 credits of General Education Courses: 9 credits of GN courses, 9 credits of GWS courses, 6 credits of GQ courses, and 6 credits of GS courses.

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 60-61 credits

PRESCRIBED COURSES (45 credits)

MATH 140 GQ(4)**[1]** (Sem: 1)
MATH 141 GQ(4)**[1]** (Sem: 2)
ECON 002 GS(3)**[1]**, EM SC 100S GWS(3) (Sem: 1)
E B F 200 GS(3)**[1]** (Sem: 3)
ACCTG 211(4), ECON 302 GS(3)**[1]** (Sem: 3-4)
E B F 301(3), E B F 304W(3) (Sem: 5-6)
I B 303 IL(3), INS 301(3) (Sem: 5-8)
E B F 401(3)**[1]**, E B F 473(3), E B F 484(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (15-16 credits)
CMPSC 101 GQ(3), CMPSC 200 GQ(3), CMPSC 201 GQ(3), CMPSC 202 GQ(3), or EM SC 468(3) (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
B A 243(4), B LAW 243(3), or E R M 411(3) (Sem: 3-4)
E B F 472(3), STAT 301 GQ(3), or STAT 401(3) (Sem: 3-4)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 24-36 credits

GENERAL OPTION: (24 credits)

ADDITIONAL COURSES (24 credits)
ECON 004 GS(3) (Sem: 3-4)
P N G 489(3) (Sem: 3-4)
Select 9 credits from: EARTH 100 GN(3), EARTH 101 GN;US(3), EARTH 103 GN(3), EARTH 111 GN;US(3), EARTH 150 GN(3), EGEE 101 GN(3), EGEE 102 GN(3), EGEE 120 GS;US;IL(3), GEOG 110 GN(3), GEOG 115 GN(3), GEOSC 002 GN(3), GEOSC 010 GN(3), GEOSC 020 GN(3), GEOSC 021 GN(3), GEOSC 040 GN(3), MATSE 081 GN;IL(3), METEO 003 GN(3), METEO 101 GN(3) (Sem: 3-6)
Select 9 credits from: CED 404(3), CED 429(3), CED 431W(3), ECON 428(3), ECON 490(3), GEOG 424 US;IL(3), GEOG 430(3), GEOG 431(3), GEOG 444(3), GEOG 493C(3), GEOSC 402Y IL(3), GEOSC 454(3), METEO 473(3), PL SC 490(3) (Sem: 5-8)

GEOGRAPHIC INFORMATION SYSTEMS OPTION (27 credits)

PRESCRIBED COURSES (9 credits)
GEOG 126 GS;US;IL(3)**[1]** (Sem: 3-4)
GEOG 160 GS(3)**[1]**, GEOG 363(3) (Sem: 3-4)

ADDITIONAL COURSES (18 credits)
Select 6 credits from: EARTH 100 GN(3), EARTH 101 GN;US(3), EARTH 103 GN(3), EARTH 111 GN;US(3), EARTH 150 GN(3), EGEE 101 GN(3), EGEE 102 GN(3), GEOG 110 GN(3), GEOG 115 GN(3), GEOSC 002 GN(3), GEOSC 010 GN(3), GEOSC 020 GN(3), GEOSC 021 GN(3), GEOSC 040 GN(3), MATSE 081 GN;IL(3), METEO 003 GN(3), METEO 101 GN(3), EGEE 120 GS;US;IL(3) (Sem: 3-6)
Select 3 credits from GEOG 361(3), GEOG 362(3), GEOG 464(3) (Sem: 5-6)
Select 9 credits from GEOG 461W(3), GEOG 463(3), GEOG 464(3), GEOG 467(3), GEOG 468(3), GEOG 485(3) [if not taken for requirement above] (Sem: 6-8) (Advanced GIS Elective)

ENERGY SYSTEMS OPTION (36 credits)

PRESCRIBED COURSES (18 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3) (Sem: 1-2)
PHYS 211 GN(4) (Sem: 3)
PHYS 212 GN(4) (Sem: 4)
P N G 489(3) (Sem: 5)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 9 credits in Engineering Principles:
EME 301(3)**[1]** (Sem:5)
EME 303 (3) **[1]** (Sem:5-6)
And 3 credits from: EGEE 302(3)**[1]**, EGEE 304(3)**[1]**, EGEE 430(3)**[1]**, M E 430(3)**[1]** (Sem: 5-6)

Select 9 credits is Engineering Applications from:
EGEE 420(3), EGEE 430(3) or M E 430(3), EGEE 437(3), EGEE 438(3), EGEE 441(3), EGEE 451(3), EGEE 470(3) or M E 470(3) [if not taken for requirement above], F SC 431(3), F SC 432(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 38-02-020

Review Date: 10/6/09

UCA Revision #1: 8/3/06

Minor editorial changes to comply with University editorial style (Publications): 8/23/06

EM

Engineering Science

University Park, College of Engineering (E SC)

PROFESSOR JUDITH A. TODD, *Head of the Department of Engineering Science and Mechanics, P. B. Breneman Department Head Chair*

Engineering Science is a multidisciplinary honors program that emphasizes enhanced understanding and integrated application of engineering, scientific, and mathematical principles. The program is unique because it provides a broad foundation in the sciences and associated mathematics that underlie engineering and provides students the opportunity to obtain a depth of knowledge in an area of their choosing through technical electives and an honors thesis. The curriculum is designed for students who seek to link the engineering disciplines with science. In addition to taking core courses in mathematics, physics, chemistry, and biology, students study thermodynamics, heat transfer, electromagnetics, solid and fluid mechanics, electrical devices, materials science, and failure analysis . During the senior year, all students select a focus area of study, complete a capstone project and write a thesis that integrates the scientific principles of research, design and analysis and applies them to engineering. Focus areas of study include, but are not limited to, electrical, mechanical, civil, bioengineering, and materials and are typically interdisciplinary. Hence, Engineering Science students achieve both depth and breadth in engineering and science, are able to function across disciplines, and graduate well prepared for advanced studies as well as professional employment.

The specific program objectives are tied to the mission of the program as described above. They target the major outcomes expected of Engineering Science students and are flexible and readily adaptable to meet changing constituent needs.

The expected accomplishments of Engineering Science graduates in the first several years following graduation are:

1. Participate in lifelong learning activities including, but not limited to, masters, doctorate, medical, and law degrees, continuing education, leadership development, management training, and global involvement/awareness.
2. Engage in practice in a wide variety of fields including, but not limited to, electrical systems, electronics, mechanical systems, materials development, forensics, biomaterials, medicine, law, and business.
3. Research, develop, design and/or utilize new products, processes, materials, devices, systems, and/or tools.
4. Communicate findings and best practices at conferences and meetings, by filing patents, in technical publications (journals, reports, memoranda), and to the general public.
5. Use state-of-the-art tools for the benefit of society.
6. Participate in and promote the value of diversity in society.
7. Encourage and foster future generations of engineers through mentoring, service, and outreach.

Enrollment is limited to students who have demonstrated that they can benefit from the advanced courses of the curriculum. A minimum grade-point average of 3.0 is partial demonstration of such competence. Qualified students can participate in the integrated undergraduate program to streamline the process of earning B.S. and M.S. degrees.

For the B.S. degree in Engineering Science, 131 credits and a 2.50 grade-point average are required. This baccalaureate program in Engineering Science is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org(Opens New Window).

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 113 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (65 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
MATH 220 GQ(2-3), MATH 230(4), MATH 251(4), PHYS 212 GN(4), PHYS 214 GN(2) (Sem: 3-4)
E E 210H(4), E E 340(3), E SC 312(3), E SC 407H(3)**[1]**, E SC 414M(3)**[1]**, E SC 433H(1), M E 302(4) (Sem: 5-6)
E SC 404H(3)**[1]**, E SC 410H(3), E SC 411H(3), ENGL 202C GWS(3) (Sem: 7-8)

ADDITIONAL COURSES (21 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
E SC 261M(3) or CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 1-2)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 1-2)

E MCH 110H(5)**[1]** or E MCH 210(5)**[1]**; E MCH 112H(3)**[1]** or E MCH 212(3)**[1]** (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (27 credits)**[32]**
Select 3 credits from the department Foundational Elective List (Sem: 1-2)
Select 12 credits from the department Foundational Elective List (Sem:5-6)
Select 12 credits from the department Technical Elective List (Students may apply 3 credits of ROTC or 3 credits of co-op experience.) (Sem: 7-8)

Integrated Undergraduate/Graduate Study - B.S. Engineering Science-M.S. Engineering Science

Engineering Science students, because of the flexibility of the curriculum and their strength in fundamentals, have a unique opportunity to take advantage of the ESM Integrated Undergraduate Graduate (IUG) program. Application for IUG status may be made in the fifth or subsequent semesters.

ITJG status permits students to take on the rigors and research challenges of graduate study at Penn State, coordinating and combining them with their baccalaureate studies. Because some credits earned as an undergraduate may be applied to both degree programs, the time required for completion of integrated undergraduate/graduate studies is normally less than that required to complete separate degree programs. The actual time required is determined by the individual student's objectives, needs, and diligence.

Integrated Undergraduate/Graduate Study - B.S. Engineering Science-M.S. Engineering Mechanics

Engineering Mechanics students, because of the flexibility of the curriculum and their strength in fundamentals, have a unique opportunity to take advantage of the ESM Integrated Undergraduate Graduate (IUG) program. Application for IUG status may be made in the fifth or subsequent semesters.

IUG status permits students to take on the rigors and research challenges of graduate study at Penn State, coordinating and combining them with their baccalaureate studies. Because some credits earned as an undergraduate may be applied to both degree programs, the time required for completion of integrated undergraduate/graduate studies is normally less than that required to complete separate degree programs. The actual time required is determined by the individual student's objectives, needs, and diligence.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[32] Three credits in engineering science, 2 credits in engineering design.

Last Revised by the Department: Summer Session 2006 (E SC); Summer Session 2005 (Integrated B.S./E.Sc.-M.S./E.Mch. & Integrated B.S./E.Sc.-M.S./E.Sc. AND Program Description)

Blue Sheet Item #: 34-04-028 (E SC); 33-04-176, 33-04-177 (Add Integrated B.S./E.Sc.-M.S./E.Mch. & Integrated B.S./E.Sc.-M.S./E. Sc.)

Review Date: 01/17/06

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

EN

English

Penn State Erie, The Behrend College (ELISH)

This major offers courses in literary and cultural studies, and in various forms of writing. Students majoring in English may select the Literature or the Professional Writing Option. Both options share a common core of 13 credits and provide a sound foundation in the liberal arts and opportunities to develop creative and analytical skills. Students in the Literature Option select courses from three separate areas--The Canon and Its Critics, Cultural Studies, and Globality and Literature--and develop a broad understanding of the ways in which literature works in various critical and cultural contexts. Students in the Professional Writing Option follow a sequence of courses designed to develop and enhance writing skills in areas directly relevant to business and technical applications.

For the B.A. degree in English, a minimum of 121 credits is required. Each student must earn at least a grade of C or above in all courses required under Common Requirements, Prescribed, Additional, and Supporting courses.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 6 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)

(See description of Bachelor of Arts Degree Requirements in this bulletin)

REQUIREMENTS FOR THE MAJOR: 46 credits

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 13 credits

PRESCRIBED COURSES (13 credits)
CMPSC 100(1) (Sem: 1-4)
ENGL 200(3) (Sem: 3-4)
ENGL 311(3), ENGL 312(3) (Sem: 3-6)
ENGL 444(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 33 credits

LITERATURE OPTION: 33 credits

PRESCRIBED COURSES (9 credits)
ENGL 482W(3) (Sem: 5-8)
ENGL 494(6) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
Select 3 credits at the 200 level or below from The Canon and Its Critics (Sem: 1-8)
Select 3 credits at the 200 level or below from Globality and Literature (Sem: 1-8)
Select 3 credits at the 200 level or below from Cultural Studies (Sem: 1-8)
Select 3 credits at the 400 level from The Canon and its Critics (Sem: 5-8)
Select 3 credits at the 400 level from Globality and Literature (Sem: 5-8)
Select 3 credits at the 400 level from Cultural Studies (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from any of the three areas (The Canon and Its Critics, Globality and Literature, and Cultural Studies) at any level (Sem: 1-8)

REQUIREMENTS FOR THE PROFESSIONAL WRITING OPTION: 33 credits

PRESCRIBED COURSES (18 credits)
ENGL 100(3), ENGL 215(3), (Sem: 1-4)
ENGL 482W(3), ENGL 417(3) (Sem: 5-8)
ENGL 418(3) or ENGL 419(3) (Sem: 5-8)
ENGL 495(3) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits from the following list, with at least 9 credits at the 400 level
COMM 260W(3); ENGL 262 GH(3) or ENGL 263 GH(3) or ENGL 265 GH(3) (Sem: 3-6)

COMM 315(3) (Sem: 4-6)
ENGL 415(3), ENGL 420(3), ENGL 425(3), ENGL 439(3) (Sem: 5-8)
ENGL 479(1-3) (Sem: 7-8)

SUPPORTING COURSES (3 credits)
COMM 001(1-3) (Sem: 1-8)
COMM 320(3), COMM 370(3), COMM 471(3), MKTG 301(3) (Sem: 5-6)
COMM 002(2-3), COMM 406(3), COMM 460W(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-06-007

Review Date: 04/12/05

UCA Revision #2: 7/27/07

BC

English

Capital College (ENGCL)

PROFESSOR PATRICIA E. JOHNSON, *Program Coordinator*

This English major, with its two options, offers students the unique opportunity to study literature in an interdisciplinary context where the relationships among literature and art, history, music, philosophy, media, and American Studies can be investigated. The major offers courses in American, British, and world literatures, emphasizing their cultural and historical contexts as well as teaching students to interpret them from a variety of critical perspectives. Small classes in both creative and expository writing encourage students to develop their writing skills by working closely with faculty.

For a B. HUM. degree in English, a minimum of 120 credits is required. For the B. HUM. degree in English with Secondary Education Option, a minimum of 123 credits is required.

GENERAL ENGLISH OPTION: With its emphases on interpretive skills, creativity, and writing, the General English Option provides a foundation for careers in such fields as publishing, public relations, communication, government and law, as well as a strong basis for graduate education.

Entry to Major Requirements:
Entry to the English major requires a 2.00 or higher cumulative grade-point average.

SECONDARY EDUCATION OPTION: The Secondary Education Option prepares students to meet the requirements, as established by the Pennsylvania Department of Education, to be certified for the Instructional I Certificate in Communication/English.

The following requirements for entry to the Secondary Education Option are in addition to those for entrance to the ENGCL major: (1) Students must have a cumulative grade-point average to meet or exceed the state's required minimum GPA of 3.0. (2) In addition the students must have a grade of "C" or better in six credits of college-level mathematics (MATH or STAT prefixes), three credits of college-level English literature, and three credits of English composition.

At the conclusion of the first semester in the Secondary Education Program, students will be evaluated for retention in the program. Retention will be based upon: (1) satisfactory completion of the first semester courses; (2) adequate speaking and writing skills as demonstrated in various classroom assignments; (3) the maintenance of a GPA of 3.0 or higher; (4) submission of scores on the *PRAXIS I Pre-Professional Skills Test*; and (5) an acceptable rating on the *Penn State Harrisburg Professional Dispositions for Teacher Education Programs* form.

To be eligible to student teach, students must: (1) submit and pass the *Writing Proficiency Portfolio* that demonstrates their proficiency as writers (see English Program Coordinator for specific instructions and deadlines); (2) maintain a GPA of at least 3.0; (3) have a C or above in all required content and methods courses; (4) satisfactorily complete all key assessments (see Secondary Education Handbook for definition of the key assessments); (5) receive a passing score on the *PRAXIS I Pre-Professional Skills Test*; and (6) be rated acceptable or above on the *Professional Dispositions for Teacher Education Programs* form (see Secondary Education handbook).

In order to successfully complete the program, secondary education candidates must complete a presentation portfolio and must be rated acceptable or better on all aspects of the *Professional Dispositions for Teacher Education Programs* form.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-6 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1-18 credits

BACHELOR OF HUMANITIES DEGREE REQUIREMENTS: 18 credits
(See description of Bachelor of Humanities Degree Requirements in *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 45-65 credits
(This includes 6-12 of General Education courses: General English Option, 6 credits of General Education Arts (GA) and/or Social and Behavioral Science (GS) courses; Secondary Education Option, 6 credits of General Education Quantification (GQ) courses, 3 credits of General Education Social Sciences (GS) courses, and 3 credits of General Humanities (GH) courses.

At least 15 credits of Prescribed, Additional, and/or Supporting courses must be taken at the 400 level.

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 21 credits

PRESCRIBED COURSES (6 credits)**[1]**
ENGL 200W(3) (Sem: 5-6)

ENGL 444(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from the following: ENGL 221(3), ENGL 221W(3), ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W(3), ENGL 232(3), ENGL 232W(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits) (At least 9 credits must be at the 300-400 level)
Select 3 credits in American ethnic literature or African-American literature from department list (Sem: 3-8)
Select 3 credits in world literature or comparative literature from department list (Sem: 3-8)
Select 3 credits in American literature at the 300 or 400 level from department list (Sem: 5-8)**[1]**
Select 3 credits in British literature at the 300 or 400 level from department list (Sem: 5-8)**[1]**

REQUIREMENTS FOR THE OPTION: 24-50 credits

GENERAL ENGLISH OPTION: (24 credits)

ADDITIONAL COURSES (6 credits)
Select 3 credits from the following: ENGL 050 GA(3), ENGL 210(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 250(3), ENGL 412(3), ENGL 413(3), ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 418(3), ENGL 419(3), ENGL 420(3), ENGL 421(3), ENGL 422(3), ENGL 423(3), ENGL 425(3), ENGL 470(3), ENGL 491(3) (Sem: 3-8)**[1]**
Select 3 credits from the following ENGL 100(3), ENGL 191 GH(3), ENGL 196 GH:US:IL(3), ENGL 261(3), ENGL 262 GH(3), ENGL 263 GH(3), ENGL 265 GH(3), ENGL 268 GH(3), ENGL 400(3), ENGL 401(3), ENGL 407(3), ENGL 458(3), ENGL 482(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 12 credits in Literature, Writing, and/or Rhetoric (Sem: 3-8)
Select 6 credits from General Education Arts (GA) and/or Social and Behavioral Sciences (GS) (Sem: 3-8)

SECONDARY EDUCATION OPTION: (50 credits)

PRESCRIBED COURSES (41 credits)
HD FS 239 GS(3) (Sem: 1-2)
C I 280 GH(3) (Sem: 3-4)
EDUC 313(2), EDUC 314(3), EDUC 315W US(3), EDUC 322(3), EDUC 416(3), EDUC 458(3), EDUC 490(12) (Sem: 5-8)
EDUC 459(3), ENGL 470(3) (Sem: 6-7)**[1]**

ADDITIONAL COURSES (9 credits)
Select 6 credits of General Education Quantification courses (GQ) with a MATH or STAT prefix (Sem: 1-4)
Select 3 credits from the following: ENGL 489(3), ENGL 492(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-066

Review Date: 04/13/2010

Program coordinator updated by Publications: 9/29/06

CL

English

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Mont Alto, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

PROFESSOR ROBIN G. SCHULZE, *Head*

Majors explore the imaginative and practical uses of English through courses in literature, writing, rhetoric, and language. They develop perspectives on human nature and cultural values through American, British, and other English literatures; they learn how to gather, analyze, synthesize, and communicate information; they gain mastery over their language. These skills help English majors find careers in such fields as publishing, business, industry, government, and teaching. English majors often go on to postgraduate study not only in English but in such areas as law, business, education, or other liberal disciplines.

Majors can emphasize writing, literature, or rhetoric, or a mix of literature, writing, and rhetoric. All provide a liberal education and all develop analytic and writing skills. Qualified students may participate in the career internship and in the English honors program.

Students interested in earning certification in secondary education should contact the College of Education, Department of Curriculum and Instruction. (See also Teacher Education Programs.)

For the B.A. degree in English, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (6 credits)
ENGL 200(3), ENGL 201 GH(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from ENGL 221(3) or ENGL 221W(3) (Sem: 1-6)
Select 3 credits from ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W(3), ENGL 232(3), ENGL 232W(3), or ENGL 235 US(3) (Sem: 1-6)
Select 3 credits from ENGL 310H(3) or ENGL 487W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits in literature, writing, or rhetoric (Sem: 1-8)
Select 3 credits at the 300 or 400 level in literature primarily before 1800 from department list (Sem: 5-8)
Select 3 credits at the 300 or 400 level in post-1800 multicultural/minority subject matter or in post-1800 sex and gender studies or in post-1800 postcolonial studies (Sem: 5-8)
Select 9 credits at the 300 or 400 level in literature, writing, or rhetoric (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-234

Review Date: 1/16/07

Comments

LA

English

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Mont Alto, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

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Majors can emphasize writing, literature, or rhetoric, or a mix of literature, writing, and rhetoric. All provide a liberal education and all develop analytic and writing skills. Qualified students may participate in the career internship and in the English honors program.

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For the B.A. degree in English, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (6 credits)
ENGL 200(3), ENGL 201 GH(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from ENGL 221(3) or ENGL 221W(3) (Sem: 1-6)
Select 3 credits from ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W(3), ENGL 232(3), ENGL 232W(3), or ENGL 235 US(3) (Sem: 1-6)
Select 3 credits from ENGL 310H(3) or ENGL 487W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits in literature, writing, or rhetoric (Sem: 1-8)
Select 3 credits at the 300 or 400 level in literature primarily before 1800 from department list (Sem: 5-8)
Select 3 credits at the 300 or 400 level in post-1800 multicultural/minority subject matter or in post-1800 sex and gender studies or in post-1800 postcolonial studies (Sem: 5-8)
Select 9 credits at the 300 or 400 level in literature, writing, or rhetoric (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-234

Review Date: 1/16/07

Comments

LA

English

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Mont Alto, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

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For the B.A. degree in English, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (6 credits)
ENGL 200(3), ENGL 201 GH(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from ENGL 221(3) or ENGL 221W(3) (Sem: 1-6)
Select 3 credits from ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W(3), ENGL 232(3), ENGL 232W(3), or ENGL 235 US(3) (Sem: 1-6)
Select 3 credits from ENGL 310H(3) or ENGL 487W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits in literature, writing, or rhetoric (Sem: 1-8)
Select 3 credits at the 300 or 400 level in literature primarily before 1800 from department list (Sem: 5-8)
Select 3 credits at the 300 or 400 level in post-1800 multicultural/minority subject matter or in post-1800 sex and gender studies or in post-1800 postcolonial studies (Sem: 5-8)
Select 9 credits at the 300 or 400 level in literature, writing, or rhetoric (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-234

Review Date: 1/16/07

Comments

LA

English

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Mont Alto, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

PROFESSOR ROBIN G. SCHULZE, *Head*

Majors explore the imaginative and practical uses of English through courses in literature, writing, rhetoric, and language. They develop perspectives on human nature and cultural values through American, British, and other English literatures; they learn how to gather, analyze, synthesize, and communicate information; they gain mastery over their language. These skills help English majors find careers in such fields as publishing, business, industry, government, and teaching. English majors often go on to postgraduate study not only in English but in such areas as law, business, education, or other liberal disciplines.

Majors can emphasize writing, literature, or rhetoric, or a mix of literature, writing, and rhetoric. All provide a liberal education and all develop analytic and writing skills. Qualified students may participate in the career internship and in the English honors program.

Students interested in earning certification in secondary education should contact the College of Education, Department of Curriculum and Instruction. (See also Teacher Education Programs.)

For the B.A. degree in English, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (6 credits)
ENGL 200(3), ENGL 201 GH(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from ENGL 221(3) or ENGL 221W(3) (Sem: 1-6)
Select 3 credits from ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W(3), ENGL 232(3), ENGL 232W(3), or ENGL 235 US(3) (Sem: 1-6)
Select 3 credits from ENGL 310H(3) or ENGL 487W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits in literature, writing, or rhetoric (Sem: 1-8)
Select 3 credits at the 300 or 400 level in literature primarily before 1800 from department list (Sem: 5-8)
Select 3 credits at the 300 or 400 level in post-1800 multicultural/minority subject matter or in post-1800 sex and gender studies or in post-1800 postcolonial studies (Sem: 5-8)
Select 9 credits at the 300 or 400 level in literature, writing, or rhetoric (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-234

Review Date: 1/16/07

Comments

LA

Environmental Engineering

Capital College (ENVE)

PROFESSOR THOMAS H. EBERLEIN, *Program Chair*

The Environmental Engineering major helps graduates obtain the skills necessary to analyze, design, and manage air pollution control, water supply, waste water treatment, solid waste handling, and hazardous waste systems. A thorough background in engineering fundamentals is provided by a broad core of courses in basic science and mathematics emphasizing sciences such as chemistry and microbiology.

A sequence of environmental engineering design courses distinguishes the undergraduate program. In the senior year, a majority of the environmental engineering courses, such as Solid Waste Management, Treatment Plant Design, Hydraulic Design, and Hazardous Waste Management, utilize a team approach to meet project design objectives. These courses also emphasize written and oral communication of engineering concepts and project results. There is a considerable emphasis on conservation, reuse, and pollution prevention as pollution control strategies in these courses.

Environmental Engineering students are qualified to take the Fundamentals of Engineering (FE) examination leading to certification as an Engineer-in-Training (EIT) and, with appropriate experience after graduation, sit for the Principles and Practice of Engineering (PE) examination leading to registration as a Professional Engineer. They are also qualified to pursue graduate education in Environmental Engineering or other related majors such as Environmental Pollution Control. ENVE graduates are qualified to work at the entry level in a variety of jobs related to environmental protection and management in government and private industry.

For a B.S. degree in Environmental Engineering, a minimum of 131 credits is required.

Entry to Major Requirements:
A 2.00 or higher cumulative grade-point average is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of the 45 credits are included among the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1-4 credits

REQUIREMENTS FOR THE MAJOR: 103-106 credits
(This includes 21 credits of General Education courses: 3 credits of GWS courses; 9 credits of GN courses; 3 credits of GS courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (76 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), EDSGN 100(3) (Sem: 1-2)
MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4) (Sem: 1-2)
ENGL 202C GWS(3) (Sem: 1-4)
PHYS 212 GN(4), SSET 295(1) (Sem: 3-4)
E MCH 211(3), E MCH 212(3) (Sem: 3-6)
CHEM 301(3)**[1]**, ENVE 301W(3), GEOSC 303(3), I ENG 302(2), M ENG 322(3) (Sem: 5-6)
ENVE 401(1), ENVE 411(3)**[1]**, ENVE 413W(3)**[1]**, ENVE 415(3), ENVE 416(3)**[1]**, ENVE 417(3), ENVE 424(3)**[1]**, ENVE 425(3), ENVE 470(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (24-27 credits)
Select 3-4 credits from CMPSC 101 GQ(3) or CMPSC 121 GQ(3) or CMPSC 201 GQ(3) or CMPSC 202(3) (Sem: 1-2)
Select 3 credits from ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-2)
Select 3 credits from C ENG 322(3) or E MCH 213(3) (Sem: 2-6)
Select 3 credits from CHEM 202(3) or CHEM 210(3) (Sem: 3-4)
Select 3-4 credits from E E 220(3) or EET 320(4) (Sem: 4-5)
Select 3 credits form MATH 250(3) or MA SC 440(3) (Sem: 3-5)
Select 3-4 credits from MA SC 422(3) or STAT 200 GQ(4) (Sem: 5-6)
Select 3 credits from C E 360(3) or C ENG 361(3)**[1]** (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from the following areas: C E, C E T, E E, EET, ENVE, M E, MET, I E, C ENG, I ENG, M ENG, MATH, CMPSC, STAT (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-07-185

Review Date: 6/13/06

Program coordinator updated by Publications: 9/29/06

UCA Revision #1: 8/4/06
UCA Revision #2: 7/30/07

CL

Environmental Resource Management

University Park, College of Agricultural Sciences (E R M)

PROFESSOR ROBERT D. SHANNON, *Program Coordinator*

Environmental Resource Management (E R M) is an interdisciplinary, science-based major designed to prepare students to understand and critically analyze environmental problems ranging from local to global in scale, identify solutions, and communicate ideas related to environmental and natural resource issues. The E R M major also focuses on human interactions with the environment by emphasizing the management of environmental resources. The E R M curriculum begins with foundation course work in the biological, physical and social sciences. Later courses apply these principles to the management and sustainability of the environment, and include environmental problem-solving, ecosystem management and environmental law. The third tier, offered through three options, affords considerable flexibility and the opportunity to specialize.

The major prepares students for employment in a variety of environmental positions, including environmental consulting, public agencies, and non profit organizations. Students are also prepared for graduate school or law school upon graduation. Realizing the wide range of career possibilities requiring diverse types of academic preparation, three options of study are available: the Environmental Science Option, the Soil Science Option and the Water Science Option.

In the Environmental Science Option, students select a minor or choose a group of courses (totaling at least 18 credits) that focus on a particular aspect of the environment. Examples include watersheds and water resources, climate change impacts, geographic information systems, energy and air pollution, ecology, environmental engineering, wildlife and fisheries science, and others. Courses and minors from across the University can be selected to develop a student's area of specialization in the Environmental Sciences Option.

In the Soil Science Option, students take courses in soil composition and properties, conservation, nutrient management, soil ecology, GIS and mapping. This option also allows the student to choose courses that support their strengths and interests. The option prepares students for positions with private, public, and non-profit firms that evaluate soils for various uses, delineate wetlands, perform environmental assessments, and identify and remediate contaminated soils.

In the Water Science Option, students take courses in hydrologic measurements, wetland conservation, stream restoration, stream and lake ecology, watershed management, and land use practices to control runoff and erosion. The option also prepares students for positions with private, public, and non-profit firms that evaluate water quality and quantity issues, delineate wetlands, perform environmental and hydrological assessments, and identify and remediate contaminated aquatic resources.

For the B.S. degree in Environmental Resource Management, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27-30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR: 1-3 credits
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-8 credits

REQUIREMENTS FOR THE MAJOR: 93-107 credits
(This includes 27-30 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GS courses; 9 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 46-47 credits

PRESCRIBED COURSES (32 credits)
CAS 100 GWS(3), ENGL 015 GWS(3), E R M 151(1)**[1]** (Sem: 1-2)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3), CHEM 202(3) (Sem: 1-4)
SOILS 101 GN(3)**[1]** (Sem: 3-4)
A S M 327(3)**[1]**, ENGL 202C GWS(3), E R M 300(3)**[1]**, E R M 411(3) (Sem: 5-8)

ADDITIONAL COURSES (14-15 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 1-2)
PHYS 211 GN(4) or PHYS 250 GN(4); STAT 200 GQ(4) or STAT 240 GQ(3) or STAT 250 GQ(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 47-60 credits

ENVIRONMENTAL SCIENCE OPTION: (58-60 credits)

PRESCRIBED COURSES (26 credits)

AG BM 200(3), BIOL 110 GN(4)**[1]**, BIOL 220W GN(4), GEOG 160 GS(3) (Sem: 3-4)
CED 201(3), GEOSC 303(3) (Sem: 5-6)
E R M 412(3)**[1]**, E R M 413W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (8-10 credits)
MATH 111 GQ(2) or MATH 141 GQ(4) (Sem: 1-2)
Select 6 credits from E R M 430(3), E R M 431(3), E R M 433(3), E R M 435(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
Select 3 credits in ecology (Sem: 5-6)
Select 18 credits of specialization/minor courses in consultation with adviser (Sem: 5-8)
Select 3 credits in communications (Sem: 7-8)

SOIL SCIENCE OPTION: (47-49 credits)

PRESCRIBED COURSES (14 credits)
SOILS 100(1) (Sem: 1-6)
SOILS 412W(3), SOILS 415(3)**[1]**, SOILS 416(3)**[1]** (Sem:3-6)
SOILS 450(3), SOILS 490(1) (Sem: 5-8)

ADDITIONAL COURSES (15-17)
BIOL 110 GN(4) or BIOL 127 GN(3) (Sem:1-4)
GEOSC 001(3) or GEOSC 020 GN(3) (Sem: 1-4)
Select 3-4 credits from AGRO 028(3), BIOL 220W GN(4), FOR 203(3), HORT 101 GN(3), TURF 235(3) (Sem: 3-6)
Select 3 credits from E R M 433(3), SOILS 402(3), SOILS 419(3), SOILS 420(3) (Sem: 3-8)
Select 3 credits from SOILS 401(3), SOILS 405(3) GEOSC 452(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits of supporting courses in consultation with adviser. (Sem: 5-8)

WATER SCIENCE OPTION: (58-60 credits)

PRESCRIBED COURSES (35 credits)
BIOL 110 GN(4)**[1]**, BIOL 220W GN(4), GEOG 160 GS(3), (Sem: 3-4)
CED 201(3), E R M/A S M 309(3) (Sem: 5-6)
E R M 412(3)**[1]**, E R M 413W(3)**[1]**, E R M/W F S 435(3), E R M 447(3), E R M 450(3), FOR 470(3) (Sem: 5-8)

ADDITIONAL COURSES (8-10 credits)
MATH 111 GQ(2) or MATH 141 GQ(4) (Sem: 1-2)
SOILS 405(3) OR GEOSC 452(3) (Sem: 5-8)
W F S 410(3), W F S 422(3), or E R M/W F S 436(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 12 credits of supporting courses in consultation with adviser (Sem: 5-8)
Select 3 credits in communications (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-03-001

Review Date: 11/17/09

UCA Revision #1: 8/4/06

AG

Environmental Studies

Altoona College (ENVST)

PROFESSOR NICHOLAS M. MISKOVSKY, *Head*

This interdisciplinary major is designed to provide students with an integrated and critical knowledge of the natural environment and human interactions with it. Students will receive a strong foundation in the natural sciences but will extend their studies across several disciplines, emphasizing both public policy issues and the role of the natural environment in history and culture. The goal of the program is "ecological literacy," which means that students will develop a broad-based understanding and awareness of environments and environmental issues, and they will develop the problem-solving skills to address those issues. Program requirements include interdisciplinary courses in environmental studies and a broad array of courses in biology, geology, chemistry, geography, economics, political science, English, history, and philosophy. By selecting appropriate electives to supplement the "additional courses" requirement of the major, students may develop an emphasis in either a specific field (i.e., biology, English) or in a general area of study (natural science, social science, and humanities). Graduates are equipped for employment as environmental consultants in business or with governmental agencies and public interest groups. Many may go on to postgraduate study in environmental science, public policy, or the humanities, or to law school.

A student wishing to transfer into the Environmental Studies program must have completed the following course ENVST 100(3) and have received a grade of C or better in the course.

For the B.A. degree in Environmental Studies, a minimum of 125 credits is required.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 17 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 60 credits **[1]**
(This includes 21 credits of General Education courses as follows: 3 credits of GH courses; 9 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (42 credits)
BIOL 110 GN(4), BIOL 220W GN(4), ENVST 100(3), ENGL 180 GH(3), GEOSC 020 GN(3) (Sem: 1-2)
CHEM 020(3), CHEM 021(1), ENVST 200(3), GEOG 115 GN(3) (Sem: 3-4)
STAT 250 GQ(3), ECON 428(3), HIST 453 or GEOG 407(3), PHIL 403(3) (Sem: 5-6)
ENVST 400W(3) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-2)
PL SC 135 GS(3) or PL SC 425(3) (Sem: 5-6)
Select 3 credits of ENVST 395(1-18) or ENVST 496(1-18) (Sem: 7-8)
Select 9 credits (3 in each area listed below) in consultation with an academic adviser.
At least six credits must be at the 400-level.
a. Natural Sciences: BIOL 240W(4), BIOL 417(3), BIOL 427(3), BIOL 435(3), BIOL 446(3) BIOL 450W(3-5), ENVST 497(3), FOR 308(3), FOR 430/WFS 430(3), GEOSC 303(3), GEOSC 340(3), GEOSC 462(3), MICRB 400(3), WFS 408(3) (Sem: 3-8).
b. Social Sciences: ANTH 040(3), ANTH 146 GS;US(3), ANTH 152(3), ANTH 456(3), ANTH/BIO 464(3), ENVST 497(3), GEOG 401(3), GEOG 430(3), PL SC 412(3), PL SC 444(3), PL SC 490(3), S T S 047(3) (Sem: 3-8)
c. Arts and Humanities: ENGL 404(3), ENGL 412(3), ENGL 415(3), ENGL 416(3), ENGL 421(3), ENGL 430(3), ENVST 497(3), HIST/S T S 151(3), HIST 428/S T S(3); When topic appropriate and with program approval: ENGL 400(3), ENGL 401(3), ENGL 483(3), HIST 200 US(3), HIST 497(3) (Sem: 3-8)
Other courses may be substituted with program approval.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2003

Blue Sheet Item #: 31-06-001

Review Date: 3/11/03

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

AL

Environmental Systems Engineering

University Park, College of Earth and Mineral Sciences (ENVSE)

PROFESSOR M. THADDEUS ITYOKUMBUL, *Undergraduate Program Officer*

The B.S. program in Environmental Systems Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: 410-347-7700. It is an interdisciplinary program with two options. One option is Environmental Systems Engineering and it is concerned with the impact of industrial activities on the environment and the choice of cost-effective remediation strategies. The other option is Environmental Health and Safety Engineering and it is concerned with safe and healthful design of industrial systems such that workers are protected from potentially high risk exposures associated with today's industries. The program is unique as it is designed to address critical environmental, safety and health problems of the basic industries such as those involved in the extraction, conversion, and utilization of energy and mineral resources. The courses are sequenced so that students acquire an appropriate blend of theory, applications, and design and are equipped with the fundamentals necessary to maintain lifelong professional growth. Graduates are prepared to enter both the private and public sectors as environmental systems engineers or health and safety engineers or to pursue further education at the graduate level.

During the first two years, the program shares many common features (e.g., mathematics, chemistry, physics, and engineering mechanics) with other more traditional engineering disciplines. Students then take a series of special courses that introduce engineering concepts in the extractive and process industries. Process engineering and a variety of solid-solid, solid-fluid, and fluid-fluid separations play a major and often dominant role in the prevention and/or remediation of environmental damage or the prevention of health and safety hazards resulting from industrial activity. Students then specialize in the particular problems associated with air, land, or water, environmental health and safety engineering or select a hybrid program. Specialization is accomplished through a combination of additional designated courses and selection from an extensive list of relevant elective courses, which may include a senior thesis. The curriculum is structured so as to integrate design concepts into the various subject areas covered in the program.

The human, societal, economic, ethical, and regulatory aspects of the industrial impact on the environment and on the workers themselves are addressed through a combination of specific courses and components of other more general courses. This aspect of the program is designed to provide students with a deeper understanding, both of the impact of environmental degradation on society and of the effects on industrial activity of society's demands for protection of workers and the environment. The program culminates with the capstone design course, which is an integrated, problem-based, multi-faceted project in which students, working in a team setting, utilize fundamental concepts to design an environmental remediation system or an environmental health and safety protection system (or incorporate these design requirements into other associated designs).

The integration of knowledge and skills acquired during the course of study enables graduates of Penn State's Environmental Systems Engineering program to:

- Enter the private or public sectors as environmental systems engineers to solve a broad range of environmental or health and safety problems associated with the resource recovery and general and process industries or pursue an advanced degree.
- Address critical environmental or health and safety problems of the basic industries, especially those involved with the extraction, conversion, and utilization of energy and mineral resources; design effective and economic engineering systems to alleviate such problems, individually and in a team setting; and communicate the results effectively.
- Determine the impact of environmental pollution control on the viability of industrial operations, including health and safety, social, and ethical aspects, and an awareness of environmental regulations; evaluate novel strategies for minimizing pollution control costs in the process industries.
- Recognize the need to maintain professional competency and the value of life-long learning.

For the B.S. degree in Environmental Systems Engineering, a minimum of 131 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 113-114 credits
(This includes 27 credits of General Education courses: 9 credits of GWS courses; 6 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 92-93 credits

PRESCRIBED COURSES (72 credits)
EM SC 100S GWS(3)**[71]** (Sem: 1-2)

CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 202(3), E MCH 211(3), E MCH 212(3), MATH 140 GQ(4), MATH 141 GQ(4), MATH 251(4), PHYS 211 GN(4), PHYS 212 GN(4), C E 370(3) **[1]**, EME 301(3)**[1]**, EME 303(3)**[1]** (Sem: 3-6)
ENGL 202C GWS(3)**[1]**, GEOSC 452(3), MN PR 301(3)**[1]** (Sem: 5-6)
GEOEE 404W(3), GEOEE 406(3), GEOEE 427(3)**[1]**, GEOEE 480(3), I H S 450(3) (Sem: 5-8)

ADDITIONAL COURSES (11-12 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3), or CMPSC 203 GQ(4) (Sem: 3-4)
MATH 220 GQ(2) or MATH 231(2) (Sem: 3-4)
GEOSC 001(3) or GEOSC 071(3)**[1]** (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in consultation with adviser (Sem: 7-8)
(Students may apply up to 6 credits of ROTC.)

REQUIREMENTS FOR THE OPTION: 21 credits

ENVIRONMENTAL SYSTEMS ENGINEERING OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)
GEOG 030 GS(3), MICRB 106 GN(3) (Sem: 1-4)
EGEE 470(3), GEOEE 412(1), MNG 401(1), P N G 411(1) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
GEOSC 413W(3), SOILS 401(3), or METEO 455(3) (Sem: 7-8)
METEO 454(3), MN PR 401(3), or MN PR 426(3) (Sem: 7-8)
GEOEE 408(3), M E 433(3), or MN PR 425(3) (Sem: 7-8)

ENVIRONMENTAL HEALTH AND SAFETY ENGINEERING OPTION: (21 credits)

PRESCRIBED COURSES (21 credits)
BIOL 141 GN(3), PSYCH 100 GS(3) (Sem: 1-4)
I H S 495W(2), M E 405(3) (Sem: 5-6)
I H S 400(3), I H S 447(4), I H S 470(3) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-03-065

Review Date: 11/17/09

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

EM

Ethics Minor

University Park, College of the Liberal Arts (ETHCS)

This interdisciplinary minor, housed in the Department of Philosophy, is designed to provide students with training in ethical frameworks and methods, as well as offer the opportunity to work in various fields of applied ethics. In addition to the requirements for the student's major department the minor consists of 18 credits selected from a wide range of disciplines (including philosophy, communication, engineering, law, psychology, sociology, anthropology, public policy, international studies, and environmental studies). Courses deal with ethics from various perspectives including research ethics, media ethics, environmental ethics, bioethics, and business ethics.

Students in the minor will begin with two core courses. The first will cover basic ethical approaches and the application of ethical analysis. The second will provide a grounding in ethical leadership. The core courses will be followed by a choice of other relevant ethics courses. The minor will be suitable for students in almost any major, especially students going on to further academic work or careers in medicine, communication, business, law, the health or life sciences, health administration, informatics or engineering.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
PHIL 103 GH(3), PHIL 119 GH(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from an approved list in consultation with the undergraduate adviser for the ethics minor. At least 6 credits must be at the 400 level. Courses must be selected from at least two different departments. (Sem: 5-8)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-023

Review Date: 1/13/09

LA

Film-Video

University Park, College of Communications (FILM)

PROFESSOR ANTHONY OLORUNNISOLA, *Head, Department of Film-Video and Media Studies*

The Film-Video major is designed to serve students whose primary interest is the art of film and video practice. It offers an integrated curriculum in which historical, critical, and theoretical studies parallel the teaching of production and aesthetics.

The major serves students who wish to pursue careers in film, television, or related industries, as well as students planning to continue work in film and video at the graduate level.

The major includes a broad liberal arts background with introductory courses in the areas of film and video history, theory, and practice. Students have the flexibility to pursue an area of emphasis at the advanced level (narrative, alternative or documentary production).

Students must select at least 80 credits in courses outside the College of Communications, including at least 65 in the liberal arts and sciences.

Acceptance into the Film/Video major is determined by a successful portfolio review by faculty after the completion of COMM 242 with a grade of C or better as required of a major course. Students must also have earned fourth semester standing (43.5 credits completed and/or are in progress). The portfolio submission window is during finals week of Spring semester each academic year. Students are then notified via email on the decision by the first Friday in June of that year. Applicants who are not accepted into the major may re-apply the following year but must realize that this course of action could delay their graduation by at least one year.

For the B.A. degree in Film-Video, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 33 credits**[1]**

PRESCRIBED COURSES (15 credits)
COMM 150 GA(3) (Sem: 1-2)
COMM 242(3), (Sem: 2-4)
COMM 340(3), COMM 342W(3) (Sem: 5-6)
COMM 250(3) (Sem: 5-8)

ADDITIONAL COURSES (18 credits)
Select 6 credits from COMM 337W(3), COMM 338(3), COMM 339(3) (Sem: 5-6) *
Select 3 credits from COMM 437(3)*, COMM 438(3)*, COMM 439(3)*, COMM 448(3)** (Sem: 7-8)
Select 9 credits from COMM 346(3), COMM 437(3)*, COMM 438(3)*, COMM 439(3)*, COMM 440(3), COMM 444(3), COMM 445(3), COMM 446(3), COMM 449(3) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
* *Neither COMM 437, COMM 438, nor COMM 448 may be taken concurrently.*
** *Admittance to COMM 448 is by permission of instructor.*

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-072

Review Date: 04/13/2010

Department head update by Publications: 1/16/07

Publications 02/17/05

CM

Finance

University Park, Smeal College of Business (FIN)

PROFESSOR WILLIAM A. KRACAW, *Chair of the Department of Finance*

This major provides students with an opportunity to study investment analysis, management of banks and other financial institutions, and financial management of corporations and other businesses. Course coverage includes business finance, security markets, commercial bank management, investment valuations, portfolio management, futures and options markets, and capital budgeting.

Entrance Requirement: To be eligible for entrance into the Finance (FIN) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 002 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); and MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. In addition to the above requirements, the Executive Vice President and Provost of the University may approve administrative enrollment controls that limit the number of students who are admitted to majors in the Smeal College of Business. In each case, however, academic requirements are established for admission. For information on enrollment controls, consult the Smeal College of Business Web site (http://www.smeal.psu.edu).

For the B.S. degree in Finance, a minimum of 120 credits is required with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

REQUIREMENTS FOR THE MAJOR: 73 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (46 credits)
ACCTG 211(4)**[1]**, ECON 002 GS(3), FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]** (Sem: 1-4)
B A 342(3), B A 411(3), B LAW 341(3), ECON 004 GS(3), ENGL 202D GWS(3), FIN 305W(3)**[1]**, FIN 406(3)**[1]**, FIN 408(3)**[1]**, MIS 204(3), SCM 301(3), (Sem: 5-6)

ADDITIONAL COURSES (14 credits)
MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-2)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)
Select 6 credits**[1]** from FIN 405(3), FIN 407(3), FIN 410(3), FIN 414(3), FIN 460(3) or R EST 460(3), FIN 470(3) or R EST 470(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select 4 credits: Attainment of 12th credit level proficiency in a single foreign language. (4 credits) Proficiency must be demonstrated by either examination or course work. (Sem: 1-4)
Select 3 credits of related coursework. See Department List. (Sem: 5-8)
Select 6 credits of supporting coursework. See Department List. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-040

Review Date: 04/13/2010

UCA Revision #1: 8/4/06

Finance

Capital College (FINCE)

PROFESSOR JOHN M. TRUSSEL, *Director of Undergraduate Studies, School of Business Administration*

The finance major emphasizes analytic, problem solving, and computer skills which are necessary for finance and investment industry. The major prepares students for careers in corporate finance, investment and portfolio management, banking, public finance, and international finance. The major also prepares students who want to pursue graduate study in finance. Depending on their interests, graduates may then seek financial services credentials such as Certified Financial Planner (CFP) and Chartered Financial Analyst (CFA).

The requirements in the major complement basic business instruction in accounting, management, marketing, and information systems. With business and non-business electives, the program is designed to develop necessary skills to be an effective financial manager. Because the Harrisburg area is the center of industry and economic development for south-central Pennsylvania, students are provided with many opportunities to experience the world of business.

For a B.S. degree in Finance, a minimum of 120 credits is required. At least 50 percent of the business credit hours required for the degree must be taken at Capital College. No more than 60 credits should be from business and business-related courses.

Entry to Major Requirements:
Entry to the Finance major requires the completion of 8 entry-to-major courses: ACCTG 211(4)**[1]**; B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3)**[1]**, ECON 004 GS(3)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4)**[1]**or MATH 140 GQ(4)**[1]**; MIS 204(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; and a 2.00 or higher cumulative grade-point average. Additional information about this major is available in the office of the Director of Undergraduate Studies, School of Business at Penn State Harrisburg.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education Course Requirements in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: Select 8 credits of non-business courses.

REQUIREMENTS FOR THE MAJOR: 79 credits
(This includes 12 credits of General Education Courses: 3 credits of GWS courses; 3 credits of GS courses; 6 credits of GQ courses)

PRESCRIBED COURSES (49 credits)
ACCTG 211(4)**[1]**; ECON 002 GS(3)**[1]**, ECON 004 GS(3)**[1]**, ENGL 202D GWS(3), MIS 204(3) (Sem: 1-4)
ECON 351(3)**[1]**, FIN 301(3)**[1]**, FIN 302(3)**[1][2]**, MGMT 301(3), MKTG 301(3), MIS 390(3) (Sem: 5-6)
B A 364Y US;IL(3), FIN 420(3)**[1]**, SCM 310(3) (Sem: 6-7)
B A 462(3)**[1]**, FIN 475(3)**[1]** (Sem: 8)

ADDITIONAL COURSES (21 credits)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 1-4)
Select 4 credits from MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-4)
Select 4 credits from SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-4)
Select 9 credits**[1]** from the following: ACCTG 481(3), FIN 305(3), FIN 306W(3), FIN 406(3), FIN 407(3), FIN 408(3), FIN 409(3), FIN 413(3), FIN 427(3) FIN 456 IL(3), FIN 489(3), FIN 496(3), or other finance courses approved by the Program (Sem: 6-8)
(For students considering CFA exam, FIN 406, FIN 407, and FIN 427 are recommended.)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from 200-400 level business courses from: ACCTG, B A, ECON, FIN, MGMT, MIS, MKTG, or SCM in consultation with an academic adviser and in support of the student's interests. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2]Should be taken in conjunction with FIN 301.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-01-020

Review Date: 8/26/08

UCA Revision #1: 8/4/06

UCA Revision #2: 7/27/07

Comments

CL

Finance

Penn State Erie, The Behrend College (FNC)

The Finance major is a unique program that provides the student with a firm foundation in the principles of finance and its major areas: financial management, investments, and financial markets. The coursework is designed to lead to professional certification in financial analysis. Students have job opportunities in a variety of positions with mutual funds, brokerage firms, banks, and insurance companies, as well as positions in corporate finance.

The program provides students with the depth and breadth of knowledge necessary to prepare them for Level I of the Chartered Financial Analysts (CFA) Exam. The rigorous curriculum, including courses in finance, accounting, and economics, is based on the CFA Body of Knowledge developed through surveys of professionals involved in the practice of investment management. Students will be encouraged to take Level I of the CFA exam after graduation.

Entry to Major Requirements:
Entry to the Finance major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in Finance, 120 credits are required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 89 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (53 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
ACCTG 371(4)**[1]**, ACCTG 426(3)**[1]**, FIN 301(3)**[1]**, FIN 405(3)**[1]**, FIN 406(3)**[1]**, FIN 407(3)**[1]**, FIN 420(3)**[1]**, FIN 480(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]**, SCM 310(3)**[1]** (Sem: 5-6)
MGMT 471W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (15 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 3 credits from: ECON 304(3)**[1]**, ECON 351(3)**[1]**, ECON 442(3)**[1]**, ECON 481(3)**[1]**, or ECON 485(3)**[1]** (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 15 credits from one of the non-business supporting course areas (see school list of approved courses). See the Admission section of the general information in the front of this *Bulletin* for the placement policy for Penn State foreign language courses. (Sem: 1-8)
Select 6 credits from FIN or other business areas (see school list of approved courses). (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-030

Review Date: 11/21/06

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

BD

Food Science

University Park, College of Agricultural Sciences (FD SC)

PROFESSOR STEPHANIE DOORES, *Program Coordinator*

Food science involves the application of science and technology to food product manufacture, storage, and distribution to consumers. Food scientists are especially concerned with food safety, nutritional values, managing food quality, food plant management, and development of new products and processes. They are employed by manufacturers and distributors of food products; by chemical, packaging, and other industries that supply goods and services; by colleges and universities in teaching and research; and by government agencies concerned with food regulations and the health and well-being of the general public.

Students must complete at least one 3-credit writing-intensive course, selected from "W" courses offered in the major or college of enrollment, 3 credits of United States Cultures courses, and 3 credits of International Cultures courses prior to graduation.

For the B.S. degree in Food Science, a minimum of 128 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 10 credits

REQUIREMENTS FOR THE MAJOR: 91 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (64 credits)
BIOL 011 GN(3), BIOL 012 GN(1), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), FD SC 200(3)**[1]** (Sem: 1-2)
B M B 211(3), FD SC 201(1)**[1]**, MICRB 201(3), MICRB 202(2), PHYS 250 GN(4) (Sem: 3-4)
B M B 212(1), FD SC 400(4)**[1]**, FD SC 405(3)**[1]**, FD SC 406(3)**[1]**, FD SC 408(2)**[1]**, FD SC 409W(3)**[1]**, FD SC 410(3)**[1]**, STAT 250 GQ(3) (Sem: 5-6)
FD SC 411(2), FD SC 413(3), FD SC 414(3), FD SC 415(3), FD SC 430(3), FD SC 490(1) (Sem: 7-8)

ADDITIONAL COURSES (13-15 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (12-14 credits)
To reflect the student's career interests, select 12-14 credits from department list or in consultation with adviser (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-01-001

Review Date: 8/26/08

01/19/00 (General Education information updated)

UCA Revision #1: 8/4/06

AG

Forensic Science

University Park, The Eberly College of Science (FRNSC)

Forensic Science is the application of scientific principles and methods to assist criminal and civil investigations and litigation. This major is an inter-college collaboration among academic units and provides students with a strong foundation in the biological, physical, and mathematical sciences. It introduces them to relevant topics in criminalistics forensic chemistry, forensic anthropology, forensic biology, forensic entomology, and appropriate social sciences. Students are educated on the role of forensic scientists in the criminal justice system, the collection and analysis of scientific evidence, and the manner in which evidence is presented in court. Graduates of this major could pursue employment as a scientist in a federal, state, or private forensic laboratory or with insurance companies, homeland security agencies, or the judicial community. Graduates could also choose to pursue graduate study in forensics; specializing in forensic science, forensic medicine, or areas such as forensic psychology, anthropology, pathology, odontology, entomology, toxicology, or in the general sciences.

In order to be eligible for entrance to the Forensic Science major, a student must have: (1) attained at least a 2.00 cumulative grade point average (2) completed CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), and earned a grade of C or better in each of these courses.

For the B.S in Forensic Science a minimum of 124-126 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 Credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin)

FIRST YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 97-99 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GH courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 60 credits

PRESCRIBED COURSES: (52 credits)**[1]**
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), CHEM 212(3), CHEM 213(2), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)
CRIM 100 GS(3), CRIM 113 US(3) (Sem: 1-6)
PHIL 132 GH(3) (Sem: 1-8)
FRNSC 201W(4) (Sem: 4-5)
FRNSC 301(3), FRNSC 302(3) (Sem: 5-7)
FRNSC 400(1), FRNSC 401W(4) (Sem: 7-8)
STAT 250 GQ(3) (Sem: 5-8)
FRNSC 475(1) (Sem: 8)

ADDITIONAL COURSES: (8 credits)**[1]**
PHYS 250 GN(4), PHYS 251 GN(4); or PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 2-6)

REQUIREMENTS FOR THE OPTION: 37-39 credits

FORENSIC BIOLOGY OPTION: (39 credits)

PRESCRIBED COURSES: (24 credits)**[1]**
B M B 251(3), MICRB 201(3), MICRB 202(2) (Sem: 1-4)
BIOL 222(3) (Sem: 3-5)
B M B 400(3) (Sem: 5-7)
B M B 401(3), B M B 442(3) (Sem: 5-7)
FRNSC 421W(4) (Sem: 7-8)

ADDITIONAL COURSES: (3 credits)**[1]**
Select 3 credits from B M B 402(3), B M B 428(3), B M B 433(3), BIOL 405(3), BIOL 422(3), BIOL 460(3) (Sem: 6-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Up to 4 credits may be used to achieve the II level of foreign/second language (Spanish is recommended)
Select 12 credits; including at least 6 credits at the 400 level. (Sem: 3-8)

FORENSIC CHEMISTRY OPTION: (37 credits)

PRESCRIBED COURSES: (19 credits)**[1]**
BIOL 110 GN(4), BIOL 230W GN(4) (Sem: 1-4)

CHEM 227(4), CHEM 425(3) (Sem: 3-5)
FRNSC 427W(4) (Sem: 6-8)

ADDITIONAL COURSES: (6 credits)**[1]**
B M B 428(3), CHEM 402(3), CHEM 410(3), CHEM 412(3), CHEM 423W(3), CHEM 430(3), CHEM 431W(3), CHEM 450(3), CHEM 452(3) or 3 credits of 400-level biochemisty (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Up to 4 credits may be used to achieve the II level of foreign/second language (Spanish is recommended)
Select 12 credits; including at least 6 credits at the 300-400 level (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-07-028

Review Date: 6/16/09

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

SC

Forest Science

University Park, College of Agricultural Sciences (FORSC)

JAMIE MURPHY, *Instructor, Program Coordinator*

The mission of the B.S. program in Forest Science is to help students develop the knowledge, skills, and professional ethics for understanding and managing forest ecosystems and living as responsible members of society.

The Forest Science major provides for the education necessary for students to pursue professional careers in one of the following options: (1) Forest Biology, (2) Forest Management, (3) Urban Forestry, and (4) Watershed Management. These options also will help prepare students for graduate studies in continuing professional education.

FOREST BIOLOGY OPTION: This option provides a strong background in the biological and ecological aspects of contemporary forestry and establishes a sound foundation for professional employment and graduate-level study in forest and environmental sciences.

FOREST MANAGEMENT OPTION: This option provides professional training in the management of forest lands consistent with the needs of ownership objectives. Employment opportunities include forest management positions with public agencies, industry, and private consulting.

URBAN FORESTRY OPTION: This option helps prepare students to manage community trees and green spaces. It emphasizes technical expertise, communication abilities, and skills for working with diverse people. Employment opportunities include municipalities, arboricultural companies, utilities, and government agencies.

WATERSHED MANAGEMENT OPTION: This option focuses on water resources and the integrated management of natural resources with emphasis on water. Graduates qualify for federal employment as hydrologists and for water-related careers in municipal watershed management, state and local government, and environmental/engineering consulting.

For the B.S. degree in Forest Science, a minimum of 127 credits is required for the Forest Biology, Forest Management, and Urban Forestry options, and a minimum of 120 credits for the Watershed Management option. Students should be aware that completion of the Forest Science degree in four years requires enrollment at the University Park Campus beginning the fall semester of the sophomore year.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3 credits

REQUIREMENTS FOR THE MAJOR: 96-100 credits
(This includes 21-24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3-6 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 40 credits

PRESCRIBED COURSES (27 credits)
BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111 GN(1), ECON 002 GS(3) (Sem: 1-2)
FOR 200W(3), FOR 203(3)**[1]**, SOILS 101 GN(3), STAT 240 GQ(3), W P 203(1)**[1]** (Sem: 3-4)
FOR 308(3)**[1]** (Sem: 5-6)

ADDITIONAL COURSES (13 credits)
MATH 110 GQ(4), MATH 140 GQ(4), or MATH 140B GQ(4) (Sem: 1-2)
AEE 440(3), CAS 211(3), CAS 213(3), CAS 250(3), CAS 252(3), or CAS 352(3) (Sem: 5-6)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 5-6)
AEE 440(3), ENGL 215(3), ENGL 416(3-6), ENGL 418(3-6), or ENGL 419(3) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 56-60 credits

FOREST BIOLOGY OPTION: (60 credits)

PRESCRIBED COURSES (45 credits)
BIOL 240W GN(4) (Sem: 1-2)
CHEM 202(3) (Sem: 3-4)
FOR 204(2), FOR 320(2), FOR 350(3), FOR 366(4)**[1]** (Sem: 3-6)
ENT 313(2), PPATH 318(2), W F S 209 GN(3) (Sem: 5-6)
FOR 409(2), FOR 410(3), FOR 421(3)**[1]**, FOR 430(3), FOR 475(3)**[1]**, FOR 480(3), FOR 494(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
AG BM 200(3) or MGMT 100(3) (Sem: 5-6)
FOR 455(3) or GEOG 362(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in consultation with adviser (Sem: 5-8)

FOREST MANAGEMENT OPTION: (60 credits)

PRESCRIBED COURSES (39 credits)
FOR 204(2), FOR 320(2), FOR 350(3), FOR 366(4)**[1]** (Sem: 3-6)
ENT 313(2), PPATH 318(2), W F S 209 GN(3) (Sem: 5-6)
FOR 421(3)**[1]**, FOR 440(3), FOR 455(3), FOR 466W(3)**[1]**, FOR 470(3), FOR 475(3), FOR 480(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
Select a minimum of 3 credits from GEOG 110 GN(3), GEOG 115 GN(3), GEOSC 002 GN(3), METEO 003 GN(3), PHYS 150 GN(3), PHYS 250 GN(4) (Sem: 3-4)
AG BM 200(3) or MGMT 100(3) (Sem: 7-8)
FOR 401(3) or FOR 416(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 12 credits from department list approved for the option (Sem: 5-8)

URBAN FORESTRY OPTION: (60 credits)

PRESCRIBED COURSES (33 credits)
BIOL 240W GN(4) (Sem: 1-2)
ENT 313(2), FOR 204(2), FOR 350(3), FOR 366(4)**[1]**, FOR 421(3), FOR 480(3), PPATH 318(2) (Sem: 3-4)
FOR 401(3)**[1]**, HORT 138(3), HORT 408(4) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
FOR 495(1-6)**[1]** or FOR 496(1-18)**[1]** (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
In consultation with adviser, select 24 credits from the following:
a. Select 3-6 credits from ENT 319(1), FOR 410(3), FOR 416(3), FOR 466W(3), FOR 470(3), and W F S 209 GN(3) (Sem: 5-8)
b. Select 2-3 credits from E R M 430(3), FOR 409(2), and FOR 430(3) (Sem: 5-8)
c. Select 3 credits from A S M 217(3) and FOR 475(3) (Sem: 5-8)
d. Select 3-6 credits from GEOG 122 GH(3), LARCH 003 GA(3), LARCH 060 GA;US;IL(3), and LARCH 241(3) (Sem: 5-8)
e. Select 3-6 credits from MGMT 100(3) or MGMT 341(3) and R SOC 305W(3) (Sem: 5-8)
f. Select 3-6 credits from B A 250(3), B LAW 243(3), and E R M 411(3) (Sem: 5-8)

WATERSHED MANAGEMENT OPTION: (56 credits)

PRESCRIBED COURSES (47 credits)
CHEM 202(3), MATH 111 GQ(2), METEO 003 GN(3), PL SC 001 GS(3) (Sem: 1-2)
GEOSC 001(3), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-4)
BIOL 220W(3) (Sem: 4-6)
A S M 327(3), W F S 435(3)**[1]**/ E R M 435(3)**[1]**, GEOSC 452(3)**[1]**, MICRB 201(3), SOILS 422(3) (Sem: 5-8)
FOR 410(3), FOR 470(3)**[1]**, FOR 471(1) (Sem: 7-8)

ADDITIONAL COURSES (9 credits)
B LAW 243(3), E R M 411(3), PL SC 125(3), PL SC 417(3), or PL SC 419(3) (Sem: 5-6)
CED 201(3), CED 431W(3), CED 429(3), ECON 302 GS(3), or ECON 428(3) (Sem: 7-8)
FOR 455(3), GEOG 362(3), GEOG 364(3), or SOILS 450(3) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-002

Review Date: 1/15/08

UCA Revision #1: 8/4/06

AG

French and Francophone Studies

University Park, College of the Liberal Arts (FR BA)

PROFESSOR BENEDICTE MONICAT, *Head*

The B.A. major in French and Francophone Studies encourages students to develop fluency in the language as well as an appreciation of francophone literature and culture. The major can also help to prepare students for interdisciplinary professional careers in which a knowledge of a foreign language is useful. At present, the B.A. major in French and Francophone Studies is available either as a Language and Culture option or as a Language and Literature option.

For the B.A. degree in French, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 21 credits

PRESCRIBED COURSES (18 credits)
FR 201 IL(3), FR 202 IL(3), FR 331 IL(3), FR 332(3), FR 351 IL(3), FR 352 IL(3) (Sem: 1-6)

ADDITIONAL COURSES (3 credits)
FR 316(3) or FR 417 IL(3) or FR 418 IL(3) (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 15 credits

LANGUAGE AND CULTURE OPTION: (15 credits)

PRESCRIBED COURSES (6 credits)
FR 402Y IL(3), FR 430 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
Select 9 credits in French literature at the 400 level (Sem: 5-8)

LANGUAGE AND LITERATURE OPTION: (15 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits in French literature at the 400 level (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-317

Review Date: 4/11/06

LA

French and Francophone Studies

University Park, College of the Liberal Arts (FR BS)

PROFESSOR BENEDICTE MONICAT, *Head*

The B.S. degree is designed to allow students to combine fluency in French with other academic disciplines. The Business option develops basic skills in French (speaking, understanding, reading, writing) and acquaints students with a number of fields essential to business, especially in the international area. The Engineering option has a required overseas study or work component. The Applied French option develops basic skills in French (speaking, understanding, reading, writing) as well as a basic knowledge of French literature and culture. At the same time, it provides a concentration in a professional area in which a command of French can be particularly relevant or useful. Courses in French culture and civilization are essential to all B.S. options, and students are encouraged to participate in the University's International Studies programs in France.

For the B.S. degree in French and Francophone Studies (all options) a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 11-15 credits

REQUIREMENTS FOR THE MAJOR: 60-77 credits**[1]**
(This includes 0-13 credits of General Education courses. For the French-Business Option, 0-4 credits of GQ courses; 6-9 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 27 credits

PRESCRIBED COURSES (24 credits)
FR 201 IL(3), FR 202 IL(3), FR 331(3), FR 332(3), FR 351 IL(3), FR 352 IL(3) (Sem: 1-6)
FR 401 IL(3), FR 402Y IL(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
FR 316(3) or FR 417 IL(3) or FR 418 IL(3) (Sem: 1-6)

REQUIREMENTS FOR THE OPTION: 33-50 credits

FRENCH-BUSINESS OPTION: (50 credits)

PRESCRIBED COURSES (34 credits)
FR 407 IL(3) (Sem: 1-2)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), I B 303 IL(3), MGMT 100(3) (Sem: 1-4)
ENGL 202D GWS(3), FIN 100(3), FR 430 IL(3), MKTG 221(3) (Sem: 5-8)

ADDITIONAL COURSES (10 credits)
SCM 200(4) or STAT 200 GQ(4) (Sem: 3-4)
ECON 333 GS(3) or MKTG 445 IL(3), or MGMT 461(3) (Sem: 5-8)
MKTG 220(3) or I B 403(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits in French literature (Sem: 5-8)
Select 3 credits in French at the 400 level (Sem: 5-8)

FRENCH-ENGINEERING OPTION: (33 credits)
(Open only to students enrolled in an engineering major.)

PRESCRIBED COURSES (6 credits)
FR 409 IL(3), FR 430 IL(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (27 credits)
Select 21 credits of engineering courses, including ENGR 295(1-3) and ENGR 395(1-3), in consultation with the engineering adviser (Sem: 3-8)
Select 6 credits in French at the 400 level (Sem: 5-8)

*Note:*All French-Engineering majors are required to participate in a one-semester engineering internship in France, arranged by the College of Engineering, during which up to 9 credits in French and up to 12 credits in engineering may be earned. The work experience may take the form of a professional internship (ENGR 195I) or be part of a cooperative education sequence (ENGR 295I, ENGR 395I, or ENGR 495I).

APPLIED FRENCH OPTION: (33 credits)

PRESCRIBED COURSES (3 credits)
FR 430(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (30 credits)
Select 18 credits in related areas such as Hotel, Restaurant, and Institutional Management; Linguistics; Sociology; Economics; Science, Technology and Society, or in another professional areas where competency in French is desirable. The courses are to be selected in consultation with an adviser. At least six credits of such courses must be at the 400 level. (Sem: 1-8)
Select 12 credits in French at the 400 level. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-318

Review Date: 4/11/06

UCA Revision #1: 8/8/06

LA

General Arts and Sciences

Penn State Erie, The Behrend College (GAS)

In this interdisciplinary major students may pursue broad interests and develop their own specialized programs when their interests are not congruent with established programs. The B.A. degree in General Arts and Sciences can be a terminal degree, or students can prepare for graduate school, professional school, or employment in business, government, or industry.

The Liberal Studies option provides the most flexible undergraduate degree program in the University except for the Bachelor of Philosophy degree. Students can use the Liberal Studies option to structure a program of study around their individual interests and career plans and can develop background in areas where Penn State Erie, The Behrend College, does not currently offer majors.

For further information and a complete list of courses, contact the head of the Division of Humanities and Social Sciences.

For the B.A. degree in General Arts and Sciences, a minimum of 124 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 12 credits

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in each of the areas of arts, humanities, science/mathematics, and the social and behavioral sciences (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 24 credits

HUMANITIES OPTION: (24 credits)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
Select 24 credits in humanities from those listed under humanities in the Bachelor of Arts Degree Requirements list, with at least 3 credits in each of three areas, including 15 credits at the 400 level (Sem: 1-8)

LIBERAL STUDIES OPTION: (24 credits)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
(15 of these credits must be at the 400 level)
In this option, the student shall submit a proposal to the adviser listing his/her choice of subjects beyond those required in the Supporting Courses and Related Areas category. In consultation with the adviser and the General Arts and Sciences program head, the student may choose from any B.A. course offering of the University. Option must be approved no later than the end of the sixth semester. (Sem: 1-8)

SCIENCE/MATHEMATICS OPTION: (24 credits)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
Select 24 credits in science/mathematics from those listed under science/mathematics in the Bachelor of Arts Degree Requirements list, with at least 3 credits in each of three areas, including 15 credits at the 400 level (Sem: 1-8)

SOCIAL AND BEHAVIORAL SCIENCES OPTION: (24 credits)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
Select 24 credits in the social and behavioral sciences from those listed in the Bachelor of Arts Degree Requirements list, with at least 3 credits in each of three areas, including 15 credits at the 400 level (Sem: 1-8)

Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-08-166

Review Date: 01/30/01(Editorial changes)

BD

Geobiology

University Park, College of Earth and Mineral Sciences (GEOBI)

PROFESSOR DAVID M. BICE, *Associate Head for Undergraduate Programs*

Geobiology is the interdisciplinary study of the Earth and it biosphere. It embraces the history of life and its interactions with the Earth over geologic time; it also includes study of interactions between living organisms and physical and chemical processes in the modern environment on Earth, and possibly elsewhere in the universe. Thus, geobiology encompasses the fields of paleobiology and paleontology, biogeochemistry, geomicrobiology, and astrobiology. The degree program provides students with a strong background in general science and especially in Geosciences and Biology, with core selections from both disciplines. Students gain practical field experience in the study of the physical environment and ecological properties. The senior thesis provides students with hands-on research experience, as well as an emphasis on data synthesis and the written expression of scientific observations and ideas. Students will be well prepared for advanced studies in this emerging discipline, and for careers in the environmental sciences. Geobiology is critical to the study of environmental quality, global change and environmental-human health interactions, all of which have profound importance in legal, economic, and policy arenas.

For the B.S. degree in Geobiology, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 97 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GWS courses.)

PRESCRIBED COURSES (54 credits)
BIOL 110 GN(4)**[1]**, BIOL 220W GN(4)**[1]**, EM SC 100S GWS(3)**[71]**, MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), PHYS 211 GN(4), PHYS 213 GN(2) (Sem: 1-4)
GEOSC 001(3) [if GEOSC 001 is not available, GEOSC 020 GN(3) may be substituted] (Sem: 1-6)
GEOSC 201(4), GEOSC 204(4)**[1]** (Sem: 3-6)
GEOSC 310(4)**[1]** (Sem: 5-6)
GEOSC 494W(3), GEOSC 496(3) (Sem: 7-8)

ADDITIONAL COURSES (13-14 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
Select 4 credits from GEOSC 202(4), GEOSC 203(4) (Sem: 3-6)
Select 3-4 credits from BIOL 230W GN(4), BIOL 240W GN(4), MICRB 201(3) (Sem: 3-6)
Select 3 credits of field experience from BIOL 444(3), GEOSC 472A(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (29-30 credits)
Select 17-18 credits, in consultation with advisor, supportive of the student's interest. (Students may apply 6 credits of ROTC) (Sem: 3-8)
Select 12 credits, at least 3 credits from each category, from the approved list of evolution, paleobiology and geology courses and biogeochemistry courses (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-01-129

Review Date: 8/29/06

UCA Revision #1: 8/8/06

Department Head Changed: 4/12/05

EM

Geography

University Park, College of Earth and Mineral Sciences (GEOBA)

PROFESSOR KARL S. ZIMMERER, *Head*

Geography is simultaneously a social-behavioral and an environmental science. Geographers describe, analyze, and explain the arrangement of the human and physical features on the Earth's surface. The Liberal Arts major stresses the social and behavioral aspects of geography; the Earth and Mineral Sciences major stresses the discipline's environmental perspectives. Both majors provide training in descriptive and analytical skills such as map reading, cartography, and statistics. Substantive course work in the Liberal Arts major focuses on the ways people have arranged themselves and their economic, social, and political activities on the surface of the Earth.

Bachelor's degree program graduates may find employment in federal, state, and local administrative and planning agencies or in private firms that specialize in marketing and environmental research. The Liberal Arts Geography major is especially appropriate for students seeking a deeper understanding of the human experience and for students intending to pursue postgraduate work in geography or related disciplines.

An internship program enables students to obtain work experience in the public or private sector while they are earning academic credit toward their degrees.

For the B.A. degree in Geography, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 22 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 33 credits**[1]**

PRESCRIBED COURSES (15 credits)
GEOG 010 GN(3), GEOG 020 GS(3), GEOG 030 GS(3) (Sem: 1-4)
GEOG 160 GS(3), GEOG 364(3) (Sem: 5-6)

ADDITIONAL COURSES (18 credits)
GEOG 126 GS(3) or GEOG 120 GS(3) (Sem: 3-6)
Select 3 credits from GEOG 110 GN(3), GEOG 111 GN(3), GEOG 115 GN(3) (Sem: 3-6)
Select 3 credits from GEOG 123 GS;IL(3), GEOG 124 GS(3), or GEOG 128 GS;IL(3) (Sem: 3-6)
Select 3 credits from GEOG 122 GH(3), GEOG 401W(3), or GEOG 444(3) (Sem: 5-8)
Select 6 credits from 400-level GEOG courses (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1997

Blue Sheet Item #: 25-07-023

Review Date: 7/6/06

EM (Transferred from the College of the Liberal Arts--effective FA2006)

Publications updated department head: 9/2/08

Geography

University Park, College of Earth and Mineral Sciences (GEOBS)

PROFESSOR KARL S. ZIMMERER, *Head*

Geographers describe, analyze, and explain patterns of physical and human phenomena on the Earth's surface. Geography is simultaneously an environmental science and a social-behavioral science. This major helps provide grounding in analytical techniques such as map reading, cartography, and statistics. Substantive course work investigates the ways people use environmental resources and how they arrange themselves and their economic, social, and political activities on the Earth's surface.

The Geography major can provide preparation for a career in business, industry, or government. Geographers with bachelor's degrees are currently being placed in federal, state, and local administrative and planning agencies and in private firms that specialize in planning and development or in environmental and socioeconomic analysis.

GENERAL OPTION: This option is designed to serve the needs of students who want to learn about the various topics and perspectives that comprise the discipline of geography. The General option is appropriate both for students who intend to pursue postgraduate degrees and for students who want to emphasize a topic for which no option exists.

GEOGRAPHIC INFORMATION SCIENCE OPTION: This option helps prepare students for entry-level positions in public and private mapping/remote sensing agencies and firms. The student may specialize in one or all of the areas covered in the option. This option is appropriate for students intending to pursue advanced degrees with specialization in these fields.

PHYSICAL/ENVIRONMENTAL GEOGRAPHY OPTION: This option is appropriate for students who want a broad understanding of the earth and environmental sciences in preparation for careers in industry, commerce, and government. The option is designed to develop competence in description, analysis, explanation, and management of problems arising from human use of natural resources and natural systems.

HUMAN GEOGRAPHY OPTION: This option is appropriate for students who want to study Economic Geography and Political Economy; Urban Development and Planning; History, Culture, and Politics; and Nature, Society, and Culture, applying geographical analysis to development opportunities and problems.

Geography courses satisfying the United States Cultures and International Cultures requirement: GEOG 020 GS;US;IL(3), GEOG 040 GS;IL(3), GEOG 120 GS;US;IL(3), GEOG 123 GS;IL(3), GEOG 124 GS;IL(3), GEOG 126 GS;US;IL(3), GEOG 128 GS;IL(3), GEOG 420Y US;IL(3), GEOG 424Y US;IL(3), GEOG 426 IL(3), and GEOG 427 US;IL(3).

Geography courses satisfying the Writing requirement: GEOG 423Y US(3), GEOG 438W(3), GEOG 424Y US;IL(3), GEOG 420Y US;IL(3), GEOG 461W(3), GEOG 412W(3), GEOG 310W(3), and GEOG 411W(3). All students must satisfactorily complete at least one writing-intensive course in Geography.

For the B.S. degree in Geography, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 11 credits

REQUIREMENTS FOR THE MAJOR: 76 credits
(This includes 12 credits of General Education courses: 6 credits of GQ courses; 6 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 46 credits

PRESCRIBED COURSES (28 credits)
EM SC 100S GWS(3)**[71]** (Sem: 1-2)
GEOG 010 GN(3)**[1]**, GEOG 020 GS;US;IL(3)**[1]**, GEOG 030 GS(3)**[1]**, GEOG 040 GS;IL(3), GEOG 160 GS(3), STAT 200 GQ(4) (Sem: 1-4)
GEOG 301(3), GEOG 364(3) (Sem: 5-6)

ADDITIONAL COURSES (18 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
Select 6 credits from: MATH 017 GQ(3), MATH 018 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), MATH 026 GQ(3), MATH 040 GQ(5), MATH 041 GQ(3-4), MATH 110 GQ(4), MATH 111 GQ(2), MATH 140 GQ(4), MATH 140A GQ(6), or MATH 141 GQ(4) (Sem: 1-4)

PHYSICAL GEOGRAPHY

Select 3 credits from: GEOG 110 GN(3)**[1]**, GEOG 111 GN(3)**[1]**, or GEOG 115 GN(3)**[1]** (Sem: 3-6)

HUMAN GEOGRAPHY
Select 3 credits from: GEOG 126 GS;US;IL(3)**[1]**, GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 120 GS;US;IL(3)**[1]**, GEOG 124 GS;IL(3), GEOG 128 GS;IL(3), or GEOG 130 GS(3) (Sem: 3-6)

Select 3 credits of EM SC 300 or GEOG 495 in any combination (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 30 credits

GENERAL OPTION: (30 credits)

PRESCRIBED COURSES 6 credits
GEOG 333(3), GEOG 363(3) (Sem: 5-8)

ADDITIONAL COURSES (24 credits)
Select 3 credits from GEOG 310W(3), GEOG 313(3), GEOG 430(3), or GEOSC 340(3) (Sem: 5-8)

Select 3 credits from GEOG 420Y US;IL(3), GEOG 423Y US(3), GEOG 426 US;IL(3), or GEOG 429 US(3) (Sem: 5-8)

Select 3 credits from GEOG 361(3), GEOG 362(3), or GEOG 464(3)

Select 15 credits from all remaining 300- and 400-level GEOG courses (Sem: 5-8)

GEOGRAPHIC INFORMATION SCIENCE OPTION: (30 credits)

PRESCRIBED COURSES (12 credits)
GEOG 361(3), GEOG 362(3) (Sem: 3-6)
GEOG 363(3), GEOG 464(3) (Sem: 5-8)

ADDITIONAL COURSES (18 credits)
Select 6 credits from GEOG 461W(3) or GEOG 463(3) (Sem: 5-8)
Select 6 credits from GEOG 467(3), GEOG 468(3), or GEOG 485 (Sem: 5-8)
Select 6 credits from GEOG 461W(3), GEOG 463(3), GEOG 467(3), GEOG 468(3), GEOG 485(3), or GEOG 495G(3) (Sem: 5-8)

PHYSICAL/ENVIRONMENTAL GEOGRAPHY OPTION: (30 credits)

PRESCRIBED COURSES (15 credits)
GEOG 310W(3), GEOG 311(3), GEOG 313(3) and GEOSC 340(3), GEOG 333(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select 6 credits from GEOG 110 GN(3), GEOG 111 GN(3), or GEOG 115 GN(3) (Sem: 3-6)
Select 9 credits from GEOG 411(3), GEOG 412W(3), GEOG 417(3), GEOG 430(3), GEOG 431(3), GEOG 438W(3), or GEOG 493(3) (Sem: 5-8)

HUMAN GEOGRAPHY OPTION: (30 credits)

ADDITIONAL COURSES (30 credits)

Select 3 credits from three of the following four groups; 3 credits from a fourth group must match the 100-level Human Geography course taken above:

GEOG 126 GS;US;IL(3), GEOG 123 GH;US(3), or GEOG 130 GS(3);

GEOG 120 GS;US;IL(3);

GEOG 122 GH;US(3), GEOG 124 GS;IL(3), or GEOG 128 GS;IL(3);

GEOG 124 GS;IL(3), GEOG 128 GS;IL(3) or GEOG 130 GS(3) (Sem: 3-6)

Select 21 credits from the following courses: GEOG 323(3), GEOG 333(3), GEOG 420Y US;IL(3), GEOG 423Y US(3), GEOG 424Y US;IL(3), GEOG 425(3), GEOG 426Y US;IL(3), GEOG 427 US;IL(3), GEOG 428 US(3), GEOG 429 US(3), GEOG 430(3), GEOG 434(3), GEOG 436(3), GEOG 439(3), GEOG 440(3), GEOG 444(3), or GEOG 493(3).

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-196

Review Date: 4/11/06

EM

Publications updated department head: 9/2/08

Geosciences

University Park, College of Earth and Mineral Sciences (GSCBA)

PROFESSOR DAVID M. BICE, *Associate Head for Undergraduate Programs*

The geosciences are concerned with understanding earth processes and the evolutionary history of the Earth. Geoscientists work to discover and develop natural resources such as groundwater, metals, and energy sources; to solve technology-generated environmental problems such as acid mine drainage and waste disposal; to predict geological events, such as the occurrence of earthquakes and volcanism; and to solve fundamental questions concerning the origin and evolution of Earth and life. The Bachelor of Arts degree program stresses data collection; investigation, analysis and synthesis of information related to complex natural problems; rigor of thought and clarity of oral and written expression. The B.A. provides a basic education in geosciences, and is designed for students who wish to prepare themselves for careers that interface among science, social science, and business. Examples of these careers include environmental law, national and international planning or resource management, and K-12 teaching.

For the B.A. degree in Geosciences, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 72 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (10 credits)
EM SC 100S GWS(3)**[71]** (Sem: 1-2)
GEOSC 001(3)**[1]** [if GEOSC 001 is not available, GEOSC 020 GN(3) may be substituted] (Sem: 1-6)
GEOSC 201(4)**[1]** (Sem: 3-6)

ADDITIONAL COURSES (48-51 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
MATH 140 GQ(4) or MATH 110 GQ(4) (Sem: 1-2)
GEOSC 310(4)**[1]** or GEOSC 320(3)**[1]** (Sem: 3-6)
GEOSC 202(4), GEOSC 203(4), or GEOSC 204(4) (Sem: 5-8)
Select 20 credits--two of the following sequences for 8 credits each and the third sequence for 4 credits:
-BIOL 110 GN(4), BIOL 220W GN(4) (Sem: 1-4)
-CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1) (Sem: 1-4)
-PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 1-4)
Note: PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) may substitute for up to 8 credits in Physics for students with MATH 140 GQ(4), MATH 141 GQ(4).
Select 2-4 credits of advanced mathematics in consultation with an adviser; list includes MATH 111 GQ(2), MATH 141 GQ(4), STAT 200 GQ(4), STAT 250 GQ(3) (Sem: 2-6)
Select 6 credits from 300- and 400-level GEOSC courses (Sem: 5-8)
Select 3 credits of appropriate field/laboratory experience in consultation with adviser (Sem: 6-8)
Select 3 credits of writing-intensive courses from within Earth and Mineral Sciences to include, but not limited to: GEOG 412W(3), GEOG 310W(3), GEOSC 402W(3), GEOSC 470W(3), METEO 471W(3) (Sem: 6-8)

SUPPORTING COURSES AND RELATED AREAS (11-14 credits)
Select 11-14 credits in consultation with adviser.
(Students may apply 6 credits of ROTC) (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-05-014

Review Date: 10/8/02

UCA Revision #1: 8/8/06

Department Head Changed: 4/12/05

EM

Geosciences

University Park, College of Earth and Mineral Sciences (GSCBS)

PROFESSOR DAVID M. BICE, *Associate Head for Undergraduate Programs*

The geosciences are concerned with understanding earth processes and the evolutionary history of the Earth. Geoscientists work to discover and develop natural resources such as groundwater, metals, and energy sources; to solve technology-generated environmental problems such as acid mine drainage and waste disposal; to predict geological events, such as the occurrence of earthquakes and volcanism; and to solve fundamental questions concerning the origin and evolution of Earth and life. Our degree programs stress data collection; investigation, analysis and synthesis of information related to complex natural problems; and rigor of thought and clarity of oral and written expression. The B.S. provides a broad foundation in the physical and natural sciences for students who seek immediate employment or post-graduate education in several areas of the geosciences. Examples of careers include the petroleum and mining industries; local or federal resource management; water resources, treatment and management; energy and environmental industries; and academia. A senior thesis involving independent research is required of all students.

GENERAL OPTION: This option is designed to provide sufficient flexibility so that the student has the opportunity to prepare for graduate school by focusing on specialized areas in the geosciences. The option's flexibility also permits students to develop a broad background in the geosciences in preparation for post-graduate majors that require breadth, such as environmental law.

HYDROGEOLOGY OPTION: This option helps prepare the student for entry-level positions in environmental agencies and firms where a specialized knowledge of groundwater and related areas is required. The option is also appropriate for students wishing to pursue an advanced degree in the area of hydrogeology.

For the B.S. degree in Geosciences, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 97 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses, 6 credits of GQ courses, 6 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 69 credits

PRESCRIBED COURSES (66 credits)
BIOL 110 GN(4), EM SC 100S GWS(3)**[71]**, MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), PHYS 211 GN(4), PHYS 213 GN(2) (Sem: 1-4)
GEOSC 001(3) [if GEOSC 001 is not available, GEOSC 020 GN(3) may be substituted] (Sem: 1-6)
GEOSC 201(4)**[1]**, GEOSC 202(4)**[1]**, GEOSC 204(4) (Sem: 3-6)
GEOSC 203(4)**[1]**, GEOSC 310(4)**[1]**, GEOSC 465(4)**[1]**, GEOSC 472A(3), GEOSC 472B(3) (Sem: 5-6)
GEOSC 494W(3), GEOSC 496(1) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)

REQUIREMENTS FOR THE OPTION: 28 credits

GENERAL OPTION: (28 credits)

ADDITIONAL COURSES (14 credits)
Select 14 credits from 300- and 400-level GEOSC courses: GEOSC 303(3), GEOSC 340(3), GEOSC 402(3), GEOSC 416(3), GEOSC 421(3), GEOSC 422(3), GEOSC 423(4), GEOSC 424(3), GEOSC 426(3), GEOSC 434(3), GEOSC 439(3), GEOSC 440(3), GEOSC 451(3), GEOSC 452(3), GEOSC 454(3), GEOSC 461(3), GEOSC 470W(3), GEOSC 471(3), GEOSC 489(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (14 credits)
Select at least 2 credits in physics from approved departmental list (Sem: 1-4)
Select 3 credits of computer science, mathematics [above the level of MATH 141 GQ(4)], or statistics (Sem: 3-6)
Select 9 credits, in consultation with adviser, supportive of the student's interest (Students may apply 6 credits of ROTC.) (Sem: 3-8)

HYDROGEOLOGY OPTION: (28 credits)

PRESCRIBED COURSE (3 credits)

GEOSC 452(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select 3 credits from CMPSC 201 GQ(3), CMPSC 202 GQ(3), CMPSC 203 GQ(4), STAT 250 GQ(3) [if STAT 250 is not available, STAT 200 GQ(4) may be substituted] (Sem: 3-8)
Select 3 credits from A S M 327(3), E R M 450(3), SOILS 101 GN(3), SOILS 415(3) (Sem: 5-8)
Select 9 credits from A and B. Students must select at least 3 credits from A and 3 credits from B.
A. CHEM 202(3), CHEM 450(3), E R M 433(3), GEOSC 413W(3), GEOSC 419(3) (Sem: 3-8)
B. GEOEE 408(3), GEOG 362(3), GEOSC 340(3), GEOSC 439(3), GEOSC 454(3), GEOSC 483(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (10 credits)
Select at least 2 credits in Physics from approved departmental list (Sem: 1-4)
Select 8 credits, in consultation with advisor, supportive of the student's interest. (Students may apply 6 credits of ROTC) (Sem: 3-8)

Integrated B.S./M.S. Program in Geosciences

The Department of Geosciences offers an integrated B.S./MS. Program that is designed to allow academically superior students to obtain both the B.S. and the M.S. degree in Geosciences within 5 years of study. Students who wish to complete the Integrated B.S./M.S. Program in Geosciences must apply for admission to the Graduate School and the Integrated B.S/M.S program by the end of their junior year.

During the first three years, the student follows the course scheduling of one of the options in Geosciences; however, if a student intends to enter the Integrated B.S./M.S. program, he/she would be encouraged to take, wherever appropriate, upper level classes. By the end of the junior year,the student normally would apply for admission to the program. A decision of acceptance would be made prior to the beginning of the senior year and a M.S. Advising Committee appointed. During the senior year, the student would follow the scheduling of the B.S. Geosciences option he/she has selected, with an emphasis on completing 500-level coursework wherever appropriate. In place of the Senior Thesis, the student will complete a M.S. Thesis

During the fifth year the student will take courses fulfilling the departmental M.S. degree requirements and complete the M.S. Thesis.

Admissions Requirements

Students who wish to complete the Integrated B.S./M.S. Program in Geosciences must apply for admission to the Graduate School and the Integrated B.S./M.S program by the end of their junior year. Typical tests scores of students admitted to the Geosciences Graduate Program are: GPA 3.5, and GRE's Verbal 570 and Quantitative 700. Three letters of recommendation by faculty members for admission to graduate studies are required. The applications are reviewed by the Admissions Committee of the Geosciences Graduate Program and acted upon by the Associate Head for Graduate Programs

The details of the program requirements can be found in the *Graduate Degree Programs Bulletin*.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2008 (GSCBS); Summer Session 2005 (Integrated B.S./M.S.)

Blue Sheet Item #: 36-04-026 (GSCBS); 33-04-165 (Integrated B.S./M.S.)

Review Date: 1/15/08

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

EM

German

University Park, College of the Liberal Arts (GERBA)

PROFESSOR ADRIAN WANNER, *Head*

For the B.A. degree in German, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 37-40 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 16 credits

PRESCRIBED COURSES (12 credits)
GER 301 IL(3), GER 310 IL(3), GER 344 IL(3) (Sem: 3-6)
GER 401Y IL(3) (Sem: 5-8)

ADDITIONAL COURSES (4 credits)
GER 201 IL(4) or GER 208Y IL(4) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 21-24 credits

GERMAN STUDIES OPTION: (24 credits)
The German Studies option is designed to acquaint the student with the development of the cultures and civilization in the German-speaking countries. The option's interdisciplinary approach provides a general background and specific language skills that can serve as a basis for careers in business, civil service, journalism, law, and graduate work in many areas.

PRESCRIBED COURSES (6 credits**)**
GER 200 GH;IL(3) (Sem: 1-4)
GER 440 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (18 credits)
GER 431 IL(3) or GER 432 IL(3) (Sem: 5-8)
Select an additional 6 credits in German literature or culture at the 300 or 400 level (Sem: 5-8)
Select 9 credits related to German Studies at the 400 level, in consultation with the adviser, from history, philosophy, political science, or art history (Sem: 5-8)

GERMAN LITERATURE OPTION: (21 credits)
The German Literature option will serve students interested in the literatures of the German-speaking countries and is recommended for fields such as art, comparative literature, history, philosophy, and the performing arts.

PRESCRIBED COURSES (6 credits)
GER 431 IL(3), GER 432 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select an additional 15 credits in German at the 300 or 400 level, including a minimum of 9 credits in German literature (Sem: 5-8)

TEACHING OPTION: (21 credits)
The Teaching option is designed to prepare students for the teaching of German in secondary schools. The number of elective credits enables students to study an additional foreign language, thus enhancing their teaching opportunities.

Students planning to teach in public schools should schedule the appropriate courses leading to certification in consultation with an adviser in the College of Education. For the Pennsylvania teaching certificate, additional credits, including 15 credits of student teaching, are required.

PRESCRIBED COURSES (6 credits)
GER 200 GH;IL(3) (Sem: 1-4)

GER 411(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
GER 412 IL(3) or GER 430 IL(3) (Sem: 5-8)
GER 431 IL(3) or GER 432 IL(3) (Sem: 5-8)
Select 9 additional credits in German at the 300 or 400 level (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-03-027

Review Date: 1/24/06

LA

German

University Park, College of the Liberal Arts (GERBS)

PROFESSOR RICHARD PAGE, *Head*

The B.S. degree in German is designed to allow students to combine fluency in the German language and culture with other academic disciplines. The German-Business option develops basic German business-communication skills as well as fundamental knowledge of German economics. The German-Engineering and Applied German options have a required overseas study and internship component.

Courses in German literature and culture are essential to all German B.S. options, and students in the German-Business option are encouraged to participate in the University's study abroad programs in Germany.

For the B.S. degree in German, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 23-25 credits

REQUIREMENTS FOR THE MAJOR: 55-66 credits**[1]**
(This includes 0-13 credits of General Education courses: 0-6 credits of GS courses; 0-3 credits of GWS courses; 0-4 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 22 credits

PRESCRIBED COURSES (15 credits)
GER 200 GH;IL(3) (Sem: 1-4)
GER 301 IL(3), GER 310 IL(3), GER 344 IL(3) (Sem: 3-6)
GER 401Y IL(3) (Sem: 5-8)

ADDITIONAL COURSES (7 credits)
GER 201 IL(4) or GER 208Y IL(4) (Sem: 1-4)
GER 431 IL(3) or GER 432 IL(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 33-44 credits

APPLIED GERMAN OPTION: (33 credits)

This option is designed to provide German majors with a background in an area of study where knowledge of German is useful. In consultation with an advisor, majors in this option are required to either study abroad or do an internship that corresponds with their related area of study.

PRESCRIBED COURSES (6 credits)
GER 399 IL(3), GER 499 IL(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (27 credits)
Select 18 credits in related areas such as Hotel, Restaurant, and Institutional Management; Linguistics; Applied Linguistics; Sociology; Economics; Science, Technology and Society, or in another professional area where competency in German is desirable. The courses are to be selected in consultation with an adviser. At least six credits of such courses must be at the 400 level. (Sem: 1-8)

Select 9 credits in German at the 300 or 400 level. (Sem: 5-8)

Note: A work experience in a German-speaking country may be substituted for GER 399 or GER 499. The work experience may take the form of an internship (LA 495 or GER 495). If the number of work-experience credits for which a student registered is less than 6, the difference in the number of credits must be earned by taking additional courses in consultation with the Department of Germanic and Slavic Languages and Literatures.

GERMAN BUSINESS OPTION: (44 credits)
This option is designed to introduce German majors to the principles of business administration. The curriculum combines an exposure to managerial processes with foreign language competency in German.

PRESCRIBED COURSES (37 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), I B 303 IL(3), MGMT 100(3) (Sem: 3-4)
ECON 333 GS(3), ENGL 202D GWS(3), FIN 100(3), GER 308Y IL(3), GER 408 IL(3), I B 403(3), MKTG 221(3) (Sem: 5-8)

ADDITIONAL COURSES (7 credits)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-8)
Select an additional 3 credits of German courses at the 400 level (Sem: 5-8)

GERMAN ENGINEERING OPTION: (33 credits)
(Open only to students enrolled in an engineering major.)
This option is designed to combine the study of German and Engineering in order to internationalize and enhance the study and practice of the engineering profession.

PRESCRIBED COURSES (12 credits)
GER 308Y IL(3), GER 408 IL(3) (Sem: 5-8)
GER 399 IL(3), GER 499 IL(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 21 credits of engineering courses in consultation with the engineering adviser (Sem: 3-10)

Note: *The German Engineering Option is open only to Engineering majors. A work experience in a German-speaking country may be substituted for GER 399 or GER 499. The work experience may take the form of an internship (ENGR 195I) or part of a cooperative education sequence (ENGR 295I, ENGR 395I, or ENGR 495I). If the number of work-experience credits for which a student registered is less than 6, the difference in the number of credits must be earned by taking additional courses in consultation with the Department of Germanic and Slavic Languages and Literatures.*

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-03-026

Review Date: 11/18/08

UCA Revision #1: 8/8/06

LA

Global Studies

Berks College (GLBST)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR KIRWIN SHAFFER, *Program Coordinator*

This major is designed for students who are interested in a liberal arts degree with a concentration in global studies. Featuring both active and collaborative classroom experiences in addition to intensive study abroad/internship experiences, the program is designed for students who wish to develop a set of analytical and interpersonal skills that will prepare them for entry-level employment in a wide range of government and non-profit organizations and agencies and in businesses and industry. Because of the flexible and broad nature of the degree, students might also use this major as preparation for graduate or professional school in business, law, or the social sciences. This program differs most notably from traditional majors in international/global studies by requiring core courses in world literature and intercultural communication, while retaining the traditional foreign language, history, and political science emphasis of most other programs. Study abroad and an internship with an international organization are also important features of this degree.

For the B.A. degree in Global Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 39 credits**[1]**
Including 24 credits at the 400 level (9-15 credits of which are included in the prescribed courses, the other 9-15 must be chosen from the option tracks below). A minimum of 3 credits of study abroad (meeting any requirement) and 3 credits of INTST 495 are required for the completion of this degree.

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 18-24 credits

PRESCRIBED COURSES (18-24 credits)
PL SC 014 GS;IL(3) (Sem: 1-4)
HIST 320W(3) (Sem: 1-6)
CAS 271 US;IL(3) (Sem: 3-4)
ENGL 403(3) (Sem: 3-6)
CAS 471 US;IL(3), INTST 495 (3-9) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 15-21 credits

LATIN AMERICAN CULTURE OPTION: (15-21 credits)

ADDITIONAL COURSES (15-21 credits)
Select 15-21 credits from the following list of courses:
CEDEV 430(3), CMLIT 153 GH;IL(3), ECON 333 GS(3), ECON 370 GS(3), HIST 179 GH;IL(3), HIST 432 IL(3), HIST 467 US;IL(3), HIST 468 IL(3), I B 303(3), INTAG 100 GS;IL(3), PL SC 440(3), SPAN 100(3)**[83]**, SPAN 131 GH;IL(3) or SPAN 131W GH;US;IL(3), SPAN 200(3)**[83]**, SPAN 220(3)**[83]**, SPAN 253(3)**[83],** SPAN 300(3)**[83]**, SPAN 420(3)**[83]**, SPAN 476(3)**[83],** SPAN 497(1-9)**[83]** (Sem: 1-8)

CONTEMPORARY HISTORY AND POLITICS OPTION: (15-21 credits)

ADDITIONAL COURSES (15-21 credits)
Select 15-21 credits from the following list of courses:
CEDEV 430(3), CMLIT 153 GH;IL(3), ECON 333 GS(3), ECON 370 GS(3), ENGL 182A GH;US;IL(3), FR 139 GH;IL(3), GER 100 GH;IL(3), HIST 120 GS;IL(3), HIST 175 GH;IL(3), HIST 179 GH;IL(3), HIST 181 GH;IL(3), HIST 192 GH;IL(3), HIST 435(3), HIST 467 US;IL(3), HIST 468 IL(3), HIST 488(3), I B 303(3), INTAG 100 GS;IL(3), PL SC 412(3), PL SC 413(3), PL SC 424(3), PL SC 440(3), PL SC 443(3), PL SC 454 IL(3), POLSC 428(3), RUS 100 GH;IL(3), SPAN 131 GH;IL(3), UKR 100 GH;IL(3) (Sem: 1-8)

[1] A student enrolled in this major must maintain a grade-point average of C or better, as specified in Senate Policy 82-44.

[83] These courses also constitute the projected Spanish minor.

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-110

Review Date: 4/11/06

UCA Revision #2: 7/27/07

BK

Graphic Design

University Park, College of Arts and Architecture (GD)

PROFESSOR WILLIAM KELLY, *Head, Department of Integrative Arts*

This degree is intended to prepare students for careers in graphic design. The program includes the technical skills and the creative and intellectual capacity essential to the practices of graphic design and is intended to prepare students for employment in design studios, advertising agencies, packaging, publications and corporate design, film and television graphics, and Web and interactive design.

Acceptance into the Graphic Design major is determined by a portfolio review by faculty after the completion of GD 001S(1), GD 100 GA(3), GD 101(2), GD 102(3), GD 200(3), GD 201(3), PHOTO 100 GA(3), and PHOTO 200(3) with grades of C or better in all of these courses. Typically, this review will take place in the fourth semester. Applicants who are not accepted into the major may re-apply the following year but must realize that this course of action could delay their graduation by at least one year.

For the B. Des. degree in Graphic Design, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-6 of these 45 credits are included in REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6-12 credits

REQUIREMENTS FOR THE MAJOR: 69 credits**[1]**
(This includes 0-6 credits of General Education courses: 0-6 credits of GA courses.)

PRESCRIBED COURSES (48 credits)
GD 001S(1), GD 100(3), GD 101(2), GD 102(3), PHOTO 100(3) (Sem: 1-2)
GD 200(3), GD 201(3), PHOTO 200(3) (Sem: 3-4)
GD 300(4), GD 301(4), GD 302(4), GD 303(4) (Sem: 5-6)
GD 403W(3) (Sem: 6 or 8)
GD 400(4), GD 402(4) (Sem: 7-8)

ADDITIONAL COURSES (21 credits)
Select 12 credits from "history of arts" coursework (6 of these credits may also be counted toward the General Education Arts requirement)
Select 9 credits from GD 304(3), GD 310(3-6), GD 401(3), GD 404(3), and GD 495(1-18) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-020

Review Date: 3/6/07

R&T Revision 3/6/07 SCR

AA

Health Policy and Administration

University Park, College of Health and Human Development (H P A)

PROFESSOR DENNIS G. SHEA, *Head of the Department*

This major helps prepare students for management and policy positions or graduate study in the field of health care. Students in the major develop the skills and knowledge needed to understand the complex societal problem of providing access to quality health care at reasonable cost. All Health Policy and Administration students complete an internship in a health-care-related setting, giving them valuable experience and contacts in the industry. HPA students study a multidisciplinary curriculum that prepares them to work in many health care organizations including: (1) health care providers (hospitals, physician practices, nursing facilities, home health agencies, etc.); (2) health insurers (nonprofit and commercial insurers, health maintenance organizations, etc.); (3) health care consultants; (4) health care supply companies (pharmaceutical companies, medical device manufacturers, etc.); (5) health services research and policy organizations (health policy research groups, industry trade groups, etc.); and (6) local, state, and federal health agencies (local health departments, state Department of Health, federal Department of Health and Human Services, etc.). HPA students have also used the degree to prepare for graduate study in business, law, medicine or allied health fields, health administration, health services research or policy, and public health.

The requirements for the major are outlined below. Students may select courses in the Supporting Courses and Related Areas category to fulfill requirements for a minor, to develop a specialization, or to complete courses required for admission to medical, dental, law, or other graduate schools.

For the B.S. degree in Health Policy and Administration, a minimum of 120 credits is required.

The integrated B.S. in health policy and administration/Master of Health Administration (MHA) program allows qualified undergraduate students to earn both degrees in five calendar years of full time academic study.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-2 credits

REQUIREMENTS FOR THE MAJOR: (85-87 credits)
(This includes 12 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (31 credits)**[1]**
ACCTG 211(4), ECON 002 GS(3), PL SC 001 GS(3), SOC 023 GS(3) (Sem: 1-4)
H P A 101(3), H P A 301W(3), H P A 310(3), H P A 332(3), H P A 390(3), H P A 395(3) (Sem: 3-6)

ADDITIONAL COURSES (18-20 credits)**[1]**
STAT 200 GQ(4) or STAT 250 GQ(3) (Sem: 1-4)
FIN 100(3) or INS 301(3) (Sem: 1-6)
CMPSC 101 GQ(3) or CMPSC 203 GQ(4) (Sem: 3-4)
Select 9 credits from H P A 401(3), H P A 410(3), H P A 420(3), H P A 431(3), H P A 433(3), H P A 440 US;IL(3), H P A 442(3), H P A 445(3), H P A 447(3), H P A 450(3), H P A 455(3), H P A 460(3), H P A 470(3), or H P A 497 (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (36 credits)
(Must include at least 9 credits at the 400 level)

Select 30 credits from University-wide offerings on department list in consultation with adviser (Sem: 5-8)
Select 6 credits in economics and/or political science on department list in consultation with adviser (Sem: 5-8)

Integrated B.S. in Health Policy and Administration/Master of Health Administration (M.H.A.) Admission and Degree Requirements

The following credentials will be considered for admission:

- A demonstrated ability to communicate effectively, an advanced level of maturity, and high motivation to pursue a career in the health care field
- Academic references
- Successful completion of 60 credits having maintained a cumulative GPA of 3.4 or better

Students admitted to the B.S. in Health Policy Administration/MHA integrated program are able to earn both the B.S. and MHA in five calendar years of full time academic study.

A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2002 (H P A); Summer Session 2005 (Integrated B.S./H P A-M.H.A.)

Blue Sheet Item #: 30-07-092 (H P A); 38-06-114A (Integrated B.S./H P A-M.H.A.)

Review Date: 04/13/2010

HH

History

Altoona College (HISAL)

This major provides a broad introduction to the history of the great civilizations of the world and specific areas of historical inquiry. Centered in one of the basic, traditional disciplines, the History major offers invaluable preparation for students interested in a career in government, international relations, law, or librarianship, as well as essential training for those interested in a professional career as an academic or public historian, archivist, or secondary school teacher. Along with the perspective on the present that a study of the past engenders, the program develops skills in research, analysis, and synthesis that have proved useful in commerce and industry. The History major combines easily with minors or even multiple majors, providing flexibility in one's career choice.

For a B.A. degree in History, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 37 credits**[1]**

PRESCRIBED COURSES (3 credits)
HIST 302W(3) (Sem: 5-6)

ADDITIONAL COURSES (16 credits)
Select 12 credits in two of the three focus areas: HIST 001 GH;IL(3) and HIST 002 GH;IL(3); HIST 010 GH;IL(3) and HIST 011 GH;IL(3); HIST 020 GH;US(3) and HIST 021GH(3) (Sem: 1-8)
HIST 494(4) or HIST 495(4) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
At least 8 credits must be at the 400-level
Select 12 credits in history (Sem: 1-8)
Select 6 credits in non-Western history (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-01-010

Review Date: 2/26/07

AL

History

Abington College (HSTAB)
University Park, College of the Liberal Arts (HIST)

PROFESSOR A. G. ROEBER, *Interim Head*

This major provides a broad introduction to the history of the great civilizations of the world and specific areas of historical inquiry. Centered in one of the basic, traditional disciplines, the History major offers invaluable preparation for students interested in a career in government, international relations, law, or librarianship, as well as essential training for those interested in a professional career as an academic or public historian, archivist, or secondary school teacher. Along with the perspective on the present that a study of the past engenders, the program develops skills in research, analysis, and synthesis that have proved useful in commerce and industry. The History major permits easy combination with minors, area studies, or even a concurrent major, providing flexibility in one's career choice.

For the B.A. degree in History, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (15 credits)
HIST 001 GH;IL(3), HIST 002 GH;IL(3) (Sem: 1-4)
HIST 020 GH;US(3), HIST 021 GH;US(3) (Sem: 1-4)
HIST 302W(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
(At least 12 credits must be at the 400 level.)
Select 6 credits in non-Western history from department list (Sem: 1-8)
Select 15 credits in any area (no history course excluded) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1993

Blue Sheet Item #: 21-01-011

Review Date: 01/19/00 (General Education information updated)

Department head updated by Publications: 10/08/08

History

Abington College (HSTAB)
University Park, College of the Liberal Arts (HIST)

PROFESSOR A. G. ROEBER, *Interim Head*

This major provides a broad introduction to the history of the great civilizations of the world and specific areas of historical inquiry. Centered in one of the basic, traditional disciplines, the History major offers invaluable preparation for students interested in a career in government, international relations, law, or librarianship, as well as essential training for those interested in a professional career as an academic or public historian, archivist, or secondary school teacher. Along with the perspective on the present that a study of the past engenders, the program develops skills in research, analysis, and synthesis that have proved useful in commerce and industry. The History major permits easy combination with minors, area studies, or even a concurrent major, providing flexibility in one's career choice.

For the B.A. degree in History, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (15 credits)
HIST 001 GH;IL(3), HIST 002 GH;IL(3) (Sem: 1-4)
HIST 020 GH;US(3), HIST 021 GH;US(3) (Sem: 1-4)
HIST 302W(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
(At least 12 credits must be at the 400 level.)
Select 6 credits in non-Western history from department list (Sem: 1-8)
Select 15 credits in any area (no history course excluded) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1993

Blue Sheet Item #: 21-01-011

Review Date: 01/19/00 (General Education information updated)

Department head updated by Publications: 10/08/08

History

Penn State Erie, The Behrend College (HSTBA)

The B.A. degree program in History focuses on the study of the evolution of American and European institutions. This program enables students to pursue history in the traditional mode as a study of written records.

For the B.A. degree in History, a minimum of 124 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 39 credits
(This includes 3 credits of General Education GWS courses.)

PRESCRIBED COURSES (12 credits)
HIST 001 GH(3), HIST 002 GH(3), HIST 020 GH(3), HIST 021 GH(3) (Sem: 1-8)

ADDITIONAL COURSES (18 credits)
ENGL 202A GWS(3) or ENGL 202B GWS(3) (Sem: 3-6)
Select 3 credits from PL SC or POLSC at the 400 level (Sem: 5-8)
Select 12 credits of HIST or HSTRY at the 400 level (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from school-approved list (Sem: 1-8)

Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-08-167

Review Date: 01/30/01 (Editorial Changes)

BD

Horticulture

University Park, College of Agricultural Sciences (HORT)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR CHARLES W. HEUSER, *Program Coordinator*

Horticulture is an applied biological science designed for students who are seeking careers in the management of public and commercial horticultural enterprises. Because of the rapidly changing needs of professionals in this field, Horticulture combines the application of science and technology to achieve its educational goals. Horticulture provides students maximum flexibility in selecting a program of study suited to their needs and professional goals. Students can emphasize floriculture (greenhouse production or floral retail), olericulture (vegetable crops), ornamental horticulture (herbaceous and woody perennials), and pomology (fruit culture). Programs of study in the disciplines of plant breeding, plant nutrition, and horticultural physiology are also available .

Graduates are employed as commercial growers of fruit, vegetable, nursery, or greenhouse crops; as managers of retail enterprises or public and private gardens; in production and quality control, or as field supervisors in the food processing industries; in federal and state inspection services; in crop consulting; in secondary level teaching; or in sales and service work for seed, plant materials, agricultural chemicals, and other related businesses. By selection of the Science Option, students can prepare for graduate study leading to careers in research, teaching, and/or extension in horticulture and related plant sciences.

BUSINESS/PRODUCTION OPTION:
This option is focused on preparing students to enter the horticultural industry by providing a broad background in courses related to horticultural business and production and physiology of horticultural crops. In addition courses in pest management and business are required.

SCIENCE OPTION:
This option provides students with a stronger basic science background in addition to the broad background in horticultural courses. This option is designed to prepare students for graduate study.

For the B.S. degree in Horticulture, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 2-10 credits

REQUIREMENTS FOR THE MAJOR: 86-94 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 58-62 credits

PRESCRIBED COURSES (42 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3) (Sem: 1-4)
BIOL 110 GN(4) (Sem: 1-4)
ENT 313(2), SOILS 101 GN(3) (Sem: 5-6)
PPATH 405(3) (Sem: 7-8)
HORT 101 GN(3)**[1]**, HORT 202(3)**[1]**, HORT 232(3)**[1]**, HORT 315(3)**[1]**, HORT 390(1)**[1]**, HORT 402W(3), HORT 407(3), HORT 412W(3)**[1]**, HORT 490(1)**[1]** (Sem: 1-8)

ADDITIONAL COURSES (16-20 credits)
Select 3-5 credits from MATH 022 GQ(3), MATH 026 GQ(3), MATH 030 GQ(3), MATH 040 GQ(5), MATH 041 GQ(3-4), MATH 110 GQ(4), MATH 111 GQ(2), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
Select 3-4 credits from STAT 200 GQ(4) or STAT 240 GQ(3) (Sem: 3-4)
Select 3 credits from AG BM 101 GS(3), ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 3-4)
Select 6-7 credits from HORT 408(4), HORT 431(3), HORT 432(3), HORT 433(3), HORT 450(3), HORT 453(3) (Sem: 7-8)
Select 1 credit from HORT 495(1) or HORT 496(1) (Sem: 7-8)

REQUIREMENTS FOR THE OPTION: 28-32 credits

BUSINESS/PRODUCTION OPTION: (28-31 credits)

PRESCRIBED COURSES (13 credits)
HORT 420(3), HORT 445(3), HORT 455(3) (Sem: 5-8)
ENT 314(1), ENT 457(3) (Sem: 7-8)

ADDITIONAL COURSES (15-18 credits)
AGRO 438(4) or HORT 238(3) (Sem: 5-8)
Select 9-10 credits from AG 301W(3), AG BM 200(3), AG BM 407(3), B LAW 243(3), FIN 100(3), MKTG 220(3), MKTG 221(3), SPAN(4) (Sem: 5-8)
Select 3 credits from HORT 131(3), HORT 137(3), HORT 138(3), HORT 431*(3), HORT 432*(3), HORT 433*(3) (Sem: 5-8)
**Student cannot use the same course more than once as an additional course.*

SCIENCE OPTION: (29-32 credits)

PRESCRIBED COURSES (14 credits)
CHEM 202(3), BIOL 230W GN(4), BIOL 240W GN(4), BIOL 441(3) (Sem: 5-8)

ADDITIONAL COURSES (15-18 credits)
Select 6-7 credits from B M B 211(3) or B M B 251(3); PHYS 250 GN(4), PHYS 251 GN(4), or BIOL 222(3) (Sem: 5-8)
Select 9-11 credits from BIOL 407(3), BIOL 414(3), BIOL 431(4), HORT 420(3), HORT 440W(3), HORT 444(4), HORT 445(3), HORT 459(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-001

Review Date: 3/6/07

UCA Revision #1: 8/8/06

AG

Hotel, Restaurant, and Institutional Management

University Park, College of Health and Human Development (HRIM)

PROFESSOR HUBERT B. VAN HOOF, *Head of the School*

This major helps provide preparation for management positions in hotels, restaurants, institutions, and other hospitality organizations. The program is designed to give the student a broad general education and a strong management and problem-solving orientation balanced with the requisite technical skills, all of them essential for career progression to upper-management positions in the hospitality professions. The program also helps prepare students for graduate study.

HOTEL, RESTAURANT, AND INSTITUTIONAL MANAGEMENT OPTION: This option helps prepare students for management positions in any segment of the hospitality industry, including hotels, restaurants, institutional or non-commercial operations, clubs, resorts, and casinos. The management focus helps provide students with the analytical, interpersonal, and organizational skills necessary to effectively function as hospitality professionals.

MANAGEMENT DIETETICS OPTION: This option helps prepare graduates for general management positions within the food services operated by or for medical organizations, health and life care facilities, college feeding, governmental agencies, and community feeding programs. The management dietitian is qualified to solve both nutrition and food service problems. Graduates may also choose to work in the management of commercial food service operations. Together with the necessary clinical experience, the option satisfies the eligibility requirements for membership in the American Dietetic Association.

For the B.S. degree in Hotel, Restaurant, and Institutional Management, a minimum of 120 credits is required. The B.S. degree program consists of two options: (1) Hotel, Restaurant, and Institutional Management and (2) Management Dietetics.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10.5-22 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-7 credits

REQUIREMENTS FOR THE MAJOR: 78.5-97 credits**[1]**
(For the HRIM option, this includes 10.5 credits of General Education courses: 6 credits of GQ courses; 3 credits of GS courses; 1.5 credit of GHA courses. For the Management Dietetics option, this includes 22 credits of General Education courses: 6 credits of GQ courses; 7 credits of GN courses; 6 credits of GS courses; 3 credits of GHA courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 56 credits

PRESCRIBED COURSES (53 credits)
CMPSC 203 GQ(4), MKTG 221(3), STAT 200 GQ(4) (Sem: 1-4)
HRIM 201(3), HRIM 202(1), HRIM 271(2), HRIM 329(3), HRIM 330(2), HRIM 335(3), HRIM 336(3), HRIM 350(3), HRIM 365 IL(3), HRIM 380(3), HRIM 430(3), HRIM 435(3), HRIM 442(3), HRIM 466 US(3), HRIM 490W(3), HRIM 492(1) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
ECON 002 GS(3) or ECON 014 GS(3) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 22.5-41 credits

HOTEL, RESTAURANT, AND INSTITUTIONAL MANAGEMENT OPTION: (22.5 credits)

PRESCRIBED COURSES (10.5 credits)
HRIM 355(3), HRIM 480(3), NUTR 100 GHA(1.5), NUTR 119(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS: (12 credits)
Select 12 credits of HRIM courses from an approved department list, up to 4 credits of any foreign language, and other courses in consultation with an advisor.

MANAGEMENT DIETETICS OPTION: (41 credits)

PRESCRIBED COURSES (38 credits)
B M B 211(3), BIOL 141 GN(3), CHEM 110 GN(3), CHEM 202(3), MICRB 106 GN(3), MICRB 107 GN(1) (Sem: 3-4)
NUTR 120(3), NUTR 251 GHA(3), NUTR 370(1), NUTR 400(1), NUTR 445(3), NUTR 446(3), NUTR 452(3), NUTR 453(3), NUTR 456(2) (Sem: 5-8)

ADDITIONAL COURSE (3 credits)
PSYCH 100 GS(3) or SOC 001 GS(3) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-02-101

Review Date: 10/10/06

UCA Revision #1: 8/8/06

HH

Human Development and Family Studies

Penn State Altoona (HFSAL)
Penn State Harrisburg (HFSCA)
University College (HFSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Shenango, Penn State Worthington-Scranton, Penn State York
College of Health and Human Development (HD FS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR STEVEN H. ZARIT, *Head of the Department*

This major is a multidisciplinary program that examines the development of individuals and families across the life span. It enables students to prepare for professional, managerial, or scientific roles in health and human services professions, in public and nonprofit agencies, and in business and industry, as well as for advanced professional or graduate study. Students obtain a broad background in individual and family development across the life span. Courses emphasize biological, psychological, social/cultural, and economic aspects of development. Through course work and undergraduate internships or research projects, students develop skills relevant to career objectives, such as counseling, human assessment, program planning and evaluation, and research.

Two options are available within the major: (1) Life Span Human Services option and (2) Life Span Developmental Science option. The introductory paragraph to each of the options includes a brief list of career opportunities. More extensive descriptions of career opportunities in both public and private sectors are available for the program.

LIFE SPAN HUMAN SERVICES OPTION: This option focuses on the acquisition and application of scientific knowledge about development and family functioning across the life span for the purposes of enhancing personal and family development. Courses emphasize: (1) understanding the biological, psychological, and social development across the life span, and the structuring and functioning of families; (2) understanding basic theoretical and methodological issues; and (3) the development of applied skills in intervention and evaluation, prevention, and in the formulation of social policy. An approved field experience in a setting that serves children, youth, adults, or the aged is required for this option. Typical employment settings include preschools, daycare centers, hospital programs for children, youth, and families, institutional and community mental health programs for individuals and families, programs for abused or neglected children and adolescents, women's resource centers, human resources programs, employee assistance programs, nursing homes, area agencies on aging and other community settings for older adults, and public welfare and family service agencies. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, counseling or social work.

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: This option focuses on the understanding of contemporary methodological approaches to the acquisition of scientific knowledge about individual development over the life span and about family development. This option provides preparation for advanced training in careers in developmental or family research, teaching at a college or university, or for professional careers that require graduate training. Courses within this option emphasize a thorough understanding of the theory and methods of developmental and family theory and research. An approved, multi-semester research practicum is an integral component of this option. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, social work, or in other programs related to services for individuals and families.

For the B.S. degree in Human Development and Family Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 73-76 credits
(This includes 3-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (18 credits)**[1]**
HD FS 129 GS(3), HD FS 301(3), HD FS 311(3), HD FS 312W(3), HD FS 315 US(3)**[93]**, HD FS 418(3) (Sem: 3-6)

ADDITIONAL COURSES (12-13 credits)**[1]**

Select 6 credits from HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
Select 3 credits of United States Cultures (US)**[92]** (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 43-45 credits

LIFE SPAN HUMAN SERVICES OPTION: (43-45 credits)

PRESCRIBED COURSES (9 credits)**[1]**
HD FS 411(3), HD FS 414(3), HD FS 455(3) (Sem: 5-8)

ADDITIONAL COURSES (22-24 credits)**[1]**
Select 3 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3) or HD FS 445(3) (Sem: 5-8)
Select 6 credits from 300- or 400-level HD FS courses (Sem: 5-8)
Select 13-15 credits from (a) or (b)
(a) Approved field practice in a human service setting: HD FS 490(2), HD FS 495A(9), HD FS 495B(3) (Sem: 5-8)
(b) Approved group project or field practice in human service setting: HD FS 401(3), HD FS 402(4), HD FS 495C(6-8) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits (minimum of 6 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in the option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: 45 credits

PRESCRIBED COURSES (6 credits)**[1]**
HD FS 494(6) or HD FS 494H(6) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)**[1]**
Select 6 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3), HD FS 445(3) (Sem: 5-8)
Select 15 credits (minimum of 9 credits at the 400-level) from HD FS courses (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits (minimum of 9 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[92] This course is in addition to the 6 credits of United States Cultures and International Cultures.
[93] This course fulfills the University's United States Cultures requirement.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-02-111

Review Date: 10/11/05

HH

Human Development and Family Studies

Penn State Altoona (HFSAL)
Penn State Harrisburg (HFSCA)
University College (HFSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Shenango, Penn State Worthington-Scranton, Penn State York
College of Health and Human Development (HD FS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR STEVEN H. ZARIT, *Head of the Department*

This major is a multidisciplinary program that examines the development of individuals and families across the life span. It enables students to prepare for professional, managerial, or scientific roles in health and human services professions, in public and nonprofit agencies, and in business and industry, as well as for advanced professional or graduate study. Students obtain a broad background in individual and family development across the life span. Courses emphasize biological, psychological, social/cultural, and economic aspects of development. Through course work and undergraduate internships or research projects, students develop skills relevant to career objectives, such as counseling, human assessment, program planning and evaluation, and research.

Two options are available within the major: (1) Life Span Human Services option and (2) Life Span Developmental Science option. The introductory paragraph to each of the options includes a brief list of career opportunities. More extensive descriptions of career opportunities in both public and private sectors are available for the program.

LIFE SPAN HUMAN SERVICES OPTION: This option focuses on the acquisition and application of scientific knowledge about development and family functioning across the life span for the purposes of enhancing personal and family development. Courses emphasize: (1) understanding the biological, psychological, and social development across the life span, and the structuring and functioning of families; (2) understanding basic theoretical and methodological issues; and (3) the development of applied skills in intervention and evaluation, prevention, and in the formulation of social policy. An approved field experience in a setting that serves children, youth, adults, or the aged is required for this option. Typical employment settings include preschools, daycare centers, hospital programs for children, youth, and families, institutional and community mental health programs for individuals and families, programs for abused or neglected children and adolescents, women's resource centers, human resources programs, employee assistance programs, nursing homes, area agencies on aging and other community settings for older adults, and public welfare and family service agencies. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, counseling or social work.

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: This option focuses on the understanding of contemporary methodological approaches to the acquisition of scientific knowledge about individual development over the life span and about family development. This option provides preparation for advanced training in careers in developmental or family research, teaching at a college or university, or for professional careers that require graduate training. Courses within this option emphasize a thorough understanding of the theory and methods of developmental and family theory and research. An approved, multi-semester research practicum is an integral component of this option. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, social work, or in other programs related to services for individuals and families.

For the B.S. degree in Human Development and Family Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 73-76 credits
(This includes 3-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (18 credits)**[1]**
HD FS 129 GS(3), HD FS 301(3), HD FS 311(3), HD FS 312W(3), HD FS 315 US(3)**[93]**, HD FS 418(3) (Sem: 3-6)

ADDITIONAL COURSES (12-13 credits)**[1]**

Select 6 credits from HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
Select 3 credits of United States Cultures (US)**[92]** (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 43-45 credits

LIFE SPAN HUMAN SERVICES OPTION: (43-45 credits)

PRESCRIBED COURSES (9 credits)**[1]**
HD FS 411(3), HD FS 414(3), HD FS 455(3) (Sem: 5-8)

ADDITIONAL COURSES (22-24 credits)**[1]**
Select 3 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3) or HD FS 445(3) (Sem: 5-8)
Select 6 credits from 300- or 400-level HD FS courses (Sem: 5-8)
Select 13-15 credits from (a) or (b)
(a) Approved field practice in a human service setting: HD FS 490(2), HD FS 495A(9), HD FS 495B(3) (Sem: 5-8)
(b) Approved group project or field practice in human service setting: HD FS 401(3), HD FS 402(4), HD FS 495C(6-8) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits (minimum of 6 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in the option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: 45 credits

PRESCRIBED COURSES (6 credits)**[1]**
HD FS 494(6) or HD FS 494H(6) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)**[1]**
Select 6 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3), HD FS 445(3) (Sem: 5-8)
Select 15 credits (minimum of 9 credits at the 400-level) from HD FS courses (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits (minimum of 9 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[92] This course is in addition to the 6 credits of United States Cultures and International Cultures.
[93] This course fulfills the University's United States Cultures requirement.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-02-111

Review Date: 10/11/05

HH

Human Development and Family Studies

Penn State Altoona (HFSAL)
Penn State Harrisburg (HFSCA)
University College (HFSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Shenango, Penn State Worthington-Scranton, Penn State York
College of Health and Human Development (HD FS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR STEVEN H. ZARIT, *Head of the Department*

This major is a multidisciplinary program that examines the development of individuals and families across the life span. It enables students to prepare for professional, managerial, or scientific roles in health and human services professions, in public and nonprofit agencies, and in business and industry, as well as for advanced professional or graduate study. Students obtain a broad background in individual and family development across the life span. Courses emphasize biological, psychological, social/cultural, and economic aspects of development. Through course work and undergraduate internships or research projects, students develop skills relevant to career objectives, such as counseling, human assessment, program planning and evaluation, and research.

Two options are available within the major: (1) Life Span Human Services option and (2) Life Span Developmental Science option. The introductory paragraph to each of the options includes a brief list of career opportunities. More extensive descriptions of career opportunities in both public and private sectors are available for the program.

LIFE SPAN HUMAN SERVICES OPTION: This option focuses on the acquisition and application of scientific knowledge about development and family functioning across the life span for the purposes of enhancing personal and family development. Courses emphasize: (1) understanding the biological, psychological, and social development across the life span, and the structuring and functioning of families; (2) understanding basic theoretical and methodological issues; and (3) the development of applied skills in intervention and evaluation, prevention, and in the formulation of social policy. An approved field experience in a setting that serves children, youth, adults, or the aged is required for this option. Typical employment settings include preschools, daycare centers, hospital programs for children, youth, and families, institutional and community mental health programs for individuals and families, programs for abused or neglected children and adolescents, women's resource centers, human resources programs, employee assistance programs, nursing homes, area agencies on aging and other community settings for older adults, and public welfare and family service agencies. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, counseling or social work.

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: This option focuses on the understanding of contemporary methodological approaches to the acquisition of scientific knowledge about individual development over the life span and about family development. This option provides preparation for advanced training in careers in developmental or family research, teaching at a college or university, or for professional careers that require graduate training. Courses within this option emphasize a thorough understanding of the theory and methods of developmental and family theory and research. An approved, multi-semester research practicum is an integral component of this option. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, social work, or in other programs related to services for individuals and families.

For the B.S. degree in Human Development and Family Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 73-76 credits
(This includes 3-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (18 credits)**[1]**
HD FS 129 GS(3), HD FS 301(3), HD FS 311(3), HD FS 312W(3), HD FS 315 US(3)**[93]**, HD FS 418(3) (Sem: 3-6)

ADDITIONAL COURSES (12-13 credits)**[1]**

Select 6 credits from HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
Select 3 credits of United States Cultures (US)**[92]** (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 43-45 credits

LIFE SPAN HUMAN SERVICES OPTION: (43-45 credits)

PRESCRIBED COURSES (9 credits)**[1]**
HD FS 411(3), HD FS 414(3), HD FS 455(3) (Sem: 5-8)

ADDITIONAL COURSES (22-24 credits)**[1]**
Select 3 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3) or HD FS 445(3) (Sem: 5-8)
Select 6 credits from 300- or 400-level HD FS courses (Sem: 5-8)
Select 13-15 credits from (a) or (b)
(a) Approved field practice in a human service setting: HD FS 490(2), HD FS 495A(9), HD FS 495B(3) (Sem: 5-8)
(b) Approved group project or field practice in human service setting: HD FS 401(3), HD FS 402(4), HD FS 495C(6-8) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits (minimum of 6 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in the option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: 45 credits

PRESCRIBED COURSES (6 credits)**[1]**
HD FS 494(6) or HD FS 494H(6) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)**[1]**
Select 6 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3), HD FS 445(3) (Sem: 5-8)
Select 15 credits (minimum of 9 credits at the 400-level) from HD FS courses (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits (minimum of 9 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[92] This course is in addition to the 6 credits of United States Cultures and International Cultures.
[93] This course fulfills the University's United States Cultures requirement.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-02-111

Review Date: 10/11/05

HH

Human Development and Family Studies

Penn State Altoona (HFSAL)
Penn State Harrisburg (HFSCA)
University College (HFSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Shenango, Penn State Worthington-Scranton, Penn State York
College of Health and Human Development (HD FS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR STEVEN H. ZARIT, *Head of the Department*

This major is a multidisciplinary program that examines the development of individuals and families across the life span. It enables students to prepare for professional, managerial, or scientific roles in health and human services professions, in public and nonprofit agencies, and in business and industry, as well as for advanced professional or graduate study. Students obtain a broad background in individual and family development across the life span. Courses emphasize biological, psychological, social/cultural, and economic aspects of development. Through course work and undergraduate internships or research projects, students develop skills relevant to career objectives, such as counseling, human assessment, program planning and evaluation, and research.

Two options are available within the major: (1) Life Span Human Services option and (2) Life Span Developmental Science option. The introductory paragraph to each of the options includes a brief list of career opportunities. More extensive descriptions of career opportunities in both public and private sectors are available for the program.

LIFE SPAN HUMAN SERVICES OPTION: This option focuses on the acquisition and application of scientific knowledge about development and family functioning across the life span for the purposes of enhancing personal and family development. Courses emphasize: (1) understanding the biological, psychological, and social development across the life span, and the structuring and functioning of families; (2) understanding basic theoretical and methodological issues; and (3) the development of applied skills in intervention and evaluation, prevention, and in the formulation of social policy. An approved field experience in a setting that serves children, youth, adults, or the aged is required for this option. Typical employment settings include preschools, daycare centers, hospital programs for children, youth, and families, institutional and community mental health programs for individuals and families, programs for abused or neglected children and adolescents, women's resource centers, human resources programs, employee assistance programs, nursing homes, area agencies on aging and other community settings for older adults, and public welfare and family service agencies. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, counseling or social work.

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: This option focuses on the understanding of contemporary methodological approaches to the acquisition of scientific knowledge about individual development over the life span and about family development. This option provides preparation for advanced training in careers in developmental or family research, teaching at a college or university, or for professional careers that require graduate training. Courses within this option emphasize a thorough understanding of the theory and methods of developmental and family theory and research. An approved, multi-semester research practicum is an integral component of this option. Typical postgraduate pursuits of students completing this option include graduate study in human development, family studies, psychology, or sociology, or advanced professional training in psychology, law, behavioral health, social work, or in other programs related to services for individuals and families.

For the B.S. degree in Human Development and Family Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 73-76 credits
(This includes 3-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (18 credits)**[1]**
HD FS 129 GS(3), HD FS 301(3), HD FS 311(3), HD FS 312W(3), HD FS 315 US(3)**[93]**, HD FS 418(3) (Sem: 3-6)

ADDITIONAL COURSES (12-13 credits)**[1]**

Select 6 credits from HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or EDPSY 101 GQ(3) (Sem: 1-4)
Select 3 credits of United States Cultures (US)**[92]** (Sem: 4-8)

REQUIREMENTS FOR THE OPTION: 43-45 credits

LIFE SPAN HUMAN SERVICES OPTION: (43-45 credits)

PRESCRIBED COURSES (9 credits)**[1]**
HD FS 411(3), HD FS 414(3), HD FS 455(3) (Sem: 5-8)

ADDITIONAL COURSES (22-24 credits)**[1]**
Select 3 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3) or HD FS 445(3) (Sem: 5-8)
Select 6 credits from 300- or 400-level HD FS courses (Sem: 5-8)
Select 13-15 credits from (a) or (b)
(a) Approved field practice in a human service setting: HD FS 490(2), HD FS 495A(9), HD FS 495B(3) (Sem: 5-8)
(b) Approved group project or field practice in human service setting: HD FS 401(3), HD FS 402(4), HD FS 495C(6-8) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits (minimum of 6 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in the option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

LIFE SPAN DEVELOPMENTAL SCIENCE OPTION: 45 credits

PRESCRIBED COURSES (6 credits)**[1]**
HD FS 494(6) or HD FS 494H(6) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)**[1]**
Select 6 credits from HD FS 428(3), HD FS 429(3), HD FS 433(3), HD FS 445(3) (Sem: 5-8)
Select 15 credits (minimum of 9 credits at the 400-level) from HD FS courses (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits (minimum of 9 credits at the 400 level) in consultation with adviser from University-wide offerings that develop competency in option (a grade of C or better is required in any HD FS course taken to satisfy this requirement) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[92] This course is in addition to the 6 credits of United States Cultures and International Cultures.
[93] This course fulfills the University's United States Cultures requirement.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-02-111

Review Date: 10/11/05

HH

Immunology and Infectious Disease

University Park, College of Agricultural Sciences (IID)

PROFESSOR JAMES ENDRES HOWELL, *Program Coordinator*

Immunology is the study of how animals and humans protect themselves from pathogens. Understanding basic mechanisms of immunity provides insights into how blood cells develop and how pathogens are recognized and attacked. Furthermore, understanding the concepts behind immunology is necessary for drug and vaccine design. Dysregulation of the processes that regulate immunity can contribute to uncontrolled inflammation, tissue destruction, autoimmunity, immunodeficiencies, leukemia and related cancers. Immunology includes a broad range of disciplines including but not limited to microbiology, virology, animal health, genetics, biochemistry, molecular and cell biology. Students enrolled in the Immunology and Infectious Disease Major will develop and understanding of normal immune responses to bacterial, fungal, and viral agents and appreciate the potential pathological outcomes of these responses. Students will learn about events that shape the immune response; the general biology of pathogens and the mechanisms by which they cause disease. In addition, basic skills in microbiology, molecular biology and biochemistry will be acquired. Students completing a B.S. degree in Immunology and Infectious Disease will be well prepared for veterinary, medical or other professional schools, Ph.D. graduate training in a wide variety of areas including immunology, microbiology, virology, molecular medicine, animal science, molecular biology and biochemistry or highly competitive jobs as research technicians, laboratory assistants or sales representatives with a pharmaceutical company.

In order to be eligible for entrance to the Immunology and Infectious Disease major, a student must have: (1) attained at least a 2.00 cumulative grade point average and (2) completed BIOL 110 GN(4), BIOL 230W(4), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) and earned a grade of C or better in each of these courses

For the B.S. degree in Immunology and Infectious Disease, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-10 credits

REQUIREMENTS FOR THE MAJOR: 87-90 credits
(This includes 18 credits of GENERAL EDUCATION courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (69 credits)
B M B 401(3), B M B 402(3), BIOL 110 GN(4), BIOL 220W GN(4), BIOL 230W GN(4), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), CHEM 212(3), CHEM 213(2), MATH 140 GQ(4), MATH 141 GQ(4), MICRB 201(3), MICRB 202(2), MICRB 410(3) **[1]**, PHYS 250 GN(4), PHYS 251 GN(4), VB SC 211 GN(3) **[1]**, VB SC 444(3) **[1]**, VB SC 445(3), VB SC 448W(3) (Sem: 1-8)

ADDITIONAL COURSES (9-12 credits)
Select 3 credits from AG BM 101 GS(3), ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-2)
Select 2-4 credits AG 200A(2), AG 200B(2), STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3) (Sem: 3-4)
Select 4-5 credits VB SC 418(2) **[1]**, V SC/MICRB/B M B 432(3) **[1]**, V SC/MICRB 435(2) **[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of 400-level courses from departmental list**[1]** (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2006

Blue Sheet Item #: 34-01-005

Review Date: 10/10/06

UCA Revision #1: 8/8/06

HH

Industrial Engineering

University Park, College of Engineering (I E)

PROFESSOR PAUL M. GRIFFIN, *Head, Harold and Inge Marcus Department of Industrial and Manufacturing Engineering*

The undergraduate program in industrial engineering, being the first established in the world, has a long tradition of providing a strong, technical, hands-on education in design, control, and operation of manufacturing processes and systems. The curriculum provides a broad-based education in manufacturing, operations research and ergonomics through a base of mathematics, physical and engineering sciences, and laboratory and industrial experiences. It builds a strong foundation for the development of a professionally competent and versatile industrial engineer, able to function in a traditional manufacturing environment as well as in a much broader economy, including careers in financial services, communication, information technology, transportation, health care, consulting, or academia.

We expect our graduates to:

1. Participate in and lead cross-functional teams, designing, implementing and improving processes and systems in the manufacturing, service, or government sectors;
2. Work effectively in managerial and leadership positions;
3. Work and communicate effectively with internal and external team members in the global environment; and
4. Engage in continuous learning through varied work assignments, graduate school, professional training programs, and independent study.

The following outcomes are included in the courses taught in the program:

1. Management and Information Systems for Industrial Engineering; apply time value of money to make financial decisions and understand cost-accounting principles; understand probability concepts applicable to solve engineering problems; including reliability issues; conduct tests of hypotheses, create regression models and understand and apply statistical quality control methods such as process capability and control charts; formulate, solve and analyze real problems using Markov chains, network models, dynamic programming, queuing theory and inventory models; create simulation models of manufacturing and service systems and analyze simulation output; and gain an in-depth knowledge of implementation-related issues and theoretical aspects of database and Web-based operations related to industrial engineering.
2. Manufacturing Engineering: understand information contained in typical specifications and methods of product verification and conformance to specifications; and program flexible manufacturing equipment and system controllers; design logical manufacturing layouts and implement contemporary systems issues.
3. Human Factors: analyze and design both the job and the work site in a cost-effective manner, as well as measure the resulting output; understand and apply cognitive systems engineering: identify visual, auditory, cognitive, perceptual and environmental aspects of human performance, perform task analysis and evaluate human-computer interfaces; and perform work measurement, develop an MTM analysis and carry out a work sampling study.
4. General: present engineering study results in technical reports and in oral presentations, demonstrate life-long learning by synthesizing information from several sources, work effectively in groups on case studies and projects, demonstrate knowledge of contemporary issues, understand professional and ethical responsibility and the impact of engineering decisions in a global and societal context; and design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.

After completing courses required for the core and fundamental competencies in the major, students can choose one of the following three tracks for specialization:

Manufacturing Systems Engineering, Service Systems Engineering, and Engineering Information Systems.

A total of 9 course credits in each of the three tracks from the approved list is required, in addition to the three-credit capstone design course.

For the B.S. degree in Industrial Engineering, a minimum of 129 credits is required. This baccalaureate program in Industrial Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org (Opens New Window).

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 111 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (74 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
E MCH 210(5)**[1]**, ENGL 202C GWS(3), MATH 220 GQ(2-3), MATH 231(2), MATH 250(3), PHYS 212 GN(4) (Sem: 3-4)
I E 302(3)**[1]**, I E 305(3)**[1],** I E 322(3)**[1]**, I E 323(3)**[1],** I E 327(3)**[1],** I E 330(3)**[1],** I E 405(3)**[1],** MATSE 259(3) (Sem: 5-6)
I E 425(3), I E 453(3), I E 470(3), I E 480W(3) (Sem: 7-8)

ADDITIONAL COURSES (16 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 1-2)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-2)
I E 408(3) or I E 419(3) (Sem: 7-8) (*The course not taken to satisfy this requirement can be taken as a track elective. Please see the list in (iv) of section C.*)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 3 credits as a science selection from department list (Sem: 3-4)
Select 6 credits as non-major electives from department list (Sem: 3-8)
Select 3 credits in manufacturing processes from department list. (Sem: 5-6) (*The courses not taken to satisfy this requirement can be taken as track electives. Please see the lists in (iii) and (iv) of Section C.*)
Select 9 credits for the track selected from department list (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-06-041

Review Date: 4/14/09

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

EN

Information Sciences and Technology

University Park, College of Information Sciences and Technology (ISTBA)

The Bachelor of Arts in Information Sciences and Technology will provide students who are inherently independent and creative with new avenues of study. This degree will be one which will provide them with a thorough grounding in information sciences and technology but also the flexibility to design a curriculum of study to fit their interests and aspirations. Whether these students wish to blend information science and technology with the arts, the humanities, or with the sciences, this degree will provide them with the breadth of experience that they need to accomplish their goals. the core of the B.A. program in IST will parallel that of the B.S. degree, thus the B.A. student will be equipped with the same core expertise and tools sets that they need to be able to navigate through the increasingly complex technology landscape. However the flexibility of the curriculum will give them the opportunity to learn how to apply IT creatively. The B.A. in IST will be highly interdisciplinary, as is fitting for an expressly interdisciplinary college. The degree will be suitable for students who wish to be entrepreneurs, who seek to go on to law or medical school, or who want to acquire an advanced degree in graduate studies.

Entrance Requirements: To be eligible for entrance to the Information Sciences and Technology (ISTBA) major, students must:

1. have achieved at least third semester classification while pursuing a program of study that includes at least two of the following four courses with a grades of C or better in each: IST 110, IST 130, IST 210, IST 220.
2. have met with a member of the IST Advising staff, with the outcome being a workable academic plan selected either from a set of example templates (e.g., pre-law) or developed in consultation with the adviser. This meeting must take place prior to the completion of 60 credits. At campuses other than University Park, students will meet with a local IST adviser to develop their academic plans.

For the B.A. degree in Information Sciences and Technology, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of the *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 41 credits

PRESCRIBED COURSES (17 credits)
IST 110 GS(3)**[1]**, IST 130 GA(3)**[1]**, IST 210(4)**[1]**, IST 220(3)**[1]** (Sem: 1-4)
IST 495(1)**[1]** (Sem: 3-8)
IST 440W(3)**[1]** (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (24 credits)**[1]**
Select 24 credits of IST and IST-related courses in consultation with academic adviser. (At least 12 credits must be at the 400 level.)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-048

Review Date: 4/14/09

IS

Information Sciences and Technology

Abington College
Berks College
Capital College
University College: Penn State Beaver, Penn State Brandywine, Penn State Greater Allegheny, Penn State Hazleton, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
World Campus

University Park, College of Information Sciences and Technology (ISTBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

This major is structured to provide students with the theoretical frameworks and skill sets necessary to compete and be productive in the information technology-intensive global context that defines the new "Information Age." Specifically, the degree will be focused on a program that will build an understanding of core information technologies and related areas of study; will prepare students for the practical application of various information sciences and related technologies; and engage students in sharpening their abilities to think critically and to work in teams. All this will be done with considerable interdisciplinary integration in order to expose students to the cognitive, social, institutional, and global environments of IST. Team projects in most courses, a required internship, and a senior capstone experience provide additional, focused venues for involving students in the cutting-edge issues and technologies of the field.

INFORMATION SYSTEMS: DESIGN & DEVELOPMENT OPTION: This option is focused on expanding the skills needed to develop advanced information technology systems using state-of-the-art tools and techniques. The emphasis is on providing the student with both knowledge in the design, implementation, testing and evolution of complex software systems as well as a set of project-oriented, team-programming experiences.

INFORMATION TECHNOLOGY: INTEGRATION & APPLICATION OPTION: This option is designed to prepare students to use information technology to realize a variety of system-based goals (e.g., reliability, accessibility, efficiency, etc.). It is focused on developing a theoretical foundation and the skill set needed for integrating information technology into different systems for the purpose of enhancing system performance. The emphasis is on providing the student with both the theoretical frameworks needed to use information technology as a system attribute as well as a set of application-oriented experiences and skills.

INFORMATION CONTEXT: PEOPLE, ORGANIZATIONS, AND SOCIETY OPTION: This option focuses on how information technology affects social change and the delivery of information to the consumer. This includes the human-machine interface; organization and retrieval of information; digital libraries; information and telecommunications services; information and media industry structures; software services and intermediaries; telecommunications and information law and policy; sociological aspects of technology change; multimedia; and art, design, and aesthetics.

Entrance Requirements: To be eligible for entrance to the Information Sciences and Technology (ISTBS) major, students must:

1. be taking, or have taken, a program appropriate for entry to the major as shown in the *Bulletin*, including approximately 60 credits of course work.
2. have completed the following entrance-to-major requirements with grades of C or better in each: IST 110(3); IST 210(4); and IST 220(3). These courses must be completed by the end of the semester during which the entrance-to-major procedure is carried out.
3. have achieved a minimum cumulative grade point average of 2.00 prior to and through the end of the semester during which the entrance-to-major procedure is carried out.

For the B.S. degree in Information Sciences and Technology, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of the *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7 credits

REQUIREMENTS FOR THE MAJOR: 85 credits
(This includes 12 credits of General Education courses: 6 credits of GQ courses; 3 credits of GS courses; and 3 credits of

GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 64 credits

PRESCRIBED COURSES (33 credits)
CMPSC 101 GQ(3)**[1]**, IST 110 GS(3)**[1]**, IST 210(4)**[1]**, IST 220(3)**[1]**, IST 230(3)**[1]**, IST 240(3)**[1]** (Sem: 1-4)
STAT 200 GQ(4) (Sem: 3-6)
IST 495(1)**[1]** (Sem: 3-8)
IST 301(3)**[1]**, IST 331(3)**[1]** (Sem: 5-8)
IST 440W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (10 credits)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 1-4)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 1-4)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Attainment of third-level proficiency in a single foreign language (12 credits). Proficiency must be demonstrated by either examination or course work. See the admission section of the general information in this *Bulletin* for the placement policy for Penn State foreign language courses. (Sem: 1-4)
Select 6 credits of international courses in foreign culture from College-approved list (Sem: 5-8)
Select 3 credits**[1]** at the 400 level in emerging issues and technologies from College-approved list (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 21 credits

INFORMATION SYSTEMS: DESIGN & DEVELOPMENT OPTION: 21 credits

PRESCRIBED COURSES (3 credits)**[1]**
IST 311(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)**[1]**
Select 6 credits from IST 411(3), IST 412(3), or IST 413(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from College-approved list (Sem: 5-8)

INFORMATION TECHNOLOGY: INTEGRATION & APPLICATION OPTION: 21 credits

PRESCRIBED COURSES (9 credits)**[1]**
IST 302(3), IST 420(3), IST 421(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from College-approved list (Sem: 5-8)

INFORMATION CONTEXT: PEOPLE, ORGANIZATIONS, AND SOCIETY OPTION: 21 credits

PRESCRIBED COURSES (6 credits)**[1]**
IST 431(3) and IST 432(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)**[1]**
IST 302(3) or IST 413(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from College-approved list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-049

Review Date: 4/14/09

IS

Information Systems

Capital College (INFSY)

PROFESSOR JOHN M. TRUSSEL, *Director of Undergraduate Studies, School of Business Administration*

This major prepares students to enter rapidly expanding fields associated with technology. This includes programming, systems analysis and design, database administration, network management, support services and training, and management of information resources. Students obtain competence both in information technology and in business theory. Thus, the curriculum combines technical content with managerial aspects of information systems. Each student's background is complemented with basic business instruction in accounting, marketing, management, and finance. With business and non-business electives, the program is designed to develop necessary skills to be an effective Information Systems employee. Because the Harrisburg area is the center of industry and economic development for South Central Pennsylvania, students are provided with many opportunities to experience the exciting and challenging world of business.

Students will obtain:

- Knowledge in technologies that support the information environment.
- Knowledge in business or organizational processes that are supported by technology.
- General skills and abilities that promote good communication, problem-solving and analytical abilities, and the ability to work in a team environment.
- Skills to participate in and lead multidisciplinary teams in the development, implementation, and management of information technology solutions.

The program meets the objectives through varied experiences and an emphasis on good communication skills.

Entry to Major Requirements:
Entry to the Information Systems major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); SCM 200 GQ(4), or STAT 200 GQ(4); and a 2.00 or higher cumulative grade-point average. Additional information about this major is available in the office of the Director of Undergraduate Studies, School of Business Administration at Penn State Harrisburg.

For a B.S. in Information Systems, a minimum of 120 credits is required. At least 30 credits of the final 60 credits must be taken at the Capital College. At least 50 percent of the business credit hours required for the degree must be taken at the Capital College. No more than 60 credits should be from business and business-related courses.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education Course Requirements in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-8 credits

REQUIREMENTS FOR THE MAJOR: 79-80 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 3 credits of GS courses; 6 credits of GQ courses)

PRESCRIBED COURSES (49 credits)
ACCTG 211(4) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3), MIS 204(3) (Sem: 1-4)
ENGL 202D GWS(3) (Sem: 3-4)
B A 364Y US;IL(3), B A 462(3), FIN 301(3), MIS 390(3)**[1]**, SCM 310(3), (Sem: 5-8)
MIS 307(3)**[1]**, MIS 465(3)**[1]**, MIS 448(3)**[1]**, MIS 450(3)**[1]** (Sem: 5-8)
MGMT 301(3), MKTG 301(3) (Sem: 5-8)

ADDITIONAL COURSES (24-25 credits)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 1-4)
Select 3-4 credits from CMPSC 101 GQ(3) or CMPSC 121 GQ(3) (Sem: 1-4)
Select 4 credits from MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)
Select 4 credits from SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-4)
Select 9 credits**[1]** from the following: IST 302(3), IST 451(3), MIS 413(3), MIS 440(3), MIS 446(3), MIS 460(3), MIS 461(3), MIS 466(3), MIS 489(3) (Sem: 5-8).

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from 200-400 level business courses from: ACCTG, B A, ECON, FIN, MGMT, MIS, MKTG, or SCM in

consultation with an academic adviser and in support of the student's interests. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-017

Review Date: 2/26/08

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

CL

Integrative Arts

Abington College (IARAB)
Altoona College (IARAL)
University Park, College of Arts and Architecture (INART)

PROFESSOR WILLIAM J. KELLY, *Head of the Department*, *University Park*

Integrative Arts is an interdisciplinary major available to students who desire a curriculum that crosses over traditional single discipline lines. The Integrative Arts student initially establishes an academic plan with the assistance of an approved adviser. The plan must contain a core component of 36 credits and an elective component of 19 credits. The two components combined must clearly illustrate that the plan has clarity, purpose, and cohesion.

For the B.A. degree in Integrative Arts, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits

SUPPORTING COURSES AND RELATED AREAS: 36 credits**[1]**
(Must include at least 15 credits at the 400 or equivalent level)
Select 24 credits from an arts area (Sem: 1-8)
Select 12 credits from other arts areas (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Reviewed by the Department: Summer Session 1991

Blue Sheet Item #: 19-02-001

Review Date: 01/18/00 (General Education information updated)

Integrative Arts

Abington College (IARAB)
Altoona College (IARAL)
University Park, College of Arts and Architecture (INART)

PROFESSOR WILLIAM J. KELLY, *Head of the Department*, *University Park*

Integrative Arts is an interdisciplinary major available to students who desire a curriculum that crosses over traditional single discipline lines. The Integrative Arts student initially establishes an academic plan with the assistance of an approved adviser. The plan must contain a core component of 36 credits and an elective component of 19 credits. The two components combined must clearly illustrate that the plan has clarity, purpose, and cohesion.

For the B.A. degree in Integrative Arts, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits

SUPPORTING COURSES AND RELATED AREAS: 36 credits**[1]**
(Must include at least 15 credits at the 400 or equivalent level)
Select 24 credits from an arts area (Sem: 1-8)
Select 12 credits from other arts areas (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Reviewed by the Department: Summer Session 1991

Blue Sheet Item #: 19-02-001

Review Date: 01/18/00 (General Education information updated)

Integrative Arts

Abington College (IARAB)
Altoona College (IARAL)
University Park, College of Arts and Architecture (INART)

PROFESSOR WILLIAM J. KELLY, *Head of the Department*, *University Park*

Integrative Arts is an interdisciplinary major available to students who desire a curriculum that crosses over traditional single discipline lines. The Integrative Arts student initially establishes an academic plan with the assistance of an approved adviser. The plan must contain a core component of 36 credits and an elective component of 19 credits. The two components combined must clearly illustrate that the plan has clarity, purpose, and cohesion.

For the B.A. degree in Integrative Arts, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 19 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits

SUPPORTING COURSES AND RELATED AREAS: 36 credits**[1]**
(Must include at least 15 credits at the 400 or equivalent level)
Select 24 credits from an arts area (Sem: 1-8)
Select 12 credits from other arts areas (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Reviewed by the Department: Summer Session 1991

Blue Sheet Item #: 19-02-001

Review Date: 01/18/00 (General Education information updated)

Interdisciplinary Business with Engineering Studies

Penn State Erie, The Behrend College (IBE)

This major provides students with an interdisciplinary program containing both business and engineering course content. The major includes a set of core courses in both business and engineering/engineering technology that should enable a graduate to function effectively in a technical business environment. In addition, a student will be able to choose, from a selection of modules, a set of courses designed to enable a student to function in a specific business or technical area. The modules provide an entry-level set of skills that will help graduates provide immediate value as an employee. The modules include Accounting/Finance, Supply Chain Management, Quality Control, Technical Sales, and Product Design & Manufacture.

In addition to completing the broad-based core in business, science, and engineering, students acquire the ability to work as members of a team toward successful attainment of a common goal, preparing them to work in businesses or to further their study in graduate school. The program develops written and oral communication skills from an early stage and culminates in a capstone course sequence consisting of a project that stresses communication, strategic product development, and product realization.

For the B.S. degree in Interdisciplinary Business with Engineering Studies, a minimum of 127 credits are required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 106-107 credits
(This includes 24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses, 6 credits of GS courses, 3 credits of GWS courses.)

PRESCRIBED COURSES: (73 credits)
CHEM 110 GN(3), CMPSC 201 GQ(3)**[1]**, EG T 120(3)**[1]**, ECON 002 GS(3)**[1]**, EDSGN 100S(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, (Sem: 1-2)
ACCTG 211(4)**[1]**, B A 243(4)**[1]**, ECON 004 GS(3)**[1]**, ENGL 202C GWS(3), M I S 204(3)**[1]**, PHYS 211 GN(4), PHYS 212 GN(4), SCM 200 GQ(4)**[1]** (Sem: 3-4)
FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]**, SCM 310(3)**[1]** (Sem: 5-6)
MGMT 410(3)**[1]**, MGMT 475W(3)**[1]**, MGMT 476(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES: (18 credits)**[1]**
E MCH 211(3) or MCH T 111(3) (Sem: 3-4)
E E 211(3) or EET 101(3) (Sem: 5-6)
CMPET 117(3) or CMPEN 271(3) (Sem: 5-6)
E MCH 213(3) or MCH T 213(3) (Sem: 5-6)
M E 300(3) or MET 330(3) (Sem: 5-6)
Select 3 credits from ECON 470 IL(3), ECON 473 IL(3), FIN 407(3), MKTG 445 IL(3), MGMT 461 IL(3) or other 400-level international business course.

SUPPORTING COURSES AND RELATED AREAS: (15-16 credits)
Select one module from School Approved List of Modules 1-5 (15-16 credits) (Sem: 5-8)

Except where noted, courses taken to satisfy General Education requirements may not be used to satisfy module requirements.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-049

Review Date: 4/15/08

BD

Interdisciplinary Digital Studio

University Park, College of Arts and Architecture (IDS)

PROFESSOR CHARLES GAROIAN, in charge

This degree represents an interdisciplinary approach to emerging technologies and the arts and design disciplines of the College of Arts and Architecture incorporating architecture, landscape architecture, graphic design, music, photography, theatre design, and visual arts. The IDS degree begins with a foundation in arts and design [ART 110S(3), ART 111(3)] a two semester sequence of linked studio practice and theory courses that cover fundamental ideas and skills in the arts and design disciplines such as drawing, color theory, and 2-d, 3-d, and 4-d design within the context of art and design history and theory. The IDS program builds on this foundational core utilizing selected courses from across the College of Arts and Architecture. These courses range from digital fabrication to sound design and composition in music, theatre, and art, to digitally-based art explorations, to digital photography, to the exploration of virtual architectural and built environment spaces, to digital art and design theory and criticism, to internet exhibitions and publishing. Concurrent with these courses, students progress through the series of IDS studio courses (A&A 110, 210, 310, 410 and 411) in which they will develop ways of learning that will enable them to understand how to work within collaborative professional environments. This will prepare students to meet the varying challenges they will face within client-based arts and design professions.

For the B.Des. Degree in Interdisciplinary Digital Studio, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(Up to 9 of these credits are included in the REQUIREMENTS FOR THE MAJOR. See description of General Education in the *Bu Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-9 credits

REQUIREMENTS FOR THE MAJOR: 75 credits
(This includes up to 6 credits of GA courses and 3 credits of GN courses)

PRESCRIBED COURSES (29 credits)**[1]**
A&A 110(3), ART 110S US(3), ART 111(3) (Sem: 1-2)
A&A 210(3), ART 211Y US(3) (Sem: 3-4)
A&A 310(3) (Sem: 5-6)
A&A 410(4), A&A 411(4), ART 476(3) (Sem: 7-8)

ADDITIONAL COURSES (40 credits)**[1]**
(Must include at least 6 credits at the 400 level)

Select 40 credits from ARCH 481(3), ART 101 GA(3), ART 201(3), ART 202(3), ART 203(3), ART 217(3), ART 314(4), ART 315(4), ART 316(4), ART 317(4), ART 318(4), ART 319(4), ART 343(4), ART 415(4), ART 416(4), ART 417(4), ART 419(4), GD 100 GA(3), GD 200(3), INART 050 GN(3), INART 258A GA(3), LARCH 450(3), MUSIC 455(1-3), MUSIC 458(3), PHOTO 100 GA(3), PHOTO 200(3), PHOTO 300(4), PHOTO 400(4), PHOTO 401(4), PHOTO 402(4), PHOTO 403(4), THEA 285(3), THEA 484(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)**[1]**
Select 6 credits from ART 220(3), ART 411 US(3), ART H 450 US;IL(3), ART H 470 US(3), ART H 250(3) or PHOTO 201(3), INART 055 GA(3) (Sem: 3-8)

A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-06-012

Review Date: 4/15/08

AA

Interdisciplinary Humanities

Capital College (I HUM)

PROFESSOR LOUISE E. HOFFMAN, *Program Coordinator*

This major helps students appreciate, understand, and interpret relationships among the arts, ideas, media, and values that have shaped Western and world cultures. Students are expected to be active learners who can synthesize, interpret, and communicate knowledge and experience through writing, speaking, and creative expression in a variety of media. The School helps students meet these goals by offering a range of interdisciplinary and discipline-based courses in the arts, art history, communication studies, English, history, literature, music, philosophy, theatre, and writing.

Entry to Major Requirements:
Entry to the Interdisciplinary Humanities major requires the completion of 28 or more credits and a 2.00 or higher cumulative grade-point average.

For a B.HUM. degree in Interdisciplinary Humanities, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 11-15 credits

REQUIREMENTS FOR THE MAJOR: 60-64 credits
(At least 36 of the last 60 credits must be earned at Penn State, according to University Policy 83-80.)

PRESCRIBED COURSES (6 credits)
I HUM 300W(3)**[1]**, I HUM 400(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (54-58 credits)
(At least 12 credits of supporting courses must be at the 400 level.)
Select 12-16 credits: 1 course each from 4 different major/program offerings in AMSTD, C ART, ART H, A&A, CAMS, CMSTD, COMM, HCOMM, CMLIT, ENGL, ENLSH, C HIS, HIST, HUM, LIT, C MUS, MUSIC, PHIL, PHLOS, RL ST, SPCOM, THTRE, or choice(s) from a School of Humanities approved list. (Sem: 3-8)
Select 15 credits from AM ST, AMSTD, C ART, CMSTD, COMM, HCOMM, CMLIT, ENGL, ENLSH, C HIS, HIST, HUM, LIT, C MUS, MUSIC, PHIL, PHLOS, RL ST, SPCOM, THTRE, or choice(s) from a School of Humanities approved list. (Sem: 3-8)
Select 9 credits**[1]** from Interdisciplinary Humanities (HUM or I HUM) courses (Sem: 4-8)
Select 18 credits from the School of Humanities approved list in consultation with an academic adviser or select a Capital College minor in support of the student's interests. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-04-009

Review Date: 3/8/04

CL

International Business

Penn State Erie, The Behrend College (INT B)

The International Business major is designed to prepare students for the increasingly international nature of business. Compared to other business majors, this one provides greater emphasis on knowledge and skills that are needed to conduct business in an international setting. This includes issues concerned with accomplishing organizational objectives through the coordination of human, material, information, and financial resources across national boundaries. In addition to studying the core business courses, students in this major will receive a broad exposure to the complexity of international business through required course work in international business, international culture, a foreign language, and a study abroad experience. In addition to preparing students for an international business environment, the major aims to provide them with knowledge of a specific business discipline by requiring the completion of all the requirements for a second business major. As a result, students meet the University requirements for a concurrent major. Graduates of the INT B major should be better prepared to function effectively as employees of small businesses with developing international operations or as members of larger business organizations with extensive global operations.

Entry to Major Requirements:
Entry to the International Business major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in International Business (in conjunction with a second business major), a minimum of 125 credits is required.

Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION and REQUIREMENTS FOR THE MAJOR course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR course selections)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses, 6 credits of GS courses, 3 credits of GWS courses.)

PRESCRIBED COURSES (31 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
FIN 301(3), MGMT 301(3), MKTG 301(3), SCM 310(3) (Sem: 5-6)
MANGT 470W(3) (Sem: 7-8)

ADDITIONAL COURSES (24 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 12 credits from ECON 470(3), FIN 407(3), MGMT 461 IL(3), MKTG 445 IL(3), or other 300- or 400-level international business course in consultation with adviser (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (39 credits)
Select 15 credits in a foreign language and culture (Sem: 1-6)
Select a minimum of 21 credits from one business supporting course group in consultation with adviser. Students must complete the requirements for a second School of Business major (Sem: 5-8)
Select 3 credits from school-approved, non-business Education Abroad courses (Sem: 5-8)

[**Note:** Students must attain third-level proficiency in a single foreign language (0-12 credits) and select 3-15 credits from the school-approved list of non-business international courses. See general information section of the *Bulletin* for the Penn State placement policy on foreign languages. Students receiving advanced placement in foreign language may substitute courses from school-approved foreign language and culture course list to complete the credits for this requirement.]

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-031

Review Date: 11/21/06

UCA Revision #1: 8/8/06

UCA Revision #2: 7/27/07

BD

International Politics

University Park , College of the Liberal Arts (INTPL)

PROFESSOR SCOTT BENNETT, *Head*

This major, administered within the Department of Political Science, is designed to provide students with a broad, comprehensive education in international politics by offering students options in International Relations, International Political Economy, and Security Studies. While most of the required courses are in the areas of international and comparative politics, the curriculum includes courses in economics, geography, risk analysis, and history. The major provides an opportunity to study in detail a variety of crucial contemporary issues--conflict among and within nations, democratization, economic and political globalization, regional conflicts and the emerging importance of non-state actors--as well as analysis of foreign and economic policy making and security issues in the United States and other nations.

The major prepares students for career opportunities with U.S. government executive agencies dealing with foreign affairs, international and homeland security, and the international economy; with relevant committees of the U.S. Congress; with multinational corporations, banks, and consulting firms; and with international organizations. The major also provides preparation for law and business schools and for graduate study in political science and international relations.

For the B. A. degree in International Politics, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 15-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 39 credits **[1]**
(This includes 0-3 credits of GS General Education courses.)

REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 9 credits

PRESCRIBED COURSES (3 credits)
PL SC 014 GS;IL(3) (Sem: 1-4)

ADDITIONAL COURSES (6 credits)
PL SC 001 GS(3) or PL SC 007 GS(3)* (Sem: 1-4)
** PL SC 007 is recommended for students choosing the National Security Option*

Select 3 credits from PL SC 003 GS;IL(3), PL SC 020 GS;IL(3), PL SC 022 GS;IL(3), PL SC 150(3) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 30 credits

INTERNATIONAL RELATIONS OPTION: (30 credits)

ADDITIONAL COURSES (18 credits)
Select 6 credits 3 credits from PL SC 412(3) or PL SC 481(3) and 3 credits from PL SC 418(3) or PL SC 442(3) (Sem: 4-8)
Select 3-6 credits (no more than 3 credits may be below the 300 level) from HIST 120 GS;IL(3), HIST 142 GS;IL(3), HIST 143 GH;IL(3), HIST 144 GH;US;IL(3), HIST 173 GH;IL(3), HIST 175 GH;IL(3), HIST 179 GH;IL(3), HIST 181 GH;IL(3), HIST 192 GH;IL(3), HIST 320(3), HIST 420 IL(3), HIST 423 IL(3), HIST 427 IL (3), HIST 430 IL(3), HIST/AAA S 431 US;IL(3); HIST/AAA S 432 IL(3); HIST 434 IL(3); HIST 435 (3); HIST 446 US(3); HIST 447 US(3); HIST 452 US;IL(3), HIST 454 US(3); HIST 460 US;IL(3), HIST 467 US;IL(3), HIST 468 IL(3), HIST 473 IL(3), HIST 479 IL(3), HIST 481 IL(3), HIST 486 IL(3) (Sem: 1-8)
Select 3-6 credits (no more than 3 credits may be below the 300 level) from ECON 002 GS(3), ECON 004 GS(3), ECON 333 GS(3) or I B 303 IL(3) (Sem: 1-8)
Select 3-6 credits (no more than 3 credits may be below the 300 level) from GEOG 123 GS;IL(3), GEOG 124 GS;IL(3),GEOG 128 GS;IL(3), GEOG 364(3), GEOG 424 US;IL(3), GEOG 428 US(3), GEOG 430(3), GEOG 431(3), GEOG 438W(3), GEOG 444(3), GEOG 463(3), GEOG 464(3), GEOG 468(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 Credits)
Select 12 credits from 400-level political science courses in International Relations, Comparative Politics, or Theory/Methodology (excluding courses taken to fulfill other requirements in the major) from an approved department

list in consultation with an adviser. (Sem: 3-8)

and/or:

Select 12 credit s of foreign language courses beyond the 12th-credit level (9 of these credits must be at the 400 level. With adviser approval, all 12 credits may be below the 400 level, but must be in addition to the language proficiency for BA requirements) (Sem: 3-8)

NATIONAL SECURITY OPTION: (30 credits)

PRESCRIBED COURSES (9 credits)
CRIM 406(3), SRA 111 GS(3), SRA 211(3) (Sem: 4-8)

ADDITIONAL COURSES (9 credits)
Select 6 credits from PL SC 412(3), PL SC 418(3), PL SC/CRIMJ 439(3), PL SC 442(3),PL SC 481(3) (Sem: 4-8)
Select 3 credits from ECON 002 GS(3), ECON 004 GS(3), ECON 333 GS(3) or I B 303 IL(3) GEOG 123 GS;IL(3), GEOG 124 GS;IL(3), GEOG 128 GS;IL(3), GEOG 364(3), GEOG 424 US;IL(3), GEOG 428 US(3), GEOG 430(3), GEOG 431(3), GEOG 438W(3), GEOG 444(3), GEOG 463(3), GEOG 464(3), GEOG 468(3), HIST 120 GS;IL(3), HIST 142 GS;IL(3), HIST 143 GH;IL(3), HIST 144 GH;US;IL(3), HIST 173 GH;IL(3), HIST 175 GH;IL(3), HIST 179 GH;IL(3), HIST 181 GH;IL(3), HIST 192 GH;IL(3), HIST 320(3), HIST 420 IL(3), HIST 423 IL(3), HIST 427 IL(3), HIST 430 IL(3), HIST/AAA S 431 US; IL (3), HIST/AAA S 432 IL(3), HIST 434 IL(3), HIST 435 IL(3), HIST 446 US(3), HIST 447 US(3), HIST 452 US;IL(3), HIST 454 US(3), HIST 460 US;IL(3), HIST 467 US;IL(3), HIST 468 IL(3), HIST 473 IL(3), HIST 479 IL(3), HIST 481 IL(3), HIST 486 IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 Credits)
Select 12 credits from 400-level political science courses in International Relations, Comparative Politics, or Theory/Methodology (excluding courses taken to fulfill other requirements in the major) from an approved department list in consultation with an adviser. (Sem: 3-8)

and/or:

Select 12 credits of foreign language courses beyond the 12th-credit level (9 of these credits must be at the 400 level. With adviser approval, all 12 credits may be below the 400 level, but must be in addition to the language proficiency for BA requirements) (Sem: 3-8)

INTERNATIONAL POLITICAL ECONOMY OPTION: (30 credits)

ADDITIONAL COURSES (18 credits)
Select 6 credits : 3 credits from PL SC 412(3) or PL SC 481(3) and 3 credits from PL SC 418(3) or PL SC 442(3) (Sem: 4-8)
Select 9 credits (no more than 3 credits may be below the 300 level) from ECON 002 GS(3), ECON 004 GS(3), ECON 333 GS(3), ECON 433(3), ECON 434(3), ECON 443(3), ECON 444(3), ECON 451(3), ECON 471(3), ECON 472(3), ECON 474(3), or I B 303 IL(3) (Sem: 1-8)
Select 3 credits from GEOG 123 GS;IL(3), GEOG 124 GS;IL(3), GEOG 128 GS;IL(3), GEOG 364(3), GEOG 424 US;IL(3), GEOG 428 US(3), GEOG 430(3), GEOG 431(3), GEOG 438W(3), GEOG 444(3), GEOG 463(3), GEOG 464(3), GEOG 468(3), GEOG 475H(3) (Sem: 1-8) HIST 120 GS;IL(3), HIST 142 GS;IL(3), HIST 143 GH;IL(3), HIST 144 GH;US;IL(3), HIST 173 GH;IL(3), HIST 175 GH;IL(3), HIST 179 GH;IL(3), HIST 181 GH;IL(3), HIST 192 GH;IL(3), HIST 320(3), HIST 420 IL(3), HIST 423 IL(3), HIST 427 IL(3), HIST 430 IL(3), AAA/ HIST 431 US; IL (3), HIST/AAA S 432 IL(3), HIST 434 IL(3), HIST 435 IL(3), HIST 446 US(3), HIST 447 US(3), HIST 452 US;IL(3), HIST 454 US(3), HIST 460 US;IL(3), HIST 467 US;IL(3), HIST 468 IL(3), HIST 473 IL(3), HIST 479 IL(3), HIST 481 IL(3), HIST 486 IL(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from 400-level political science courses in International Relations, Comparative Politics, or Theory/Methodology (excluding courses taken to fulfill other requirements in the major) from an approved department list in consultation with an adviser. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-03-027

Review Date: 11/18/08

UCA Revision #2: 7/27/07

LA

Dept head last updated by Publications: 4/20/10

International Studies

University Park, College of the Liberal Arts (INLST)

PROFESSOR BENEDICTE MONICAT, *in charge*

This interdisciplinary major is intended to provide, for undergraduate students in another major, the opportunity for an integrated course of international study leading to a second baccalaureate major. This major is available only as a concurrent or sequential major. The program includes 12 credits of foreign language study beyond the 12th-credit level or equivalent proficiency, and education abroad or equivalent work-internship experience, related advanced course work, and a senior course or project in International Studies. The language, international experience, and advanced study should be integrated around a thematic or geographical focus.

The degree (e.g., B.A., B.S., B.F.A., B.B.A., etc.) will normally match that of the student's first major.

Students in baccalaureate degree programs other than those leading to the B.A. who desire a B.A. degree in International Studies will receive concurrent degrees and have to fulfill all requirements for concurrent degrees and for the B.A. degree as indicated under "Concurrent Majors and Sequential Majors" in the GENERAL INFORMATION section of this bulletin and under "Baccalaureate Degree Requirements" at the beginning of this college section.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MAJOR: 33 credits

PRESCRIBED COURSES (3 credits)
INTST 493(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (30 credits)
Students must complete 12 credits as participants in a Penn State or Penn State-approved education abroad program of a minimum of eight weeks in length or complete an internship or equivalent work experience approved by the International Studies adviser. (At least 3 credits must be at the 400 level.) (Sem: 5-8)

Select 12 credits of foreign language beyond the 12th-credit level proficiency in one foreign language. (At least 3 credits must be at the 300 level or higher. Courses taught in translation are not included.) [Note: For foreign language majors, study must be in a foreign language other than primary major.] (Sem: 1-5)

Select 6 credits of related course work from an approved list or additional foreign language study at the advanced level, or 3 credits of related course work selected from an approved list or additional foreign language study and 3 credits in a senior project, selected in consultation with the International Studies adviser (Sem: 7-8)

Last Revised by the Department: Spring Semester 1997

Blue Sheet Item #: 24-07-053

Review Date: 1/31/00

UCA Revision #2: 7/27/07

LA

Italian

University Park, College of the Liberal Arts (IT BA)

PROFESSOR CHIP GERFEN, *Head*

The major offers training in the skills required for fluency in Italian and knowledge in Italian culture, civilization, and literature. Its aim is to open to the student both the traditions of one of the major formative components of the Western world and the continuing vitality of modern Italian and Italian-American life.

As one of the humanistic programs of the College of the Liberal Arts, the Italian major is not designed to be directly vocational. Nevertheless, rigorous training in either of the two Italian major options can prepare students for rewarding and unique careers in business, travel, ministry, banking, and education. In addition, the federal government employs liberal arts graduates with foreign-language skills in organizations including the National Security Agency, the Central Intelligence Agency, the U.S. Information Agency, and the Department of Labor. The Italian major is also preparatory for graduate work directed to the Ph.D. degree required for teaching and research in colleges and universities. Students with degrees in the humanities are particularly successful applicants to professional schools, such as law and medicine.

TO VIEW THE Italian Minor (IT).

For the B.A. degree in Italian, a minimum of 122 credits is required for the Italian Language and Literature option, or 123 credits minimum is required for the Italian Studies option.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 35 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 9 credits

PRESCRIBED COURSES (3 credits)
IT 301(3) (Sem: 1-4)

ADDITIONAL COURSES (6 credits)
IT 130 GH;IL(3) or IT 131 GH;US(3) (Sem: 1-4)
IT 415(3) or IT 490(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 26-27 credits

LANGUAGE AND LITERATURE OPTION: (26 credits)

ADDITIONAL COURSES (26 credits)
Select 18 credits of which at least 9 credits are courses taught in Italian, and at least 9 credits are at the 400-level (some courses will satisfy both conditions).
For courses taught in Italian, select from:
IT 320(3), IT 325(3), IT 330W(3), IT 412(3), IT 422(3) (Sem: 5-8)
or other courses taught in Italian in consultation with major advisor
For courses at the 400-level, select from:
IT 412(3), IT 422(3), IT 475(3), IT 480(3), IT 485(3), IT 497(1-9) (Sem: 5-8)
or other 400-level courses taught in Italian in consultation with major advisor

Select 8 credits from one of the following a, b, c, d, or e:
a) LATIN 001(4) and LATIN 002(4) (Sem: 1-4)
b) FR 001(4) and FR 002(4) (Sem: 1-4)
c) SPAN 001(4) and SPAN 002(4) (Sem: 1-4)
d) PORT 001(4) and PORT 002(4) (Sem: 1-4)
e) Foreign Study: IT 001(4), IT 002(4), IT 099(1-12), IT 399(1-12) (Sem: 1-8)
or other courses abroad in consultation with major advisor

ITALIAN STUDIES OPTION: (27 credits)

ADDITIONAL COURSES (27 credits)
Select 27 credits from categories a, b, and c:
NOTE: *Courses in different categories in the Italian Studies option cannot double-count. Example: if a student uses IT 422 to satisfy category A requirements, IT 422 cannot count in category B. Also, in addition to the prescribed IT 415/490 course, Italian Studies majors must take a minimum of 12 credits at the 400-level in categories A, B, and C.*

a) Select 6 credits from:
IT 320(3), IT 325(3), IT 330W(3), IT 412(3), IT 422(3) (Sem: 5-8)
or other 300 or 400-level courses taught in Italian in consultation with major advisor

b) Select 12 credits from:
IT 110(3), IT 230(3) (Sem: 1-4)
IT 320(3), IT 325(3), IT 330W(3), IT 399(1-12), IT 422(3), IT 475(3), IT 480(3), IT 485(3), IT 497(1-9) (Sem: 5-8)
or other courses in consultation with major advisor

c) Select 9 credits of 400-level courses in related disciplines from:
ART H 411(3-9), ART H 414(3), ART H 423(3-9), ART H 456 IL(3), ART H 458 IL(3), CAMS 410(3), CAS 471 US;IL(3), CMLIT 400W(3), CMLIT 401W(3), CMLIT 402W(3), LATIN 400(3), LATIN 402(3-12), LATIN 403(3-12), LATIN 404(3-12), LATIN 420(3-6), LATIN 450W(3), LING 447(3), LING 448(3), PHIL 437 IL(3), PHIL 454(3), PHIL 455(3-6), PHIL 464(3-6), PHIL 465(3-6), PL SC 431(3), PL SC 432(3) (Sem: 5-8)
or other courses in consultation with major advisor

NOTE: While some of the courses in related disciplines focus specifically on Italian or Roman topics, other courses on this list endeavor to provide a broader cultural or disciplinary context for students with an Italian Studies orientation. Students will be encouraged to suggest to their major advisor other relevant 400-level special topics courses in other disciplines to satisfy this requirement.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-03-288

Review Date: 11/23/04

UCA Revision #2: 7/27/07

LA

Italian

University Park, College of the Liberal Arts (IT BS)

PROFESSOR CHIP GERFEN, *Head*

The major encourages students to prepare for careers in which fluency in Italian can be combined with training in other academic disciplines.

TO VIEW THE Italian Minor (IT)

For the B.S. degree in Italian, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

REQUIREMENTS FOR THE MAJOR: 60-72 credits**[1]**
(This includes 0-12 credits of General Education Courses: 0-9 credits of GS courses, 0-3 credits of GWS courses.)

PRESCRIBED COURSES (15 credits)
IT 110(3), IT 301(3), (Sem: 1-4)
IT 320(3) (Sem: 3-8)
IT 412(3), IT 485(3) (Sem: 5-8)

ADDITIONAL COURSES (48 credits)
Select 15 credits (at least 6 of which must be at the 400-level) from:
IT 130 GH;IL(3), IT 131 GH;US(3), IT 230 GH(3) (Sem: 1-4)
IT 325(3), IT 330W(3) (Sem: 3-8)
IT 415(3), IT 422(3), IT 475(3), IT 480(3), IT 490(3), IT 497(1-9) (Sem: 5-8)
or other course in consultation with major advisor

Select 33 credits from:
CAS 200 US;IL(3), CAS 203(3), ECON 002 GS(3), ECON 004 GS(3); ENGL 202C GWS(3) or ENGL 202D GWS(3); HD FS 287W GS;US(3), LING 100 GS(3); PL SC 014 GS;IL(3) or PL SC 020 GS;IL(3); PSYCH 100 GS(3), S T S 100 GH(3) (Sem: 1-4)
ECON 333 GS(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits form one of the following two areas:

(1) Students must complete 9 credits as participants in a Penn State or Penn State-approved education abroad program of a minimum of six weeks in length. At least 3 of these 9 credits must be taught in Italian language.
Such as:
IT 001(4), IT 002(4), IT 099 IL(1-12) (Sem: 1-4)
IT 399 IL(1-12) (Sem: 1-8)
IT 496(1-18) (Sem: 5-8)
or other courses abroad in consultation with an advisor for the major.

(2) Select 9 credits of 400-level courses in related disciplines from the following or another 400-level course in consultation with an advisor for the major: AM ST 448(3), ART H 411(3-9), ART H 414(3), ART H 423(3-9), ART H 456 IL(3), ART H 458 IL(3), CAMS 410(3), CAS 471 US;IL(3), ENGL 416(3), ENGL 417(3), ENGL 418(3), ENGL 419(3), LATIN 420(3-6), LATIN 450W(3), LING 447(3), LING 448(3), PHIL 454(3-6), PHIL 455(3-6), PHIL 464(3-6), PHIL 465(3-6), PL SC 431(3), PL SC 432(3), PSYCH 457(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Sesssion 2005

Blue Sheet Item #: 33-03-289

Review Date: 11/23/04

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

LA

Japanese

University Park, College of the Liberal Arts (JAPNS)

PROFESSOR ERIC HAYOT, *in charge*

The major in Japanese strenghtens students' overall skills in internationalism and provides a focus on one of the world's most important nations. The Japanese major is designed for students who want to develop proficiency in speaking, listening, reading, and writing Japanese, and acquire profound knowledge of Japanese culture, history, and civilization in the context of East Asia.

The Japanese major requires students to study abroad in order to deepen their understanding of the language, culture and contemporary society, and to develop intercultural and comparative perspectives.

The major can also help students prepare for graduate study in Japan-related fields and professional careers where proficiency in Japanese is required, such as government services, or multinational companies.

Students planning to teach in public schools should schedule the appropriate courses leading to certification in consultation with an adviser in the College of Education.

For the B.A. degree in Japanese, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-9 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVE or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 18-27 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 37 credits**[1]**
(This includes 0-9 credits of General Education GA, GH, or GS courses.)
(At least 21 credits must be at the 400 level.)
(Students must take at least 12 of their credits in Japan, either in a Penn State Education Abroad program or another program subject to departmental approval. For curricular sequencing, this Education Abroad experience must occur in the fall semester of the junior year, unless otherwise approved by the department.)

PRESCRIBED COURSES (4 credits)
JAPNS 110 IL(4) (Sem: 3-4)

ADDITIONAL COURSES (24 credits)
Select 3 credits from JAPNS 120 GH;IL(3) or JAPNS 121 GH;IL(3) (Sem:1-6)

Select 21 credits in Japanese at the 400 level (Sem:3-8)
Special topic courses in English or other courses in English do not satisfy this requirement.

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits pertaining to Japan, such as courses in art history, comparative history, geography, history, philosophy, political science, religious studies, theatre arts, or other fields, selected from departmental list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-055

Review Date: 4/14/09

LA

Jewish Studies

University Park, College of the Liberal Arts (J ST)

PROFESSOR BRIAN HESSE, *Director*

The Jewish Studies major addresses the culture, history, literature, philosophy, language, and religious beliefs of the Jewish people across the thousands of years from Biblical times to the present. All students in the major must complete Jewish Studies 010, an introduction to Jewish Civilization, and select from approved lists four courses that are concerned with Jewish studies across its chronological and geographical expanse. Students in the major select one of two options. The Culture and Language option is intended to provide the opportunity for an integrated course of study leading to a second baccalaureate major. This option is recommended for students planning further academic work in Jewish Studies or professional study in a related field. It requires study of Hebrew at the 400 level, and additional language study is encouraged. The Interdisciplinary option is for students who have enrolled in Jewish Studies as a secondary major. This option is recommended for students planning specialized careers within such fields as communications, social service, politics, medicine, education, or law where a knowledge of Jewish history, traditions, and institutions would be important. All students in the major are particularly encouraged to participate in a relevant internship, education abroad program, or archaeological fieldwork. Penn State students also may enroll to study abroad at a university in Israel, and up to 15 credits of related education abroad courses may be applied to requirements for the major in consultation with the adviser.

For the B.A. degree in Jewish Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin.)*

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

ELECTIVES: 21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**
(No more than 15 credits in courses numbered 099, 199, 299, 399, or 499 may count toward the requirements for the major.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 15 credits

PRESCRIBED COURSES (3 credits)
J ST 010 GH;IL(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in Jewish Studies in the ancient through medieval world from approved program list (Sem: 1-8)
Select 3 credits in Jewish Studies from the medieval through the contemporary period from approved program list (Sem: 1-8)
Select 3 credits in Jewish Studies concerned with archaeology, language and literature, history, philosophy, or religious studies in Israel from approved program list (Sem: 1-8)
Select 3 credits in Jewish Studies concerned with history, language and literature, philosophy, or religious studies in the Diaspora from approved program list (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 15 credits

CULTURE AND LANGUAGE OPTION: (15 credits)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits in Hebrew at the 400 level in consultation with adviser (Sem: 1-8)
Select 12 credits of courses at the 400 level from approved program list (Sem: 5-8)

INTERDISCIPLINARY OPTION: (15 credits)
(This option is to be taken only concurrently with another major.)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits at the 400 level from Jewish Studies, Hebrew, or appropriate courses in Anthropology, Classics and Ancient Mediterranean Studies, Comparative Literature, History, Philosophy, or Religious Studies from approved program list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-06-179

Review Date: 4/13/04

LA

Journalism

University Park, College of Communications (JOURN)

PROFESSOR FORD RISLEY, *Head, Department of Journalism*

The primary goal of this major is to educate students for careers as writers, reporters, editors, and photographers with newspapers, magazines, television, radio, on-line, and in the publications and public information departments of governments and industry. Courses in the major are about evenly divided between those emphasizing skills and professional procedures used by journalists and those seeking an understanding of journalism and mass communications as they relate to society.

Students must select at least 80 credits in non-COMM courses, including at least 65 credits in the liberal arts and sciences.

The following three options are offered:

BROADCAST JOURNALISM OPTION: This option is designed for students interested in radio, television, and/or multimedia journalism as a reporter, editor, or producer. Students are trained in the techniques of audio/video and online reporting and editing. They take two required courses that provide instruction in the basic skills of reporting and editing and choose two other courses that provide advanced instruction in these areas.

PRINT JOURNALISM OPTION: This option is designed for students interested in newspaper, magazine and/or multimedia journalism as a reporter, editor, or producer. Students are trained in the techniques of print and online reporting and editing. They take two required courses that provide instruction in the basic skills of reporting and editing and choose two other courses that provide advanced instruction in these areas.

VISUAL COMMUNICATION OPTION: This option is designed for students interested in photo and/or multimedia journalism as a photographer, editor or producer. Students are trained in the techniques of still/video photography and editing. They take two required courses that provide instruction in the basic skills of photography and editing and choose two other courses that provide advanced instruction in these areas.

For the B.A. degree in Journalism, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 5 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 46 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 28 credits

PRESCRIBED COURSES (10 credits)
COMM 160(1) (Sem: 1-2)
COMM 260W(3) (Sem: 3-4)
COMM 403(3), COMM 409(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 18 credits for completion of a University-approved minor (Sem: 1-8)
[Students majoring in journalism must take a University-approved minor outside the College of Communications. The minimum requirement for a minor is 18 credits. By careful planning, a student may use General Education and Bachelor of Arts courses to help fulfill this requirement. In lieu of a minor, students may take a concurrent major or concurrent degree, as long as it is outside the College of Communications. Students should consult with their adviser as soon as possible about this requirement.] (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 18 credits

Options can be combined but only with the consent of a student's adviser.

BROADCAST JOURNALISM OPTION (18 credits)

PRESCRIBED COURSES (6 credits)

COMM 360(3), COMM 465(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 6 credits from COMM 283W(3), COMM 466(3), COMM 475(3), COMM 480(3), COMM 495(1-3)[17] (Sem: 5-8)
Select 6 credits from COMM 180 GS(3), COMM 205 US(3), COMM 261 GH(3), COMM 381(3), COMM 401(3), COMM 405(3), COMM 410 IL(3), COMM 411(3), COMM 419 US;IL(3), COMM 496(1-18), COMM 499 IL(1-12) (Sem: 5-8)

PRINT JOURNALISM OPTION (18 credits)

PRESCRIBED COURSES (6 credits)
COMM 460W(3), COMM 467(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 6 credits from COMM 269(3), COMM 461(3), COMM 462(3), COMM 464W(3), COMM 474(3), COMM 475(3), COMM 495(1-3)[17] (Sem: 5-8)
Select 6 credits from COMM 205 US(3), COMM 261 GH(3), COMM 401(3), COMM 405(3), COMM 410 IL(3), COMM 411(3), COMM 419 US;IL(3), COMM 496(1-18), COMM 499 IL(1-12) (Sem: 5-8)

VISUAL COMMUNICATION OPTION (18 credits)

PRESCRIBED COURSES (6 credits)
COMM 269(3), COMM 469(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 6 credits from COMM 283W(3), COMM 467(3), COMM 468(3), COMM 475(3), COMM 495(1-3)[17] (Sem: 5-8)
Select 6 credits from COMM 180 GS(3), COMM 205 US(3), COMM 261 GH(3), COMM 381(3), COMM 401(3), COMM 410 IL(3), COMM 411(3), COMM 419 US;IL(3), COMM 496(1-18), COMM 499 IL(1-12) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[17] Internship in news with newspaper, radio, or TV. See the director of the internship program for specifics.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-05-059

Review Date: 4/15/08

CM

Kinesiology

Berks College (KINBL)
University Park, College of Health and Human Development (KINES)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR KARL M. NEWELL, *Head, Department of Kinesiology*

Kinesiology offers a comprehensive program of study in the science of human movement and is designed for students who want to prepare for professions involving physical activity and for graduate study in related areas. Five options are offered: (1) Athletic Training; (2) Fitness Studies; (3) Movement Science; (4) Physical & Health Education Teacher Education; and (5) Exercise Science. All options require a minimum of 120 credits for graduation, with the exception of Physical and Health Education Teacher Education, which requires 131 credits. Information about the major and its options can be found at http://www.hhdev.psu.edu/kines/index.html.

All options require a culminating practicum or research experience. First Aid, CPR, and Water Safety Instructor (WSI) certification are highly recommended for the Physical & Health Education Teacher Education Option. (See additional requirements for student teaching under General Information, Special Academic Programs.) Relocation away from the University Park campus is generally necessary for student teaching and may be necessary for practicums in other options. First Aid and CPR are also recommended for the Fitness Studies Option.

Students who have completed a minimum of 28 credits and have a 2.00 cumulative grade-point average are eligible for entrance into the major after completing an Entrance to Major form. Students who are interested in Athletic Training or Physical & Health Education Teacher Education must meet additional criteria in order to enter these options (see information on Athletic Training and Physical & Health Education Teacher Education Options).

ATHLETIC TRAINING OPTION: This option provides a concentrated program of courses designed to prepare students for a career in the profession of athletic training. The option has been designed to meet the standards for certification by the National Athletic Trainers Association - Board of Certification and legal certification by the Commonwealth of Pennsylvania.

Students are admitted into the program on a competitive basis following completion of prerequisite courses (see requirements for admission). Students must also meet the "Technical Standards for the Undergraduate Athletic Training Program at Penn State University" related to the physical and psycho-emotional demands placed upon students in the option. Upon admission, students complete a 5-semester sequence of coursework and supervised clinical rotations. Students typically commit 200 to 300 hours to clinical practical experiences in each of the last 4 semesters of the program. The Technical Standards course sequencing and prerequisite courses can be found at http://www.hhdev.psu.edu/kines/undergrad/athletic_training.html or obtained through the Department of Kinesiology. Full course descriptions are found in the University*Bulletin*.

Students seeking to transfer from other colleges or universities will have their transcripts evaluated after acceptance to Penn State to identify those courses and credits that will be applied to completion of degree requirements. Coursework specific to athletic training will not be considered for transfer unless completed in a Commission on Accreditation of Allied Health Education Programs accredited athletic training education program.

Minimum Requirements for Admission to the Athletic Training Option (admission is competitive--meeting minimum requirements does not assure admission into the option):

1. Submission of written application (http://www.hhdev.psu.edu/kines/undergrad/athletic_training.html) or the Department of Kinesiology Advising Office, 276 Recreation Building, University Park, PA 16802).
2. Cumulative grade-point average of 2.5.
3. 3.0 grade-point average in KINES 135(3), KINES 202(4), KINES 231(3), KINES 233(3).
4. Completion of entrance interview with Athletic Training Program Director or designee.
5. Evidence of ability to meet the physical and psycho-emotional standards as outlined in the "Technical Standards for the Undergraduate Athletic Training Program at Penn State" (http://www.hhdev.psu.edu/kines/undergrad/athletic_training.html), or the Department of Kinesiology Advising Office, 276 Recreation Building, University Park, PA 16802).

FITNESS STUDIES OPTION: This option provides interdisciplinary training to develop healthy living skills. Course work provides students with a knowledge base and practical skills to prepare them for careers in wellness professions, including corporate fitness, personal training, fitness management, youth and adult coaching, and community-based fitness programs. Students are encouraged to seek appropriate professional certification during the final two years of study, and may wish to consider a minor in the supporting fields of business, gerontology, nutrition, psychology, or sociology. After completion of this course of study, graduates will be able to design and implement skill and age-appropriate fitness programs, or pursue advanced study in related fields.

MOVEMENT SCIENCE OPTION: This option provides interdisciplinary training that utilizes movement for diagnosis, rehabilitation, and/or theoretical study. Course work is designed to help prepare graduates for a broad range of careers in biomedical and health-related fields. The option can also prepare students for graduate studies in the health professions. Students may select supporting courses that will fulfill requirements for advanced study in scientific disciplines and a variety of professional areas such as physical therapy, cardiac rehabilitation, and physician's assistant.

PHYSICAL & HEALTH EDUCATION TEACHER EDUCATION OPTION: This option is designed to prepare students to become licensed K-12 Health and Physical Education teachers. The licensure certifies them to teach elementary, middle or high school Health and Physical Education. The program includes all the academic requirements for the Instructional I Certificate in these fields issued by the Pennsylvania Department of Education. The entrance requirements for all University teacher preparation programs include:

1. A minimum cumulative grade-point average of 3.00.
2. An assessment of reading, writing, and mathematics.
3. ENGL 015 or ENGL 030.
4. 6 credits of quantification.
5. 3 credits of literature.
6. 48 credits minimum.
7. Completion of an Education Core: EDPSY 014(3) and EDTHP 115 US(3).
8. An early field experience, preferably in a diverse setting (one with at least 25 percent minority students): for KINES majors, KINES 295A(1).
9. 6 credits of required coursework in the teaching field: for KINES majors, KINES 141 US;IL(3) and KINES 180(3).
10. Documented evidence showing completion of at least 80 hours of paid or volunteer work in a setting with an age-appropriate population, including a minimum of 40 hours of work in each of two settings, one of which should involve students from an underrepresented group, or who are from rural or urban areas, but different from the candidate's own background.
11. Approval by the Teacher Preparation option coordinator.

EXERCISE SCIENCE OPTION: (offered only at the Penn State Berks) This option is a program of study in the science of exercise. This program offers Kinesiology background and applied experience in fitness assessment, exercise physiology, exercise psychology, motor skill development, nutrition and healthy living skills. Graduates will be able to scientifically assess fitness levels of individuals. Analyzing those assessments, graduates will then be capable of designing and implementing appropriate exercise programs.

Students in the Business Emphasis can obtain a Business Minor through this program. Students acquire basic business skills in accounting, marketing, management and entrepreneurial skills.

Students choosing the Science Emphasis will select courses from a department list that will enhance their opportunity for graduate studies in Kinesiology related fields, Physical Therapy and Medical schools.

The completion of the Exercise Science Option will enable graduates to compete for employment in the corporate fitness arena, private fitness clubs, community-based fitness organizations, hospital and university settings or possibly to operate their own health and fitness company.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15-21 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-2 credits

REQUIREMENTS FOR THE MAJOR: 90-101 credits
(This includes 15-21 credits of General Education courses: Athletic Training Option--6 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses; 3 credits of GHA courses. Fitness Studies Option--6 credits of GQ courses; 6-7 credits of GN courses; 3 credits of GS courses; 3 credits of GHA courses. Movement Science Option--9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GHA courses. Physical & Health Education Teacher Education Option--6 credits of GN courses; 3 credits of GQ courses; 3 credits of GS courses; 3 credits of GHA courses. Exercise Science Option--6-7 credits of GN courses; 6 credits of GQ courses; 3 credits of GHA courses.

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 31 credits

PRESCRIBED COURSES (31 credits)**[1]**
BIOL 141 GN(3), KINES 141 US;IL(3), KINES 180(3) (Sem: 1-4)
KINES 202(4), NUTR 251 GHA(3) (Sem: 3-4)
KINES 321(3), KINES 345(3), KINES 350(3), KINES 360(3), KINES 384(3) (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 59-70 credits

ATHLETIC TRAINING OPTION: (64 credits)

PRESCRIBED COURSES (64 credits)
MATH 022 GQ(3), CHEM 110 GN(3), CHEM 111 GN(1), KINES 135(3), PSYCH 100 GS(3) (Sem: 1-2)
PHYS 250 GN(4), STAT 200 GQ(4) (Sem: 3-4)
KINES 231(3)**[1]**, KINES 233(3)**[1]** (Sem: 3)
KINES 232(3)**[1]**, KINES 334(3)**[1]** (Sem: 4)
KINES 335(3)**[1]**, KINES 395F(3)**[1]**, KINES 434(3)**[1]** (Sem: 5)
KINES 336(3)**[1]**, KINES 395G(3)**[1]**, KINES 435(3)**[1]**, KINES 436(4)**[1]** (Sem: 6)
KINES 395I(3)**[1]**, KINES 438W(3)**[1]** (Sem: 7)
KINES 495F(3)**[1]**, (Sem: 8)

FITNESS STUDIES OPTION: (61-62 credits)

PRESCRIBED COURSES (28 credits) **[1]**
KINES 200(3), KINES 201(3), PSYCH 100 GS(3), STAT 200 GQ(4) (Sem: 3-6)
KINES 295B(1), KINES 395B(1), KINES 456(4), KINES 457(3), KINES 495B(6) (Sem: 5-8)

ADDITIONAL COURSES (24-25 credits)
a. CHEM 101 GN(3) or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-4)
b. MATH 022 GQ(3) OR satisfactory performance on the MATH FTCAP examination--i.e., placement beyond the level of MATH 022 (Sem: 1-4)
c. KINES 492W(3) or KINES 481W(3) or KINES 439W(3) (Sem: 5-8)
d. Life Fitness Skills (select 3 credits) KINES 001 GHA(1.5-3), KINES 004 GHA(1.5), KINES 005 GHA(1), KINES 006 GH(1.5), KINES 008 GHA(1.5), KINES 010 GHA(1.5), KINES 010A GHA(1.5), KINES 011 GHA(1), KINES 011A GHA(1), KINES 012 GHA(1), KINES 015(1), KINES 017 GHA(1.5), KINES 017S GHA(1.5), KINES 019 GHA(1.5), KINES 020 GHA(1.5), KINES 024 GHA(1.5), KINES 025 GHA(1.5), KINES 026 GHA(1.5), KINES 027 GHA(1.5), KINES 027S GHA(1.5), KINES 028 GHA(1.5), KINES 029 GHA(1-1.5), KINES 029A GHA(1.5), KINES 041 GHA(1.5), KINES 042 GHA(1.5), KINES 042A GHA(1.5), KINES 042B GHA(1.5), KINES 044 GHA(1-1.5), KINES 045 GHA(1.5), KINES 046 GHA(1-1.5), KINES 047 GHA(1.5), KINES 047A GHA(1.5), KINES 047B GHA(1.5), KINES 048 GHA(1.5), KINES 048AGHA(1.5), KINES 054 GHA(1.5), KINES 055 GHA(1.5), KINES 056 GHA(1.5), KINES 057 GHA(1.5), KINES 058 GHA(1.5), KINES 059 GHA(1.5), KINES 060(3), KINES 061 GHA(3), KINES 061S GHA(3), KINES 062 GHA(1.5), KINES 063 GHA(1.5), KINES 065 GHA(1.5), KINES 067 GHA(1.5), KINES 067S GHA(1.5), KINES 070 GHA(1.5), KINES 071 GHA(1.5), KINES 076 GHA(1.5), KINES 077 GHA(1.5), KINES 077A GHA(1.5), KINES 081 GHA(3), KINES 082 GHA(3), KINES 083 GHA(1.5), KINES 084 GHA(1.5-2), KINES 089 GHA(3), KINES 090 GHA(1-1.5), KINES 090A GHA(1.5), KINES 090B GHA(1.5), KINES 090C GHA(1.5), KINES 091A GHA(1.5), KINES 091B GHA(1.5), KINES 091C GHA(1.5), KINES 091D GHA(1.5), KINES 092 GHA(1.5), KINES 093 GHA(1.5-12) (Sem: 3-8)
e. Select an additional 12 credits from approved 400-level KINES courses: KINES 402(3), KINES 420(3), KINES 421(3), KINES 422(3),KINES 424 US(3), KINES 427(3), KINES 428(3), KINES 429(3), KINES 439W(3), KINES 440(3), KINES 441 US(3), KINES 442 IL(3), KINES 443 IL(3), KINES 444 US(3), KINES 446 IL(3), KINES 450(3), KINES 459(3), KINES 460(3), KINES 463(3), KINES 481W(3), KINES 483(3), KINES 484(3), KINES 485(3), KINES 488(3), KINES 492W(3), KINES 493(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in University-wide offerings from an approved list, in consultation with advisor. (Sem: 1-8)

MOVEMENT SCIENCE OPTION: (63 credits)

PRESCRIBED COURSES (36 credits)**[1]**
BIOL 110 GN(4), BIOL 142(1), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112(3), CHEM 113(1), KINES 295B(1) (Sem: 1-4)
PHYS 250 GN(4), PHYS 251 GN(4), PSYCH 100 GS(3), STAT 200 GQ(4) (Sem: 3-6)
KINES 395B(1) (Sem: 5-8)
KINES 495B(6) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
a. MATH 026 GQ(3) OR satisfactory performance on the MATH FTCAP examination--i.e., placement beyond the level of MATH 026
(Sem: 1-4)
b. Select an additional 15 credits from approved 400-level KINES courses:
KINES 402(3), KINES 420(3), KINES 421(3), KINES 422(3), KINES 423(3), KINES 424 US(3), KINES 427(3), KINES 428(3), KINES 429(3), KINES 439W(3), KINES 440(3), KINES 441 US(3), KINES 442 IL(3), KINES 443 IL(3), KINES 444 US(3), KINES 446 IL(3), KINES 450(3), KINES 452(3), KINES 456(4), KINES 457(3), KINES 460(3), KINES 463(3), KINES 481W(3), KINES 483(3), KINES 484(3), KINES 485(3), KINES 488(3), KINES 492W(3), KINES 493(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in University-wide offerings from an approved list, in consultation with advisor. (Sem: 1-8)

PHYSICAL & HEALTH EDUCATION TEACHER EDUCATION OPTION: (70 credits)**[18]**

PRESCRIBED COURSES (70 credits)
C I 280 GH(3), CHEM 101 GN(3), EDPSY 010 GS(3), EDPSY 014(3), EDTHP 115 US(3), KINES 165(3), KINES 261(1), KINES 262(1), KINES 264(1), KINES 266(1), KINES 268(1), KINES 295A(1), MATH 022 GQ(3) (Sem: 1-4)
BB H 146 GHA(3), KINES 362(1.5), KINES 364(1.5), KINES 366(3), KINES 395A(1), KINES 400(3), KINES 445(3), KINES 464(3), KINES 466(2), KINES 468(3), KINES 469W(3), SPLED 400(4) (Sem: 5-8)
KINES 495A(12) (Sem: 8-9)

EXERCISE SCIENCE OPTION: (59-60 credits)

PRESCRIBED COURSES (34 credits)
STAT 200 GQ(4) (Sem: 1-2)
KINES 200(3)**[1]**, KINES 201(3)**[1]**, KINES 260(3)**[1]**, KINES 295B(1)**[1]** (Sem: 3-4)
KINES 356(3)**[1]**, KINES 358(l)**[1]** (Sem: 5-6)
KINES 420(3)**[1]**, KINES 456(4)**[1]**, KINES 457(3)**[1]**, KINES 495C(6)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (9-10 credits)
a. CHEM 101 GN(3) or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-2)
b. MATH 022 GQ(3) or satisfactory performance on the MATH FTCAP examination--i.e., placement beyond the level of MATH 022
(Sem: 1-2)
c. Select 3 credits from KINES 001 GHA(1.5) to KINES 099(3) (Sem: 1-2)

SUPPORTING COURSES AND RELATED AREAS (16 credits)
Select 16 credits from one of the following emphasis area from an approved list, in consultation with advisor. At least 3

credits must be at the 400 level.
a. Business Emphasis (Sem: 1-8)
b. Science Emphasis (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[18] A grade of C or better per course is required for Physical & Health Education Teacher Education (PHETE).

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-059

Review Date: 02/23/2010

UCA Revision #1: 8/8/06

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Kinesiology

Berks College (KINBL)
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Students who have completed a minimum of 28 credits and have a 2.00 cumulative grade-point average are eligible for entrance into the major after completing an Entrance to Major form. Students who are interested in Athletic Training or Physical & Health Education Teacher Education must meet additional criteria in order to enter these options (see information on Athletic Training and Physical & Health Education Teacher Education Options).

ATHLETIC TRAINING OPTION: This option provides a concentrated program of courses designed to prepare students for a career in the profession of athletic training. The option has been designed to meet the standards for certification by the National Athletic Trainers Association - Board of Certification and legal certification by the Commonwealth of Pennsylvania.

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2. Cumulative grade-point average of 2.5.
3. 3.0 grade-point average in KINES 135(3), KINES 202(4), KINES 231(3), KINES 233(3).
4. Completion of entrance interview with Athletic Training Program Director or designee.
5. Evidence of ability to meet the physical and psycho-emotional standards as outlined in the "Technical Standards for the Undergraduate Athletic Training Program at Penn State" (http://www.hhdev.psu.edu/kines/undergrad/athletic_training.html), or the Department of Kinesiology Advising Office, 276 Recreation Building, University Park, PA 16802).

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2. An assessment of reading, writing, and mathematics.
3. ENGL 015 or ENGL 030.
4. 6 credits of quantification.
5. 3 credits of literature.
6. 48 credits minimum.
7. Completion of an Education Core: EDPSY 014(3) and EDTHP 115 US(3).
8. An early field experience, preferably in a diverse setting (one with at least 25 percent minority students): for KINES majors, KINES 295A(1).
9. 6 credits of required coursework in the teaching field: for KINES majors, KINES 141 US;IL(3) and KINES 180(3).
10. Documented evidence showing completion of at least 80 hours of paid or volunteer work in a setting with an age-appropriate population, including a minimum of 40 hours of work in each of two settings, one of which should involve students from an underrepresented group, or who are from rural or urban areas, but different from the candidate's own background.
11. Approval by the Teacher Preparation option coordinator.

EXERCISE SCIENCE OPTION: (offered only at the Penn State Berks) This option is a program of study in the science of exercise. This program offers Kinesiology background and applied experience in fitness assessment, exercise physiology, exercise psychology, motor skill development, nutrition and healthy living skills. Graduates will be able to scientifically assess fitness levels of individuals. Analyzing those assessments, graduates will then be capable of designing and implementing appropriate exercise programs.

Students in the Business Emphasis can obtain a Business Minor through this program. Students acquire basic business skills in accounting, marketing, management and entrepreneurial skills.

Students choosing the Science Emphasis will select courses from a department list that will enhance their opportunity for graduate studies in Kinesiology related fields, Physical Therapy and Medical schools.

The completion of the Exercise Science Option will enable graduates to compete for employment in the corporate fitness arena, private fitness clubs, community-based fitness organizations, hospital and university settings or possibly to operate their own health and fitness company.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15-21 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-2 credits

REQUIREMENTS FOR THE MAJOR: 90-101 credits
(This includes 15-21 credits of General Education courses: Athletic Training Option--6 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses; 3 credits of GHA courses. Fitness Studies Option--6 credits of GQ courses; 6-7 credits of GN courses; 3 credits of GS courses; 3 credits of GHA courses. Movement Science Option--9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GHA courses. Physical & Health Education Teacher Education Option--6 credits of GN courses; 3 credits of GQ courses; 3 credits of GS courses; 3 credits of GHA courses. Exercise Science Option--6-7 credits of GN courses; 6 credits of GQ courses; 3 credits of GHA courses.

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 31 credits

PRESCRIBED COURSES (31 credits)**[1]**
BIOL 141 GN(3), KINES 141 US;IL(3), KINES 180(3) (Sem: 1-4)
KINES 202(4), NUTR 251 GHA(3) (Sem: 3-4)
KINES 321(3), KINES 345(3), KINES 350(3), KINES 360(3), KINES 384(3) (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 59-70 credits

ATHLETIC TRAINING OPTION: (64 credits)

PRESCRIBED COURSES (64 credits)
MATH 022 GQ(3), CHEM 110 GN(3), CHEM 111 GN(1), KINES 135(3), PSYCH 100 GS(3) (Sem: 1-2)
PHYS 250 GN(4), STAT 200 GQ(4) (Sem: 3-4)
KINES 231(3)**[1]**, KINES 233(3)**[1]** (Sem: 3)
KINES 232(3)**[1]**, KINES 334(3)**[1]** (Sem: 4)
KINES 335(3)**[1]**, KINES 395F(3)**[1]**, KINES 434(3)**[1]** (Sem: 5)
KINES 336(3)**[1]**, KINES 395G(3)**[1]**, KINES 435(3)**[1]**, KINES 436(4)**[1]** (Sem: 6)
KINES 395I(3)**[1]**, KINES 438W(3)**[1]** (Sem: 7)
KINES 495F(3)**[1]**, (Sem: 8)

FITNESS STUDIES OPTION: (61-62 credits)

PRESCRIBED COURSES (28 credits) **[1]**
KINES 200(3), KINES 201(3), PSYCH 100 GS(3), STAT 200 GQ(4) (Sem: 3-6)
KINES 295B(1), KINES 395B(1), KINES 456(4), KINES 457(3), KINES 495B(6) (Sem: 5-8)

ADDITIONAL COURSES (24-25 credits)
a. CHEM 101 GN(3) or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-4)
b. MATH 022 GQ(3) OR satisfactory performance on the MATH FTCAP examination--i.e., placement beyond the level of MATH 022 (Sem: 1-4)
c. KINES 492W(3) or KINES 481W(3) or KINES 439W(3) (Sem: 5-8)
d. Life Fitness Skills (select 3 credits) KINES 001 GHA(1.5-3), KINES 004 GHA(1.5), KINES 005 GHA(1), KINES 006 GH(1.5), KINES 008 GHA(1.5), KINES 010 GHA(1.5), KINES 010A GHA(1.5), KINES 011 GHA(1), KINES 011A GHA(1), KINES 012 GHA(1), KINES 015(1), KINES 017 GHA(1.5), KINES 017S GHA(1.5), KINES 019 GHA(1.5), KINES 020 GHA(1.5), KINES 024 GHA(1.5), KINES 025 GHA(1.5), KINES 026 GHA(1.5), KINES 027 GHA(1.5), KINES 027S GHA(1.5), KINES 028 GHA(1.5), KINES 029 GHA(1-1.5), KINES 029A GHA(1.5), KINES 041 GHA(1.5), KINES 042 GHA(1.5), KINES 042A GHA(1.5), KINES 042B GHA(1.5), KINES 044 GHA(1-1.5), KINES 045 GHA(1.5), KINES 046 GHA(1-1.5), KINES 047 GHA(1.5), KINES 047A GHA(1.5), KINES 047B GHA(1.5), KINES 048 GHA(1.5), KINES 048AGHA(1.5), KINES 054 GHA(1.5), KINES 055 GHA(1.5), KINES 056 GHA(1.5), KINES 057 GHA(1.5), KINES 058 GHA(1.5), KINES 059 GHA(1.5), KINES 060(3), KINES 061 GHA(3), KINES 061S GHA(3), KINES 062 GHA(1.5), KINES 063 GHA(1.5), KINES 065 GHA(1.5), KINES 067 GHA(1.5), KINES 067S GHA(1.5), KINES 070 GHA(1.5), KINES 071 GHA(1.5), KINES 076 GHA(1.5), KINES 077 GHA(1.5), KINES 077A GHA(1.5), KINES 081 GHA(3), KINES 082 GHA(3), KINES 083 GHA(1.5), KINES 084 GHA(1.5-2), KINES 089 GHA(3), KINES 090 GHA(1-1.5), KINES 090A GHA(1.5), KINES 090B GHA(1.5), KINES 090C GHA(1.5), KINES 091A GHA(1.5), KINES 091B GHA(1.5), KINES 091C GHA(1.5), KINES 091D GHA(1.5), KINES 092 GHA(1.5), KINES 093 GHA(1.5-12) (Sem: 3-8)
e. Select an additional 12 credits from approved 400-level KINES courses: KINES 402(3), KINES 420(3), KINES 421(3), KINES 422(3),KINES 424 US(3), KINES 427(3), KINES 428(3), KINES 429(3), KINES 439W(3), KINES 440(3), KINES 441 US(3), KINES 442 IL(3), KINES 443 IL(3), KINES 444 US(3), KINES 446 IL(3), KINES 450(3), KINES 459(3), KINES 460(3), KINES 463(3), KINES 481W(3), KINES 483(3), KINES 484(3), KINES 485(3), KINES 488(3), KINES 492W(3), KINES 493(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in University-wide offerings from an approved list, in consultation with advisor. (Sem: 1-8)

MOVEMENT SCIENCE OPTION: (63 credits)

PRESCRIBED COURSES (36 credits)**[1]**
BIOL 110 GN(4), BIOL 142(1), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112(3), CHEM 113(1), KINES 295B(1) (Sem: 1-4)
PHYS 250 GN(4), PHYS 251 GN(4), PSYCH 100 GS(3), STAT 200 GQ(4) (Sem: 3-6)
KINES 395B(1) (Sem: 5-8)
KINES 495B(6) (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
a. MATH 026 GQ(3) OR satisfactory performance on the MATH FTCAP examination--i.e., placement beyond the level of MATH 026
(Sem: 1-4)
b. Select an additional 15 credits from approved 400-level KINES courses:
KINES 402(3), KINES 420(3), KINES 421(3), KINES 422(3), KINES 423(3), KINES 424 US(3), KINES 427(3), KINES 428(3), KINES 429(3), KINES 439W(3), KINES 440(3), KINES 441 US(3), KINES 442 IL(3), KINES 443 IL(3), KINES 444 US(3), KINES 446 IL(3), KINES 450(3), KINES 452(3), KINES 456(4), KINES 457(3), KINES 460(3), KINES 463(3), KINES 481W(3), KINES 483(3), KINES 484(3), KINES 485(3), KINES 488(3), KINES 492W(3), KINES 493(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in University-wide offerings from an approved list, in consultation with advisor. (Sem: 1-8)

PHYSICAL & HEALTH EDUCATION TEACHER EDUCATION OPTION: (70 credits)**[18]**

PRESCRIBED COURSES (70 credits)
C I 280 GH(3), CHEM 101 GN(3), EDPSY 010 GS(3), EDPSY 014(3), EDTHP 115 US(3), KINES 165(3), KINES 261(1), KINES 262(1), KINES 264(1), KINES 266(1), KINES 268(1), KINES 295A(1), MATH 022 GQ(3) (Sem: 1-4)
BB H 146 GHA(3), KINES 362(1.5), KINES 364(1.5), KINES 366(3), KINES 395A(1), KINES 400(3), KINES 445(3), KINES 464(3), KINES 466(2), KINES 468(3), KINES 469W(3), SPLED 400(4) (Sem: 5-8)
KINES 495A(12) (Sem: 8-9)

EXERCISE SCIENCE OPTION: (59-60 credits)

PRESCRIBED COURSES (34 credits)
STAT 200 GQ(4) (Sem: 1-2)
KINES 200(3)**[1]**, KINES 201(3)**[1]**, KINES 260(3)**[1]**, KINES 295B(1)**[1]** (Sem: 3-4)
KINES 356(3)**[1]**, KINES 358(l)**[1]** (Sem: 5-6)
KINES 420(3)**[1]**, KINES 456(4)**[1]**, KINES 457(3)**[1]**, KINES 495C(6)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (9-10 credits)
a. CHEM 101 GN(3) or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-2)
b. MATH 022 GQ(3) or satisfactory performance on the MATH FTCAP examination--i.e., placement beyond the level of MATH 022
(Sem: 1-2)
c. Select 3 credits from KINES 001 GHA(1.5) to KINES 099(3) (Sem: 1-2)

SUPPORTING COURSES AND RELATED AREAS (16 credits)
Select 16 credits from one of the following emphasis area from an approved list, in consultation with advisor. At least 3

credits must be at the 400 level.
a. Business Emphasis (Sem: 1-8)
b. Science Emphasis (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[18] A grade of C or better per course is required for Physical & Health Education Teacher Education (PHETE).

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-059

Review Date: 02/23/2010

UCA Revision #1: 8/8/06

HH

Labor Studies and Employment Relations

University Park, College of the Liberal Arts (LERBA)
World Campus

PROFESSOR PAUL CLARK, *Head*

This major permits students to undertake a study of work and the employment relationship in the context of a liberal arts education. A broad foundation of theoretical and professional knowledge is provided through a multidisciplinary approach. The B.A. and B.S. degrees draw on the perspectives of disciplines such as industrial relations, economics, history, law, sociology, and psychology. This focus includes the nature and functions of the institutions involved in the employment relationship. The B.S. degree requires more course work in quantification than the B.A. degree.

Graduates of Labor Studies and Employment Relations are equipped for employment in business, government, and labor organizations as labor relations specialists, personnel and human resource specialists, researchers, organizers, consultants, and professionals in mediation and arbitration. The degree is also appropriate preparation for graduate study and law school.

For the B.A. degree in Labor Studies and Employment Relations, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20-21 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 39-40 credits**[1]**
(This includes 6 credits of GS General Education courses.)

PRESCRIBED COURSES (15 credits)
ECON 002 GS(3), ECON 315 GS(3), LER 100 GS(3), PSYCH 281 GS(3), (Sem: 3-8)
LER 458Y(3) (Sem: 5-8)

ADDITIONAL COURSES (9-10 credits)
LER 201 GS(3) or LER 401(3) (law) (Sem: 5-8)
LER 136 US(3) or LER 400 IL(3) (diversity) (Sem: 5-8)
LER 312(4) or LER 414W(3) (analytical thinking) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 9-12 credits of LER courses, at least 3 at the 400 level (only 3 credits of LER 495 and 3 credits of LER 496 may be used to satisfy this requirement) (Sem: 3-8)
Select 3-6 credits in consultation with adviser from department list, at least 3 at the 400 level (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-462

Review Date: 4/10/07

UCA Revision #1: 8/8/06

LA

Labor Studies and Employment Relations

University Park, College of the Liberal Arts (LERBS)
World Campus

PROFESSOR PAUL CLARK, *Head*

This major permits students to undertake a study of work and the employment relationship in the context of a liberal arts education. A broad foundation of theoretical and professional knowledge is provided through a multidisciplinary approach. The B.A. and B.S. degrees draw on the perspectives of disciplines such as industrial relations, economics, history, law, sociology, and psychology. This focus includes the nature and functions of the institutions involved in the employment relationship. The B.S. degree requires more course work in quantification than the B.A. degree.

Graduates of Labor Studies and Employment Relations are equipped for employment in business, government, and labor organizations as labor relations specialists, personnel and human resource specialists, researchers, organizers, consultants, and professionals in mediation and arbitration. The degree is also appropriate preparation for graduate study and law school.

For the B.S. degree in Labor Studies and Employment Relations, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-10 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21-26 credits

REQUIREMENTS FOR THE MAJOR: 62-63 credits**[1]**
(This includes 6-10 credits of General Education courses: 6 credits of GS courses; 0-4 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 36-37 credits

PRESCRIBED COURSES (16 credits)
(Some courses in this category have prerequisites that are not included in the major.)
LER 100 GS(3), LER 312(4) (Sem: 3-8)
ECON 002 GS(3), ECON 315 GS(3), PSYCH 281 GS(3) (Sem: 1-8)

ADDITIONAL COURSES (13 credits)
(Some courses in this category have prerequisites that are not included in the major.)
LER 201 GS(3) or LER 401(3) [law] (Sem: 3-8)
SCM 200(4) or STAT 200 GQ(4) (Sem: 3-8)
LER 136 US(3) or WMNST 136 US(3) or LER 400 IL(3) (diversity) (Sem: 5-8)
LER 458Y US(3) or HIST 458Y US(3) or LER 414W(3) (analytical writing) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (33-34 credits)
(LER courses that are used in the Additional Courses category may not be double-counted to satisfy this requirement. Some courses in this category have prerequisites that are not included in the major.)

Select 15-21 credits from appropriate LER courses, at least 9 at the 400 level (only 3 credits of LER 495 or 3 credits of LER 496 may be used to satisfy this requirement) (Sem: 5-8)

Select 12-19 credits in consultation with adviser from the department list, at least 6 at the 400 level, 3 each from 3 categories:
--a. ECON 342 GS(3), ECON 370 GS(3), ECON 412(3), ECON 436W US(3), ECON 445(3) (Sem: 5-8)
--b. MGMT 100(3), MGMT 321(3), MGMT 331(3), MGMT 341(3), MGMT 424(3) (Sem: 3-8)
--c. PL SC 424(3), PL SC 471(3), PL SC 474(3) (Sem: 5-8)
--d. PSYCH 482(3), PSYCH 484(3), PSYCH 485(3) (Sem: 5-8)
--e. SOC 119 GS;US(4), SOC 409 US(3), SOC 444(3), SOC 455(3), SOC 456(3) (Sem: 3-8)
--f. ACCTG 211(4), CAS 352(3), H P A 460(3), HD FS 425 US(3), HIST 155 GH;US(3), PHIL(S T S) 407(3) (Sem: 5-8)

Integrated B.S. in Labor Studies and Employment Relations and M.S. in Human Resources and Employment Relations (LRHRER)

PROFESSOR PAUL F. CLARK, *Head*

The integrated LER B.S. and HRER M.S. is a five-year program designed for academically talented baccalaureate students to obtain both the B.S. and the M.S. degrees in LER and HRER with five years of study. Students will develop expertise in the human resources and labor relations fields beyond the B.S. degree. The undergraduate curriculum educates students about (1) the roles of employers, employees, employee organizations and public policy makers play in the employment relationship, (2) the complex personal and organizational issues inherent in the employment relationship (3) and how to systematically analyze those complex issues and evaluate research relevant to those analyses. The graduate curriculum provides for more individualized, focused learning in a concentrated sub-area of the HRER field. The program culminates with an M.S. research paper. Upon completion of the integrated degree, students will enter the workforce with advanced knowledge and expertise gained from conducting and analyzing empirical work and participating in seminar-style classes.

Bachelor of Science

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

REQUIREMENTS FOR THE MAJOR: 98-99 credits
[12 credits may be double counted, 6 must be at the 500 level]

B.S. REQUIREMENTS: 62-63 credits
(This includes 10 credits of General Education courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 36-37 credits

PRESCRIBED COURSES: (16 credits)
(Some courses in this category have prerequisites that are not included in the major)
LER 100 GS(3), LER 312(4) (Sem: 3-8)
ECON 102 GS(3), ECON 315 GS(3), PSYCH 281 GS(3) (Sem: 1-8)

ADDITIONAL COURSES: (13 credits)
(Some courses in this category have prerequisites that are not included in the major)
LER 201 GS(3) or LER 401(3) (Sem: 3-8)
SCM 200(4) or STAT 200 GQ(4) (Sem: 3-8)
LER 136 US(3) or WMNST 136 US(3) or LER 400 IL(3) (Sem: 5-8)
LER 458Y US(3) or HIST 458Y US(3) or LER 414W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (33-34 credits)

(LER courses that are used in the Additional Courses category may not be double counted to satisfy this requirement. Some courses in this category have prerequisites that are not included in the major.)

Select 15-21 credits from appropriate LER courses, at least 9 must be at the 400 level (only 3 credits of LER 495 or 3 credits of LER 496 may be used to satisfy this requirement) (Sem: 5-8)

Select 12-19 credits from the department list in consultation with an adviser, at least 6 credits must be at the 400 level, 3 each from 3 categories:

1. ECON 342 GS(3), ECON 370 GS(3), ECON 412(3), ECON 436(3), ECON 445(3) (Sem: 5-8)
2. MGMT 100(3), MGMT 321(3), MGMT 331(3), MGMT 341(3), MGMT 424(3) (Sem: 3-8)
3. PL SC 424(3), PL SC 471(3), PL SC 474(3) (Sem: 5-8)
4. PSYCH 482(3), PSYCH 484(3), PSYCH 485(3) (Sem: 5-8)
5. SOC 119 GS;US(4), SOC 409 US(3), SOC 444(3), SOC 455(3), SOC 456(3) (Sem: 3-8)
6. ACCTG 211(4), CAS 352(3), H P A 460(3), HD FS 425 US(3), HIST 155 GH(3), S T S 407(3) (Sem: 5-8)

M.S. REQUIREMENTS: 36 credits
[12 credits may be double counted, 6 must be at the 500 level]

PRESCRIBED COURSES: (21 credits)
HRER 501(3), HRER 502(3), HRER 504(3), HRER 505(3), HRER 512(3)*, HRER 513(3)**, HRER 516(3)
*or other statistics course approved in advance by graduate director
**or other methods course approved in advance by graduate director

ADDITIONAL COURSES: (15 credits)
Select 15 credits from the following list in consultation with adviser (only 6 credits may be at the 400 level).
LER 400 IL(3), LER 401(3), LER 414W(3), LER 424(3), LER 434(3), LER 435(3), LER 437(3), LER 444(3), LER 458Y US(3), LER 460(3), LER 465(3), LER 470(3), HRER 500(3), HRER 535(3), HRER 536(3), HRER 594(1-6), HRER 595(1-6), HRER 596(1-6), HRER 597(1-3), HRER 600(3-6)

Emphasis Courses (6 credits)
An emphasis is an area of study related to a particular aspect or domain of industrial relations and human resources. Select 6 credits from the M.S. prescribed or additional courses in consultation with their adviser.

Masters Research Paper or a Masters Thesis (6 credits)
Students must complete either a Masters Research Paper or a Masters Thesis. Students choosing the Thesis option must complete 6 thesis credits (HRER 600). These credits can be counted towards the 15 credits required from the M.S. Additional Courses section above.

HUMAN RESOURCES AND EMPLOYMENT RELATIONS (HRER) course list
LABOR STUDIES AND EMPLOYMENT RELATIONS (LER) course list

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-463, IUG 35-06-464

Review Date: 4/10/07

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

LA

Landscape Architecture

University Park, College of Arts and Architecture (LARCH)

PROFESSOR BRIAN ORLAND, *Head of the Department*

Landscape architecture is the art of design, planning, or management of the land and of the natural and built elements upon it. As an academic discipline, it embodies creative, cultural, philosophical, and scientific knowledge bases. As a professional discipline, the practice of landscape architecture includes site design, urban design, master planning, community planning, regional planning, resource conservation, and stewardship.

For those selected to major in this field, the program is a five-year curriculum leading to a professionally accredited Bachelor of Landscape Architecture degree. A minor is strongly encouraged. One semester of the curriculum is spent in a required semester abroad. The program helps prepare graduates for either advanced study or professional careers. The curriculum develops both the creative disciplines and the technical skills essential to practice, as well as to the pursuit of interests in related fields. With appropriate work experience with a registered practitioner, graduates are eligible to take the state licensing examination.

For the Bachelor of Landscape Architecture degree, a minimum of 148 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-15 credits

REQUIREMENTS FOR THE MAJOR: 103-104 credits
(This includes 15 credits of General Education courses: 3 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses.)

PRESCRIBED COURSES (94 credits)
GEOG 020 GS;US;IL(3), LARCH 060 GA;US;IL(3)**[1]**, LARCH 065 GA;US;IL(3)**[1]**, LARCH 112(3)**[1]**, LARCH 121S(1)**[1]**, LARCH 151(3)**[1]**, SOILS 101 GN(3) (Sem: 1-2)
LARCH 211(4)**[1]**, LARCH 212(4)**[1]**, LARCH 221(1)**[1]**, LARCH 222(1)**[1]**, LARCH 231(3)**[1]**, LARCH 241(3)**[1]**, LARCH 251(3)**[1]**, LARCH 272(1)**[1]** (Sem: 3-4)
LARCH 232(3)**[1]**, LARCH 311(4)**[1]**, LARCH 312(4)**[1]**, LARCH 321(1)**[1]**, LARCH 322(1)**[1]**, LARCH 331 IL(3)**[1]**, LARCH 341(3)**[1]**, LARCH 361W(3)**[1]**, LARCH 382(3)**[1]** (Sem: 5-6)
LARCH 332(3)**[1]**, LARCH 414(5-15)**[1]**, LARCH 424(3)**[1]**, LARCH 499A IL(1)**[1]**, LARCH 499B IL(4)**[1]**, LARCH 499D IL(4)**[1]** (Sem: 7-10)

ADDITIONAL COURSES (9-10 credits)
MATH 026 GQ(3) or higher (except MATH 035); BIOL 011 GN(3) and BIOL 012 GN(1) or BIOL 127 GN(3) (Sem: 1-2)
GEOG 115 GN(3) or GEOSC 020 GN(3) (Sem 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008 (LARCH); Fall Semester 2009 (Integrated B.L.A./M.L.A.)

Blue Sheet Item #: 36-06-014 (LARCH); 37-07-002 and 37-07-000 (Integrated B.L.A./M.L.A.)

Review Date: 6/16/09

AA

Landscape Contracting

University Park, College of Agricultural Sciences (LSCPE)

PROFESSOR DAN T. STEARNS, Program Coordinator

Landscape contracting involves constructing, establishing, and maintaining landscapes from small residential projects to large commercial and industrial projects, as well as producing plans for small-scale residential and commercial sites. Students develop skills in construction, site design, plant material usage, plant establishment, and landscape maintenance. Students are also educated in areas such as graphics, surveying, soils, turfgrass management, weed and pest management, and in business operations.

Students are encouraged to obtain on-the-job experience in landscape contracting by working with a landscape maintenance or construction firm, or other related business. Credits for this experience are available for those who choose to enroll in an internship.

A wide variety of opportunities exist for landscape contracting graduates. They may be employed by design/build firms, landscape management firms, nurseries, or garden centers. Others may choose to work for municipalities, golf courses, parks, or botanical gardens.

DESIGN/BUILD OPTION: This option focuses on the development of skills in the planning and implementation of landscape projects. Employment opportunities exist with landscape contracting companies, irrigation companies, and retail centers.

MANAGEMENT OPTION: This option provides professional education in the management of landscapes. Employment opportunities include positions with landscape management companies and golf courses.

For the B.S. degree in Landscape Contracting, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-15 credits

REQUIREMENTS FOR THE MAJOR: 84-96 credits
(This includes 21-24 credits of General Education courses: 3 credits of GWS courses; 3-6 credits of GA courses; 3 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 70-71 credits

PRESCRIBED COURSES (54 credits)
HORT 410W(3), HORT 468(2)**[1]**, LARCH 060 GA;US;IL(3), MATH 026 GQ(3) (Sem: 1-2)
A S M 217(3), ACCTG 211(4), B A 250(3), B LAW 243(3), CHEM 110 GN(3), ENGL 202D GWS(3), GEOSC 020 GN(3), HORT 101 GN(3)**[1]**, HORT 120(2)**[1]**, HORT 131(3)**[1]**, HORT 137(3)**[1]**, HORT 138(3)**[1]**, HORT 408(4)**[1]** (Sem: 5-6)
SOILS 101 GN(3) (Sem: 7-8)

ADDITIONAL COURSES (16-17 credits)
AG BM 101 GS(3), ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 3-4)
BIOL 110 GN(4) or BIOL 127 GN(3) (Sem: 3-4)
SPAN 001(4) or SPAN 002(4) or SPAN 105(4) (Sem: 3-4)
MKTG 220(3), or AG BM 220(3) (Sem: 5-6)
TURF 100(3) or TURF 235(3) (Sem: 5-6)

REQUIREMENTS FOR THE OPTION: 14-25 credits

DESIGN/BUILD OPTION: (25 credits)

PRESCRIBED COURSES (23 credits)
ART 020 GA(3), EDSGN 010(1), HORT 220(3)**[1]** (Sem: 3-4)
HORT 269(3)**[1]**, HORT 464(4)**[1]** (Sem: 5-6)
HORT 368(4)**[1]**, HORT 466(5)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (2 credits)
Select at least 2 credits from ENT 313(2), ENT 314(1), HORT 238(3), PPATH 318(2) (Sem: 5-6)

MANAGEMENT OPTION: (14 credits)

PRESCRIBED COURSES (14 credits)
ENT 313(2), ENT 314(1), HORT 238(3)**[1]**, HORT 250(3)**[1]**, SOILS 401(3) (Sem: 7-8)
PPATH 318(2) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-000

Review Date: 02/23/2010

UCA Revision #1: 8/8/06

AG

Latin American Studies

University Park, College of the Liberal Arts (LATAM)

PROFESSOR MATTHEW RESTALL, *in charge*

This interdisciplinary major is designed for students who want a basic understanding of Latin America. The program is organized so that it may be combined with a second major or a minor subject.

For the B. A. degree in Latin American Studies, a minimum of 121 credits is required.

To view the Latin American Studies Minor (LATAM)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(9-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21-24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 40 credits**[1]**
(This includes 9-12 credits of General Education courses: 6 credits of GH courses; 3-6 credits of GS courses.)

PRESCRIBED COURSES (22 credits)
PORT 001(4), SPAN 200(3) (Sem: 1-4)
ANTH 045 GS;US;IL(3), HIST 178 GH;IL(3), HIST 179 GH;IL(3), SPAN 131 GH;US;IL(3) (Sem: 3-6)
PL SC 456(3) (Sem: 5-8)

ADDITIONAL COURSES (18 credits)
Select 18 credits from the following:
AAA S/SPAN 132 IL(3), AAA S 200 US(3), ANTH 008 GS;IL(3), ANTH 422(3), ANTH 440(3), CMLIT 405 US;IL(3), ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3)**[2]** (Sem: 3-8)
ECON 333 GS(3), ECON 433(3), HIST 467 US;IL(3), HIST 468 IL(3), PL SC 422(3), PL SC 442(3), PL SC 457(3-6), SPAN 300(3), SPAN 305(3), SPAN 410(3), SPAN 412(3), SPAN 472(3), SPAN 476(3) (Sem: 5-8)
PORT 002(4), PORT 003(4), PORT 405(3), PORT 456(3) (Sem: 1-8)

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[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] Choose only one course from ECON 002, ECON 004, or ECON 014.

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-01-079

Review Date: 9/2/03

Law and Society

University Park, College of the Liberal Arts (LAWSC): offered via World Campus

PROFESSOR JOHN L SELZER, *Head*

The bachelor of arts major in law and society is an interdisciplinary program of study intended for adult students who want to acquire a greater understanding of law and the legal systems of this country. Students will study legal principles and processes from different perspectives to gain an integrated understanding of the historical, philosophical, political, and social foundations of law. Students may enroll in this program to perform their jobs more effectively or to pursue additional educational, career, or personal goals. This program of study would prepare students to work competently within the legal system in a variety of public and private settings, to understand more fully the legal environment of the workplace, and to prepare for entry to law school.

For the B.A. degree in Law and Society, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-9 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in the ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in the ELECTIVES or GENERAL EDUCATION course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18-27 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 39 credits**[1]**

PRESCRIBED COURSES (15 credits)
CRIM 467/SOC 467(3), HIST 020 GH;US(3), HIST 021 GH;US(3), PHIL 105 GH(3), PL SC 110 GS;US(3), (Sem: 3-8)

ADDITIONAL COURSES (3 credits)
PHIL 010 GH(3) or PHIL 012 GQ(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 21 credits from one of the following areas
(At least 12 credits must be at the 400 level)
CAS 321(3), CAS 404(3), CRIM 100 GS(3), CRIM 113 US(3), LER 201 GS(3), LER 401(3), L ST 370(3), PL SC 001 GS(3), PL SC 470W(3), PL SC 471(3), PL SC 472(3) (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-04-024

Review Date: 1/13/09

UCA Revision #2: 7/27/07

LA

Letters, Arts, and Sciences

Abington College (LASAB)
Altoona College (LASAL)
Penn State Harrisburg (LASCA)
University College (LASCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of the Liberal Arts (LAS)
World Campus

Letters, Arts, and Sciences is a multi-disciplinary, theme-oriented, and student-designed major leading to a bachelor of arts degree. The major consists of 36 credits, divided into two sections. The core (12 credits) consists of 3 credits each in the following: research methods/projects; communication skills; theory/application; and critical analysis. The additional courses (24 credits) consist of courses directed toward the student's theme, 15 credits of which must be at the 400 level.

In order to be eligible for entrance to the major, the student must submit a proposal. In consultation with an LAS adviser, the student formulates a proposal designing a program that investigates a theme from the viewpoint of at least three different subject areas. Students may not duplicate existing majors from any academic area. An important standard for entrance to the Letters, Arts, and Sciences major is the student's ability to design a program with academic integrity worthy of a bachelor of arts degree.

For the B.A. degree in Letters, Arts, and Sciences, a minimum of 120 credits is required.

Early Admission Program for Professional Schools: If a student is accepted and enrolled as a degree candidate in a professional postgraduate degree program requiring three years or more to complete (such as medical school, dental school, law school, theological seminary, etc.) and if that student completes 94 undergraduate credits at Penn State including General Education, B.A. requirements, and the LAS 12-credit core requirements, that student may use up to 30 credits from the professional school to complete the B.A. in LAS.

It must be emphasized that only top students are accepted into professional school programs on such an early admission basis and that not every professional school has such a policy. Students must have enrolled in LAS prior to attending the professional school to request graduation in LAS.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

ADDITIONAL COURSES (24 credits)
In consultation with adviser, select 24 credits from University-wide offerings to include:
a) 12 credits at the 400 level representing at least three different subject areas;
b) a 3 credit 400-level capstone course (to be selected in consultation wtih adviser);
c) at least 9 credits (of the 24 total) from the humanities and social sciences. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 3 credits in research methods/projects from courses that involve research methodology or that focus on a research project; select 3 credits in communication skills from courses that focus on expression including those in verbal, symbolic, and written skills; select 3 credits in theory/application from courses that focus on theory, principle, central concepts, or fundamental issues; select 3 credits in critical analysis from courses that focus on evaluation, synthesis, and analysis. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-042

Review Date: 1/15/08

Reviewed by Publications: 06/23/06

LA

Letters, Arts, and Sciences

Abington College (LASAB)
Altoona College (LASAL)
Penn State Harrisburg (LASCA)
University College (LASCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of the Liberal Arts (LAS)
World Campus

Letters, Arts, and Sciences is a multi-disciplinary, theme-oriented, and student-designed major leading to a bachelor of arts degree. The major consists of 36 credits, divided into two sections. The core (12 credits) consists of 3 credits each in the following: research methods/projects; communication skills; theory/application; and critical analysis. The additional courses (24 credits) consist of courses directed toward the student's theme, 15 credits of which must be at the 400 level.

In order to be eligible for entrance to the major, the student must submit a proposal. In consultation with an LAS adviser, the student formulates a proposal designing a program that investigates a theme from the viewpoint of at least three different subject areas. Students may not duplicate existing majors from any academic area. An important standard for entrance to the Letters, Arts, and Sciences major is the student's ability to design a program with academic integrity worthy of a bachelor of arts degree.

For the B.A. degree in Letters, Arts, and Sciences, a minimum of 120 credits is required.

Early Admission Program for Professional Schools: If a student is accepted and enrolled as a degree candidate in a professional postgraduate degree program requiring three years or more to complete (such as medical school, dental school, law school, theological seminary, etc.) and if that student completes 94 undergraduate credits at Penn State including General Education, B.A. requirements, and the LAS 12-credit core requirements, that student may use up to 30 credits from the professional school to complete the B.A. in LAS.

It must be emphasized that only top students are accepted into professional school programs on such an early admission basis and that not every professional school has such a policy. Students must have enrolled in LAS prior to attending the professional school to request graduation in LAS.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

ADDITIONAL COURSES (24 credits)
In consultation with adviser, select 24 credits from University-wide offerings to include:
a) 12 credits at the 400 level representing at least three different subject areas;
b) a 3 credit 400-level capstone course (to be selected in consultation wtih adviser);
c) at least 9 credits (of the 24 total) from the humanities and social sciences. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 3 credits in research methods/projects from courses that involve research methodology or that focus on a research project; select 3 credits in communication skills from courses that focus on expression including those in verbal, symbolic, and written skills; select 3 credits in theory/application from courses that focus on theory, principle, central concepts, or fundamental issues; select 3 credits in critical analysis from courses that focus on evaluation, synthesis, and analysis. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-042

Review Date: 1/15/08

Letters, Arts, and Sciences

Abington College (LASAB)
Altoona College (LASAL)
Penn State Harrisburg (LASCA)
University College (LASCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of the Liberal Arts (LAS)
World Campus

Letters, Arts, and Sciences is a multi-disciplinary, theme-oriented, and student-designed major leading to a bachelor of arts degree. The major consists of 36 credits, divided into two sections. The core (12 credits) consists of 3 credits each in the following: research methods/projects; communication skills; theory/application; and critical analysis. The additional courses (24 credits) consist of courses directed toward the student's theme, 15 credits of which must be at the 400 level.

In order to be eligible for entrance to the major, the student must submit a proposal. In consultation with an LAS adviser, the student formulates a proposal designing a program that investigates a theme from the viewpoint of at least three different subject areas. Students may not duplicate existing majors from any academic area. An important standard for entrance to the Letters, Arts, and Sciences major is the student's ability to design a program with academic integrity worthy of a bachelor of arts degree.

For the B.A. degree in Letters, Arts, and Sciences, a minimum of 120 credits is required.

Early Admission Program for Professional Schools: If a student is accepted and enrolled as a degree candidate in a professional postgraduate degree program requiring three years or more to complete (such as medical school, dental school, law school, theological seminary, etc.) and if that student completes 94 undergraduate credits at Penn State including General Education, B.A. requirements, and the LAS 12-credit core requirements, that student may use up to 30 credits from the professional school to complete the B.A. in LAS.

It must be emphasized that only top students are accepted into professional school programs on such an early admission basis and that not every professional school has such a policy. Students must have enrolled in LAS prior to attending the professional school to request graduation in LAS.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

ADDITIONAL COURSES (24 credits)
In consultation with adviser, select 24 credits from University-wide offerings to include:
a) 12 credits at the 400 level representing at least three different subject areas;
b) a 3 credit 400-level capstone course (to be selected in consultation wtih adviser);
c) at least 9 credits (of the 24 total) from the humanities and social sciences. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 3 credits in research methods/projects from courses that involve research methodology or that focus on a research project; select 3 credits in communication skills from courses that focus on expression including those in verbal, symbolic, and written skills; select 3 credits in theory/application from courses that focus on theory, principle, central concepts, or fundamental issues; select 3 credits in critical analysis from courses that focus on evaluation, synthesis, and analysis. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-042

Review Date: 1/15/08

Reviewed by Publications: 06/23/06

LA

Letters, Arts, and Sciences

Abington College (LASAB)
Altoona College (LASAL)
Penn State Harrisburg (LASCA)
University College (LASCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of the Liberal Arts (LAS)
World Campus

Letters, Arts, and Sciences is a multi-disciplinary, theme-oriented, and student-designed major leading to a bachelor of arts degree. The major consists of 36 credits, divided into two sections. The core (12 credits) consists of 3 credits each in the following: research methods/projects; communication skills; theory/application; and critical analysis. The additional courses (24 credits) consist of courses directed toward the student's theme, 15 credits of which must be at the 400 level.

In order to be eligible for entrance to the major, the student must submit a proposal. In consultation with an LAS adviser, the student formulates a proposal designing a program that investigates a theme from the viewpoint of at least three different subject areas. Students may not duplicate existing majors from any academic area. An important standard for entrance to the Letters, Arts, and Sciences major is the student's ability to design a program with academic integrity worthy of a bachelor of arts degree.

For the B.A. degree in Letters, Arts, and Sciences, a minimum of 120 credits is required.

Early Admission Program for Professional Schools: If a student is accepted and enrolled as a degree candidate in a professional postgraduate degree program requiring three years or more to complete (such as medical school, dental school, law school, theological seminary, etc.) and if that student completes 94 undergraduate credits at Penn State including General Education, B.A. requirements, and the LAS 12-credit core requirements, that student may use up to 30 credits from the professional school to complete the B.A. in LAS.

It must be emphasized that only top students are accepted into professional school programs on such an early admission basis and that not every professional school has such a policy. Students must have enrolled in LAS prior to attending the professional school to request graduation in LAS.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

ADDITIONAL COURSES (24 credits)
In consultation with adviser, select 24 credits from University-wide offerings to include:
a) 12 credits at the 400 level representing at least three different subject areas;
b) a 3 credit 400-level capstone course (to be selected in consultation wtih adviser);
c) at least 9 credits (of the 24 total) from the humanities and social sciences. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 3 credits in research methods/projects from courses that involve research methodology or that focus on a research project; select 3 credits in communication skills from courses that focus on expression including those in verbal, symbolic, and written skills; select 3 credits in theory/application from courses that focus on theory, principle, central concepts, or fundamental issues; select 3 credits in critical analysis from courses that focus on evaluation, synthesis, and analysis. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-042

Review Date: 1/15/08

Reviewed by Publications: 06/23/06

LA

Letters, Arts, and Sciences

Abington College (LASAB)
Altoona College (LASAL)
Penn State Harrisburg (LASCA)
University College (LASCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of the Liberal Arts (LAS)
World Campus

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In order to be eligible for entrance to the major, the student must submit a proposal. In consultation with an LAS adviser, the student formulates a proposal designing a program that investigates a theme from the viewpoint of at least three different subject areas. Students may not duplicate existing majors from any academic area. An important standard for entrance to the Letters, Arts, and Sciences major is the student's ability to design a program with academic integrity worthy of a bachelor of arts degree.

For the B.A. degree in Letters, Arts, and Sciences, a minimum of 120 credits is required.

Early Admission Program for Professional Schools: If a student is accepted and enrolled as a degree candidate in a professional postgraduate degree program requiring three years or more to complete (such as medical school, dental school, law school, theological seminary, etc.) and if that student completes 94 undergraduate credits at Penn State including General Education, B.A. requirements, and the LAS 12-credit core requirements, that student may use up to 30 credits from the professional school to complete the B.A. in LAS.

It must be emphasized that only top students are accepted into professional school programs on such an early admission basis and that not every professional school has such a policy. Students must have enrolled in LAS prior to attending the professional school to request graduation in LAS.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

ADDITIONAL COURSES (24 credits)
In consultation with adviser, select 24 credits from University-wide offerings to include:
a) 12 credits at the 400 level representing at least three different subject areas;
b) a 3 credit 400-level capstone course (to be selected in consultation wtih adviser);
c) at least 9 credits (of the 24 total) from the humanities and social sciences. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
In consultation with adviser, select 3 credits in research methods/projects from courses that involve research methodology or that focus on a research project; select 3 credits in communication skills from courses that focus on expression including those in verbal, symbolic, and written skills; select 3 credits in theory/application from courses that focus on theory, principle, central concepts, or fundamental issues; select 3 credits in critical analysis from courses that focus on evaluation, synthesis, and analysis. (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-042

Review Date: 1/15/08

Reviewed by Publications: 06/23/06

LA

Liberal Arts and Earth and Mineral Sciences Concurrent Degree Program

Liberal Arts and Engineering Concurrent Degree Program

These programs require ten semesters of study, concurrently in the College of the Liberal Arts (during which the student completes 70 credits in General Education and Bachelor of Arts requirements and 33 to 37 basic engineering or science requirements), and in either the College of Earth and Mineral Sciences or the College of Engineering (during which the student completes the credits required in the selected major in Earth and Mineral Sciences or Engineering).

Upon completion of the program, the B.A. in General Arts and Sciences will be awarded by the College of the Liberal Arts and the B.S. by the College of Earth and Mineral Sciences or the College of Engineering. The majors available in the College of Earth and Mineral Sciences are Environmental Systems Engineering, Geosciences, Mining Engineering, Polymer Science, Mineral Economics, Petroleum and Natural Gas Engineering, Ceramic Science and Engineering, Metals Science and Engineering, or Meteorology. The majors available in the College of Engineering are Aerospace, Agricultural, Chemical, Civil, Electrical, Environmental, Industrial and Management Systems, Mechanical, or Nuclear Engineering, or Engineering Science.**[44]**

To be eligible for this program, a student must file an application for entrance with the associate dean for undergraduate studies, College of the Liberal Arts, not later than the third semester. Entrance to the program requires that the student satisfy all regular requirements of the College of the Liberal Arts and the College of Earth and Mineral Sciences or the College of Engineering. In addition, special requirements may need to be satisfied when enrollment controls are imposed on programs in any of the colleges because of space limitations. Once a student has met all the requirements for entrance to this program, transfer from the College of the Liberal Arts to the College of Earth and Mineral Sciences or the College of Engineering, with enrollment in one of the majors listed, will be approved automatically at the end of the sixth semester if the student continues to make normal progress toward the concurrent degree and has maintained a cumulative average of 2.00 or higher. Students entering majors in the College of Engineering must complete the following courses with a grade of C or higher: CHEM 110 GN(3) and CHEM 111 GN(1), MATH 140 GQ(4), MATH 141 GQ(4), and PHYS 201 GN(4), and meet the required cumulative grade-point average for the requested engineering major.

Students are advised of the absolute necessity for scheduling classes in exact sequence during the first six semesters of Concurrent Degree study. It is imperative that students obtain, from the Liberal Arts Undergraduate Studies Office, 101 Sparks Building, a copy of the Concurrent Degree requirements worksheet that enumerates the specific course requirements for the two programs for semesters one through six.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description for General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 12 credits

EARTH AND MINERAL SCIENCES OR ENGINEERING COMPONENT: 89-91 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses and 9 credits of GN courses.)

SEMESTERS ONE THROUGH SIX (33-34 credits)**[45]**

PRESCRIBED COURSES (27 credits)
CHEM 111 GN(1), CHEM 113 GN(1), MATH 220 GQ(2-3), MATH 230(4), MATH 250(3) (Sem: 1-4)
E G 010(1), E G 011(1) (Sem: 3-4)
PHYS 201 GN(4), PHYS 202 GN(4) (Sem: 3-6)
E MCH 211(3), E MCH 212(3) (Sem: 5-8)

ADDITIONAL COURSES (6-7 credits)
PHYS 203 GN(3) or PHYS 204 GN(4) (Sem: 3-6)
B.S. requirements**[46]**(3) (Sem: 5-6)

SEMESTERS SEVEN THROUGH TEN (56-57 credits)

Credits required in the selected major in Earth and Mineral Sciences or Engineering (56-57) (Sem: 7-10)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits from each of the following areas: arts, humanities, science/mathematics, social and behavioral sciences. (Sem: 9-10)

[44] Enrollment in the Engineering Science program is limited to those students attaining an average of B or higher during their first six semesters and to those specially chosen by the College of Engineering faculty on the basis of evidence that they will benefit from the advanced courses.
[45] Concurrent Degree candidates should consult the individual program requirements in the College of Engineering and the College of Earth and Mineral Sciences to ascertain which combinations of CHEM, E G, E MCH, MATH, and PHYS are required.
[46] Concurrent Degree candidates should select a course in this category appropriate for the requirements for their program in either Earth and Mineral Sciences or Engineering.

Last Revised by the Department: Summer Session 1991

Blue Sheet Item #: 16-10-030

Review Date: 5/22/08

UCA Revision #1: 8/8/06

Management

Penn State Erie, The Behrend College (MANGT)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The objective of the Management major is to prepare students for the basic tasks of management--the coordination of human, material, and financial resources to accomplish organizational goals. Two options are offered.

The General Management Option helps prepare students for careers in personnel administration or a variety of general management positions. This option emphasizes knowledge relating to managing human resources but students also can select supporting business courses in other disciplines to prepare themselves to become managers of small businesses or units of larger business organizations, frequently in retail or service businesses.

The Operations Management Option provides students with an opportunity to develop the quantitative skills necessary to design and operate today's complex management systems. This option emphasizes course work in forecasting, production and inventory planning control, logistics, purchasing, and materials management. Students also can select from a special supporting course concentration in analytical methods and manufacturing processes to better prepare themselves for careers in manufacturing organizations.

Entry to Major Requirements:
Entry to the Management major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in Management, a minimum of 122 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 91 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 58 credits

PRESCRIBED COURSES (43 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
FIN 301(3), LER 100 GS(3), MGMT 301(3), MGMT 331(3), MGMT 341 US(3), MGMT 350(3), MKTG 301(3), SCM 310(3) (Sem: 5-6)
MGMT 471W(3) (Sem: 7-8)

ADDITIONAL COURSES (15 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 3 credits from ECON 470(3), MGMT 461 IL(3), MKTG 445 IL(3), or other 400-level international business courses (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 33 credits

GENERAL MANAGEMENT OPTION: (33 credits)

ADDITIONAL COURSES (9 credits)
Select 9 credits from ECON 410(3), ECON 430(3), MGMT 420(3), or MGMT 440(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
Select 9 credits of 300- or 400-level courses from one business supporting course area (see school list of approved courses) (Sem: 5-8)
Select 15 credits from one of the following nonbusiness supporting course areas: international studies, education abroad, or foreign language (see school list of approved courses) (See the admission section in the general information section in the this bulletin for the placement policy for Penn State foreign language courses.) (Sem: 1-8)

OPERATIONS MANAGEMENT OPTION: (33 credits)

PRESCRIBED COURSES (12 credits)
ECON 481(3), SCM 445(3), SCM 455(3), SCM 460(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits of 300- or 400-level courses from one business supporting course area (see school list of approved courses) (Sem: 5-8)
Select 15 credits from one of the following nonbusiness supporting course areas: international studies, education abroad, foreign language, or analytical methods and manufacturing processes (see school list of approved courses) (See the admission section in the general information section in the this bulletin for the placement policy for Penn State foreign language courses.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-032

Review Date: 11/21/06

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

BD

Management

University Park, Smeal College of Business (MGMT)

PROFESSOR DENNIS GIOIA, *Chair, Department of Management and Organization*

This major provides students with knowledge and skills managers need to deal with contemporary management challenges, such as leading and motivating people of different ages and backgrounds, developing strategies for competing in the global economy, and balancing the interest of multiple stakeholders in a complex legal, political, and ethical environment. The management core provides a general overview of the knowledge and skills required for effectively managing people and organizations. Students then supplement that overview with either the human resources management concentration or the entrepreneurship concentration. Career opportunities are in management trainee positions, human resources, customer service, consulting, family business, and entrepreneurship.

Human Resources Management Concentration - The HRM concentration prepares students for a professional career in human resources management, and develops skills and expertises in areas such as planning, staffing, job design, employee development, performance management, compensation, change management, and managing diversity.

Entrepreneurship Concentration - The ENTR concentration provides students with broad knowledge about business start-ups in a global competitive environment. Students develop skills in conflict and resolution management, negotiations, moving technology from development to commercialization and defining new business ventures.

Entrance Requirement: To be eligible for entrance into the Management (MGMT) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 002 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); and MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. In addition to the above requirements, the Executive Vice President and Provost of the University may approve administrative enrollment controls that limit the number of students who are admitted to majors in the Smeal College of Business. In each case, however, academic requirements are established for admission. For information on enrollment controls, consult the Smeal College of Business Web site (http://www.smeal.psu.edu).

For the B.S. degree in Management, a minimum of 120 credits is required (at least 15 credits must be taken at the 400 level).

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

REQUIREMENTS FOR THE MAJOR: 73 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (46 credits)
ACCTG 211(4)**[1]**, ECON 002 GS(3), FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]** (Sem: 1-4)
B A 342(3), B A 411(3), B LAW 341(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3), SCM 301(3), MGMT 326(3)**[1]**, MGMT 451W(3)**[1]**, MGMT 471(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (17 credits)
MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-2)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)

Select 9 credits from one of the following two areas of concentration:

A. **Human Resources Management Concentration** (9 credits)
MGMT 341(3)**[1]** (Sem: 5-6)

Select six credits**[1]** from the following: MGMT 441(3), MGMT 443(3), MGMT 445(3) (Sem: 6-8)

B. **Entrepreneurship Concentration** (9 credits)
MGMT 461(3)**[1]**
Select six credits**[1]** from the following: MGMT 341(3), MGMT 420(3), MGMT 425(3), MGMT 426(3), MGMT 427(3) (Sem: 6-8)

SUPPORTING COURSES AND RELATED AREAS (10 credits)
Select 4 credits: Attainment of 12th-credit-level proficiency in a single foreign language. (4 credits) Proficiency must be demonstrated by either examination or course work (Sem: 1-4)
Select 6 credits of supporting coursework from an approved department list. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-042

Review Date: 04/13/2010

Dept head update: 6/9/05

BA

Management

Capital College (MNGMT)

PROFESSOR JOHN M. TRUSSEL, *Director of Undergraduate Studies, School of Business Administration*

This major provides students with the knowledge and skills managers need in today's dynamic business environments. Core management courses provide a general overview of key management competencies including effective leadership, team building, managing and motivating human resources, facilitating organizational change and learning, and fostering and applying organizational knowledge for competitive advantage. Students complement this general management foundation with a human resource management, entrepreneurship, supply chain management, or individualized concentration.

HUMAN RESOURCE MANAGEMENT CONCENTRATION: This concentration prepares students for a career in human resource management by developing skills and competencies in managing diversity and equal opportunity, ethical and fair treatment of employees, human resource planning and staffing, employee training and development, compensation and benefits, performance management, labor relations, and protecting employee safety and health. Students completing this concentration would be prepared to demonstrate their knowledge of the core principles of human resource practices and the application of those principles for potential certification as a Professional in Human Resources (PHR), Senior Professional in Human Resources (SPHR), or Global Professional in Human Resources (GPHR).

ENTREPRENEURSHIP CONCENTRATION: The Entrepreneurship concentration is designed to introduce undergraduate students to the process of new venture development. Topics covered in the concentration include business plan development, the nature of management in small business, and the role of creativity and innovation in the entrepreneurial process. Opportunities are provided for student participation in the development of an actual new business venture.

SUPPLY CHAIN MANAGEMENT CONCENTRATION: The Supply Chain Management concentration prepares students for a professional career in managing supply chain activities by developing knowledge, skills, and competencies in the areas of logistics, procurement, inventory, transportation, and warehouse management. Students learn analytical techniques including trade-off analysis, construction and evaluation of networks, and optimization methods. Emphasis is placed on attaining an in-depth understanding of both inter-functional and inter-firm collaboration, whereby supply chains become the basis of competitive advantage.

I**NDIVIDUALIZED CONCENTRATION:** The Individualized concentration is designed to provide students with a customized specialization that enables them to develop their own concentration in a management field of their choice. It allows flexibility in developing student knowledge and competencies in accordance with their personal, professional, and career interests.

Entry to Major Requirements:
Entry to the Management major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200 GQ(4); and a 2.00 or higher cumulative grade-point average. Additional information about this major is available in the office of the Director of Undergraduate Studies, School of Business Administration at Penn State Harrisburg.

For a B.S. degree in Management, a minimum of 120 credits is required. At least 50 percent of the business credit hours required for the degree must be taken at the Capital College. No more than 60 credits should be from business and business-related courses.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: Select 5-8 credits of non-business courses.

REQUIREMENTS FOR THE MAJOR: 79 credits
(This includes 10-12 credits of General Education Courses: 3 credits of GWS courses; 3 credits of GS courses; 4-6 credits of GQ courses.)

PRESCRIBED COURSES (46 credits)
ACCTG 211(4), MIS 204(3) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-4)
ENGL 202D GWS(3) (Sem: 3-4)
B A 364Y US;IL(3), B A 462(3)**[1]**, FIN 301(3), MGMT 301(3)**[1]**, MGMT 341(3)**[1]**, MGMT 433(3)**[1]**, MGMT 466(3)**[1]**, MIS 390(3), MKTG 301(3), SCM 310(3) (Sem: 5-8)

ADDITIONAL COURSES (21 credits)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 1-4)
Select 4 credits from MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)
Select 4 credits from SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-4)

Select 9 credits from one of the following four areas of concentration A, B, C, D:

A. HUMAN RESOURCE MANAGEMENT CONCENTRATION
MGMT 440(3)**[1]**, MGMT 450(3)**[1]** (Sem: 5-8)
Select 3 credits in MGMT **[1]** at the 300-400 level from department list in consultation with academic adviser (Sem: 5-8)

B. ENTREPRENEURSHIP CONCENTRATION
MGMT 431(3)**[1]**, MGMT 453(3)**[1]** (Sem: 5-8)
Select 3 credits in MGMT **[1]** at the 300-400 level from department list in consultation with academic adviser (Sem: 5-8)

C. SUPPLY CHAIN MANAGEMENT CONCENTRATION
SCM 320(3)**[1]**, SCM 445(3)**[1]** (Sem: 5-8)
Select 3 credits in SCM **[1]** or MGMT **[1]** at the 300-400 level from department list in consultation with academic adviser (Sem: 5-8)

D. INDIVIDUALIZED CONCENTRATION
Select 9 credits in MGMT **[1]** at the 300-400 level from department list in consultation with academic adviser (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from 200-400 level business courses from: ACCTG, B A, ECON, FIN, MIS, MGMT, MKTG, or SCM in consultation with an academic adviser and in support of the student's interests. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 35-06-219

Review Date: 4/10/07

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

CL

Management Information Systems

University Park, Smeal College of Business (M I S)

PROFESSOR JOHN E. TYWORTH, *Chair of the Department of Supply Chain and Information Systems*

Students in the M I S major learn about managing business information systems within organizations and spanning supply chain networks. The courses provide students with the depth and breadth to become effective managers of information systems that support core business processes. After receiving a thorough grounding in the core elements of business, students develop knowledge, skills, and abilities in programming, information resource management, managing the IT portfolio, business process re-engineering, and use of telecommunication and internet technologies to manage core business processes. Examples of career opportunities include IT manager, business process re-engineering specialist, business systems analyst, and business application developer.

Entrance Requirement: To be eligible for entrance into the Management Information Systems (M I S) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 002 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); and MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. In addition to the above requirements, the Executive Vice President and Provost of the University may approve administrative enrollment controls that limit the number of students who are admitted to majors in the Smeal College of Business. In each case, however, academic requirements are established for admission. For information on enrollment controls, consult the Smeal College of Business Web site (http://www.smeal.psu.edu).

For the B.S. degree in Management Information Systems, a minimum of 120 credits is required (at least 15 credits must be taken at the 400 level).

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in ELECTIVES or GENERAL EDUCATION selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

REQUIREMENTS FOR THE MAJOR: 73 credits
(This includes 12 credits of General Education: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (52 credits)
ACCTG 211(4)**[1]**, ECON 002 GS(3), FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]** (Sem: 1-4)
MIS 204(3)**[1]**, SCM 301(3) (Sem: 3-5)
B A 342(3), B A 411(3), B LAW 341(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 431(3)**[1]**, MIS 432(3)**[1]**, MIS 434(3)**[1]**, MIS 442(3)**[1],** MIS 479W(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (8 credits)
MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-2)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select 4 credits: Attainment of 12th-credit-level proficiency in a single foreign language. (4 credits) Proficiency must be demonstrated by either examination or course work. (Sem: 1-4)
Select 3 credits of related coursework. See department list (Sem: 5-8)
Select 6 credits of supporting coursework. See department list (Sem: 5-8)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-043

Review Date: 04/13/2010

UCA Revision #1: 8/9/06

Management Information Systems

Penn State Erie, The Behrend College (MISBD)

The MIS Major prepares students for typical IT-related jobs such as programmer/analyst, systems analyst, data analyst, database administrator, team leader, project manager, consultant, and MIS manager. Since the focus of such jobs is on the application of information technology to business problems and opportunities, the MIS curriculum integrates three main areas of study.

In the first area, students take core business courses in order to understand organizational processes and user requirements. In the second area, students take computer science courses in order to understand information technologies and to develop technical competencies. In the third area, students take core MIS courses in the areas of database management systems, systems analysis, and systems design and development where the focus is on learning tools, processes, and techniques required for successful application of information technology to business problems. These core courses are supplemented with a variety of electives and a required, and very useful, internship experience.

Entry to Major Requirements:
Entry to the Management Information Systems major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in Management Information Systems, a minimum of 120 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field, as well as in ACCTG 211, B A 243, ECON 002 GS, ECON 004 GS, MIS 204, and SCM 200 GQ.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-2 credits

REQUIREMENTS FOR THE MAJOR: 88-91 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (40 credits)
ACCTG 211(4)**[1]**, ECON 002 GS(3)**[1]**, ECON 004 GS(3)**[1]**, MIS 204(3)**[1]** (Sem: 3-4)
FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MIS 336(3)**[1]**, MIS 430(3)**[1]**, MKTG 301(3)**[1]**, SCM 310(3)**[1]** (Sem: 5-6)
MGMT 471W(3)**[1]**, MIS 435(3)**[1]**, MIS 495(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4)**[1]** or B A 241(2)**[1]** and B A 242(2)**[1]** (Sem: 3-4)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 3-4)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 3-4)
Select 3 credits from ECON 470 IL(3)**[1]**, ECON 473 IL(3)**[1]**, FIN 470(3)**[1]**, MGMT 461 IL(3)**[1]**, MKTG 455 IL(3)**[1]**, or other 400-level international business courses**[1]** (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (30-31 credits)
Select any combination of 6-7 credits from the non-business supporting course list for the major. (Sem: 1-8)
Select 9 credits in programming courses taken from two different languages (Sem: 3-8)
Select 6-7 credits**[1]** of 300- or 400-level courses in Computer Science, or MIS in consultation with adviser (see school list of approved courses) (Sem: 5-8)
Select 9-10 credits**[1]** from 300- or 400-level MIS, or other business supporting course areas (see school list of approved courses) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-027

Review Date: 4/10/07

UCA Revision #1: 8/20/06
UCA Revision #2: 7/27/07

Marketing

University Park, Smeal College of Business (MKTG)

PROFESSOR WILLIAM ROSS, *Chair of the Department of Marketing*

This major provides professional education leading to positions in business, government, and other organizations, and helps prepare the student for advanced study at the graduate level. Career opportunities are in marketing management, sales management, advertising, marketing research, retailing, public policy, and consumer affairs. In addition to following a planned course sequence in general marketing management, the students may elect course work that focuses on their interests in consumer or business-to-business marketing, physical goods or services marketing, and for-profit or not-for-profit marketing.

The Marketing major is designed to be integrated with the college's professional education in business and builds on that program and on education in the social sciences.

Entrance Requirement: To be eligible for entrance into the Marketing (MKTG) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 002 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); and MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. In addition to the above requirements, the Executive Vice President and Provost of the University may approve administrative enrollment controls that limit the number of students who are admitted to majors in the Smeal College of Business. In each case, however, academic requirements are established for admission. For information on enrollment controls, consult the Smeal College of Business Web site (http://www.smeal.psu.edu).

For the B.S. degree in Marketing, a minimum of 120 credits is required with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

REQUIREMENTS FOR THE MAJOR: 73 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (49 credits)
ACCTG 211(4)**[1]**, ECON 002 GS(3), FIN 301(3)**[1]**, MGMT 301(3)**[1]**, MKTG 301(3)**[1]** (Sem: 1-4)
B A 342(3), B A 411(3), B LAW 341(3), ECON 004 GS(3), ENGL 202D GWS(3), MIS 204(3), SCM 301(3), MKTG 330(3)**[1]**, MKTG 342(3)**[1]**, MKTG 445 IL(3)**[1],** MKTG 450W(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (14 credits)
MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-2)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)
Select 6 credits**[1]** from MKTG 422(3), MKTG 426(3), MKTG 428(3), MKTG 435(3), MKTG 437(3), MKTG 440(3) (Sem: 6-8)

SUPPORTING COURSES AND RELATED AREAS (10 credits)
Select 4 credits: Attainment of 12th credit level proficiency in a single foreign language. (4 credits) Proficiency must be demonstrated by either examination or course work (Sem: 1-4)
Select 6 credits of supporting course work. See Department List. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-044

Review Date: 04/13/2010

UCA Revision #1: 8/9/06

BA

Marketing

Capital College (MRKT)

PROFESSOR STEPHEN SCHAPPE, *Director of Undergraduate Studies, School of Business Administration*

This major is designed for students interested in careers involving sales, promotion, services, distribution, research, and planning for business and the public sector. The major provides students with key concepts and methods of analysis in marketing. It focuses on understanding customer needs, developing products or services, creating and implementing marketing plans, monitoring customer responses, and projecting marketing activities for the future.

Entry to Major Requirements:
Entry to the Marketing major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4); and a 2.00 or higher cumulative grade-point average. Additional information about this major is available in the office of the Director of Undergraduate Studies, School of Business at Penn State Harrisburg.

For the B.S. degree in Marketing, a minimum of 120 credits is required. At least 50 percent of the business credit hours required for the degree must be taken at the Capital College. No more than 60 credits should be from business and business-related courses.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(10-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: Select 6-7 credits of non-business courses.

REQUIREMENTS FOR THE MAJOR: 79 credits
(This includes 10-12 credits of General Education Courses: 3 credits of GWS courses; 3 credits of GS courses; 4-6 credits of GQ courses.)

PRESCRIBED COURSES (43 credits)
ACCTG 211(4), MIS 204(3) (Sem: 1-4)
ENGL 202D GWS(3), ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-4)
B A 364Y US;IL(3), B A 462(3), FIN 301(3), MIS 390(3), SCM 310(3) (Sem: 5-8)
MGMT 301(3), MKTG 342(3)**[1],** MKTG 450W(3)**[1]**, MKTG 497(3)**[1]**(Sem: 5-8)

ADDITIONAL COURSES (24 credits)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 1-4)
Select 4 credits from MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-4)
Select 4 credits from SCM 200(4) or STAT 200 GQ(4) (Sem: 1-4)
Select 12 credits **[1]** from the following: ECON 342(3), MKTG 302(3), MKTG 327(3), MKTG 330(3), MKTG 422(3), MKTG 445(3), MKTG 476(3), MKTG 478(3), MKTG 485(3), SCM 320(3), SCM 455(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from 200-400 level business courses from: ACCTG, B A, ECON, FIN, MIS, MGMT, or MKTG in consultation with an academic adviser and in support of the student's interests. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-117

Review Date: 11/21/06

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

CL

Marketing

Penn State Erie, The Behrend College (MRKTG)

The objective of the Marketing major is to provide professional education to students leading to careers in business, government, and non-profit organizations. Typically, graduates are employed in marketing management, sales management, retailing, marketing research, and brand management. The major provides a solid foundation in marketing practice, such as analyzing and understanding the needs and wants of present and potential customers, designing appropriate product offerings, establishing pricing policies, developing communication strategies, devising efficient distribution strategies, researching marketing data for the above functions, and coordinating marketing programs with other functional areas of business. Because of the tremendous growth in the service sector, the major emphasizes the marketing of services. Marketing majors may also choose from additional business courses that allow greater specialization on quantitative (marketing research) or management perspectives while the non-business supporting courses allow for additional study in written and oral communication, psychology, foreign language, quantitative methods, or international studies.

Entry to Major Requirements:
Entry to the Marketing major requires the completion of 8 entry-to-major courses: ACCTG 211(4); B A 243(4) or B A 241(2) and B A 242(2); ECON 002 GS(3), ECON 004 GS(3); ENGL 015 GWS(3) or ENGL 030 GWS(3); MATH 110 GQ(4) or MATH 140 GQ(4); MIS 204(3); STAT 200 GQ(4) or SCM 200(4), and a 2.00 or higher cumulative grade-point average.

For the B.S. degree in Marketing, a minimum of 120 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 2 credits

REQUIREMENTS FOR THE MAJOR: 88 credits
(This includes 15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (40 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3) (Sem: 3-4)
ENGL 202D GWS(3), MIS 204(3) (Sem: 3-4)
FIN 301(3), MGMT 301(3), MKTG 301(3), MKTG 330(3), MKTG 342(3), MKTG 440(3), SCM 310(3) (Sem:5-6)
MGMT 471W(3) (Sem: 7-8)

ADDITIONAL COURSES (27 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
B A 243(4) or B A 241(2) and B A 242(2) (Sem: 3-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 3 credits from: ECON 470 IL(3), FIN 407(3), MGMT 461 IL(3),
MKTG 445 IL(3), or other 400-level international business courses (Sem: 5-8)
Select 12 credits from: ECON 481(3), ECON 482(3), ECON 485(3), MIS 336(3),
MKTG 327(3), MKTG 410(3), MKTG 428(3), MKTG 494(1-12), MKTG 495(1-18), or MKTG 497(1-9), SCM 455(3) (with at least 6 credits from 400-level MKTG courses) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 18 credits from the following non-business supporting course areas (with at least 12 credits from the same area): education abroad, foreign language, international studies, psychology, quantitative methods, or written and oral communication (Sem: 1-8)

Select 3 credits of 300- or 400-level courses from one business supporting course area (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-034

Review Date: 11/21/06

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

BD

Materials Science and Engineering

University Park, College of Earth and Mineral Sciences (MATSE)

PROFESSOR GARY L. MESSING, *Head, Department of Materials Science and Engineering*
PROFESSOR R. ALLEN KIMEL, *Associate Head of Undergraduate Studies, Materials Science and Engineering*

The future can be appropriately termed the age of materials. In addition to the traditional engineering applications of metals, ceramics, semiconductors, and polymers, new materials and composites must be developed by materials scientists to aid progress in communications, computing, electronics, biomedicine, transportation, aerospace, defense, and the production and efficient use of energy.

Our curriculum is structured to support our Department mission of providing students with a well-rounded engineering education, with specific emphasis on materials science and engineering in order to meet the needs of industry, academia, and government; to conduct research at the frontiers of the field; and to provide an integrating and leadership role to the broad multi-disciplinary materials community.

The general objective of the undergraduate program is embedded in our mission statement. The Department expects its graduates will apply their knowledge of materials science to the synthesis, design, characterization, and engineering of new materials, and devices comprised of them, in industrial and laboratory settings. Our graduates will have the necessary skills and knowledge to excel in careers related to the entire life-cycle of materials, from raw materials production, to materials synthesis and processing, component design and development, manufacturing, use, reclamation, and recycling.

We expect that our graduates will practice in a wide range of materials-related positions, such as process and manufacturing engineers, technical sales representatives, quality control engineers, research engineers, metallurgists, ceramists, production and plant managers, consultants, etc. In addition, we expect that a substantial portion of our graduates will pursue graduate studies in technical and business-related disciplines, as well as participate in continuing education activities such as technical symposia, workshops, and short courses.

The educational objectives of the undergraduate program are embedded into our mission statement. We will provide and maintain a curriculum that will prepare our recent graduates to accomplish the following Program Educational Objectives:

1. Our graduates provide science and engineering leadership in international industrial, governmental, and academic settings, while serving both their profession and the public.
2. Our graduates are innovators in a wide variety of technical fields including, but not limited to, materials, energy, electronics, medicine, communications, transportation, and recreation.
3. Our graduates excel in careers related to the entire life cycle of materials, from synthesis and processing, through design and development, to manufacturing, performance, reclamation, and recycling.
4. Our graduates engage in lifelong learning activities which enhance their careers and provide flexibility to respond to changing professional and societal needs.

To achieve these objectives, students in Materials Sciences and Engineering begin with a background in basic chemistry, mathematics, and physics, which are the foundation for broad-based materials properties, processing, and applications courses. Commencing with their junior year, students take courses in Materials Science and Engineering and specialized courses in one of four options: Ceramic Science and Engineering, Electronic and Photonic Materials, Metals Science and Engineering, or Polymer Science and Engineering. The curricula integrate classroom instruction and laboratory experience, and culminate in a capstone research and design experience which is documented in the form of a thesis in the senior year.

The curricula for each of the options in Materials Science and Engineering are described in the following sections.

CERAMIC SCIENCE AND ENGINEERING OPTION

PROFESSOR DAVID J. GREEN, *Option Adviser*

This option covers the manufacture and usage of a wide variety of inorganic materials that usually include high temperatures. The program helps prepare students for operating, research, and development positions in all sections of the ceramic industry and for graduate studies. Graduates also find employment in many other industries that use ceramic materials, such as iron and steel, electrical and electronic, energy generation, automotive, aeronautical, and aerospace. Many find employment in industries that manufacture composite materials such as glass-ceramics, metal-ceramics, or glass-metal structures. The B.S. degree in this option is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410.347.7700 or www.abet.org(Opens New Window).

For the B.S. degree in Materials Science and Engineering with an option in Ceramic Science and Engineering, a minimum of 127 credits is required.

ELECTRONIC AND PHOTONIC MATERIALS OPTION

PROFESSOR SUZANNE E. MOHNEY, *Option Adviser*

This option provides specialized courses dealing with the processing, properties, and performance of semiconductor, optoelectronic, and optical materials and devices. The graduates contribute in the electronics, telecommunications, and computer industries or pursue advanced studies in materials science and engineering. The B.S. degree in this option is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410.347.7700 or www.abet.org (Opens New Window).

For the B.S. degree in Materials Science and Engineering with an option in Electronic and Photonic Materials, a minimum of 127 credits is required.

METALS SCIENCE AND ENGINEERING OPTION

PROFESSOR PAUL HOWELL, *Option Adviser*

The metals option provides an opportunity to explore a broad range of both scientific and engineering principles as applied to metals and alloys. A graduate of this option will thus typically apply basic concepts of chemistry, physics, or engineering science to problems concerning the processing or properties of metals. Although metallurgists are often employed by metals-producing industries, an increasingly large fraction are finding employment in a diverse group of industries that use metals, such as those in the electronics or aerospace fields. Many graduates pursue advanced studies. The B.S. degree in this option is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410.347.7700 or www.abet.org(Opens New Window).

For the B.S. degree in Materials Science and Engineering with an option in Metals Science and Engineering, a minimum of 127 credits is required.

POLYMER SCIENCE AND ENGINEERING OPTION

PROFESSOR PAUL PAINTER, *Option Adviser*

This option allows the student to establish a firm foundation in the basic sciences and to apply this knowledge to a study of the synthesis, structure, and physical properties of synthetic and natural polymers.

Polymers are a major class of materials consisting of macromolecules of very high molecular weight. Polymers are pervasive in today's technological society and find numerous applications in such diverse fields as plastics, elastomers (rubber), adhesives, surface coatings (paints), biomaterials, textiles, paper, packaging, and composite materials.

This option helps prepare graduates for research, development, and technical sales positions in numerous materials and chemical industries that either produce or utilize polymers; or to proceed to advanced studies in polymer science or related technical fields. The B.S. degree in this option is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410.347.7700 or www.abet.org (Opens New Window).

For the B.S. degree in Materials Science and Engineering with an option in Polymer Science and Engineering, a minimum of 127 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION 45 credits
(24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin. Note*: The Accreditation Board for Engineering and Technology (ABET) does not permit the use of skills courses to satisfy the Arts category of General Education.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 106 credits
(This includes 24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 9 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 66 credits

PRESCRIBED COURSES (**59 credits**)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), EM SC 100S GWS(3)**[71]**, ENGL 202C GWS(3), MATH 140 GQ(4), MATH 141 GQ(4), MATH 220 GQ(2-3), MATH 231(2), MATH 251(4), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 214 GN(2) (Sem: 1-4)
I E 424(3), MATSE 201(3)**[1],** MATSE 401(3)**[1]**, MATSE 436(3), MATSE 460(1), MATSE 462(1), MATSE 492W(3)**[1]**, MATSE 494W(2) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3), ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 40 credits

CERAMIC SCIENCE AND ENGINEERING OPTION: (40 credits)

PRESCRIBED COURSES (31 credits)
E MCH 211(3) (Sem: 4)
MATSE 400(3)**[1]**, MATSE 402(3)**[1]**, MATSE 410(3), MATSE 411(3), MATSE 412(3), MATSE 413(3), MATSE 417(3), MATSE 430(3), MATSE 435(3), MATSE 468(1) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical electives in consultation with adviser (Students may apply 6 credits of ROTC and/or 3 credits of Cooperative Education Experience (ENGR X95 or SC X95)) (Sem: 5-8)

ELECTRONIC AND PHOTONIC MATERIALS OPTION: (40 credits)

PRESCRIBED COURSES (28 credits)
E SC 314(3), E E 441(3), MATSE 400(3)**[1]**, MATSE 402(3)**[1]**, MATSE 417(3), MATSE 430(3)**[1]**, MATSE 435(3), MATSE 450(3), MATSE 455(3), MATSE 463(1) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
MATSE 413(3) or PHYS 237(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical electives in consultation with adviser (Students may apply 6 credits of ROTC and/or 3 credits of Cooperative Education Experience (ENGR X95 or SC X95)) (Sem: 5-8)

METALS SCIENCE AND ENGINEERING OPTION: (40 credits)

PRESCRIBED COURSES (34 credits)
E MCH 210(5) (Sem: 4)
MATSE 400(3), MATSE 402(3)**[1]**, MATSE 410(3)**[1]**, MATSE 417(3), MATSE 421(3), MATSE 422(3), MATSE 425(3), MATSE 426(3), MATSE 430(3) **[1]**, MATSE 471(1), MATSE 472(1) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of technical electives in consultation with advisor. At least 3 credits must be in MATSE and 3 credits must be in the engineering sciences. (Students may apply 6 credits of ROTC and/or 3 credits of Cooperative Education Experience (ENGR X95 or SC X95)) (Sem: 5-8)

POLYMER SCIENCE AND ENGINEERING OPTION: (40 credits)

PRESCRIBED COURSES (31 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
MATSE 441(3)**[1]**, MATSE 443(3)**[1]**, MATSE 444(3), MATSE 445(3)**[1]**, MATSE 446(3), MATSE 447(3), MATSE 448(3), MATSE 473(1), MATSE 474(1) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
MATSE 430(3)**[1]**, or a 400 level engineering technical elective (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of technical electives in consultation with advisor. At least 3 credits must be in MATSE and 3 credits in the engineering sciences. (Students may apply 6 credits to ROTC and/or 3 credits of Cooperative Education Experience (ENGR X95 or SC X95)) (Sem: 5-8)

Note: Engineering students are expected to take at least one sequence of humanities, social science, or arts courses of either 6 or 9 credits that culminates in a higher-level course. Humanities, arts, and social science courses should compose an integral part of the engineering program and not be limited to a selection of unrelated introductory courses. Close consultation with advisers on these issues is warranted.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-05-026

Review Date: 2/24/09

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

EM

Mathematical Sciences

Capital College (MA SC)

PROFESSOR THANG N. BUI, *Program Chair*

The two options and the variety of the course offerings provide concentrations in various areas such as actuarial science, management science/operation research, statistics, and preparation for graduate studies.

Small classes, excellent faculty, opportunities to work with faculty on projects, and strong employment prospects are just some of the strengths of the program. Students will be helped to develop: a solid foundation in mathematical studies; an awareness of the utility of mathematics, statistics, and computers; skills in translating practical problems into mathematical terms; a competency in the use of modern mathematical tools; problem-solving skills; and an awareness of the importance of mathematics in society.

The program is designed to prepare students for employment in business, industry, and government immediately after graduation, but graduate study in mathematics or related disciplines is also a viable alternative. Mathematical modeling is emphasized, and all students are required to take courses in statistics and computer science.

Entry to Major Requirements:
Entry to the Mathematical Sciences major requires that the student has completed: MATH 140 GQ(4), MATH 141 GQ(4). A 2.00 or higher cumulative grade-point average is required.

Entry to the Mathematical Sciences Secondary Education option requires a cumulative grade-point average of 3.0. Students must complete, with a grade of "C" or higher, six (6) credits of college-level mathematics, three (3) credits of college-level English literature, and three (3) credits of college-level English composition. Candidates must submit scores on the Praxis I Pre-Professional Skills Tests in Reading, Writing, and Mathematics. Candidates thinking seriously about education should plan their freshman and sophomore years carefully. Semesters 5 through 8 are very structured.

Selective Retention (Secondary Education Option):
Candidates will be required to submit their scores for the Praxis I examinations in Reading, Writing, and Mathematics prior to the end of their fifth semester. Candidates will be evaluated for retention in the program based on (1) maintaining a cumulative GPA of 3.0 or higher; (2) performance on the Praxis I tests; (3) satisfactory completion of required courses, including the field experience component; (4) adequate writing and speaking skills as demonstrated in various classroom assignments; and (5) a positive rating on the Penn State Harrisburg Professional Dispositions for Teacher Education Programs monitoring form.

For a B. S. degree in Mathematical Sciences, a minimum of 120 credits is required.
For a B. S. degree in Mathematical Sciences with the Secondary Education option, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(9 to 15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 84-91 credits
(This includes 9-15 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses. In addition, the Secondary Education option includes 3 credits of GH courses and 3 credits of GS courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 38 credits

PRESCRIBED COURSES (38 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
ENGL 202C GWS(3), MATH 220 GQ(2), (Sem: 4)
CMPSC 121 GQ(3), MATH 230(4) (Sem: 3)
MATH 315(3)**[1]**, MATH 430(3)**[1]**, MATH 475W US;IL(3) (Sem: 5)
MATH 312(3)**[1]**, STAT 301 GQ(3) (Sem: 6)
MATH 435(3) (Sem: 7)

REQUIREMENTS FOR THE OPTION: 46-53 credits

GENERAL MATHEMATICAL SCIENCES OPTION: (46 credits)

PRESCRIBED COURSES (13 credits)
MATH 251(4) (Sem: 4)
CMPSC 452(3)**[1]**(Sem: 6)
MATH 414(3), MATH 450(3) (Sem: 7)

SUPPORTING COURSES AND RELATED AREAS (33 credits)
Select 6 credits of 200 level or above courses. (Sem: 5-6)
Select 18 credits of 300-400 level Mathematics courses or SSET 295 in consultation with an academic adviser. Up to 6 of these credits may be replaced by any 200 or greater level CMPSC courses or CMPSC 122. (Sem: 5-8)

Select 9 credits of 300-400 level courses in consultation with an academic adviser and in support of the student's interests. (Sem: 5-8)

SECONDARY EDUCATION IN MATHEMATICAL SCIENCES OPTION: (53 credits)

PRESCRIBED COURSES (32 credits)
HD FS 239(3) (Sem: 1-4)
MATH 250(3) (Sem: 4)
EDUC 315W US(3)**[1]**, EDUC 417(3)**[1]**, MATH 427(3) (Sem: 6)
EDUC 313(2)**[1]**, EDUC 314(3)**[1]**, EDUC 490(12)**[2]** (Sem: 8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from MATH 425(3) or MATH 450(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 3 credits of English literature from department list. (Sem: 1-4)
Select 3 credits of 200 level or above courses. (Sem: 5-6)
Select 3 credits of 100-400 level courses (Sem: 5-8)
Select 9 credits of 300-400 level courses in Mathematics, Computer Science, Statistics, or Education. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] A minimum GPA of 3.00 in all previous work is required for admission to EDUC 490.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-05-022

Review Date: 2/24/09

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

CL

Mathematics

Altoona College (MTAAL)
University Park, Eberly College of Science (MTHBA)

PROFESSOR JOHN ROE, *Chair, Department of Mathematics*

Two degrees are offered in mathematics: the Bachelor of Arts and the Bachelor of Science. Both programs have a common core of mathematics courses; both programs prepare students for graduate work in mathematics. In addition, the Bachelor of Arts degree is oriented toward applications of mathematics in the arts, humanities, and social sciences. The Bachelor of Science degree has a number of options. These options are oriented toward actuarial science, applied analysis, computational mathematics, graduate study, systems analysis, and teaching.

Many of the options are designed for students who want to use mathematics in industry, commerce, or government. In short, the degree requirements have the flexibility to fit many individual interests. The student, with the assistance of a faculty adviser, should select an option by the end of the sophomore year.

In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.A. degree in Mathematics, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION or BACHELOR OF ARTS DEGREE REQUIREMENTS course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credit

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 56 credits
(This includes 6 credits of General Education GQ courses.)

PRESCRIBED COURSES (23-25 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2-3)**[1]**, MATH 230(4)**[1]**, MATH 311W(3-4)**[1]**, MATH 312(3)**[1]** (Sem: 1-4)
MATH 403(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (18-19 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3) or CMPSC 201 GQ(3) (Sem: 1-2)
MATH 250(3)**[1]** or MATH 251(4)**[1]** (Sem: 3-4)
MATH 435(3)**[1]** or MATH 436(3)**[1]** (Sem: 5-8)
Select 3 credits**[1]** from MATH 411(3), MATH 412(3), MATH 417(3), MATH 419(3), or MATH 421(3) (Sem: 5-8)
Select 6 credits**[1]** of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12-15 credits)
Select 13-15 credits from department list (Sem: 3-8)

Integrated B.A. in Mathematics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.A. in Mathematics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career oriented students to obtain training in statistics focused on developing data analysis skills, and exploration of core areas of applied statistics at the graduate levels in addition to an undergraduate degree in Mathematics. The M.A.S. degree is a professional masters degree that emphasizes applications. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts. Research divisions in the pharmaceutical industry, quality control, and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.A. in Mathematics and M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

- Must be enrolled in the Mathematics B.A. program.
- Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414 and STAT 415 and the students must apply to the integrated program prior to completing 110 credits.
- Must submit a transcript and a statement of purpose.
- Must present a departmental approved plan of study in the application process in consultation with the M.A.S. program director.
- Must be recommended by the chair of Mathematics Department's undergraduate program committee. Two additional recommendation letters must be sent to the M.A.S. admissions committee.
- Must submit the GRE to the M.A.S. admissions committee.
- Must apply to the M.A.S. program in Statistics.

For the IUG B.A. in Mathematics and M.A.S. degree, 120 credits are required for the B.A. and 30 credits for the M.A.S. The following twelve graduate level credits (number of credits in parentheses) can apply to both B.A. and M.A.S. degrees, six of these are at the 500 level: STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3).

Assuming all requirements for the B.A. in Mathematics are completed, students in the program can complete the B.A. degree and not advance to the M.A.S. degree if they desire.

Degree Requirements

IUG Math B.A. students must fulfill the Math B.A. requirement while counting these prescribed Statistics courses (15 credits)
STAT 220(3)*, STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3)

IUG M.A.S. Requirements (30 credits)
STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3), STAT 580(2) and STAT 581(1)**

Electives: (15 credits)
Select from STAT 464(3), STAT 503(3), STAT 504(3), STAT 505(3), STAT 506(3), STAT 507(3), STAT 508(3), STAT 509(3), STAT 510(3) and the departmental list of additional courses for the M.A.S. program with the approval of the adviser.

For the IUG B.A. in Mathematics and M.A.S. degree, the four courses: STAT 414(3), STAT 415(3), STAT 501(3) and STAT 502(3) can apply to both the B.A. and M.A.S. degrees.

*Can be waived for students with an equivalent course, e.g. STAT 250 GQ(3) or STAT 301 GQ(3).

** For all students in the M.A.S. program, the STAT 581(1) course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-088

Review Date: 2/26/08

UCA Revision #1: 8/18/06
UCA Revision #2: 7/30/07

SC

Mathematics

Altoona College (MTAAL)
University Park, Eberly College of Science (MTHBA)

PROFESSOR JOHN ROE, *Chair, Department of Mathematics*

Two degrees are offered in mathematics: the Bachelor of Arts and the Bachelor of Science. Both programs have a common core of mathematics courses; both programs prepare students for graduate work in mathematics. In addition, the Bachelor of Arts degree is oriented toward applications of mathematics in the arts, humanities, and social sciences. The Bachelor of Science degree has a number of options. These options are oriented toward actuarial science, applied analysis, computational mathematics, graduate study, systems analysis, and teaching.

Many of the options are designed for students who want to use mathematics in industry, commerce, or government. In short, the degree requirements have the flexibility to fit many individual interests. The student, with the assistance of a faculty adviser, should select an option by the end of the sophomore year.

In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.A. degree in Mathematics, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION or BACHELOR OF ARTS DEGREE REQUIREMENTS course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credit

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 56 credits
(This includes 6 credits of General Education GQ courses.)

PRESCRIBED COURSES (23-25 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2-3)**[1]**, MATH 230(4)**[1]**, MATH 311W(3-4)**[1]**, MATH 312(3)**[1]** (Sem: 1-4)
MATH 403(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (18-19 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3) or CMPSC 201 GQ(3) (Sem: 1-2)
MATH 250(3)**[1]** or MATH 251(4)**[1]** (Sem: 3-4)
MATH 435(3)**[1]** or MATH 436(3)**[1]** (Sem: 5-8)
Select 3 credits**[1]** from MATH 411(3), MATH 412(3), MATH 417(3), MATH 419(3), or MATH 421(3) (Sem: 5-8)
Select 6 credits**[1]** of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12-15 credits)
Select 13-15 credits from department list (Sem: 3-8)

Integrated B.A. in Mathematics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.A. in Mathematics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career oriented students to obtain training in statistics focused on developing data analysis skills, and exploration of core areas of applied statistics at the graduate levels in addition to an undergraduate degree in Mathematics. The M.A.S. degree is a professional masters degree that emphasizes applications. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts. Research divisions in the pharmaceutical industry, quality control, and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.A. in Mathematics and M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

- Must be enrolled in the Mathematics B.A. program.
- Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414 and STAT 415 and the students must apply to the integrated program prior to completing 110 credits.
- Must submit a transcript and a statement of purpose.
- Must present a departmental approved plan of study in the application process in consultation with the M.A.S. program director.
- Must be recommended by the chair of Mathematics Department's undergraduate program committee. Two additional recommendation letters must be sent to the M.A.S. admissions committee.
- Must submit the GRE to the M.A.S. admissions committee.
- Must apply to the M.A.S. program in Statistics.

For the IUG B.A. in Mathematics and M.A.S. degree, 120 credits are required for the B.A. and 30 credits for the M.A.S. The following twelve graduate level credits (number of credits in parentheses) can apply to both B.A. and M.A.S. degrees, six of these are at the 500 level: STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3).

Assuming all requirements for the B.A. in Mathematics are completed, students in the program can complete the B.A. degree and not advance to the M.A.S. degree if they desire.

Degree Requirements

IUG Math B.A. students must fulfill the Math B.A. requirement while counting these prescribed Statistics courses (15 credits)
STAT 220(3)*, STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3)

IUG M.A.S. Requirements (30 credits)
STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3), STAT 580(2) and STAT 581(1)**

Electives: (15 credits)
Select from STAT 464(3), STAT 503(3), STAT 504(3), STAT 505(3), STAT 506(3), STAT 507(3), STAT 508(3), STAT 509(3), STAT 510(3) and the departmental list of additional courses for the M.A.S. program with the approval of the adviser.

For the IUG B.A. in Mathematics and M.A.S. degree, the four courses: STAT 414(3), STAT 415(3), STAT 501(3) and STAT 502(3) can apply to both the B.A. and M.A.S. degrees.

*Can be waived for students with an equivalent course, e.g. STAT 250 GQ(3) or STAT 301 GQ(3).

** For all students in the M.A.S. program, the STAT 581(1) course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-088

Review Date: 2/26/08

UCA Revision #1: 8/18/06
UCA Revision #2: 7/30/07

SC

Mathematics

Penn State Erie, The Behrend College (MTHBD)

PROFESSOR ROGER F. KNACKE, *in charge*

This major builds a foundation in mathematics with emphasis on the applications of mathematics and to the development of problem-solving skills. The major has five options that share a common core of mathematics courses for the first two years. The options are Applied Mathematics, Business, Computer Science, Graduate Study, and Mathematics Education Pre-Certification. They allow students to concentrate on developing mathematical skills suitable either for entry level positions in areas including applied mathematics, actuarial sciences, statistics, computer programming, and education, or for graduate studies in mathematics and related fields. Students, with the assistance of a faculty adviser, should select an option in their sophomore year. In addition, students are strongly encouraged to participate in faculty supervised research.

Entrance to Major Requirements
In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.S. degree in Mathematics, a minimum of 120 credits is required. A student enrolled in this major must earn at least a grade of C in each 300- and 400-level course in the major.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this *bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR or in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-11 credits

REQUIREMENTS FOR THE MAJOR: 85-92 credits
(This includes 18-24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 0-6 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 49 credits

PRESCRIBED COURSES (40 credits)
CMPSC 121 GQ(3)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
CMPSC 122 GQ(3)**[1]**, MATH 311W(4)**[1]** (Sem: 3-4)
STAT 301(3)**[1]** (Sem: 3-6)
MATH 220 GQ(2)**[1]**, MATH 230(4)**[1]**, MATH 251(4)**[1]** (Sem: 3-8)
ENGL 202C GWS(3) (Sem: 5-6)
MATH 312(3)**[1]**, STAT 401(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
Select 8 credits in one of the following sequences:
a. BIOL 110 GN(4), BIOL 220W GN(4)(Sem: 1-4)
b. CHEM 110 GN(3), CHEM 111 GN(l), CHEM 112 GN(3), CHEM 113 GN(l) (Sem: 1-4)
c. PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 1-4)
d. PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 1-4)
Select 1 additional credit of a GN designated course.

REQUIREMENTS FOR THE OPTION: 36-43 credits**[1]**

APPLIED MATHEMATICS OPTION: (36 credits)**[1]**

ADDITIONAL COURSES (27 credits)
Select 15 credits from MATH 310(3), MATH 403(3), MATH 412(3), MATH 449(3), MATH 455(3), MATH 456(3), MATH 482(3), STAT 414(3), STAT 461(3), STAT 462(3), and STAT 464(3) (Sem: 5-8)
Select 6 credits from: CMPSC 221(3), CMPSC 312(3), CMPSC 335(3), CMPSC 431(3), CMPSC 458(3), CMPSC 474(3), MATH 455(3), MATH 456(3) (Sem: 3-8)
Select 6 credits from MATH 421(3), MATH 427(3), MATH 429(3), MATH 435(3), MATH 436(3), MATH 465(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from a school-approved list (Sem: 3-8)

BUSINESS OPTION: (43 credits)**[1]**
(A maximum of 30 credits through the School of Business may be used to fulfill this requirement. This includes all courses

taken for General Education, prescribed, additional, supporting and related areas, and electives.)

PRESCRIBED COURSES (13 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-6)
MIS 204(3) (Sem: 3-6)

ADDITIONAL COURSES (24 credits)
Select 6 credits from ECON 481(3), ECON 485(3), FNC 300(3), FNC 400(3), FNC 410(3), MGMT 301(3), MGMT 331(3), MGMT 341(3), MKTG 301(3), SCM 310(3) (Sem: 3-8)
Select 6 credits from CMPSC 221(3), CMPSC 312(3), CMPSC 335(3), CMPSC 431(3), CMPSC 458(3), CMPSC 474(3) (Sem: 3-8)
Select 6 credits from MATH 482(3), MIS 336(3), MIS 430(3), MIS 435(3), MIS 440(3), MIS 445(3) with MIS 497B(1), STAT 461(3), STAT 462(3) (Sem: 3-8)
Select 6 credits from MATH 403(3), MATH 421(3), MATH 427(3), MATH 429(3), MATH 435(3), MATH 436(3), MATH 465(3), MATH 482(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from a school-approved list (Sem: 3-8)

COMPUTER SCIENCE OPTION: (36 credits)**[1]**

PRESCRIBED COURSES (12 credits)
CMPSC 221(3), CMPSC 312(3) (Sem: 3-6)
CMPSC 455(3), CMPSC 465(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits from CMPSC courses at the 300- and 400-level (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from a school-approved list (Sem: 3-8)

GRADUATE STUDY OPTION: (36 credits)**[1]**

ADDITIONAL COURSES (27 credits)
Select 18 credits from MATH 310(3), MATH 412(3), MATH 421(3), MATH 427(3), MATH 429(3), MATH 435(3), MATH 436(3), MATH 441(3), MATH 455(3), MATH 456(3), MATH 465(3), STAT 414(3), STAT 461(3), STAT 462(3) (Sem: 3-8)
Select 9 credits from MATH 403(3), MATH 421(3), MATH 429(3), MATH 435(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from a school-approved list (Sem: 3-8)

MATHEMATICS EDUCTION PRE-CERTIFICATION OPTION: (43 credits)**[1]**
(This option is designed especially for students who are interested in pursuing further studies with emphasis on education, or plan to enter a teacher certificate program. Current affiliation is with Mercyhurst College, Erie, PA.)

PRESCRIBED COURSES (10 credits)
PSYCH 100 GS(3) (Sem 3-8)
MATH 427(3), MATH 428(1), MATH 455(3) (Sem: 5-8)

ADDITIONAL COURSES (24 credits)
Select 15 credits from ECON 485(3), MATH 310(3),MATH 403(3), MATH 412(3), MATH 421(3), MATH 429(3), MATH 435(3), MATH 436(3), MATH 449(3), MATH 456(3), MATH 465(3), MATH 482(3), STAT 414(3), STAT 461(3), STAT 462(3) (Sem: 3-8)

Select 6 credits from CMPSC 102(3), CMPSC 221(3), CMPSC 302(3), CMPSC 312(3), CMPSC 335(3), CMPSC 431(3), CMPSC 458(3), CMPSC 474(3) (Sem: 3-8)
Select 3 credits from PSYCH 212 GS(3), HD FS 129 GS(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from a school-approved list (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-02-015

Review Date: 10/7/08

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

BD

Mathematics

Altoona College (MTSAL)
University Park, Eberly College of Science (MTHBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JOHN ROE, *Chair, Department of Mathematics*

Two degrees are offered in mathematics: the Bachelor of Arts and the Bachelor of Science. Both programs have a common core of mathematics courses; both programs prepare students for graduate work in mathematics. In addition, the Bachelor of Arts degree is oriented toward applications of mathematics in the arts, humanities, and social sciences. The Bachelor of Science degree has a number of options. These options are oriented toward actuarial science, applied analysis, computational mathematics, graduate study, systems analysis, and teaching.

Many of the options are designed for students who want to use mathematics in industry, commerce, or government. In short, the degree requirements have the flexibility to fit many individual interests. The student, with the assistance of a faculty adviser, should select an option by the end of the sophomore year.

In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.S. degree in Mathematics, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credit

REQUIREMENTS FOR THE MAJOR: 80-90 credits
(This includes 6-12 credits of General Education courses: 6 credits of GQ courses. In addition, the Teacher Certification option includes 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 26-28 credits

PRESCRIBED COURSES (20-21 credits)
MATH 140 GQ(4)**[1][53]**, MATH 141 GQ(4)**[1][53]** (Sem: 1-4)
MATH 220 GQ(2)**[1][53]**, MATH 230(4)**[1]**, MATH 311W(3-4)**[1]**, MATH 312(3)**[1]** (Sem: 3-4)

ADDITIONAL COURSES (6-7 credits)**[53]**
CMPSC 101 GQ(3)**[53]** or CMPSC 121 GQ(3)**[53]** or CMPSC 201 GQ(3)**[53]**(Sem: 1-2)
MATH 250(3)**[1]** or MATH 251(4)**[1]** (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 52-62 credits

ACTUARIAL MATHEMATICS OPTION: (52-54 credits)

PRESCRIBED COURSES (33 credits)
I E 425(3), INS 301(3), INS 410(3), INS 411(3), INS 412(3), MATH 414(3)**[1]**, MATH 415(3)**[1]**, MATH 416(3)**[1]**, MATH 451(3)**[1]**, MATH 484(3)**[1]**, STAT 460(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)**[1]**
Select 3 credits from 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (16-18 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 8-10 credits from department list (Sem: 1-8)

APPLIED ANALYSIS OPTION: (52-54 credits)

PRESCRIBED COURSES (9 credits)**[1]**
MATH 403(3), MATH 421(3), MATH 436(3) (Sem: 5-8)

ADDITIONAL COURSES (17 credits)**[1]**
MATH 414(3) or MATH 418(3) (Sem: 5-8)
Select 6 credits from MATH 411(3), MATH 412(3), or MATH 417(3) (Sem: 5-8)
Select one of the following sequences (8 credits): (Sem: 1-4)
a. BIOL 110 GN(4), BIOL 220W GN(4)
b. CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1)
c. PHYS 211 GN(4), PHYS 212 GN(4)

SUPPORTING COURSES AND RELATED AREAS (26-28 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in an area of application; possible areas include engineering and the physical, earth, or biological sciences (Sem: 1-8)
Select 6-8 credits from department list (Sem: 1-8)

COMPUTATIONAL MATHEMATICS OPTION: (52-54 credits)

PRESCRIBED COURSES (21 credits)
CMPSC 122(3) (Sem: 3-4)
CMPSC 465(3), MATH 414(3)**[1]**, MATH 415(3)**[1]**, MATH 455(3)**[1]**, MATH 456(3)**[1]**, MATH 484(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (12 credits)**[1]**
MATH 467(3) or MATH 469(3) (Sem: 5-8)
Select 3 credits from MATH 411(3), MATH 412(3), or MATH 417(3) (Sem: 5-8)
Select 6 credits from CMPSC 468(3), MATH 310(3), MATH 459(3), MATH 468(3), MATH 483(3), or MATH 485(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (19-21 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 11-13 credits from department list (Sem: 1-8)

GENERAL MATHEMATICS OPTION: (52-54 credits)

PRESCRIBED COURSE (3 credits)**[1]**
MATH 403(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)**[1]**
MATH 414(3) or MATH 418(3); MATH 435(3) or MATH 436(3) (Sem: 5-8)
Select 3 credits from MATH 411(3), MATH 412(3), MATH 417(3), MATH 419(3), or MATH 421(3) (Sem: 5-8)
Select 6 credits of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (34-36 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in MATH or a related area or an area of application (Sem: 1-8)
Select 14-16 credits from department list (Sem: 1-8)

GRADUATE STUDY OPTION: (52-54 credits)

PRESCRIBED COURSES (18 credits)**[1]**
MATH 403(3), MATH 404(3), MATH 421(3), MATH 429(3), MATH 435(3), MATH 436(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)**[1]**
MATH 414(3) or MATH 418(3) (Sem: 5-8)
Select 9 credits of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (22-24 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 14-16 credits from department list (Sem: 1-8)

SYSTEMS ANALYSIS OPTION: (52-54 credits)

PRESCRIBED COURSES (12 credits)**[1]**
MATH 414(3), MATH 415(3), MATH 436(3), MATH 484(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)**[1]**
Select 6 credits from MATH 310(3), MATH 451(3), MATH 485(3), or MATH 486(3) (Sem: 5-8)
Select 3 credits from 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (31-33 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)

Select an approved sequence of 12 credits in an area of application; possible areas include business, economics, industrial engineering, social sciences (Sem: 1-8)
Select 11-13 credits from department list (Sem: 1-8)

TEACHER CERTIFICATION OPTION: (62 credits)**[54]**
This option helps prepare individuals for mathematics education teaching positions in secondary schools. It includes the academic requirements for the Mathematics Education Instructional I certificate issued by the Pennsylvania Department of Education (see also Teacher Education Programs).

PRESCRIBED COURSES (53 credits)
EDPSY 014(3)**[53]**, EDTHP 115 US(3) (Sem: 1-2)
HD FS 239 GS(3)**[53]**, PSYCH 100 GS(3) (Sem: 1-2, 5-6)
C I 295(2)**[53]**, C I 412W(3)**[53]**, C I 495C(3)**[53][56]**, C I 495E(15)**[53]**, MATH 427(3)**[1]**, MATH 435(3)**[1]**, MATH 436(3)**[1]**, MTHED 411(3)**[53]**, MTHED 412W(3)**[53]**, MTHED 427(3)**[53]** (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
MATH 310**[1]** or MATH 483(3)**[1]**; MATH 414(3)**[1]** or MATH 418(3)**[1]** (Sem: 3-8)
Select 3 credits from 400-level EDTHP courses**[53]** (Sem: 3-8)

Integrated B.S. in Mathematics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.S. in Mathematics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career oriented students to obtain training in statistics focused on developing data analysis skills, and exploration of core areas of applied statistics at the graduate levels in addition to an undergraduate degree in Mathematics. The M.A.S. degree is a professional masters degree that emphasizes applications. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts. Research divisions in the pharmaceutical industry, quality control, and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.S. in Mathematics and M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

- Must be enrolled in the Mathematics B.S. program.
- Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414 and STAT 415 and the students must apply to the integrated program prior to completing 110 credits.
- Must submit a transcript and a statement of purpose.
- Must present a departmental approved plan of study in the application process in consultation with the M.A.S. program director.
- Must be recommended by the chair of Mathematics Department's undergraduate program committee. Two additional recommendation letters must be sent to the M.A.S. admissions committee.
- Must submit the GRE to the M.A.S. admissions committee.
- Must apply to the M.A.S. program in Statistics.

For the IUG B.S. in Mathematics and M.A.S. degree, 120 credits are required for the B.S. and 30 credits for the M.A.S. The following twelve graduate level credits (number of credits in parentheses) can apply to both B.S. and M.A.S. degrees, six of these are at the 500 level: STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3).

Assuming all requirements for the B.S. in Mathematics are completed, students in the program can complete the B.S. degree and not advance to the M.A.S. degree if they desire.

Degree Requirements

IUG Math B.S. students must fulfill the Math B.S. requirement while counting these prescribed Statistics courses (15 credits) STAT 220(3)*, STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3)

IUG M.A.S. Requirements (30 credits)
STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3), STAT 580(2) and STAT 581(1)**

Electives: (15 credits)
Select from STAT 464(3), STAT 503(3), STAT 504(3), STAT 505(3), STAT 506(3), STAT 507(3), STAT 508(3), STAT 509(3), STAT 510(3) and the departmental list of additional courses for the M.A.S. program with the approval of the adviser.

For the IUG B.S. in Mathematics and M.A.S. degree, the four courses: STAT 414(3), STAT 415(3), STAT 501(3) and STAT 502(3) can apply to both the B.S. and M.A.S. degrees.

*Can be waived for students with an equivalent course, e.g. STAT 250 GQ(3)or STAT 301 GQ(3).

** For all students in the M.A.S. program, the STAT 581(1) course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[53] A grade of C or better per course is required for teacher certification.
[54] Mathematics majors who wish to teach in public schools must schedule the teacher certification requirements prescribed by the College of Education as shown on this page. In addition, they must file an application in the Certification and Education Services Office, 181 Chambers Building, prior to the end of the second semester. At that time, they will be assigned an adviser in the College of Education to help them schedule the appropriate professional course work.
[56] Offered only for Satisfactory/Unsatisfactory grading.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-089

Review Date: 2/26/08

UCA Revision #1: 8/16/06
UCA Revision #2: 7/30/07

SC

Mathematics

Altoona College (MTSAL)
University Park, Eberly College of Science (MTHBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JOHN ROE, *Chair, Department of Mathematics*

Two degrees are offered in mathematics: the Bachelor of Arts and the Bachelor of Science. Both programs have a common core of mathematics courses; both programs prepare students for graduate work in mathematics. In addition, the Bachelor of Arts degree is oriented toward applications of mathematics in the arts, humanities, and social sciences. The Bachelor of Science degree has a number of options. These options are oriented toward actuarial science, applied analysis, computational mathematics, graduate study, systems analysis, and teaching.

Many of the options are designed for students who want to use mathematics in industry, commerce, or government. In short, the degree requirements have the flexibility to fit many individual interests. The student, with the assistance of a faculty adviser, should select an option by the end of the sophomore year.

In order to be eligible for entrance to the Mathematics major, a student must have: 1) attained at least a 2.00 cumulative grade point average; and 2) completed MATH 140 GQ(4) and MATH 141 GQ(4) and earned a grade of C or better in each of these courses.

For the B.S. degree in Mathematics, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credit

REQUIREMENTS FOR THE MAJOR: 80-90 credits
(This includes 6-12 credits of General Education courses: 6 credits of GQ courses. In addition, the Teacher Certification option includes 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 26-28 credits

PRESCRIBED COURSES (20-21 credits)
MATH 140 GQ(4)**[1][53]**, MATH 141 GQ(4)**[1][53]** (Sem: 1-4)
MATH 220 GQ(2)**[1][53]**, MATH 230(4)**[1]**, MATH 311W(3-4)**[1]**, MATH 312(3)**[1]** (Sem: 3-4)

ADDITIONAL COURSES (6-7 credits)**[53]**
CMPSC 101 GQ(3)**[53]** or CMPSC 121 GQ(3)**[53]** or CMPSC 201 GQ(3)**[53]**(Sem: 1-2)
MATH 250(3)**[1]** or MATH 251(4)**[1]** (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 52-62 credits

ACTUARIAL MATHEMATICS OPTION: (52-54 credits)

PRESCRIBED COURSES (33 credits)
I E 425(3), INS 301(3), INS 410(3), INS 411(3), INS 412(3), MATH 414(3)**[1]**, MATH 415(3)**[1]**, MATH 416(3)**[1]**, MATH 451(3)**[1]**, MATH 484(3)**[1]**, STAT 460(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)**[1]**
Select 3 credits from 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (16-18 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 8-10 credits from department list (Sem: 1-8)

APPLIED ANALYSIS OPTION: (52-54 credits)

PRESCRIBED COURSES (9 credits)**[1]**
MATH 403(3), MATH 421(3), MATH 436(3) (Sem: 5-8)

ADDITIONAL COURSES (17 credits)**[1]**
MATH 414(3) or MATH 418(3) (Sem: 5-8)
Select 6 credits from MATH 411(3), MATH 412(3), or MATH 417(3) (Sem: 5-8)
Select one of the following sequences (8 credits): (Sem: 1-4)
a. BIOL 110 GN(4), BIOL 220W GN(4)
b. CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1)
c. PHYS 211 GN(4), PHYS 212 GN(4)

SUPPORTING COURSES AND RELATED AREAS (26-28 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in an area of application; possible areas include engineering and the physical, earth, or biological sciences (Sem: 1-8)
Select 6-8 credits from department list (Sem: 1-8)

COMPUTATIONAL MATHEMATICS OPTION: (52-54 credits)

PRESCRIBED COURSES (21 credits)
CMPSC 122(3) (Sem: 3-4)
CMPSC 465(3), MATH 414(3)**[1]**, MATH 415(3)**[1]**, MATH 455(3)**[1]**, MATH 456(3)**[1]**, MATH 484(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (12 credits)**[1]**
MATH 467(3) or MATH 469(3) (Sem: 5-8)
Select 3 credits from MATH 411(3), MATH 412(3), or MATH 417(3) (Sem: 5-8)
Select 6 credits from CMPSC 468(3), MATH 310(3), MATH 459(3), MATH 468(3), MATH 483(3), or MATH 485(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (19-21 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 11-13 credits from department list (Sem: 1-8)

GENERAL MATHEMATICS OPTION: (52-54 credits)

PRESCRIBED COURSE (3 credits)**[1]**
MATH 403(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)**[1]**
MATH 414(3) or MATH 418(3); MATH 435(3) or MATH 436(3) (Sem: 5-8)
Select 3 credits from MATH 411(3), MATH 412(3), MATH 417(3), MATH 419(3), or MATH 421(3) (Sem: 5-8)
Select 6 credits of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (34-36 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select an approved sequence of 12 credits in MATH or a related area or an area of application (Sem: 1-8)
Select 14-16 credits from department list (Sem: 1-8)

GRADUATE STUDY OPTION: (52-54 credits)

PRESCRIBED COURSES (18 credits)**[1]**
MATH 403(3), MATH 404(3), MATH 421(3), MATH 429(3), MATH 435(3), MATH 436(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)**[1]**
MATH 414(3) or MATH 418(3) (Sem: 5-8)
Select 9 credits of 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (22-24 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)
Select 14-16 credits from department list (Sem: 1-8)

SYSTEMS ANALYSIS OPTION: (52-54 credits)

PRESCRIBED COURSES (12 credits)**[1]**
MATH 414(3), MATH 415(3), MATH 436(3), MATH 484(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)**[1]**
Select 6 credits from MATH 310(3), MATH 451(3), MATH 485(3), or MATH 486(3) (Sem: 5-8)
Select 3 credits from 400-level MATH courses except MATH 401(3), MATH 405(3), MATH 406(3), MATH 441(3), MATH 470(3), MATH 471(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (31-33 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from department list to total 8 credits) (Sem: 1-4)

Select an approved sequence of 12 credits in an area of application; possible areas include business, economics, industrial engineering, social sciences (Sem: 1-8)
Select 11-13 credits from department list (Sem: 1-8)

TEACHER CERTIFICATION OPTION: (62 credits)**[54]**
This option helps prepare individuals for mathematics education teaching positions in secondary schools. It includes the academic requirements for the Mathematics Education Instructional I certificate issued by the Pennsylvania Department of Education (see also Teacher Education Programs).

PRESCRIBED COURSES (53 credits)
EDPSY 014(3)**[53]**, EDTHP 115 US(3) (Sem: 1-2)
HD FS 239 GS(3)**[53]**, PSYCH 100 GS(3) (Sem: 1-2, 5-6)
C I 295(2)**[53]**, C I 412W(3)**[53]**, C I 495C(3)**[53][56]**, C I 495E(15)**[53]**, MATH 427(3)**[1]**, MATH 435(3)**[1]**, MATH 436(3)**[1]**, MTHED 411(3)**[53]**, MTHED 412W(3)**[53]**, MTHED 427(3)**[53]** (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
MATH 310**[1]** or MATH 483(3)**[1]**; MATH 414(3)**[1]** or MATH 418(3)**[1]** (Sem: 3-8)
Select 3 credits from 400-level EDTHP courses**[53]** (Sem: 3-8)

Integrated B.S. in Mathematics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.S. in Mathematics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career oriented students to obtain training in statistics focused on developing data analysis skills, and exploration of core areas of applied statistics at the graduate levels in addition to an undergraduate degree in Mathematics. The M.A.S. degree is a professional masters degree that emphasizes applications. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts. Research divisions in the pharmaceutical industry, quality control, and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.S. in Mathematics and M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

- Must be enrolled in the Mathematics B.S. program.
- Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414 and STAT 415 and the students must apply to the integrated program prior to completing 110 credits.
- Must submit a transcript and a statement of purpose.
- Must present a departmental approved plan of study in the application process in consultation with the M.A.S. program director.
- Must be recommended by the chair of Mathematics Department's undergraduate program committee. Two additional recommendation letters must be sent to the M.A.S. admissions committee.
- Must submit the GRE to the M.A.S. admissions committee.
- Must apply to the M.A.S. program in Statistics.

For the IUG B.S. in Mathematics and M.A.S. degree, 120 credits are required for the B.S. and 30 credits for the M.A.S. The following twelve graduate level credits (number of credits in parentheses) can apply to both B.S. and M.A.S. degrees, six of these are at the 500 level: STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3).

Assuming all requirements for the B.S. in Mathematics are completed, students in the program can complete the B.S. degree and not advance to the M.A.S. degree if they desire.

Degree Requirements

IUG Math B.S. students must fulfill the Math B.S. requirement while counting these prescribed Statistics courses (15 credits)
STAT 220(3)*, STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3)

IUG M.A.S. Requirements (30 credits)
STAT 414(3), STAT 415(3), STAT 501(3), STAT 502(3), STAT 580(2) and STAT 581(1)**

Electives: (15 credits)
Select from STAT 464(3), STAT 503(3), STAT 504(3), STAT 505(3), STAT 506(3), STAT 507(3), STAT 508(3), STAT 509(3), STAT 510(3) and the departmental list of additional courses for the M.A.S. program with the approval of the adviser.

For the IUG B.S. in Mathematics and M.A.S. degree, the four courses: STAT 414(3), STAT 415(3), STAT 501(3) and STAT 502(3) can apply to both the B.S. and M.A.S. degrees.

*Can be waived for students with an equivalent course, e.g. STAT 250 GQ(3)or STAT 301 GQ(3).

** For all students in the M.A.S. program, the STAT 581(1) course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[53] A grade of C or better per course is required for teacher certification.
[54] Mathematics majors who wish to teach in public schools must schedule the teacher certification requirements prescribed by the College of Education as shown on this page. In addition, they must file an application in the Certification and Education Services Office, 181 Chambers Building, prior to the end of the second semester. At that time, they will be assigned an adviser in the College of Education to help them schedule the appropriate professional course work.
[56] Offered only for Satisfactory/Unsatisfactory grading.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-089

Review Date: 2/26/08

UCA Revision #1: 8/16/06
UCA Revision #2: 7/30/07

SC

Mechanical Engineering

Penn State Erie, The Behrend College (ME BD)
Penn State Harrisburg (ME CA)

Built upon a broad foundation in physics, chemistry, and mathematics, this major has the objective of educating graduates to be problem solvers. Graduates of this program will have had opportunities to learn about applying scientific principles, engineering analysis, and engineering design to solve unstructured problems that are typical of those found in mechanical engineering. The major helps prepare graduates for a lifelong productive career, whether they choose professional practice, graduate school, or some other career path. Graduates will have had opportunities to learn how to work with others toward a common goal, to clearly express their ideas in written and verbal form, and to be independent and capable of adapting to the continuously changing technology of the work environment.

After completing the fundamental science core, students may pursue their interest in mechanical engineering by studying fluid and solid mechanics, engineering materials and their properties, thermodynamics and heat transfer, computer-aided design, kinematics and dynamics of machine elements, machine design, finite elements, control systems, electricity, and electronic instrumentation and machinery. The students will be required to analyze and solve a significant mechanical engineering design problem during their senior year.

Entrance Requirement: In addition to the Carnegie unit and minimum GPA requirements described by University policies, all students applying for entrance to any of the engineering majors at either Behrend or Capital college must have at least a 2.0 cumulative GPA by the end of the semester prior to applying for entrance to the major and have completed, with a minimum grade of C: CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), and PHYS 211 GN(4). These courses must be completed by the end of the semester during which the admission to major process is carried out.

For the B.S. degree in Mechanical Engineering, a minimum of 131 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 107 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (85 credits)
CHEM 110 GN(3)**[1]**, EDSGN 100S(3) (Sem: 1-2)
E E 211(3), E MCH 211(3)**[1]**, E MCH 212(3)**[1]**, E MCH 213(3)**[1]**, M E 300(3)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220(2-3), MATH 230(4), MATH 251(4)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4) (Sem: 1-4)
ENGL 202C GWS(3) (Sem: 3-6)
M E 320(3)**[1]**, M E 345W(4)**[1]**, M E 347(3)**[1]**, M E 357(3)**[1]**, M E 365(1)**[1]**, M E 367(3)**[1]**, M E 380(3)**[1]**, M E 410(3)**[1]** (Sem: 5-6)
M E 448(3)**[1]**, M E 449(3)**[1]**, M E 468(3)**[1],** MATSE 259(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (9 credits)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-6)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-6)
CHEM 111 GN(1) and PHYS 214(2); or CHEM 112 GN(3), or BIOL 141 GN(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select 13 credits of technical courses from school-approved list. (These credits must be selected to fulfill the thematic requirements of the major.) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-011

Review Date: 1/15/08

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

BD

Mechanical Engineering

Penn State Erie, The Behrend College (ME BD)
Penn State Harrisburg (ME CA)

Built upon a broad foundation in physics, chemistry, and mathematics, this major has the objective of educating graduates to be problem solvers. Graduates of this program will have had opportunities to learn about applying scientific principles, engineering analysis, and engineering design to solve unstructured problems that are typical of those found in mechanical engineering. The major helps prepare graduates for a lifelong productive career, whether they choose professional practice, graduate school, or some other career path. Graduates will have had opportunities to learn how to work with others toward a common goal, to clearly express their ideas in written and verbal form, and to be independent and capable of adapting to the continuously changing technology of the work environment.

After completing the fundamental science core, students may pursue their interest in mechanical engineering by studying fluid and solid mechanics, engineering materials and their properties, thermodynamics and heat transfer, computer-aided design, kinematics and dynamics of machine elements, machine design, finite elements, control systems, electricity, and electronic instrumentation and machinery. The students will be required to analyze and solve a significant mechanical engineering design problem during their senior year.

Entrance Requirement: In addition to the Carnegie unit and minimum GPA requirements described by University policies, all students applying for entrance to any of the engineering majors at either Behrend or Capital college must have at least a 2.0 cumulative GPA by the end of the semester prior to applying for entrance to the major and have completed, with a minimum grade of C: CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), and PHYS 211 GN(4). These courses must be completed by the end of the semester during which the admission to major process is carried out.

For the B.S. degree in Mechanical Engineering, a minimum of 131 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 107 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (85 credits)
CHEM 110 GN(3)**[1]**, EDSGN 100S(3) (Sem: 1-2)
E E 211(3), E MCH 211(3)**[1]**, E MCH 212(3)**[1]**, E MCH 213(3)**[1]**, M E 300(3)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220(2-3), MATH 230(4), MATH 251(4)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4) (Sem: 1-4)
ENGL 202C GWS(3) (Sem: 3-6)
M E 320(3)**[1]**, M E 345W(4)**[1]**, M E 347(3)**[1]**, M E 357(3)**[1]**, M E 365(1)**[1]**, M E 367(3)**[1]**, M E 380(3)**[1]**, M E 410(3)**[1]** (Sem: 5-6)
M E 448(3)**[1]**, M E 449(3)**[1]**, M E 468(3)**[1],** MATSE 259(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (9 credits)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-6)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-6)
CHEM 111 GN(1) and PHYS 214(2); or CHEM 112 GN(3), or BIOL 141 GN(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select 13 credits of technical courses from school-approved list. (These credits must be selected to fulfill the thematic requirements of the major.) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-011

Review Date: 1/15/08

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

BD

Mechanical Engineering

University Park, College of Engineering (M E)

PROFESSOR KAREN A. THOLE, *Head, Department of Mechanical and Nuclear Engineering*

Mechanical Engineering is the science of understanding, and art of design of mechanisms and engines. Mechanisms are devices composed of solid, fluid, electrical, and optical components that perform specified tasks. Examples include: robots, tape drives, earth movers, clocks, sports equipment, energy-absorbing bumpers, acoustic sensors, low-friction bearings, high-friction brakes, automated inspection equipment, satellite positioners, and artificial hips. Engines are devices that convert (or conserve) thermal and mechanical energy to perform specified tasks. Examples include: internal combustion engines, jet engines, missile launchers, heat exchangers, refrigerators, ovens, ventilators, pumps, turbines, solar heaters, compressors, hydraulic actuators, and explosively deployed air bags.

The Mechanical Engineering program prepares students for a rewarding career in one of the broadest engineering disciplines. Since the industrial revolution, mechanical engineers have found themselves at the forefront of technology development and applications.

The objective of the Mechanical Engineering program is to prepare students for a wide range of career paths that use mechanical engineering principles and methodology. We will maintain and provide a curriculum that prepares our recent graduates for:

1. working in industry and government including computer-aided design, simulation and analysis of products or systems, experimentation and testing, manufacturing, and technical sales.
2. assuming increasing levels of responsibility in project, personnel, and budget management.
3. working and leading effectively in multi-disciplinary and multi-cultural teams.
4. communicating effectively and recognizing the global, social and ethical contexts of their work.
5. entering into graduate and professional studies.

The program offers a balance of engineering applications and theory with an emphasis on design from the first year through the industry-based capstone design experience in the senior year. In addition, mechanical engineering students find it easy to incorporate co-operative educational experiences as well as many minors into their program.

For the B.S. degree in Mechanical Engineering, a minimum of 131 credits is required. This baccalaureate program in Mechanical Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 113 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (83 credits)
CHEM 110 GN(3)**[1]**, EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]** (Sem: 1-2)
CMPSC 200 GQ(3), E MCH 211(3)**[1]**, E MCH 212(3)**[1]**, E MCH 213(3)**[1]**, M E 300(3)**[1]**, MATH 220 GQ(2-3), MATH 231(2), MATH 251(4), PHYS 212 GN(4), PHYS 214 GN(2) (Sem: 3-4)
E E 212(3), E MCH 315(2), ENGL 202C GWS(3), M E 320(3)**[1]**, M E 340(3)**[1]**, M E 345(4)**[1]**, M E 360(3)**[1]**, M E 370(3)**[1]**, M E 410(3)**[1]**, MATSE 259(3) (Sem: 5-6)
I E 312(3), M E 450(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (18 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
CHEM 112 GN(3), or BIOL 141 GN(3) (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3), or ENNEC 100 GS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
M E 440W(3) or M E 441W(3) (Sem: 7-8)
Select 2 credits from M E 325(1), M E 315(1), M E 375(1), M E 355(1), or E MCH 316(1) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits in a 400-level M E Technical Elective course excluding M E 410(3), M E 440W(3), M E 441W(3), M E 450(3), M E 494(1-9), and M E 496(1-18) (Sem: 5-8)
Select 6 credits in Engineering Technical Elective courses, any 400-level courses in the College of Engineering not required

for a B.S. in M.E. (Sem: 5-8)
Select 3 credits in General Technical Elective courses from department list (Sem: 7-8)
(Students who complete Basic ROTC may substitute 6 of the ROTC credits for 3 credits of GTE and 3 credits of GHA.)
Three rotations of Engr Co-op (ENGR 295, ENGR 395, and ENGR 495) can be used as 3 credits of GTE.

Integrated B.S. and M.S. in Mechanical Engineering

A limited number of undergraduate students in the B.S.M.E. program will be considered for admission to the integrated undergraduate/graduate program leading to the B.S.M.E. and the M.S.M.E. degrees. Students with a junior standing in the B.S.M.E. degree program may be admitted to the integrated B.S.M.E./M.S.M.E. program, following a positive review of an application specific to this program by the faculty committee on graduate admissions. Students must have attained a GPA of at least 3.0. Students admitted to the integrated program must maintain a GPA in all classes used toward the M.S.M.E. degree of at least 3.0.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-038

Review Date: 02/23/2010

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Dept Head update by Publications: 8/1/06

Comments

EN

Mechanical Engineering Technology

Capital College (M E T)

PROFESSOR MICHAEL DIDEBAN, *Program Chair*

The goal of the Mechanical Engineering Technology program is to provide our students with the necessary training and education so that they can provide high-level technical support to a variety of industrial, commercial, consulting, and governmental organizations. The emphasis of our program is in the application of scientific and engineering principles. Technical communication in oral and written form is also emphasized. Our graduates are expected to appreciate the ethical and societal responsibilities of a technologist, the concepts of Continuous Quality Improvement and the continuing impact of globalization of design, manufacturing and marketing of technical goods and services. Our graduates are trained to deal with choice of materials and methods that are safe, environmentally and aesthetically acceptable and economically competitive. Typical responsibilities that may be assigned to our graduates are the development and evaluation of machines and mechanisms; development, organization and supervision of manufacturing processes and procedures; the instrumentation, control and testing of a process; quality control; technical marketing and sales; design of mechanical systems for heating and cooling and energy management.

The strengths of our program include: hands-on training; extensive laboratory experience; state of the art computer methods, excellent job placement and accreditation by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Graduates who wish to continue their professional development can take the Fundamentals of Engineering exam in Pennsylvania, a prerequisite for taking the Professional Engineering exam.

Entry to Major Requirements:
Entry to the Mechanical Engineering Technology major requires a 2.00 or higher cumulative grade-point average.

Re-enrollment:
Associate degree students should file a re-enrollment form during the final semester of their associate degree. Students re-enrolling from an associate's degree into the bachelor's degree should run a degree audit from eLion, using the M E T major code, to determine their curriculum requirements.

For a B.S. degree in Mechanical Engineering Technology, a minimum of 128 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION or REQUIREMENTS FOR THE MAJOR course selection including Supporting Courses and Related Areas)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 101 credits
(This includes 18 credits of General Education courses: 3 credits of GWS courses; 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (48 credits)
CHEM 110 GN(3), CHEM 111 GN(1) (Sem: 1-4)
MATH 140 GQ(4) (Sem: 1-5)
ENGL 202C GWS(3) (Sem: 3-4)
ENGR 420Y US;IL(3)**[1]**, I E 303(2), IET 308(3), MET 321(2), MET 332(3)**[1]**, MET 336(3)**[1]**, MET 341(3)**[1]**, MET 358(3), MET 431(3)**[1]**, MET 438(3), MET 448(2), MET 454(3), MET 481(1), MET 486(3) (Sem: 5-8)

ADDITIONAL COURSES (35-39 credits)
Select 3 credits from: EDSGN 100(3) or EG T 120(3) (Sem: 1-2)
Select 3-4 credits from: PHYS 150 GN(3) or PHYS 211 GN(4) (Sem: 1-2)
Select 3 credits from: E MCH 211(3) or ET 300(3) or MCH T 111(3) **[1]** (Sem: 2-3)
Select 3-4 credits from: PHYS 151GN(3) or PHYS 212 GN(4) (Sem: 2-4)
Select 3 credits from: IET 101(3) or IET 311(3) (Sem: 2-5)
Select 3-4 credits from: IET 215(2) and IET 216(2) or IET 321(3) (Sem: 2-5)
Select 4 credits from: STAT 200 GQ(4) or MATH 141 GQ(4) (Sem: 2-6)
Select 3 credits from: E MCH 212(3), ET 321(3), or MET 206(3) **[1]** (Sem: 3-4)
Select 3 credits from: ET 322(3), E MCH 213(3), or MCH T 213(3) **[1]** (Sem: 3-4)
Select 1 credit from: ET 323(1) or MCH T 214 (1) (Sem: 3-6)
Select 3 credits from: MET 210W(3) or MET 365(3) (Sem: 3-6)
Select 3-4 credits from: EET 101(3) and EET 109(1); or EET 320(3) (Sem: 3-7)

SUPPORTING COURSES AND RELATED AREAS (14-18 credits)

Select 5-9 credits from the department approved list of courses. (Sem: 5-8)
Select 9 credits from 300-400 level technology and engineering elective courses in consultation with an academic adviser and in support of the student's interests. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-004

Review Date: 11/27/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Comments

CL

Mechanical Engineering Technology

Penn State Erie, The Behrend College (METBD)

This major may be taken either as a four-year baccalaureate program or in a "2+2" degree format. The latter allows graduates of associate degree programs in mechanical engineering technology or related areas to gain greater breadth and depth of knowledge in mechanical engineering technology. The baccalaureate program emphasizes applied design and analysis, complementing a hands-on manufacturing and materials focus. The graduate gains valuable knowledge of total manufacturing processes ranging from applied design to manufacture.

This major includes instruction in materials engineering, thermodynamics, heat transfer, hydraulics, finite-element analysis, and use of parametric solids modeling design packages, as well as supporting course work in mathematics and science. Oral and written communications are stressed, as is the ability to work within a team-oriented environment. The major culminates with a capstone design project involving an actual design or manufacturing problem sponsored by regional industry. This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Pl., Suite 1050, Baltimore, MD 21202.

Graduates have qualified for careers in a wide variety of industries that manufacture or use mechanical systems. Careers include positions in applied product design, manufacturing process development, field service support, supervision of manufacturing facilities, tool and die design, quality control, plant supervision and management, and technical sales.

For the B.S. degree in Mechanical Engineering Technology, a minimum of 131 credits is required. A student enrolled in this major must earn at least a grade of C in each 300- and 400-level course.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection)

ELECTIVES: 0-1 credit

REQUIREMENTS FOR THE MAJOR: 103-106 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (83 credits)
ENGL 202C GWS(3), IET 101(3)**[1]**, MCH T 111(3)**[1]**, PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 1-4)
MATH 081 GQ(3)**[1]**, MATH 082 GQ(3)**[1]**, MATH 083 GQ(4)**[1]** (Sem: 1-4)
MCH T 213(3), MCH T 214(1), IET 215(2), IET 216(2), MET 206(3)**[1]**, MATH 210(3)**[1]**, MET 210W(3)**[1]**(Sem: 3-4)
CHEM 110 GN(3), CHEM 111 GN(1), MATH 211(3), MET 306(3)**[1]**, MET 320(3)**[1]**, MET 330(3)**[1]**, MET 331W(4)**[1]**, MET 341(3)**[1]**, MET 415(3)**[1]** (Sem: 5-6)
MET 425(3)**[1]**, MET 432(3)**[1]**, MET 470(3)**[1]**, MET 480(1)**[1]**, MET 485(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (12-14 credits)
EET 100(3); or EET 101(3) and EET 109(1) (Sem: 1-4)
MET 107(3) or CMPSC 101 GQ(3) (Sem: 1-4)
EG T 120(3) and EG T 121(3); or EG T 101(1), EG T 102(1), EG T 114(2), EG T 201(2), and EG T 205(1) (Sem: 1-5)

SUPPORTING COURSES AND RELATED AREAS (8-9 credits)
Select 6 credits of technical electives from school-approved list (Sem: 7-8)
Select 2-3 credits of business electives from school-approved list (Sem: 6-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-028

Review Date: 4/10/07

UCA Revision #1: 8/18/06

BD

Media Studies

University Park, College of Communications (MEDIA)

PROFESSOR ANTHONY OLORUNNISOLA, *Head, Department of Film-Video and Media Studies*

This major is designed for students who want to pursue an academic rather than professional program of media studies. Students are exposed first to the breadth of approaches to understanding the mass media (e.g., aesthetic, humanistic, social-behavioral, legal policy) and then, by selecting one of five options, go into depth in a specialized area of media studies. All options within the major are closely intertwined with the liberal arts and sciences. Therefore, students who successfully complete this major must have a strong foundation in the liberal arts and well-developed language and analytical skills. That foundation should include courses such as ART H 100 GA(3), ECON 002 GS(3), HIST 002 GH(3), PSYCH 110 GS(3), and SOC 001 GS(3).

The following five options are offered:

FILM AND TELEVISION STUDIES OPTION: This option is designed for students interested in studying the art, history, and criticism of film and television. Electives offer students the opportunity to pursue a related field, such as art, art history, creative writing, speech communication, or theatre arts. This option merges aesthetics and social sciences and is appropriate for those seeking a more theoretical/critical approach to the study of film and video.

GENERAL OPTION: In this option, a student and faculty adviser work together to tailor a program of courses to meet the student's individual interest in a coherent theme in media studies. These courses are usually selected in tandem with a minor or other supporting cluster of non-major courses in the area of specialization. Examples of themes include, but are not limited to, communication and the environment, communication and health campaigns, sports and the media, minorities and the media, and gender and the media. A minor in an area of specialization is encouraged.

INTERNATIONAL COMMUNICATIONS OPTION: This option is designed for students who want to study the mass media systems of the world and their role in international affairs. The option offers students an opportunity to enhance their occupational opportunities in international business, organizations, or government and to be better prepared to participate in the world community. Students must select either a University-approved minor in a foreign language or area/international studies, a University-approved education abroad program, or other international related courses or programs with prior departmental approval.

MEDIA EFFECTS OPTION:

This option focuses on the social and psychological effects of media messages and technologies. Students progress through a general introduction to problems and issues, such as the effects of televised sex and violence, to courses that emphasize more theoretical approaches and advanced applications. A minor in a complementary area of study, such as Psychology or Sociology, is encouraged.

MEDIA LAW AND POLICY OPTION:

Students in this option focus on the societal constraints and compulsion on the media, primarily in a U.S. domestic context. Areas of study include First Amendment law, regulation of the media - especially the electronic media - and policy issues and process. The option is preparation for those who intend to go to law school or other graduate programs or who will seek policy positions in business, government or non-profits.

Students must select at least 80 credits in courses outside the College of Communications, including at least 65 in the liberal arts and sciences.

For the B.A. degree in Media Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 33-45 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 15 credits

PRESCRIBED COURSES (15 credits)

COMM 100 GS(3), COMM 304(3), COMM 405(3), COMM 411(3), COMM 413(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 18-30 credits

FILM AND TELEVISION STUDIES OPTION: (21 credits)

PRESCRIBED COURSES (9 credits)
COMM 150 GA(3), COMM 242(3), COMM 250 GA(3) (Sem: 3-4)

ADDITIONAL COURSES (12 credits)
Select 9 credits from COMM 451(3), COMM 452(3), COMM 453 IL(3), COMM 454(3), COMM 455(3), COMM 495(1-3), or COMM 496(1-18) (Sem: 5-8)
Select 3 credits from AM ST 491W(3-6), CAS 415(3), CAS 438(3), CMLIT 153 GH;IL(3), ENGL 403(3), FR 138 GH(3), FR 487 IL(3), FR 488 IL(3), FR 489 IL(3), GER 489(3), IT 475(3), JAPNS 453 IL(3-6) (Sem: 5-8)

GENERAL OPTION: (18 credits)

ADDITIONAL COURSES (18 credits)
Select 3 credits from COMM 110 GH(3), COMM 118 GS(3), COMM 150 GA(3), or COMM 205 US(3) (Sem: 3-4)
Select 15 credits in communication theory from COMM 118 GS(3), COMM 150 GA(3), COMM 180(3), COMM 205 US(3), COMM 250 GA(3), COMM 320(3), COMM 370(3), COMM 401(3), COMM 403(3), COMM 407(3), COMM 408(3), COMM 409(3), COMM 410 IL(3), COMM 417(3), COMM 418(3), COMM 419 US;IL(3), COMM 451(3), COMM 452(3), COMM 453 IL(3), COMM 454(3), COMM 455(3) [At least 9 credits must be at the 400 level] (Sem: 5-8)

A minor in an area of specialization is encouraged.

INTERNATIONAL COMMUNICATIONS OPTION: (21-30 credits)

PRESCRIBED COURSES (9 credits)
COMM 110 GH(3), COMM 410 IL(3), COMM 419 US;IL(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from COMM 118 GS(3), COMM 150 GA(3), or COMM 205 US(3) (Sem:3-4)

SUPPORTING COURSES AND RELATED AREAS (9-18 credits)
Select at least one of the following for a minimum of 9 credits and a maximum of 18 credits, no more than 9 credits in COMM. (Sem: 1-8)

University approved minor in foreign language or area of International studies

University approved education abroad program

Other international related courses or programs with prior Departmental approval

More than one of the above is strongly recommended.

MEDIA EFFECTS OPTION: 21 credits

PRESCRIBED COURSES (9 credits)
COMM 118 GS(3), COMM 418(3), PSYCH 110 GS(3)

ADDITIONAL COURSES (6 credits)
Select 3 credits from COMM 110 GH(3), COMM 150 GA(3) or COMM 205 US(3) (Sem:3-4)
Select 3 credits from PSYCH 221 GS(3) or PSYCH 256 GS(3)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits in research methods from an approved department list (Sem: 1-8)
Select 3 credits of philosophy of science from an approved department list (Sem: 1-8)

A minor in a complementary area of study is encouraged (e.g. Psychology or Sociology) (Sem: 1-8)

MEDIA LAW AND POLICY OPTION: 21 credits

PRESCRIBED COURSES (9 credits)
COMM 110 GH(3), COMM 180 GS(3), COMM 403(3) (Sem: 3-8)

ADDITIONAL COURSES (12 credits)
Select 3 credits from COMM 118 GS(3), COMM 150 GA(3), or COMM 205 US(3) (Sem:3-4)
Select 3 credits from: COMM 381(3), COMM 491(3), COMM 492(3)
Select 6 credits from one of the following a, b, or c:

a. PL SC 001 GS(3) and 3 credits from PL SC 470W(3), PL SC 471(3), PL SC 472(3), PL SC 473(3), PL SC 474(3), or

b. Select 3 credits from SOC 005 GS(3), SOC 012 GS(3), SOC 013 GS(3), and 3 credits from SOC 412(3), SOC 413(3), SOC 414(3), SOC 416 US(3), SOC 467(3) or

c. Select 6 credits from HIST 449 US(3), HIST 450 US(3), PHIL 012 GQ(3), PHIL 105 GH(3), PHIL 108 GH(3), PHIL 408(3).

The Law and Liberal Arts Minor is strongly encouraged. Double counting minor with major requirements is permitted (9-18 credits) (Sem: 1-8)

Integrated B.A./M.A. in Media Studies

The College of Communications offers academically qualified students enrolled in a Bachelor of Arts program in the College of Communications the opportunity to earn both the B.A. and the M.A. upon completion of five years of study. The Integrated Undergraduate-Graduate Program in Media Studies would facilitate the advanced study of communications research and thesis development through a carefully organized selection of undergraduate courses, graduate seminars and directed research projects. The program would accelerate and enhance undergraduate students' appreciation for graduate level scholarship by involving them in the seminars, research activities and the scholarly discourse of the College's community of Masters and Doctoral-level scholars.

For the IUG Media Studies B.A./M.A. degree, a minimum of 120 credits are required for the B.A. and 36 credits for the M.A. Twelve graduate level credits, in consultation with the adviser, can apply to both the B.A. and M.A. degrees. Six of these must be at the 500 level.

If for any reason a student admitted to the BA/MA program is unable to complete the requirements for the Master of Arts degree program in Media Studies, the student will be permitted to receive the BA degree assuming all degree requirements have been satisfactorily completed.

Application Process and Admissions Requirements

Applicants must complete 6 credits from the following lists of courses with a minimum GPA of 3.5 in order to be admitted: 3 credits from COMM 100, COMM 150, COMM 180, COMM 320, or COMM 370 and 3 credits from COMM 205, COMM 250, COMM 381, COMM 401, COMM 403, COMM 404, COMM 405, COMM 407, COMM 408, COMM 409, COMM 410, COMM 411, COMM 413, COMM 417, COMM 418, COMM 419, COMM 451, COMM 452, COMM 453, COMM 454, COMM 455, COMM 484, or COMM 485. The minimum overall GPA required of applicants is 3.2. Admission to the program is based on the evaluation of the student's transcript, examples of completed writing and research projects, a narrative statement of objectives, and two letters of support from faculty with whom they have worked. One faculty member must be from the College of Communications. Students are expected to apply after completing 60 credits but before the completion of 100 credits. Candidates are expected to present records of outstanding scholarly achievement to qualify. Applications will be reviewed by the appropriate subset of members of the Graduate Committee of the College.

Applicants to the integrated program:

1. Must be enrolled in a B.A. program in the College of Communications.
2. Must have completed 60 credits of the undergraduate degree program. (It is recommended that students apply prior to completing 100 credits.)
3. Must provide a narrative statement of objectives and two letters of endorsement from faculty with whom they have worked. One faculty member must be from the College of Communications.
4. Must present an approved plan of study in the application process.

Program of Study

The Integrated B.A./M.A. degree in Media Studies is an academic program that involves students in the systematic study of media. The objective of the course of study is to enable students to achieve a comprehensive understanding of the systems, networks, cultures, and information associated with media. The program prepares students for doctoral study in communications and for professional positions in business and government requiring a comprehensive understanding of the historical, social, and political implications of the media. This program helps prepare students to organize research projects, critically evaluate research reports, and directly influence media practices by the application of research findings. The program is specifically not intended for advanced professional education.

Undergraduate tuition rates will apply as long as the student is in undergraduate status, unless the student receives financial support, such as an assistantship requiring the payment of graduate tuition.

Degree Requirements

For the IUG Media Studies M.A. degree, a minimum of 120 credits are required for the B.A. and 36 credits for the M.A. At least 18 of the required 36 credits must be at the 500 level. Twelve graduate level credits, in consultation with the adviser, can apply to both the B.A. and M.A. degrees. Six of these double-counted credits must be at the 500 level. A minimum of 12 credits of coursework, as opposed to research credits, must be completed in Communications. COMM 515 and COMM 506 or COMM 511 are required. IUG students will prepare a thesis proposal in consultation with their advisers and are required to present the final thesis in a formal oral defense meeting to a committee of at least 3 members of graduate faculty, two of whom must be members of the College faculty. It is encouraged that one member of the committee be from outside the College.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008 (MEDIA); Summer Session 2005 (Integrated B.A./M.A.)

Blue Sheet Item #: 36-05-021 (MEDIA); 33-04-161 (Integrated B.A./M.A.)

Review Date: 2/26/08

UCA Revision #1: 8/20/06
UCA Revision #2: 7/30/07

Department head updated by Publications: 1/16/07

CM

Medieval Studies

University Park, College of the Liberal Arts (MEDVL)

PROFESSOR NORRIS LACY, *in charge*

This is an interdisciplinary program of study designed to give students an integrated knowledge of medieval civilization. While the main area of study is the fifth to sixteenth centuries in Europe, a global perspective is offered with particular attention to the Near East and the Pacific Rim.

For the B.A. degree in Medieval Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 24 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**

PRESCRIBED COURSES (6 credits)
MEDVL 107 GH(3) or HIST 107 GH(3), MEDVL 108 GH(3) (Sem: 3-4)

ADDITIONAL COURSES (24 credits)
(A minimum of 12 credits must be in 400-level courses.)
Select 24 credits from the program list of courses dealing with the Middle Ages from no less than three of the following areas:

Art
ART H 201 GA(3) (Sem: 1-8)
ART H 312 GA(3) (Sem: 3-8)
ART H 402(3), ART H 412(3), ART H 422(3-9), ART H 442(3), ART H 452(3) (Sem: 5-8)

History
HIST 105 GH;IL(3), HIST 108 GH;IL(3), HIST 141 GH;IL(3), HIST 165(3) (Sem: 1-8)
HIST 407 IL(3), HIST 408 IL(3), HIST 411(3), HIST 412 IL(3), HIST 413(3), HIST 471W(3), HIST 480 IL(3) (Sem: 5-8)

Literature and Language
CMLIT 001 GH(3), CMLIT 106 GH;IL(3), ENGL 221W(3), GER 175 GH;IL(3), HEBR 010 GH;IL(3), SPAN 130 GH;IL(3) (Sem: 1-8)
FR 351(3), IT 350(3), SPAN 353(3) (Sem: 3-8)
CMLIT 401Y IL(3), CMLIT 408 IL(3), ENGL 441(3), ENGL 442(3), FR 422(3), GER 430 IL(3), GER 431 IL(3), IT 415(3), IT 490(3), LATIN 420(3-6), SPAN 418(3) (Sem: 5-8)

Medieval Studies
MEDVL 187(3) (Sem: 1-2)
MEDVL 197(1-9), MEDVL 199 IL(1-12), MEDVL 294(1-12), MEDVL 299 IL(1-12) (Sem: 1-8)
MEDVL 395(1-18), MEDVL 399 IL(1-12) (Sem: 3-8)
MEDVL 411(3), MEDVL 413(3), MEDVL 494(1-12), MEDVL 496(1-18), MEDVL 497(1-9), MEDVL 499 IL(1-12) (Sem: 5-8)

Philosophy and Religious Studies
RL ST 120 GH(3), PHIL 207 GH(3) (Sem: 1-8)
PHIL 454(3-6), RL ST 420(3) (upon advising) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1999

Blue Sheet Item #: 27-07-065

Review Date: 4/8/03

LA

Meteorology

University Park, College of Earth and Mineral Sciences (METEO)

PROFESSOR WILLIAM H. BRUNE, *Head of the Department*

Meteorology is a rigorous scientific discipline devoted to the attainment of an increased understanding of the atmosphere and the development of methods for applying that knowledge to practical problems. Although this field is usually associated with weather prediction, it also has significance in environmental, energy, agricultural, oceanic, and hydrological sciences. For students wishing to pursue many of these areas, the department offers several options within the major.

The major requires a solid foundation in mathematics and the physical sciences, and it provides a comprehensive survey of the fundamentals of atmospheric science. It has sufficient flexibility to permit intensive advanced study in such related areas as mathematics, earth sciences, or engineering. The department has particular strengths in weather analysis and prediction, including forecast uncertainty and severe weather; physical meteorology, including radar meteorology, instrumentation and atmospheric measurements; and applied areas, including atmospheric diffusion, air pollution chemistry, dynamic meteorology, tropical meteorology, climate, weather risk, and remote sensing.

Graduating meteorologists are prepared for professional employment with industry, private consulting firms, government, and the armed forces or for further study toward graduate degrees normally required for research, university, or management positions.

The freshman and sophomore years are largely devoted to preparatory work in science, mathematics, and the liberal arts. The junior and senior years involve a core of basic courses in applied and theoretical topics and a choice of courses offering specialized training. The courses unique to each option are normally taken in the junior and senior years.

AIR-QUALITY STUDIES OPTION: This option enables students to gain in-depth knowledge of important areas within the air-quality field. Air-quality meteorologists are employed in both the public and private sectors. Public-sector positions include those with local, state, and federal agencies charged with regulatory, enforcement, and research activities. Within the private sector, air-quality meteorologists are employed by consulting firms whose clients are concerned with meeting environmental regulations on emissions of pollutants into the atmosphere or with determining the effects of such emissions. Topics offered in the option include the physical and chemical nature of air pollutants; their sources in industrial processes and human activity; their control at the source; their transport and dispersion through the atmosphere; their interaction with other atmospheric constituents; their removal through cloud processes, fallout, and wet deposition; their effects on ecosystems, materials, and humans; and their economic and societal impacts.

ATMOSPHERIC SCIENCES OPTION: This option challenges students to strengthen and broaden their understanding of the physics and chemistry of the atmosphere and oceans. It helps prepare them for employment in the diverse field of the atmospheric sciences and for graduate study in the atmospheric or related disciplines. Students are encouraged to participate in undergraduate research projects under the supervision of atmospheric and oceanic scientists in the department.

CLIMATOLOGY OPTION: This option allows students to learn about the earth's climate system, with emphasis on how the atmosphere and ocean interact. Students can choose among courses that focus on tropical regions, planetary atmospheres, remote sensing, long-term climate change, human dimensions, the biosphere, and statistical methods used in climate science, as well as on their own independent research.

ENVIRONMENTAL METEOROLOGY OPTION: Environmental Meteorology prepares the student for understanding the impact of the weather on the environment, which is to say the impacts of air and water on ecosystems at human scales. In order to do this, the option establishes links between atmospheric physics and a variety of environmental disciplines pertaining to land, water, soils, and plants. Depending on his/her interests, the student will select courses in the biological sciences, air or water quality, human dynamics, data analysis and surface microclimate. An important component of this program is an undergraduate research project, in which the student is encouraged to develop a topic that addresses problems related to the environment and society, if possible by interacting with public agencies or groups.

GENERAL OPTION: This option has sufficient flexibility to serve the needs of students who wish to pursue topics chosen broadly from subdisciplines of meteorology or from related areas in consultation with the academic adviser. The General option is appropriate both for students who intend to pursue postgraduate degrees and for students who want to emphasize a topic for which no option exists.

WEATHER FORECASTING AND COMMUNICATIONS OPTION: This option prepares students for careers in which their skills are weather forecasters are effectively used in a variety of ways, from science reporting and television broadcasting to web design and computer-based weather graphics production, and developing innovative applications of weather and climate data to industry.

WEATHER RISK MANAGEMENT OPTION: The option combines study of meteorology and atmospheric sciences with training in risk, finance, and decision-making. Weather affects a wide range of industries, including energy, agriculture, insurance, construction, retail, and transport, among others. Weather and climate variation play central roles in the availability of water resources, the spread of disease, and an array of other processes vital for human welfare. There are, consequently, many organizations that confront risks related to weather, and that have a demand for experts who can help them manage these risks. The option in Weather Risk Management is designed for students who wish to work professionally at this intersection of meteorology and risk management.

For a Meteorology course to serve as a prerequisite for any subsequent prescribed or supporting Meteorology course in the major, a grade of C or better must be earned in the prerequisite course.

For the B.S. degree in Meteorology, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(23-26 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6-8 credits

REQUIREMENTS FOR THE MAJOR: 93-95 credits
(This includes 23-26 credits of General Education courses: 8 credits of GN courses; 6 credits of GQ courses; 0-3 credits of GS courses; 9 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 63 credits

PRESCRIBED COURSES (44 credits)
CHEM 110 GN(3), EM SC 100S GWS(3)**[71]**, MATH 140 GQ(4), MATH 141 GQ(4)**[1]**, PHYS 211 GN(4) (Sem: 1-2)
MATH 251(4), PHYS 212 GN(4) (Sem: 3-4)
METEO 300(4)**[1]**, METEO 411(4)**[1]**, METEO 421(4)**[1]**, METEO 431(3)**[1]**, METEO 440W(3)**[1]** (Sem: 5-6)

ADDITIONAL COURSES (19 credits)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CMPSC 101 GQ(3) or CMPSC 200 GQ(3) or CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-4)
MATH 230(4)**[1]**, or MATH 231(2) **[1]** and MATH 232(2) **[1]** (Sem: 3-4)
E B F 472(3) or STAT 301 GQ(3) or STAT 401(3) (Sem: 3-6)
CAS 100 GWS(3) or ENGL 202C GWS(3) (Sem: 3-8)
METEO 101 GN(3)**[1]**, or METEO 200A(1.5)**[1]** and METEO 200B(1.5)**[1],** or METEO 201(3)**[1]** (Sem: 1-5)

REQUIREMENTS FOR THE OPTION: 30-32 credits

AIR-QUALITY STUDIES OPTION: (30 credits)

PRESCRIBED COURSES (12 credits)
M E 433(3), METEO 437(3)**[1],** METEO 454(3)**[1]**, METEO 455(3) (Sem: 6-8)

ADDITIONAL COURSES (18 credits)
Select 3 credits from METEO 473(3)**[1]** or METEO 474(3)**[1]** (Sem: 5-8)
Select 15 credits from:
CHEM 112 GN(3) (Sem: 6-8)
E B F 484(3), E R M 430(3), F SC 401(3), F SC 422(3), EGEE 470(3), GEOG 363(3), GEOG 430(3), M E 405(3), METEO 422(3), METEO 436(3), STAT 462(3) (Sem: 7-8)

ATMOSPHERIC SCIENCES OPTION: (30-31 credits)

PRESCRIBED COURSES (3 credits)
METEO 422(3) (Sem: 6-8)

ADDITIONAL COURSES (24-25 credits)
Select 3-6 credits from METEO 473(3)**[1]** and METEO 474(3)**[1]** (Sem: 5-8)
Select 6-9 credits from METEO 436(3)**[1]**, METEO 437(3)**[1]**, and METEO 454(3)**[1]** (Sem: 5-8)
Select 9-16 credits from METEO 414(4), METEO 434(3), METEO 448(3), METEO 451(3), METEO 452(3), METEO 455(3), METEO 465(3), METEO 466(3), METEO 470(3), METEO 471W(3), METEO 472W(3), METEO 475W(3), METEO 477(3), METEO 480W(3) (Up to 9 of these credits in relevant courses in Acoustics, Chemistry, Engineering, Mathematics, and Physics may be substituted with the approval of the student's adviser.) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits of W courses or their equivalent in addition to METEO 440W. (Sem: 7-8)

CLIMATOLOGY OPTION: (30 credits)

PRESCRIBED COURSES (18 credits)
METEO 422(3), METEO 436(3)**[1]**, METEO 437(3)**[1]**, METEO 451(3), METEO 470(3), METEO 473(3) **[1]**(Sem: 6-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits from GEOG 310W(3), GEOG 412W(3), GEOG 417(3), GEOG 430(3)*, GEOG 438W(3)*, GEOSC 320(3), METEO 452(3), METEO 454(3), METEO 466(3), METEO 472W(3), METEO 474(3), METEO 475W(3) or GEOSC 475W(3), METEO 480W(3)*, METEO 486(3), METEO 496(3)* (Sem: 6-8)
**Research would be climate-related.*

ENVIRONMENTAL METEOROLOGY OPTION: (31 credits)

PRESCRIBED COURSES (16 credits) (May apply to General Education)
BIOL 110 GN(4), C E 370(3), GEOG 160 GS(3), METEO 454(3)**[1]**, METEO 480W(3) (Sem: 2-8)

ADDITIONAL COURSES (15 credits) (May apply to General Education)
Select 3 credits from METEO 473(3)**[1]** or METEO 474(3)**[1]** (Sem: 5-8)
Select 12 credits from B E 300(3), C E 475(4), E B F 200 GS(3), E R M 430(3), EGEE 470(3), GEOG 323(3), GEOG 362(3), GEOG 363(3), GEOG 313(3), M E 320(3), M E 405(3), M E 433(3), METEO 422(3), METEO 436(3), METEO 437(3), METEO 448(3), METEO 455(3), STAT 462(3), W F S 209 GN(3) (Sem: 2-8)

GENERAL OPTION: (30 credits)

ADDITIONAL COURSES (6 credits)
Select 3 credits from METEO 436(3)**[1]** or METEO 437(3)**[1]** or METEO 454(3)**[1]** (Sem: 5-8)
Select 3 credits from METEO 473(3)**[1]** or METEO 474(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
Select 24 credits from 400-level METEO courses and/or 200-, 300-, or 400-level courses from the Colleges of Agricultural Sciences, Earth and Mineral Sciences, Engineering, and/or Science (Sem: 7-8)

WEATHER FORECASTING AND COMMUNICATIONS OPTION: (31-32 credits)

PRESCRIBED COURSES (13 credits)
METEO 481(3), METEO 482(3) (Sem: 5-6)
METEO 414(4), METEO 415(3) (Sem: 6-8)

ADDITIONAL COURSES (18-19 credits)
Select 3 credits from METEO 436(3)**[1]** or METEO 437(3)**[1]** (Sem: 5-8)
Select 3-6 credits from METEO 473(3)**[1]** and METEO 474(3)**[1]** (Sem: 5-8)
Select 9-13 credits from CAS 211(3) (Sem: 5-8); E E 477(3) or METEO 477(3); ENGL 416(3), GEOSC 402Y IL(3), METEO 412(4), METEO 413(3), METEO 416(3), METEO 418W(3), METEO 422(3), METEO 454(3), METEO 471W(3), METEO 483(3), METEO 484(3), METEO 485(2-3), METEO 486(3), METEO 496(3)* (Sem: 7-8)
*If a weather-forecasting-and-communications related internship

WEATHER RISK MANAGEMENT OPTION: (30-31 credits)

PRESCRIBED COURSES (18 credits) (May apply to General Education)
E B F 200 GS(3) (Sem: 1-2)
EM SC 301(3), E B F 473(3) (Sem: 3-6)
METEO 460(3), METEO 473(3)**[1]**, METEO 474(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
Select 3 credits from METEO 436(3)**[1]**, METEO 437(3)**[1]** or METEO 454(3)**[1]**** (Sem: 5-8)
Select 3 credits from E B F 4013) or ENNEC 484(3) (Sem: 6-8)
Select 3 credits from ECON 490(3), STAT 318(3), STAT 319(3), STAT 414(3), STAT 415(3), STAT 460(3) or STAT 462(3) (Sem: 6-8)
Select 3-4 credits from METEO 414(4), METEO 415(3), METEO 416(3), METEO 417(3), METEO 448(3), METEO 452(3), METEO 454(3)*, METEO 455(3), METEO 456(3), METEO 470(3), METEO 476(3). (Sem: 6-8) Substitutions are possible subject to *prior* approval by the option director.
**Preferred choice
*If not used to fill above requirement

Integrated B.S./M.S. Program in Meteorology

The Department of Meteorology offers an integrated B.S./M.S. (IUG) Program that is designed to allow academically superior students to obtain both the B.S. and the M.S. degree in Meteorology in five years of study. In order to complete the program in five years, students interested in the Integrated B.S./M.S. Program in Meteorology must apply for admission to the Graduate School and the Integrated B.S./M.S. Program by the end of their junior year.

During the first three years, the student will follow the course scheduling of one of the options in the B.S. degree, normally the Atmospheric Sciences or the General option (see the Undergraduate*Bulletin*). Students who intend to enter the Integrated B.S./M.S. program are encouraged to take upper level classes during their first three years whenever appropriate. By the end of the junior year, students normally apply for admission to both the IUG program and to the Graduate School. Acceptance decisions will be made prior to the beginning of the senior year and M.S. advising committees appointed for successful applicants. During the senior year, IUG students follow the scheduling of the selected B.S. Meteorology option, with an emphasis on completing 500-level course work as appropriate. During the senior year, IUG students will start work on their theses or papers that are designed to meet the requirements of the M.S. degree in Meteorology. During the fifth year, IUG students take courses fulfilling the departmental M.S. degree requirements and complete their M.S. theses or papers. Typical scheduling plans for students pursuing the General or Atmospheric Sciences options are given on the departmental Web site http://www.met.psu.edu. Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student receives financial support, for example, via an assistantship requiring the payment of graduate tuition.

Admission Requirements

Students who wish to complete the Integrated B.S./M.S. Program in Meteorology should apply for admission to both the Graduate School and the Integrated B.S./M.S. Program by no later than the end of their junior year. In this case, successful students will be admitted formally into the graduate program in Meteorology just prior to their senior year, if their progress has been satisfactory. Admission prior to the senior year is also possible in some unusual circumstances. In all cases, admission to the program will be at the discretion of the Graduate Admissions Officer for the Department of Meteorology, who will determine the necessary criteria for all applicants. These criteria include the setting of the minimum required scores on the GRE and the minimum cumulative GPA for consideration, the receipt of sufficiently strong recommendation letters from three faculty and a strong letter of support from the department head, and the writing of an excellent proposal for a workable research project with a specific adviser; normally, evidence of significant research progress must be provided in the application as well.

The details of the program requirements can be found in the Graduate Degree Programs *Bulletin*.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated courses is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-02-022

Review Date: 10/7/08

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Comments

Microbiology

University Park, Eberly College of Science (MICRB)

PROFESSOR PHILIP W. MOHR, *in charge*

Microbiology is the science of the "simple" forms of life and of the response of more complex life forms to their presence and activities. Students in the Microbiology major will (1) complete a comprehensive study of life processes at the molecular and cellular level, with particular emphasis on prokaryotes, and (2) perform basic and advanced techniques in laboratory methodology. Through advanced course study, the many subdisciplines of microbiology such as molecular genetics, immunology, and virology may be explored more fully. Ample opportunities exist for participation in faculty-initiated research projects. Extensive laboratory experience is a particular strength of the major. Courses in such applied areas as industrial, medical, and food microbiology help prepare students for careers in the pharmaceutical, biotechnical, and agricultural industries.

In order to be eligible for entrance to the Microbiology major, a student must have: (1) attained at least a 2.00 cumulative grade-point average and (2) completed CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), and MATH 140 GQ(4) and earned a grade of C or better in each of these courses.

For the B.S. degree in Microbiology, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 95 credits**[86]**
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (64 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4), PSU 016(1) (Sem: 1-2)
PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 1-4)
BIOL 322(3), CHEM 210(3), CHEM 212(3), CHEM 213(2), MICRB 201(3)**[85]**, MICRB 202(2), MICRB 251(3)**[85]**, MICRB 252(3)**[85]**, MICRB 442(3) (Sem: 3-4)
B M B 400(2), B M B 401(3), B M B 402(3), MICRB 421W(3) (Sem: 5-6)
B M B 428(3) (Sem: 5-8)

ADDITIONAL COURSES (21-23 credits)
Select any four of the following: MICRB 401(3), MICRB 410(3), MICRB 412(3), MICRB 415(3), or MICRB 450(2) (Sem: 5-6)
Select 3 credits from B M B 444(1), B M B 445W(2), B M B 446(1), MICRB 422(2), MICRB 447(1) (Sem: 5-8)
Select 6-7 credits from FD SC 408(2) or any other MICRB 400-level course except MICRB 400(2) and MICRB 496(1-18) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9-11 credits)
Select 9-11 credits from department list (Sem: 5-8)

Note: A student enrolled in an ROTC program may, after consultation with the head of the microbiology program, substitute up to 6 credits of ROTC in the categories of Additional Courses and Supporting Courses and Related Areas.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[85] To graduate, a grade of C or better is required in two of the following courses: MICRB 201, B M B/MICRB 251, B M B/MICRB 252.
[86] To graduate, a grade of C or better is required in 9 credits of any B M B, or MICRB 400-level course except B M B 443W, B M B 444, B M B 445W, B M B 446, B M B 496, MICRB 421W, MICRB 422, MICRB 442, MICRB 447, MICRB 496.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-144

Review Date: 02/23/2010

UCA Revision #1: 8/9/06

SC

Mining Engineering

University Park, College of Earth and Mineral Sciences (MNG E)

PROFESSOR R. LARRY GRAYSON, *Undergraduate Program Officer*

The B.S. program in Mining Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: 410-347-7700.

The undergraduate curriculum in mining engineering has been designed to enable students to apply the fundamentals necessary to achieve lifelong professional growth. Upon completion of the program, graduates will be able to pursue employment opportunities in both the private and public sectors as mining engineers, or will be able to pursue advanced education.

The courses are sequenced so that an appropriate blend of theory, applications, and project design is achieved. This enables the mining engineering student to appreciate and comprehend that a successful engineering design project requires a sound theoretical foundation, supported by experimentation and good engineering judgment. The program is designed such that the fundamentals of mathematics, earth, and engineering sciences are integrated into traditional mining engineering topics. Design projects, culminating in the capstone design project, are required throughout the curriculum. The proper execution of these projects requires an awareness of acceptable problem-formulation strategies, the testing of alternative design methodologies, feasibility studies, environmental impacts, and overall economic considerations.

Graduates of the program will be prepared to perform in the various steps of mineral extraction, including exploration, evaluation, development, recovery, and processing. The mining engineering faculty is committed to an interactive teaching and learning environment to ensure that the student plays an active role in the learning process. The general education opportunities are sufficiently broad and diverse in nature and scope to enable the student to tailor the educational experience to particular interests, backgrounds, and expected roles in society.

Mining Engineering graduates will be:

1. Employed in mining or related industries or agencies in technical, research, safety, or managerial roles;
2. Qualified and competent to sit for the professional engineer exam;
3. Solving design and project-related problems based on sound, state-of-the-art mining engineering principles and practices;
4. Engaged in solitary assignments and multi-disciplinary teams addressing economic, budgeting, planning, regulatory, labor, safety and health, environmental, legal and ethical issues in mining-related fields;
5. Effective written and oral communicators; and
6. Pursuing continued learning through education, professional training, and participation in professional activities.

STUDENT-TRAINEE PROGRAM: A five-year work-study plan is available to incoming students in Mining Engineering. Alternating periods of employment in industry and schooling at Penn State, the student-trainee obtains the BS degree in five years instead of four, following a rearranged major. Numerous mining and manufacturing companies as well as governmental agencies are cooperating with the University in providing employment during work periods. In addition to earning sufficient funds to finance their education, student-trainees acquire two years of valuable, practical, and professional experience. Additional information can be obtained from the department.

For the B.S. degree in Mining Engineering, a minimum of 130 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 112 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 6 credits of GWS courses; 3 credits of GH courses.)

PRESCRIBED COURSES (83 credits)
CHEM 110 GN(3), CHEM 111 GN(1), EM SC 100S GWS(3)**[71]** (Sem: 1-2)
ECON 102 GS(3), EDSGN 100(3) (Sem: 1-4)
MATH 140 GQ(4), MATH 141 GQ(4), MATH 250(3), STAT 301 GQ(3) (Sem: 1-6)
E MCH 210(5), GEOSC 071(3)**[1]**, PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2) (Sem: 3-4)
MNG 030(3)**[1]**, MNG 402(3), MNG 422(3), MNG 431(3) (Sem: 3-8)
MN PR 301(3)**[1]**, MN PR 413(1)**[1]**, MNG 404(2), MNG 412(3) (Sem: 5-6)
GEOSC 201(4), MNG 023(2), MNG 410(2), MNG 411(2), MNG 441(3)**[1]**, MNG 451W(5)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (23 credits)
Select 23 credits, one course from each category a, b, c, d, e, f, g, or h:

a. ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
b. PHIL 103 GH(3) or PHIL 106 GH(3) or PHIL 107 GH(3)
   or PHIL 233 GH(3)/S T S 233 GH(3) (Sem: 1-4)
c. CMPSC 201 GQ(3) or CMPSC 202 GQ(3)
d. MATH 220 GQ(2-3) or MATH 231(2) (Sem: 3-4)
e. E MCH 212(3) or E MCH 212H(3) (Sem: 3-4)
f. EME 301(3) or M E 300(3) (Sem: 4-6)
g. EME 303(3) or C E 360(3) (Sem: 5-6)
h. MNG 470 or GEOSC 470W (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with adviser (Students may apply 6 credits of ROTC.) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[71] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS or ENGL 202C GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-031

Review Date: 4/14/09

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

EM

Music

University Park, College of Arts and Architecture (MUSBA)

PROFESSOR SUE HAUG, *Director, School of Music*

The Bachelor of Arts degree in Music combines a broad liberal education with a selection of courses in Music. The degree is designed to develop basic musicianship, the ability to perform, and a set of principles that leads to a fuller intellectual grasp of the art.

Students are required to pass a piano proficiency examination, enroll in a core ensemble for two semesters, and satisfactorily complete a senior project. Application for admittance into the program requires completion of a two-year core of music and General Education courses.

For the B.A. degree in Music, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(1-3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in the REQUIREMENTS FOR THE MAJOR, ELECTIVE, or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 51-53 credits**[1]**
(This includes 1-3 credits of General Education courses: 1-3 credits of GA courses.)

PRESCRIBED COURSES (28 credits)
MUSIC 119S(2), MUSIC 121(1), MUSIC 122(1), MUSIC 131(2), MUSIC 132(2), MUSIC 162 IL(2) (Sem: 1-2)
MUSIC 221(1), MUSIC 222(1), MUSIC 231(2), MUSIC 261 IL(3), MUSIC 262 IL(3), MUSIC 331(2) (Sem: 3-4)
MUSIC 332(2) (Sem: 5-6)
MUSIC 101(1), MUSIC 476W(3) (Sem: 7-8)

ADDITIONAL COURSES (1-3 credits)
INART 258A GA(3) or INART 258B GA(1)

SUPPORTING COURSES AND RELATED AREAS (22 credits)
Select 6 credits in applied music through Level IV of Primary (Sem: 1-8)
Select 4 credits of ensembles (see School of Music Handbook for list of ensembles) (Sem: 1-8)
Select 12 credits of 400-level music courses (see School of Music Handbook for specific requirements) (Sem: 5-8)

Integrated B.A. in Music - M.A. in Music Theory

The School of Music offers a limited number of academically superior students enrolled in the Bachelor of Arts in Music the opportunity to enroll in an integrated program leading to both the B.A. in Music and the Master of Arts in Music Theory in a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in five years. In particular, the program encourages the student to integrate the undergraduate thesis with the master's thesis thereby achieving a greater depth of inquiry.

Application Process

To initiate the application process, students must submit a transcript, faculty recommendation, writing sample, and statement of goals. A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the IUG program. Normally a student would apply after the fourth semester and before the end of the sixth semester. For acceptance into the program students must successfully complete the following courses or their equivalent with a minimum average of 3.5 in their music courses, and a minimum GPA of 3.0.

4 semesters of music theory (MUSIC 131, MUSIC 132, MUSIC 231, MUSIC 331)
4 semesters of musicianship (MUSIC 121, MUSIC 122, MUSIC 221, MUSIC 222)
3 semesters of music history (MUSIC 162, MUSIC 261, MUSIC 262)

Reduced Course Load

As many as twelve of the credits required for the master's degree may be applied to both undergraduate and graduate degree programs. A minimum of 50% of the courses proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted.

B.A. Senior Project (Music 476W) / M.A. Thesis (Music 600)
Students will be encouraged to select a B.A. Senior Project topic (Music 476W) that will later develop into the M.A. Thesis. It is expected that the Master's Thesis consist of greater depth and specialization than the Senior Project.

Eligibility for a Graduate Assistantship
Students in the IUG program will be eligible for a graduate assistantship starting in the beginning of the fifth year.

Tuition Charges
Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student received financial support, for example, an assistantship requiring the payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate-Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

Integrated B.A. in Music - M.A. in Music Theory and History

The School of Music offers a limited number of academically superior students enrolled in the Bachelor of Arts in Music the opportunity to enroll in an integrated program leading to both the B. A. in Music and the Master of Arts in Music Theory and History in a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in five years. In particular, the program encourages the student to integrate the undergraduate thesis with the master's thesis thereby achieving a greater depth of inquiry.

Application Process

To initiate the application process, students must submit a transcript, faculty recommendation, writing sample, and statement of goals. A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the IUG program. Normally a student would apply after the fourth semester and before the end of the sixth semester. For acceptance into the program students must successfully complete the following courses or their equivalent with a minimum average of 3.5 in their music courses, and a minimum GPA of 3.0.

4 semesters of music theory (MUSIC 131, MUSIC 132, MUSIC 231, MUSIC 331)
4 semesters of musicianship (MUSIC 121, MUSIC 122, MUSIC 221, MUSIC 222)
3 semesters of music history (MUSIC 162, MUSIC 261, MUSIC 262)

Reduced Course Load
As many as twelve of the credits required for the master's degree may be applied to both undergraduate and graduate degree programs. A minimum of 50% of the courses proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted.

B.A. Senior Project (Music 476W) / M.A. Thesis (Music 600)
Students will be encouraged to select a B.A. Senior Project topic (Music 476W) that will later develop into the M.A. Thesis. It is expected that the Master's Thesis consist of greater depth and specialization than the Senior Project.

Eligibility for a Graduate Assistantship
Students in the IUG program will be eligible for a graduate assistantship starting in the beginning of the fifth year.

Tuition Charges
Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student received financial support, for example, an assistantship requiring the payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate-Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

Integrated B.A. in Music - M.A. in Musicology

The School of Music offers a limited number of academically superior students enrolled in the Bachelor of Arts in Music the opportunity to enroll in an integrated program leading to both the B.A. in Music and the Master of Arts in Musicology in a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in five years. In particular, the program encourages the student to integrate the undergraduate thesis with the master's thesis thereby achieving a greater depth of inquiry.

Application Process

To initiate the application process, students must submit a transcript, faculty recommendation, writing sample, and statement of goals. A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the IUG program. Normally a student would apply after the fourth semester and before the end of the sixth semester. For acceptance into the program students must successfully complete the following courses or their equivalent with a minimum average of 3.5 in their music courses, and a minimum GPA of 3.0.

4 semesters of music theory (MUSIC 131, MUSIC 132, MUSIC 231, MUSIC 331)
4 semesters of musicianship (MUSIC 121, MUSIC 122, MUSIC 221, MUSIC 222)
3 semesters of music history (MUSIC 162, MUSIC 261, MUSIC 262)

Reduced Course Load
As many as twelve of the credits required for the master's degree may be applied to both undergraduate and graduate degree programs. A minimum of 50% of the courses proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted.

B.A. Senior Project (Music 476W) / M.A. Thesis (Music 600)
Students will be encouraged to select a B.A. Senior Project topic (Music 476W) that will later develop into the M.A. Thesis. It is expected that the Master's Thesis consist of greater depth and specialization than the Senior Project.

Tuition Charges
Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student received financial support, for example, an assistantship requiring the payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate-Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010 (MUSBA); Fall Semester 2002 (Integrated Programs)

Blue Sheet Item #: 38-06-009A (MUSBA); 30-07-036, 30-07-038, 30-07-040 (Integrated Programs)

Review Date: 04/13/2010

Director name last updated: 01/13/06

AA

Music

University Park, College of Arts and Architecture (MUSBM)

PROFESSOR SUE HAUG, *Director, School of Music*

The Bachelor of Music degree program is intended to prepare students for careers in composition or performance. Completion of this program requires that the student achieve a high level of competence in order to begin professional work or pursue further studies at the graduate level.

Entrance into this program will be determined by departmental evaluation.

For the B.M. degree in Music with an option in Composition, a minimum of 121 credits is required; with an option in Keyboard Instruments, a minimum of 126 credits is required; with an option in Strings, Winds, Brass and Percussion Instruments, a minimum of 125 credits is required; and with an option in Voice, a minimum of 129 credits is required. All students are required to pass a piano proficiency examination.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 79-88 credits
(This includes 3 credits of General Education GA courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 37 credits**[1]**

PRESCRIBED COURSES (27 credits)
INART 258A GA(3), MUSIC 121(1), MUSIC 122(1), MUSIC 131(2), MUSIC 132(2), MUSIC 162(2) (Sem: 1-2)
MUSIC 221(1), MUSIC 222(1), MUSIC 231(2), MUSIC 261(3), MUSIC 262(3), MUSIC 266(1) (Sem: 3-4)
MUSIC 331(2), MUSIC 332(2) (Sem: 5-6)
MUSIC 101(1) (Sem: 7-8)

ADDITIONAL COURSES (10 credits)
Select 4 credits of approved ensembles (see School of Music Handbook for list of ensembles) (Sem: 1-8)
Select 6 credits from MUSIC 461W(3), MUSIC 462W(3), MUSIC 463W(3), MUSIC 464W(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 42-51 credits

COMPOSITION OPTION: (42-33 credits)

PRESCRIBED COURSES (31-33 credits)**[1]**
MUSIC 173S(2), MUSIC 174(2) (Sem: 1-2)
MUSIC 273(2), MUSIC 274(2) (Sem: 3-4)
MUSIC 336(2), MUSIC 373(3), MUSIC 374(3), MUSIC 458(3), MUSIC 472(2) (Sem: 5-6)
MUSIC 431(2-3), MUSIC 433(2-3), MUSIC 473(3), MUSIC 474(3) (Sem: 7-8)

ADDITIONAL COURSES (5 credits)**[1]**
Select 2 credits of approved ensembles (see School of Music Handbook for list of ensembles) (Sem: 1-8)
Select 3 credits of MUSIC courses (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with adviser (Students may apply 6 credits of ROTC.) (Sem: 3-8)

KEYBOARD INSTRUMENTS OPTION: (47-48 credits)

PRESCRIBED COURSES (6 credits)
MUSIC 129S(3) (Sem: 1)
MUSIC 481(3) (Sem: 5-7)

ADDITIONAL COURSES (8-9 credits)
Select 2-3 credits from MUSIC 181(2), MUSIC 182(2), MUSIC 267(2), MUSIC 336(2), MUSIC 422(3), MUSIC 431(2-3), MUSIC 432(2-3), MUSIC 433(2-3), MUSIC 438(2), MUSIC 471(2), MUSIC 472(2) (Sem: 5-8)
Select 4 credits of approved ensembles (see School of Music Handbook for list of ensembles) (Sem: 5-8)
Select 2 credits from MUSIC 419(2) or MUSIC 424(2) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (33 credits)
Select 21 credits in applied music through Level VIII of performance**[1]** (Sem: 2-8)
Select 4 credits in a secondary instrument**[1]** (Sem: 1-8)

Select 4 credits in music in consultation with adviser**[1]** (Students may apply 2 credits of ROTC.) (Sem: 1-8)
Select 4 credits in consultation with adviser**[1]** (Students may apply 4 credits of ROTC.) (Sem: 1-8)

STRINGS, WINDS, BRASS AND PERCUSSION INSTRUMENTS OPTION: (46-47 credits)

PRESCRIBED COURSES (3 credits)
MUSIC 129S(3) (Sem: 1)

ADDITIONAL COURSES (12-13 credits)
(MUSIC 336 and MUSIC 422 may fulfill the requirement of Additional Courses or Supporting Courses and Related Areas in the option, but not both.)
Select 2-3 credits from MUSIC 181(2), MUSIC 182(2), MUSIC 267(2), MUSIC 336(2), MUSIC 422(3), MUSIC 431(2-3), MUSIC 432(2-3), MUSIC 433(2-3), MUSIC 438(2), MUSIC 472(2) (Sem: 5-8)
Select 4 credits of approved ensembles (see School of Music Handbook for list of ensembles) (Sem: 5-8)
Select 1 credit from MUSIC 414(1-2), MUSIC 415(1-2), MUSIC 416(1-2), or MUSIC 417(1-2) (Sem: 5-8)
Select 5 credits from the following lists (at least 3 credits must be from List A):
List A: MUSIC 336(2), MUSIC 422(3), MUSIC 485(3), MUSIC 487(3) (Sem: 5-8)
List B: MUSIC 086 GA(1), MUSIC 181(2), MUSIC 190(1), MUSIC 191(1), MUSIC 192(1), MUSIC 366(1), MUSIC 421(1), MUSIC 466(2) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (31 credits)
Select 21 credits in applied music through Level VIII of performance**[1]** (Sem: 2-8)
Select 4 credits in a secondary instrument**[1]** (Sem: 1-8)
Select 4 credits in music in consultation with adviser**[1]** (Students may apply 4 credits of ROTC.) (Sem: 1-8)
Select 2 credits in consultation with adviser**[1]** (Students may apply 2 credits of ROTC.) (Sem: 1-8)

VOICE OPTION: (50-51 credits)

PRESCRIBED COURSES (5 credits)
MUSIC 129S(3) (Sem: 1)
MUSIC 418(2) (Sem: 7)

ADDITIONAL COURSES (6-7 credits)
Select 2-3 credits from MUSIC 181(2), MUSIC 182(2), MUSIC 267(2), MUSIC 336(2), MUSIC 422(3), MUSIC 431(2-3), MUSIC 432(2-3), MUSIC 433(2-3), MUSIC 438(2), or MUSIC 472(2) (Sem: 5-8)
Select 4 credits of approved ensembles (see School of Music Handbook for list of ensembles) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (39 credits)
Select 21 credits in applied music through Level VIII of performance**[1]** (Sem: 2-8)
Select 8 credits in one foreign language: French, German or Italian (Sem: 1-8)
Select 4 credits in a secondary instrument**[1]** (Sem: 1-8)
Select 3 credits in music in consultation with adviser**[1]** (Sem: 1-8)
Select 3 credits in consultation with adviser**[1]** (Students may apply 2 credits of ROTC.) (Sem: 1-8)

Integrated B.M. in Performance - M.A. in Music Theory

The School of Music offers a limited number of academically superior students enrolled in the Bachelor of Music the opportunity to enroll in an integrated program leading to both the B.M. in Performance and the Master of Arts in Theory in a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in five years.

Application Process

To initiate the application process, students must submit a transcript, faculty recommendation, writing sample, and statement of goals. A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the IUG program. Normally a student would apply after the fourth semester and before the end of the sixth semester. For acceptance into the program students must successfully complete the following courses or their equivalent with a minimum average of 3.5 in their music courses, and a minimum GPA of 3.0.

4 semesters of music theory (MUSIC 131, MUSIC 132, MUSIC 231, MUSIC 331)
4 semesters of musicianship (MUSIC 121, MUSIC 122, MUSIC 221, MUSIC 222)
3 semesters of music history (MUSIC 162, MUSIC 261, MUSIC 262)

Reduced Course Load
As many as twelve of the credits required for the master's degree may be applied to both undergraduate and graduate degree programs. A minimum of 50% of the courses proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted.

Eligibility for a Graduate Assistantship
Students in the IUG program will be eligible for a graduate assistantship starting in the beginning of the fifth year.

Tuition Charges
Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student received financial support, for example, an assistantship requiring the payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate - Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

Integrated B.M. in Performance - M.A. in Music Theory and History

The School of Music offers a limited number of academically superior students enrolled in the Bachelor of Music the opportunity to enroll in an integrated program leading to both the B.M. in Performance and the Master of Arts in Music Theory and History in a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in five years.

Application Process

To initiate the application process, students must submit a transcript, faculty recommendation, writing sample, and statement of goals. A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the IUG program. Normally a student would apply after the fourth semester and before the end of the sixth semester. For acceptance into the program students must successfully complete the following courses or their equivalent with a minimum average of 3.5 in their music courses, and a minimum GPA of 3.0.

4 semesters of music theory (MUSIC 131, MUSIC 132, MUSIC 231, MUSIC 331)
4 semesters of musicianship (MUSIC 121, MUSIC 122, MUSIC 221, MUSIC 222)
3 semesters of music history (MUSIC 162, MUSIC 261, MUSIC 262)

Reduced Course Load
As many as twelve of the credits required for the master's degree may be applied to both undergraduate and graduate degree programs. A minimum of 50% of the courses proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted.

Eligibility for a Graduate Assistantship
Students in the IUG program will be eligible for a graduate assistantship starting in the beginning of the fifth year.

Tuition Charges
Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student received financial support, for example, an assistantship requiring the payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate - Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

Integrated B.M. in Performance - M.A. in Musicology

The School of Music offers a limited number of academically superior students enrolled in the Bachelor of Music the opportunity to enroll in an integrated program leading to both the B.M. in Performance and the Master of Arts in Musicology in a continuous program of study culminating in both degrees. The ability to coordinate as well as concurrently pursue the two degree programs enables the student to achieve greater depth and comprehensiveness than if the degrees are pursued sequentially and to earn the two degrees in five years.

Application Process

To initiate the application process, students must submit a transcript, faculty recommendation, writing sample, and statement of goals. A faculty adviser will help undergraduate candidates determine a sequence of courses that will prepare them for acceptance into the IUG program. Normally a student would apply after the fourth semester and before the end of the sixth semester. For acceptance into the program students must successfully complete the following courses or their equivalent with a minimum average of 3.5 in their music courses, and a minimum GPA of 3.0.

4 semesters of music theory (MUSIC 131, MUSIC 132, MUSIC 231, MUSIC 331)
4 semesters of musicianship (MUSIC 121, MUSIC 122, MUSIC 221, MUSIC 222)
3 semesters of music history (MUSIC 162, MUSIC 261, MUSIC 262)

Reduced Course Load
As many as twelve of the credits required for the master's degree may be applied to both undergraduate and graduate degree programs. A minimum of 50% of the courses proposed to count for both degrees must be at the 500 level. Thesis credits may not be double counted.

Eligibility for a Graduate Assistantship
Students in the IUG program will be eligible for a graduate assistantship starting in the beginning of the fifth year.

Tuition Charges
Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student received financial support, for example, an assistantship requiring the payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate-Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2004 (MUSBM); Fall Semester 2002 (Integrated Programs)

Blue Sheet Item #: 32-05-003 (MUSBM); 30-07-037, 30-07-039, 30-07-041 (Integrated Programs)

Review Date: 3/2/04

Director name last updated: 01/13/06

AA

Music Education

University Park, College of Arts and Architecture (MU ED)

PROFESSOR SUE HAUG, *Director, School of Music*

The Bachelor of Music Education (B.M.E.) degree is a professional program that helps prepare students for teaching in elementary and secondary schools. Students are expected to meet all requirements for Entrance to Teacher Certification Program in Music, must pass the piano proficiency, complete all music courses, SPLED 400 and SPLED 403A or 403B, prior to student teaching. Graduates of this program are prepared to receive the Pennsylvania Instructional I certificate for teaching music K-12. (See also Teacher Education Programs.)

The goal of the Penn State Music Teacher Education Program is to prepare exemplary music teachers for K-12 music programs. Such individuals can provide outstanding personal and musical models for children and youth and have a firm foundation in pedagogy on which to build music teaching skills. Penn State B.M.E. graduates exhibit excellence in music teaching as personal and musical models as well as emerging pedagogues.

All candidates seeking entrance to the Bachelor of Music Education (B.M.E.) must meet the following entrance to major criteria:

1. Minimum 3.00 cumulative GPA by the end of the semester prior to ETM semester and at least 48 credits completed by the end of the semester prior to ETM semester.

2. Meet PRAXIS PPST-READING current qualifying scores by the end of the semester prior to ETM semester.

3. Meet PRAXIS PPST-WRITING current qualifying scores by the end of the semester prior to ETM semester.

4. Meet PRAXIS PPST-MATHEMATICS current qualifying scores by the end of the semester prior to ETM semester.

If unsuccessful in one or more PSST requirements, see http://www.edu.psu.edu/educ/current-students/undergraduate/teaching-testing/alt-ppst for information on the Alternate Scoring Method.

5. Complete 6 credits in quantification (GQ) ("C" or higher required).

6. Complete 3 credits in literature (GH) ("C" or higher required).
See http://www.ed.psu.edu/currentstudents/undergraduate/certification/literature

7. Complete ENGL 015 or ENGL 030 ("C" or higher required).
Course List: ENGL 015 or ENGL 030

8. Complete early field experience ("C" or higher required).
Course List: MUSIC 295A

9. Complete EDPSY 010 and 6 additional credits of the education core ("C" or higher required).
Course List: EDPSY 010, PSYCH 100, HD FS 229, HD FS 239

10. Complete 16 credits of required courses in teaching area ("C" or higher required).
Course List: MUSIC 112, 151, 153, 154, 162, 216, 222, 261, 262, 331.

11. Complete primary level IV on applied instrument ("C" or higher required)

12. Complete and document a minimum of 80 hours of paid or volunteer work with age-appropriate population. At least 40 hours of these age-appropriate 80 hours would be satisfied by working with "under-represented learners."

13. Complete additional requirements: Voice Requirement (MUSIC 115 or VOICE 270J), Piano Requirement (MUSIC 270 or KEYBD 270J), and Percussion Requirement (MUSIC 152 or PERCN 270J) ("C" or higher required).

14. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.M.E., a minimum of 139 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(13-15 of these credits are included in the REQUIREMENTS FOR THE MAJOR. 18 of these credits are required for Entrance to Teacher Certification. See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 107-109 credits**[1]**
(This includes 13-15 credits of General Education - 6 credits of GS, 1-3 credits of GA, 3 credits of GH, and 3 credits of GN)

PRESCRIBED COURSES (52 credits)
MUSIC 040S(1), MUSIC 121(1), MUSIC 122(1), MUSIC 131(2), MUSIC 132(2), MUSIC 162 IL(2) (Sem: 1-6)
MUSIC 112(.5), MUSIC 151(1), MUSIC 153(1), MUSIC 154(1), MUSIC 216(.5), MUSIC 221(1), MUSIC 222(1), MUSIC 231(2), MUSIC 261 IL(3), MUSIC 262 IL(3), MUSIC 266(1), MUSIC 295A(1), MUSIC 331(2), MUSIC 366(1) (Sem: 3-4)
C I 280 GH(3), EDPSY 010 GS(3), INART 050 GN(3), MUSIC 332(2), MUSIC 340(2), MUSIC 341(2), MUSIC 345(2), MUSIC 395A(1), MUSIC 395B(1), SPLED 400(4) (Sem: 5-6)
MUSIC 101(1) (Sem: 7)

ADDITIONAL COURSES (45-47 credits)
Select 1-3 credits from INART 258A GA(3) or INART 258B GA(1) (Sem: 1-2)
Select 7 credits of ensembles as follows: MUSIC 076(1), MUSIC 077 GA(1), MUSIC 078 GA(1), MUSIC 080 GA(1), MUSIC 081 GA(1), MUSIC 082 GA(1), MUSIC 084 GA(1), MUSIC 086 GA(1), MUSIC 087 GA(1), MUSIC 089 GA(1), MUSIC 090 GA(1), MUSIC 091 GA(1), MUSIC 092 GA(1), MUSIC 093 GA;US;IL(1), MUSIC 094 GA(1), MUSIC 103 GA(1), MUSIC 104 GA(1), MUSIC 190 GA(1), MUSIC 191 GA (1), MUSIC 192 GA(1), MUSIC 193(1), MUSIC 194(1) (Sem: 1-7)
Select 14 credits in applied music through Primary Level VII (Sem: 1-7)
Select 3 credits from HD FS 229 GS(3), HD FS 239 GS(3) or PSYCH 100 GS(3) (Sem: 1-4)
Select 3 credits from SPLED 403A(3) or SPLED 403B(3) (Sem: 6-7)
Select 2 credits from MUSIC 181(2), MUSIC 267(2) (Sem: 5-6)
Select 3 credits from MUSIC 441W(3), MUSIC 444W(3), MUSIC 445W(3), MUSIC 446W(3) (Sem: 7)
Select 12 credits from MUSIC 495A, MUSIC 495B, MUSIC 495C, as follows:
- 5 or 7 credits of MUSIC 495A (Sem: 8)
- 5 or 7 credits of MUSIC 495B or MUSIC 495C (Sem: 8)

SUPPORTING COURSES AND RELATED AREAS (10 credits)
Select 10 credits for the Individualized Emphasis, an individualized cluster of courses approved in advance by the Music Education Faculty, from an approved department list.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-010

Review Date: 04/13/2010

UCA Revision #1: 8/9/06

Director name last updated: 01/13/06

AA

Musical Arts

University Park, College of Arts and Architecture (MUBMA)

PROFESSOR SUE HAUG, *Director, School of Music*

The Bachelor of Musical Arts degree is a multidisciplinary or interdisciplinary program that is intended to prepare students for careers in performance, while developing a secondary area of emphasis outside of music, as determined for each student on the basis of an advising process. Completion of this program requires that the student achieve a high level of competence in order to begin professional work or pursue further studies at the graduate level.

Entrance into this program will be determined by departmental evaluation. All students are required to pass a piano proficiency examination.

For the Bachelor of Musical Arts, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(3-15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-12 credits

REQUIREMENTS FOR THE MAJOR: 90 credits**[1]**
(This includes 3-15 credits of General Education courses: 3 credits of GA; 0-12 credits in the area of SUPPORTING COURSES AND RELATED AREAS)

PRESCRIBED COURSES (30 credits)
INART 258A GA(3), MUSIC 121(1), MUSIC 122(1), MUSIC 129S(3), MUSIC 131(2), MUSIC 132(2), MUSIC 162 IL(2) (Sem: 1-2)
MUSIC 221(1), MUSIC 222(1), MUSIC 231(2), MUSIC 261 IL(3), MUSIC 262 IL(3), MUSIC 266(1) (Sem: 3-4)
MUSIC 331(2), MUSIC 332(2) (Sem: 5-6)
MUSIC 101(1) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from MUSIC 461W(3), MUSIC 462W(3), MUSIC 463W(3), or MUSIC 464W(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (57 credits)
Select 21 credits in applied music through Level VIII of performance (Sem: 1-8)
Select 8 credits of approved ensembles (see School of Music Handbook for list of ensembles) (Sem: 1-8)
Select 4 credits in music in consultation with an adviser (Sem: 1-8)
Select 24 credits in consultation with adviser in an area of study other than music, at least 12 credits must be at the 400 level.
This list of courses must be approved by the College of Arts and Architecture's Dean of Undergraduate Studies.
(0-12 of these 24 credits may be included in GENERAL EDUCATION) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-06-005

Review Date: 04/12/05

Director name last updated: 01/13/06

AA

Musical Theatre

University Park, College of Arts and Architecture (THRMT)

PROFESSOR CARY LIBKIN, *in charge, Musical Theatre*

The major is intended to provide students with specialized training leading to a high level of competence in musical theatre. Graduates should be able to begin professional work or pursue further training at the graduate level. This major is intended for those students who wish to pursue a career as a musical theatre professional. Acceptance into the major is based on an evaluative audition.

For the B.F.A. degree in Musical theatre, a minimum of 127 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 88 credits
(This includes 6 credits of General Education GA courses)

PRESCRIBED COURSES (78 credits)

Theatre courses (29 credits)**[1]**
THEA 001S(1), THEA 100 GA;US;IL(3), THEA 115(2), THEA 150(3), THEA 200(2), THEA 225A(2), THEA 225B(2), THEA 225C(2) (Sem: 1-2)
THEA 289(1), THEA 425A(2), THEA 425C(2), THEA 427A(2), THEA 427C(2) (Sem: 3-4)
THEA 401W IL(3) (Sem: 5-8)

Music courses (21 credits)
THEA 113(3) (Sem: 1-2)
THEA 212(3), THEA 214(3), VOICE 110J GA(4) (Sem: 3-4)
VOICE 110J GA(4) (Sem: 5-6)
VOICE 412J(2), VOICE 462J(2) (Sem: 7-8)

Dance courses (12 credits)**[1]**
DANCE 231(1.5), DANCE 232(1.5) (Sem: 1-2)
DANCE 241(1.5), DANCE 242(1.5) (Sem: 3-4)
DANCE 251(1.5), DANCE 252(1.5), DANCE 371(1.5), DANCE 372(1.5) (Sem: 5-6)

Musical Theatre courses (16 credits)
MUSIC 113(1), MUSIC 114(1), THEA 114(3)**[1]** (Sem: 1-2)
THEA 223(2)**[1]**, THEA 224(2)**[1]** (Sem: 3-4)
THEA 408 US(3)**[1]** (Sem: 5-6)
THEA 423(2)**[1]**, THEA 424(2)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (10 credits)
Select 3 credits from either THEA 130(3) or THEA 131(3) (Sem: 3-4)
Select 2 credits from either MUSIC 050 GA(1), MUSIC 051 GA(1), or MUSIC 110(1), MUSIC 170(1) (Sem: 1-2)
Select 2 credits from MUSIC 085 GA(1), MUSIC 089 GA(1), MUSIC 090 GA(1), MUSIC 091 GA(1), MUSIC 092 GA(1), MUSIC 093 GA;US;IL(1), MUSIC 094 GA(1), MUSIC 103 GA(1), MUSIC 104 GA(1), MUSIC 467(1), THEA 326(1 per semester, maximum of 3) (Sem: 3-6)
Select 3 credits, one from each of the following groups:
a. DANCE 431(1.5), DANCE 441(1.5), DANCE 451(1.5) (Sem: 7-8)
b. DANCE 432(1.5), DANCE 442(1.5), DANCE 452(1.5) (Sem: 7-8)
(Students may apply 6 credits of ROTC)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-04-015

Review Date: 1/18/05

AA

Naval Science (NAVSC)

The Naval ROTC trains qualified young men and women at the University Park campus for service as commissioned officers in the Navy, the Navy Nurse Corps, or the Marine Corps.

Entering freshmen may be accepted into the Naval ROTC through the Four-Year College Program or in the Four-Year Scholarship Program. Freshmen who are not on scholarship may join NROTC and be eligible to compete for the Scholarship Program. Qualified sophomores either in attendance or planning to commence studies at University Park Campus with their junior year, or who have applied for transfer to Penn State from another institution, may compete for the special Two-Year College Program and the Two-Year Scholarship Program. Navy, Nurse, and Marine Corps scholarships provide full tuition, book allotment, laboratory and instructional fees, and a $250-350 per month subsistence allowance. In addition, Nurse scholarship students are issued special equipment required by the BSN curriculum.

Students who receive the baccalaureate degree and complete the NROTC program receive commissions as ensigns or second lieutenants. College Program commissionees are required to serve at least three years of active duty. Scholarship Program commissionees are committed to four years of active duty.

COURSES--All students must complete at least 18 credits of Naval Science (NAVSC) courses; subjects and credits appear under course descriptions (ROTC/NAVSC) later in this bulletin. College Program students must participate in one active duty training period (cruise) during the summer between junior and senior years. Scholarship students are required to participate in either two (Nurse) or three (Navy and Marine Corps) summer cruises prior to commissioning.

In addition, all Navy scholarship students must complete University courses in calculus, physics, national security policy, and American military affairs. Requirements for Nurse and Marine Corps scholarship students are somewhat less. College Program students must complete University courses in national security policy and American military affairs.

Effective Date: Current

Review Date: 4/19/04

Nuclear Engineering

University Park, College of Engineering (NUC E)

PROFESSOR KAREN A. THOLE, *Head, Department of Mechanical and Nuclear Engineering*
PROFESSOR JACK S. BRENIZER, JR., *Program Chair, Nuclear Engineering Program*

The overall educational objective of the Nuclear Engineering program is to prepare our graduates to function effectively in the marketplace in a wide range of career paths in Nuclear Engineering. The technical part of the curriculum, emphasizes power engineering, which refers to complex systems used to generate electricity. Because our emphasis in power engineering is strong, and because a shortage for this expertise exists in the industry, generally the industry values our graduates highly. We recognize that nuclear science is an important growth area. We constantly assess and review the needs of our undergraduate students and their most frequent employers and use this feedback to consider revisions to our curriculum so that it is responsive to the needs of our constituents.

Accordingly, we will maintain and provide a curriculum that prepares our graduates such that:

- Work effectively in multidisciplinary and multicultural teams, communicate effectively and recognize the global, societal and ethical aspects of their work.
- Within two to three years of graduation, the majority of our B.S. graduates are expected to:
  - be working in industry, especially power engineering,
  - be working in government agencies or national laboratories,
  - be pursuing advanced degrees.
- After five to ten years we expect that many of our graduates will have established strong records of achievement at various technical and managerial levels in industry and government.

The first two years of the program stress fundamentals in mathematics, chemistry, physics, computer programming, and engineering sciences such as mechanics, materials, and thermodynamics. The last two years provide the breadth and depth in nuclear science, behavior of heat and fluids, reactor theory and engineering, and radiation measurement. The laboratory work includes experiments using the University's 1,000-kilowatt research reactor. Engineering design is incorporated in many courses from the freshman year to the senior year, but is particularly emphasized in the senior capstone design course, which integrates the critical elements of reactor theory, reactor engineering, safety considerations and economic optimization into a reactor design.

Many graduates are employed by electric power companies that use nuclear power plants, or by companies that help service and maintain those plants. They use their knowledge of engineering principles, radioactive decay, interactions of radiation with matter, and nuclear reactor behavior to help assure that the power plants meet the demand for reliable, economic electricity while ensuring a safe environment. To do this, graduates must be problem solvers who can develop and use complex computer models and sophisticated monitoring systems, design systems to handle radioactive waste, determine if the materials in the plant are becoming brittle or corroded, or manage the fuel in the reactor to get the maximum energy from it. Other graduates work in industries that use radioactivity or radiation to detect problems or monitor processes. Jobs are also found in branches of the government as designers of the next generation of reactors for submarines, aircraft carriers, or space probes, or to manage and clean up contaminates wastes. They could also be involved with regulation of nuclear power or radiation uses, or in research to develop advanced technologies that will be used in next-generation power plants. Graduates who want to further their education in the fields of health physics, radiation biology, or nuclear medical applications find this degree to be a useful preparation.

For the B.S. degree in Nuclear Engineering, a minimum of 129 credits is required. This baccalaureate program in Nuclear Engineering is accredited by the Engineering Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone 410-347-7700; or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(27 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.*)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 111 credits
(This includes 27 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (89 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), EDSGN 100(3), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, PHYS 211 GN(4)**[1]**, PHYS 212 GN(4) (Sem: 1-2)
E MCH 211(3), E MCH 212(3), E MCH 213(3), M E 300(3), MATH 230(4), MATH 251(4)**[1]**, PHYS 214 GN(2) (Sem: 3-4)
E E 212(3), E MCH 315(2), E MCH 316(1), M E 320(3), M E 410(3), NUC E 301(4)**[1]**, NUC E 302(4)**[1]**, NUC E 309(3)**[1]**, NUC E 450(3)**[1]** (Sem: 5-6)

ENGL 202C GWS(3), NUC E 310W(2), NUC E 403(3), NUC E 430(3)**[1]**, NUC E 431W(4), NUC E 451(3) (Sem: 7-8)

ADDITIONAL COURSES (19 credits)
Select 1 credit of First-Year Seminar (Sem: 1-2)
ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3) or E B F 200 GS(3) (Sem: 1-2)
ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
CAS 100A GWS(3) or CAS 100B GWS(3) (Sem: 3-4)
CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 3-4)
Select 6 credits, of which 3 credits must be designated as design, from BIOE 406(3), NUC E 405, NUC E 407(3), NUC E 408, NUC E 409, NUC E 420, NUC E 428, NUC E 444, NUC E 445, NUC E 460(3), NUC E 470(3), NUC E 490, NUC E 496(1-18), NUC E 497(1-9) or 500-level NUC E courses with approval of adviser (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
(These courses may have to be chosen so that the engineering design or engineering science requirements for the major are met.)
Select 3 credits in General Technical Elective (GTE) courses from department list. (Sem: 7-8)
(Students who complete Basic ROTC may substitute 6 of the ROTC credits for 3 credits of GTE and 3 credits of GHA.)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2008

Blue Sheet Item #: 36-01-040

Review Date: 8/28/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Dept head update by Publications: 8/1/06

Comments

EN

Nursing

Altoona College
Penn State Erie,The Behrend College
Penn State Harrisburg
University College: Penn State Fayette, Penn State Mont Alto, Penn State New Kensington, Penn State Shenango, Penn State Worthington Scranton
University Park, School of Nursing (NURN)
World Campus

PROFESSOR PAULA MILONE-NUZZO, *Dean, School of Nursing*

This major prepares registered nurse students as professional practitioners in areas of health promotion and maintenance, illness care, and rehabilitation. The major in Nursing is accredited by The National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (404-975-5000), Commission on Collegiate Nursing Education (CCNE), One DuPont Circle, NW Suite 530, Washington, DC 20036; 202-463-6930. Part-time or full-time study is available at any of the campus sites. The University Park site is a blended program, which includes resident instruction and online nursing courses. The World Campus site is completely online.

Senate legislation 42-97 *Credit by Portfolio Assessment* enables students to receive credit for certain prescribed nursing courses based on their RN licensure.

Students must meet all requirements of the clinical institutions that provide preceptors and clinical experiences. These requirements may include CPR certification, professional liability insurance, health examination, drug testing, criminal background check (State and Federal) and child abuse history clearances. Students also are responsible for their own transportation to and from clinical settings and may need the use of a car.

Graduates of this major may qualify for admission to a graduate nursing program.

For the B.S. degree in Nursing, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 91-93 credits**[1]**
(This includes 21 credits of General Education courses: 3 credits of GHA courses; 9 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (76 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), HD FS 129 GS(3), MICRB 106 GN(3), MICRB 107 GN(1), NUTR 251 GHA(3), PSYCH 100 GS(3) (Sem: 1-4)
NURS 200W(3)**[38]**, NURS 251(3)**[38]**, NURS 357(3)**[38],** NURS 390 US(3)**[38]** (Sem: 3-4)
NURS 225(3)**[37]**, NURS 230(4)**[37]**, NURS 250 US(2)**[37]**, NURS 301(4)**[37]**, NURS 305(3)**[37]**, NURS 306(3)**[37]**, NURS 310(3)**[37]**, NURS 320(3)**[37]**, NURS 405B(4)**[37]**, NURS 420(4)**[37]**, (Sem: 5-6)
NURS 417 US;IL(4)**[38]**, NURS 465(3)**[38]**, NURS 475(3)**[38]** (Sem: 7-8)

ADDITIONAL COURSES (9-11 credits)
CHEM 101 GN(3); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-4)
SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or STAT 250 GQ(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from courses on school-approved list in consultation with adviser (3 credits of which must be at the 400 level)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[37] Credit by Portfolio Assessment
[38] Due to restricted enrollment, the School of Nursing assigns the semester in which students enroll in these courses and all course prerequisites must be successfully completed.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-061

Review Date: 02/23/2010

UCA Revision #1: 8/9/06

HH

Nursing

University Park (NURS)

PROFESSOR PAULA MILONE-NUZZO, *Dean, School of Nursing*

The Bachelor of Science Degree in Nursing prepares students to become professional practitioners in areas of health promotion and maintenance, illness care, and rehabilitation. After earning this degree in Nursing, students are qualified to take the registered nurse examination for licensure by the State Board of Nursing. The Nursing major is accredited by The National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (404-975-5000), the Commission on Collegiate Nursing Education (CCNE), One DuPont Circle, NW Suite 530, Washington, DC 20036 (202-463-6930), and approved by the Pennsylvania State Board of Nursing.

B.S. Nursing majors will choose one of the following options:

General Nursing Option: This option admits students to the major either as freshmen or in the sophomore year through a review process as a change-of-major or transfer student. Clinical experiences occur at local clinical facilities surrounding Penn State's University Park Campus or at Penn State Hershey Medical Center, which requires students to reside at that location.

Second or Additional Degree Option: This option admits students, who have successfully completed a bachelor's degree in another discipline, to the major through a review process. All students must have met all general education and prerequisite course requirements. This option is only available at Penn State Altoona. Clinical experiences occur at facilities surrounding Penn State Altoona.

For Both Options: All transportation and expenses related to clinical are the responsibility of the student. All students must carry professional liability insurance; complete an annual health examination, criminal background and child abuse history clearance; maintain CPR certification and adhere to any additional requirements of the clinical facilities.

Undergraduate Academic Progression Policy

The Academic Progression policy delineates the academic standards for pre-licensure students (students without an RN license). Failure of two nursing courses results in dismissal from the Nursing major. Details of the academic progression policy are available in the student handbook. (http://www.hhdev.psu.edu/nurs/Handbooks/index/html).

For the B.S. degree in Nursing, a minimum of 120 credits is required. The Second or Additional Degree Option requires the completion of 60 credits of general education and prerequisite courses in the first degree program (prior to admission) and 60 credits of nursing courses completed after admission.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

(Second or Additional Degree Option: First-Year Seminar not required since students accepted into this program are required to have earned a bachelor's degree in another discipline)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 4-9 credits

REQUIREMENTS FOR THE MAJOR: 87-92 credits**[1] [2]**
(This includes 21 credits of General Education courses: 3 credits of GHA courses; 9 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-32 credits

PRESCRIBED COURSES (21 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), HD FS 129 GS(3), MICRB 106 GN(3), MICRB 107 GN(1), NUTR 251 GHA(3), PSYCH 100 GS(3) (Sem: 1-4)

ADDITIONAL COURSES (9-11 credits)
CHEM 101(3); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-4)
SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-4)
STAT 200 GQ(4) or STAT 250 GQ(3) (Sem: 1-4)

REQUIREMENTS FOR THE OPTION: 57-60 credits

GENERAL NURSING OPTION: (57 credits)

PRESCRIBED COURSES (54 credits)

NURS 225(3)**[38]**, NURS 230(4)**[38],** NURS 250 US(2)**[38]**, NURS 251(3)**[38]** (Sem: 3-4)
NURS 200W(3)**[38]**, NURS 301(4)**[38]**, NURS 305(3)**[38]**, NURS 306(3)**[38],** NURS 310(3)**[38]**, NURS 320(3)**[38]**, NURS 350(2)**[38]** (Sem: 5-6)
NURS 405A(4)**[38]**, NURS 405B(4)**[38]**, NURS 415 US;IL(4)**[38]**, NURS 420(4)**[38]**, NURS 450A(2)**[38]**, NURS 450B(3)**[38]** (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits at the 400 level from School-approved list in consultation with adviser (Sem: 7-8)

SECOND OR ADDITIONAL DEGREE OPTION: (60 credits)

PRESCRIBED COURSES (60 credits)
NURS 225(3)**[38]**, NURS 230(4)**[38]**, NURS 250 US(2)**[38]**, NURS 251(3)**[38]** (Sem: 1)
NURS 200W(3)**[38]**, NURS 301(4)**[38]**, NURS 305(3)**[38]**, NURS 310(3)**[38]**, NURS 350(2)**[38]** (Sem: 2)
NURS 306(3)**[38]**, NURS 320(3)**[38]**, NURS 415 US;IL(4)**[38]**, NURS 420(4)**[38]** (Sem: 3)
NURS 405A(4)**[38]**, NURS 405B(4)**[38]**, NURS 450A(2)**[38]**, NURS 450B(3)**[38]**, NURS 495(6)**[38]** (Sem: 4)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[2] Completed prior to admission for students taking the Second or Additional Degree Option.
[38] Due to restricted enrollment, the School of Nursing assigns the semester in which students enroll in these courses and all course prerequisites must be successfully completed.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-062

Review Date: 02/23/2010

(R&T 2/28/06)

UCA Revision #1: 8/9/06

Address update, accrediting agency: 10/2/09

Comments

HH

Nutritional Sciences

University Park, College of Health and Human Development (NUTR)

PROFESSOR GORDON JENSEN, *Head of the Department*

The study of nutrition is a dynamic science that incorporates knowledge of human biology and biochemistry to understand how the body utilizes nutrients and related substances for optimal health throughout the lifecycle. In addition, students gain an understanding of how the interplay of nutrition and lifestyle relate to current public health issues and development of chronic and acute diseases.

The student may select the Applied Sciences option and apply knowledge of nutrition and human behavior to improve the nutritional status of individuals and communities or apply nutrition principles and counseling skills to medical problems in clinical dietetics. Other emphases in nutrition education and communications, nutrition and food science, or nutrition and exercise science are possible within the Applied Sciences option. All graduates with the Applied Sciences option satisfy the current Didactic Program in Dietetics requirement for application to a dietetic internship accredited by the Commission on Accreditation of Dietetics Education (CADE). Upon satisfactory completion of an accredited dietetic internship, graduates are eligible to take the registration examination to earn the credential Registered Dietitian. This option also prepares students for graduate study and employment in areas of applied nutrition.

The Basic Sciences option emphasizes the laboratory aspects of nutrition and is recommended for students preparing for careers in medicine and other health related fields such as dentistry, optometry, physician assistant, physical therapy, and chiropractic. This option also prepares students for graduate study and for employment in laboratory-based research. Students enrolled in the Basic Sciences option who want to become a Registered Dietitian should select all of the additional courses in the Didactic Program in Dietetics. A list of courses recommended for developing a specific competence within each option or to meet the academic requirements for a dietetic internship is available from the department office.

APPLIED SCIENCES OPTION: This option integrates knowledge of behavioral sciences and human physiology with nutrition. The option includes practical experience in food service management. Graduates of this option usually work in hospitals, clinics, community agencies, schools, the food industry, wellness centers, private practice, or continue to graduate study in nutrition, public health, business, or related fields.

BASIC SCIENCES OPTION: This option incorporates knowledge from biology, chemistry, physiology, and physics with nutrition. This option specifically prepares students for entry into medical school and other health related professional schools. This option also prepares students for careers in laboratory research in the pharmaceutical or food industries, government, or academia.

For the B.S. degree in Nutritional Sciences, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18-22 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 6-7 credits

REQUIREMENTS FOR THE MAJOR: 87-90 credits
(This includes 18-22 credits of General Education courses: Applied Sciences Option: 9 credits of GN courses; 4 credits of GQ courses; 6 credits of GS courses; 3 credits of GHA courses; or Basic Sciences Option: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GHA courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 36 credits

PRESCRIBED COURSES (33 credits)
BIOL 141 GN(3), CHEM 110 GN(3), NUTR 251 GHA(3)**[1]**, NUTR 358(2)**[1]**, STAT 200 GQ(4) (Sem: 1-3)
B M B 211(3)**[1]**, NUTR 445(3)**[1]**, NUTR 446(3)**[1]**, NUTR 451(3)**[1]** (Sem: 5-7)
NUTR 452(3), NUTR 490W(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
CHEM 202(3) or CHEM 210(3) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 51-54 credits

APPLIED SCIENCES OPTION: (54 credits)

PRESCRIBED COURSES (28 credits)
MICRB 106 GN(3), MICRB 107 GN(1), NUTR 120(3), NUTR 360(3) (Sem: 4-6)

HRIM 329(3), HRIM 330(2), NUTR 456(2) (Sem: 5-6)
NUTR 370(1), NUTR 400(1), NUTR 453(3) (Sem: 7-8)
NUTR 380(3) (Sem: 3-5)
HRIM 385(3) (Sem: 5-7)

ADDITIONAL COURSES (6 credits)
AG BM 101GS(3), ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 1-4)
H D FS 129GS(3) or PSYCH 100 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (20 credits)
Select 20 credits, in consultation with an adviser, from University-wide offerings that provide relevance to this option. See program list of recommended courses. (At least 6 credits must be at the 400 level and, of those, no more than 3 credits may be NUTR 496.) (Sem: 3-8)

BASIC SCIENCES OPTION: (51 credits)

PRESCRIBED COURSES (32 credits)
BIOL 110 GN(4), BIOL 142(1), BIOL 230W GN(4), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-3)
B M B 212(1), MICRB 201(3), MICRB 202(2), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
CHEM 203(3) or CHEM 212(3) (Sem: 4-6)

SUPPORTING COURSES AND RELATED AREAS (16 credits)
Select 16 credits, in consultation with an adviser, from University-wide offerings that provide relevance to this option. See program list of recommended courses. (At least 9 credits must be at the 400 level and, of those, no more than 6 credits may be NUTR 496.) (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-04-041

Review Date: 1/15/08

UCA Revision #1: 8/9/06

HH

Organizational Leadership

Abington College
Altoona College
Berks College
University College: Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State Mont Alto, Penn State New Kensington, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton
University Park, College of the Liberal Arts (OLEAD): offered via World Campus and Continuing Education

This program is restricted to adult learners, as defined by the University

PROFESSOR JOHN L SELZER, *Head*

The degree draws on many of the disciplines of the liberal arts to illuminate the issues that all leaders face regarding work and employment issues in the 21st Century. Students select courses in English, crime, law, and justice, economics, political science, sociology, labor and industrial relations, communication arts and sciences, and psychology. The goal is to provide a broad education that introduces methods of analysis used in the disciplines of the liberal arts and prepares students to understand the complex social, cultural, and organizational issues that they will confront in leadership positions in the modern world. This degree program requires that students develop competency in four critical areas and then apply those skills in disciplinary perspectives. All students are expected to develop proficiency in research methodology, critical analysis, communication skills, and the application of theory. Students can expect to learn and practice skills that focus on understanding how organizations function both formally and informally and how individuals function within organizations.

For the B.S. degree in Organizational Leadership, a minimum of 123 credits is required.

GENERAL EDUCATION: 45 credits
(4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

REQUIREMENTS FOR THE MAJOR: 64 credits**[1]**
(This includes 4 credits of General Education GQ courses.)

PRESCRIBED COURSES (25 credits)
CAS 283(3), ECON 002 GS(3), ECON 004 GS(3), ENGL 215(3), PSYCH 281 GS(3), PSYCH 485(3), SOC 207(3), STAT 200 GQ(4) (Sem: 1-5)

ADDITIONAL COURSES (39 credits)
Select 39 credits:
Choose at least 12 credits in each of the 3 following areas.
Choose at least 15 credits at the 400 level.
1. Employer and Employees
LER 136 US(3), PHIL 010 GH(3), PHIL 103 GH(3), PSYCH 100 GS(3), SOC 035(3) (Sem: 1-6)
HIST/LER 458W(3), PSYCH 484(3), SOC 456(3) (Sem: 5-8)
2. Law, Policy, and Organizations
CRIMJ 100(3), LER 100 GS(3), LER 201 GS(3), PL SC 001 GS(3) (Sem: 1-6)
CRIM 113(3), CRIMJ 482(3), LER 424(3), LER 435(3), PL SC 490(3) (Sem: 5-8)
3. Workplace Dynamics
CAS 404(3), CAS 352(3), CAS 452(3), CAS 475(3), ECON 315 GS(3), ECON 342 GS(3), ENGL 419(3), LER 434(3), LER 472 GS(3), SOC 404(3), SOC 455(3) (Sem: 4-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-03-290

Review Date: 7/11/05

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

LA

Petroleum and Natural Gas Engineering

University Park, College of Earth and Mineral Sciences (PNG E)

PROFESSOR TURGAY ERTEKIN, *Undergraduate Program Officer*

The B.S. program in Petroleum and Natural Gas Engineering is accredited by the Engineering Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: 410-347-7700.

The undergraduate curriculum in petroleum and natural gas engineering has been designed to equip the student with the fundamentals necessary to achieve lifelong professional growth. Graduates are prepared to enter both the private and public sectors as petroleum and natural gas engineers or to pursue further education at the graduate level.

The courses are structured to serve as a melting pot for theory, application to case studies and engineering project design. This enables the student to appreciate and understand that a successful engineering design project requires a sound theoretical foundation, experimentation and engineering judgment. The thrust of the program structure emphasizes the fundamentals of mathematics and earth and engineering sciences and integrates them in application to traditional petroleum and natural gas engineering topics. Design projects are required throughout the curriculum. Execution of these projects requires an amalgamation of problem formulation strategies, testing of alternative design methodologies, feasibility studies, and economic and environmental considerations. Graduates of the program are expected to perform in various facets of the petroleum industry including drilling, production, evaluation, transportation and storage. The petroleum and natural gas engineering faculty and staff are committed to an interactive teaching and learning environment to ensure that the student is an active participant in the learning process. General education opportunities are sufficiently broad and diverse in scope to enable the student to tailor the educational experience to particular interests, background and expected role in society.

Petroleum and Natural Gas Engineering Program Educational Objectives:

1. Our graduates will integrate key science and engineering principles to address the technological challenges of the petroleum and natural gas industry.
2. Our graduates will practice in a broad range of petroleum engineering fields working on teams that create innovative solutions to the most pressing problems of the petroleum and natural gas industry by implementing the ideals of ethical behavior, professionalism, and environmental sensitivity and social awareness.
3. Our graduates will be recognized as critical and independent thinkers and will assume positions of leadership in defining the social, intellectual, business and technical dimensions of the professional organizations they belong to.
4. Our graduates will continue their life-long learning process and participate in graduate education to remain as effective professionals in the workplace of the future.

For the B.S. degree in Petroleum and Natural Gas Engineering, a minimum of 129 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(30 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 114 credits
(This includes 30 credits of General Education courses: 3 credits of GH courses; 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 9 credits of GWS courses.)

PRESCRIBED COURSES (99 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), ECON 002 GS(3), EM SC 100S GWS(3)**[88]** (Sem: 1-2)
MATH 140 GQ(4), MATH 141 GQ(4), MATH 230(4), MATH 251(4), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2) (Sem: 1-4)
E MCH 210(5)**[77]**, E MCH 212(3), GEOSC 001(3) (Sem: 3-4)
EME 301(3)**[1]**, EME 303(3)**[1]**, GEOSC 454(3), P N G 405(3)**[1]**, P N G 406(1)**[1]**, P N G 410(3)**[1]**, P N G 450(3)**[1]**, P N G 451(1)**[1]**, P N G 475(3)**[1]**, P N G 489(3), P N G 490(1) (Sem: 5-6)
ENGL 202C GWS(3), P N G 420(4), P N G 425(3), P N G 430(3), P N G 440W(3), P N G 480(3), P N G 482(1), P N G 491(1), P N G 492(1) (Sem: 7-8)

ADDITIONAL COURSES (9 credits)
Select 9 credits: one course from categories a, b, and c.
a. ENGL 015 GWS(3) or ENGL 030 GWS(3) (Sem: 1-2)
b. PHIL 103 GH(3), PHIL 106 GH(3), PHIL 107 GH(3), or PHIL 233 GH(3) (Sem: 3-4)
c. CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with adviser (Students may apply 6 credits of ROTC.) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[77] Students at commonwealth campuses and/or transfer students can substitute the combination of E MCH 211 and E MCH 213.
[88] The following substitutions are allowed for students attending campuses where the indicated course is not offered: CAS 100 GWS can be substituted for EM SC 100S GWS.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-03-066

Review Date: 11/17/09

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

EM

Philosophy

University Park, College of the Liberal Arts (PHIL)

PROFESSOR SHANNON SULLIVAN, *Head of the Department*

This major provides in-depth study of fundamental issues that inescapably confront all persons. Topics include ethics, social and political philosophy, and esthetics--study of the good life, justice, and beauty; metaphysics, philosophy of mind, and philosophy of religion--study of the nature of reality, mind, body, and the meaning of life and death; epistemology, philosophy of science, and logic--study of the nature of knowledge, truth, objectivity, and principles of sound reasoning; and subjects such as comparative philosophies and world cultures, feminist theory, and philosophical issues in technology, language, education, and the professions of law, business, medicine, communications, engineering, and agriculture. These studies enhance imaginative, interpretive, analytical, critical, and communicative capacities. Majors thus may acquire intellectual abilities crucial for self-fulfillment, responsible participation in public life, and success in a wide range of careers--including law, business, education, journalism, medicine, and public service.

Majors pursued concentration in history of philosophy; humanities and arts; philosophy of science and mathematics; social sciences; the professions; or justice, law, and values. This is combined easily with minors, area studies, and concurrent majors. Qualified students participate in honors study and internships.

For the B.A. degree in Philosophy, a minimum of 124 credits is required.

GENERAL PHILOSOPHY OPTION: This option provides students with a concentration in the history of western philosophy and the historical development and impact of philosophical ideas and issues--from the ancient to the contemporary period. It is designed for all students who seek a broad liberal education, including students interested in graduate study in philosophy.

HUMANITIES AND ARTS OPTION: This option provides students with a concentration in philosophical issues in the arts, art history, literature, languages, history and religion. It is designed for all students primarily interested in the philosophical dimensions of the arts, humanities, and cultural studies, including students with career or further educational goals in these fields.

PHILOSOPHY OF SCIENCE AND MATHEMATICS OPTION: This option provides students with a concentration in philosophical issues in the life sciences, the physical sciences, mathematics, engineering, and technology. It is designed for all students primarily interested in the philosophical dimensions of the natural sciences, technology, and mathematics, including students with career or further educational goals in these fields.

SOCIAL SCIENCES OPTION: This option provides students with a concentration in philosophical issues in the social sciences, social and political theory, and education. It is designed for all students primarily interested in the philosophical dimensions of social thought and methodological and normative issues in the social sciences, educational theory, and public policy, including students with career or further educational goals in these fields.

PROFESSIONAL STUDIES OPTION: This option provides students with a concentration in philosophical issues and dimensions in the theory and practice of the professions of agriculture, business, engineering, journalism, law, and medicine and health care. It is designed for all students seeking a foundation in the philosophical dimensions of these professions, including students who wish to combine humanistic study with career or further educational goals in these fields.

JUSTICE, LAW, AND VALUES OPTION: This option provides students with a concentration in philosophical issues in aesthetics, ethics, jurisprudence, and social and political theory, and everyday life. It is designed for students primarily interested in moral, social, political, and legal questions concerning value and is especially appropriate for those anticipating future educational work in law school.

TO VIEW THE Philosophy Minor (PHIL)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 25 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 9 credits

ADDITIONAL COURSES: (9 credits)

REQUIREMENTS FOR THE OPTION: 21 credits

GENERAL PHILOSOPHY OPTION: 21 credits

PRESCRIBED COURSES (3 credits)
PHIL 012 GQ(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 6 credits in philosophy at the 00 or 100 level (Sem: 1-6)
Select 3 credits from PHIL 200 GH(3), PHIL 201 GH(3), PHIL 202 GH(3), PHIL 203 GH(3), PHIL 204 GH(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in philosophy at the 400 level, in consultation with adviser (Sem: 5-8)

HUMANITIES AND ARTS OPTION: 21 credits

ADDITIONAL COURSES (12 credits)
Select 3 credits from PHIL 010 GH(3), PHIL 012 GQ(3) (Sem: 1-6)
Select 6 credits in philosophy at the 00 or 100 level (Sem: 1-6)
Select 3 credits from PHIL 401(3), PHIL 402(3-6), PHIL 409(3), PHIL 413(3), PHIL 422(3), PHIL 424(3), PHIL 429(3), PHIL 435(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 additional credits in philosophy at the 400 level and 3 credits at the 400 level in a related arts or humanities discipline, in consultation with adviser (Sem: 5-8)

PHILOSOPHY OF SCIENCE AND MATHEMATICS OPTION: 21 credits

PRESCRIBED COURSE (3 credits)
PHIL 012 GQ(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 6 credits in philosophy at the 00 or 100 level (Sem: 1-6)
Select 3 credits from PHIL 407(3), PHIL 410(3), PHIL 412(3), PHIL 417(3), PHIL 425(3), PHIL 426(3-6), PHIL 427(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 additional credits in philosophy at the 400 level and 3 credits at the 400 level in a mathematics or natural science discipline, in consultation with adviser (Sem: 5-8)

SOCIAL SCIENCES OPTION: 21 credits

PRESECRIBED COURSE (3 credits)
PHIL 012 GQ(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 6 credits in philosophy at the 00 or 100 level (Sem: 1-6)
Select 3 credits from PHIL 401(3), PHIL 408(3), PHIL 415(3), PHIL 416(3), PHIL 425(3), PHIL 438(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 additional credits in philosophy at the 400 level and 3 credits at the 400 level in social science, in consultation with adviser (Sem: 5-8)

PROFESSIONAL STUDIES OPTION: 21 credits

ADDITIONAL COURSES (12 credits)
Select 3 credits from PHIL 010 GH(3), PHIL 012 GQ(3) (Sem: 1-6)
Select 3 credits from PHIL 405(3), PHIL 406(3), PHIL 418(3), PHIL 423(3), PHIL 431(3), PHIL 432(3), PHIL 433(3), PHIL 435(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits at the 400 level in a professional area outside philosophy, in consultation with adviser (Sem: 5-8)

JUSTICE, LAW, AND VALUES OPTION: 21 credits

PRESCRIBED COURSE (3 credits)
PHIL 105 GH(3) (Sem: 1-6)

ADDITIONAL COURSES (18 credits)
Select 3 credits from PHIL 010 GH(3), PHIL 012 GQ(3) (Sem: 1-6)
Select 3 credits in philosophy at the 00 or 100 level (Sem: 1-6)
Select 3 credits in philosophy at the 400 level (Sem: 5-8)
Select 3 credits from PHIL 403(3), PHIL 405(3), PHIL 406(3), PHIL 407(3), PHIL 408(3), PHIL 418(3), PHIL 420(3), PHIL 425(3), PHIL 432(3), PHIL 433(3), PHIL 438(3) (Sem: 5-8)
Select 6 credits from AAA S 409 US(3), AAA S 465 US(3), CAS 321(3), COMM 403(3), HIST 449 US(3), HIST 450 US(3), L ST 370(3), PL SC 403(3), PL SC 412(3), PL SC 415(3), PL SC 424(3), PL SC 431(3), PL SC 432(3), PL SC 470W(3), PL SC 471(3), PL SC 472(3), PL SC 474(3), WMNST 423 US(3), WMNST 453 US(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-06-154

Review Date: 04/12/05

UCA Revision #2: 7/30/07

LA

Physics

Penn State Erie, The Behrend College (PHYBD)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The major provides education in the fundamentals of physics and selected advanced topics to prepare graduates for graduate education or for careers in industry. Students have opportunities to participate in research with faculty. In addition to the traditional physics education offered in the General physics option, the option in applied physics, Computational Physics, provides preparation for careers in technological fields.

To be eligible for entrance to the Physics major, a student must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), and PHYS 212 GN(4), and earned a grade of C or better in each of these courses.

For the B.S. degree in Physics, a minimum of 122 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 66 credits

PRESCRIBED COURSES (66 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4)**[1]**, PHYS 213 GN(2)**[1]**, PHYS 214 GN(2)**[1]**, PHYS 237(3)**[1]** (Sem: 1-4)
CMPSC 121 GQ(3), ENGL 202C GWS(3) (Sem: 3-4)
MATH 220 GQ(2-3), MATH 230(4), MATH 251(4), PHYS 400(3), PHYS 419(3), PHYS 420(3), PHYS 421W(3), PHYS 458(4), PHYS 494(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 28 credits

COMPUTATIONAL PHYSICS OPTION: (28 credits)

PRESCRIBED COURSES (10 credits)
CMPSC 122(3) (Sem: 1-8)
MATH 455(3), PHYS 402(4) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select 3 credits from CMPSC 459(3), CMPSC 465(3), or CMPSC 474(3) (Sem: 5-8)
Select 12 credits from E E 352(4), E E 450(3), E E 453(3), MATH 456(3), M E 410(3), M E 428(3), PHYS 410(3), PHYS 414(3), PHYS 446(l), PHYS 494(1-3), and/or PHYS 495(1-3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from a school-approved list (Sem: 1-8)

GENERAL PHYSICS OPTION: (28 credits)

PRESCRIBED COURSES (3 credits)
PHYS 410(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits from MATH 421(3), MATH 455(3), MATH 456(3), PHYS 402(4), PHYS 414(3), PHYS 446(l), PHYS 494(1-3), and/or PHYS 495(1-3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select one of the following two sequences:
a. Select 8 credits of a foreign language (Proficiency demo by examination or course work to the level of the second semester in a foreign language is required. If fewer than 8 credits are needed to reach the required proficiency, students

choose selections from a school-approved list to make a total of 8 credits.) (Sem: 1-8)
Select 5 credits from a school-approved list (Sem: 1-8)
b. CMPSC 122(3) (Sem: 1-8)
Select 3 credits from CMPSC 459(3), CMPSC 465(3), or CMPSC 474(3) (Sem: 1-8)
Select 7 credits from a school-approved list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-04-003

Review Date: 01/12/2010

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

BD

Physics

University Park, Eberly College of Science (PHYS)

PROFESSOR JAYANTH R. BANAVAR, *Head of the Department*

This major provides a sound program of technical and general education for students planning a career in physics and related fields. In addition to the traditional physics education offered in the General Physics option, three other options, Acoustics, Electronics, and Medical Physics, provide opportunities for students in special related areas of a more applied nature, while a fifth option, Teaching, provides opportunities for teaching physics in secondary schools.

The Department of Physics offers an honors program in physics.

In order to be eligible for entrance to the Physics major, a student must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), and PHYS 212 GN(4), and earned a grade of C or better in each of these courses.

TO VIEW THE Physics Minor (PHYS)

For the B.S. degree in Physics, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 97-117 credits
(This includes 18-24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses. In addition, the Teaching option includes 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 68 credits

PRESCRIBED COURSES (64 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4)**[1]**, PHYS 213 GN(2)**[1]**, PHYS 214 GN(2)**[1]**, PHYS 237(3)**[1]** (Sem: 1-4)
ENGL 202C GWS(3), MATH 220 GQ(2-3), MATH 251(4) (Sem: 3-4)
MATH 405(3), MATH 406(3) (Sem: 5-6)
PHYS 400(3)**[1]**, PHYS 410(3-4), PHYS 419(3)**[1]**, PHYS 420(3), PHYS 444(2), PHYS 457W(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (4 credits)
MATH 230(4), or MATH 231(2) and MATH 232(2) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 31-51 credits

ACOUSTICS OPTION: (28-29 credits)

PRESCRIBED COURSES (10 credits)
AERSP 308(3)**[55]** (Sem: 3-6)
PHYS 402(4), PHYS 443(3) (Sem: 5-8)

ADDITIONAL COURSES (9-10 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3)**[63]** or CMPSC 201 GQ(3) (Sem: 3-6)
Select 6 credits from A E 458(3)**[55]**, ACS 402(3), AERSP 412(3), CSD 230(3), E E 460(3)**[55]**, E MCH 412(3)**[55]**, M E 471(3)**[55]**, PHYS 412(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits of natural science (GN) courses that are not listed in the major (Sem: 7-8)
Select 6 credits from program list (Sem: 7-8)

ELECTRONICS OPTION: (36-37 credits)

PRESCRIBED COURSES (18 credits)
CMPEN 271(3), E E 210(4), E E 310(4), E E 350(4) (Sem: 3-6)
PHYS 412(3) (Sem: 5-8)

ADDITIONAL COURSES (9-10 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3)**[63]** or CMPSC 201 GQ(3) (Sem: 5-6)
Select 3 credits from E E 311(3)**[55]**, E E 320(3), or E E 360(3) (Sem: 5-8)

Select 3 credits from CMPEN 472(3), CMPEN 473(3), CMPEN 416(3), CMPEN 471(3), CMPEN 411(3), E E 420(3)**[55]**, E E 421(3)**[55]**, E E 424(3), E E 432(3)**[55]**, E E 438(3)**[55]**, E E 441(3), E E 442(3), E E 453(3), E E 455(3), E E 460(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 credits from program list (Sem: 3-6)
Select 3 credits of natural science (GN) courses that are not listed in the major (Sem: 5-6)

GENERAL PHYSICS OPTION: (28-30 credits)

ADDITIONAL COURSES (13-15 credits)
Select 6-7 credits from items a, b, and/or c (Sem: 7-8)
a. PHYS 401(3), PHYS 406(3), PHYS 411(3), PHYS 412(3), PHYS 413(3), PHYS 443(3), PHYS 461(3), or PHYS 496(3)
b. PHYS 402 (4) or PHYS 458(4) (the course not selected below may be used)
c. ASTRO 410(3), ASTRO 440(3), or ASTRO 485(3) (only 3 credits of ASTRO courses may be used)
Select 3-4 credits from CMPSC 101 GQ(3) or CMPSC 121 GQ(3)**[63]** or CMPSC 201 GQ(3) (Sem: 5-6)
Select 4 credits from PHYS 402(4) or PHYS 458(4) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 3 credits of natural science (GN) courses that are not listed in the major (Sem: 3-8)
Select 12 credits from program list; a maximum of 6 of the 12 credits may be from PHYS 496(1-18), SC 295(1-3), SC 395(1-3), or SC 495(1-3) (Sem: 3-8)

MEDICAL PHYSICS OPTION: (31-33 credits)
This option enables the graduate to meet all of the academic requirements for a minor in bioengineering. Application for a certificate indicating the minor must be made to the Department of Bioengineering.

PRESCRIBED COURSES (16 credits)
CHEM 202(3), CHEM 203(3) (Sem: 3-4)
PHYS 402(4) (Sem: 5-6)
BIOE 401(3), BIOE 402(3) (Sem: 7-8)

ADDITIONAL COURSES (12-14 credits)
BIOL 110 GN(4), BIOL 240W GN(4), BIOL 472(3); or B M B 251(3), B M B 252(3), BIOL 141 GN(3) (Sem: 3-6)
Select 3 credits from 400- or 500-level BIOE**[57]** courses (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from program list (Sem: 5-8)

TEACHING OPTION: (51 credits)
This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary school level, which is provided by the Commonwealth. Students interested in this option should read carefully the section on Teacher Education Programs in this *Bulletin.*

PRESCRIBED COURSES (48 credits)**[53]**
EDPSY 014(3), EDTHP 115(3), PSYCH 100 GS(3), PSYCH 412(3), S T S 200 GS(3) (Sem: 3-6)
C I 295(2), C I 412W(3), C I 495C(3), C I 495E(15) (Sem: 5-8)
BIOL 011 GN(3), BIOL 012 GN(1), SCIED 411(3), SCIED 412(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)**[53]**
Select 3 credits from EDTHP 401(3), EDTHP 416(3), EDTHP 430(3), or EDTHP 440(3) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[53] A grade of C or better per course is required for teacher certification.
[55] The listed non-mathematical prerequisite for AERSP 308(3) is satisfied by PHYS 402(4), PHYS 419(3), and PHYS 443(3); for A E 458(3) by ACS 402(3) or PHYS 443(3); for E E 460(3) by PHYS 402(4), PHYS 419(3), and PHYS 443(3); for E MCH 412(3) by PHYS 419(3) and PHYS 443(3); for M E 471(3) by AERSP 308(3) and PHYS 420(3); for E E 311(3) by replacing E SC 314(3) with PHYS 412(3); for E E 320(3), E E 420(3), and E E 421(3) by replacing E E 330(4) with PHYS 400(3); for E E 432(3) and E E 438(3) by replacing E E 330(4) with PHYS 400(3); for E E 460(3) by PHYS 402(4), PHYS 419(3), and PHYS 443(3).
[57] Student must have seventh-semester status and a minimum GPA of 3.50.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-01-391

Review Date: 9/19/06

UCA Revision #1: 8/31/06
UCA Revision #2: 7/30/07

SC

Plastics Engineering Technology

Penn State Erie, The Behrend College (PLTBD)

This major prepares graduates with the knowledge and skills needed to provide high level engineering technology support to a wide variety of industrial, developmental, commercial, consulting, and sales organizations dealing with the development, manufacture and/or distribution of plastics related products, materials and technologies. The program emphasizes the integration of engineering and scientific principles, practical hands-on experience, application of state-of-the-art computer technologies, and management methods.

Graduates are qualified for positions in product development, part design, tooling design, R&D, processing, plant engineering, production control, technical sales and marketing in the plastics industry, and are provided a path to a wide variety of graduate degrees in engineering, science or business.

The four-year baccalaureate program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET), 111 Market Place Suite 1050, Baltimore, MD 21202-4012 - Telephone: 410-347-7700. Graduates of the Penn State University associate degree program in Plastics Engineering Technology and Mechanical Engineering Technology may complete this degree in two years and 2 1/2 years respectively.

For the B.S. degree in Plastics Engineering Technology, a minimum of 134 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 106 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (82 credits)
CHEM 110 GN(3), CHEM 111 GN(1), EG T 120(3), METBD 111(3), PHYS 250 GN(4), PL ET 050(2) (Sem: 1-2)
PL ET 222(4) (Sem: 2-3)
MCH T 111(3)**[1]**, MCH T 213(3)**[1]**, PL ET 205(3)**[1]**, PL ET 206W(3)**[1]**, PL ET 225(2)**[1]**, PL ET 227(4)**[1]**, PL ET 232(3)**[1]**, PL ET 235(2)**[1]** (Sem: 3-4)
ENGL 202C GWS(3), MATH 211(3), MET 418(3), PL ET 304(3), PL ET 323(3), PL ET 330(4), PL ET 345(2), PL ET 350(4), PL ET 366(3), PL ET 494A(3) (Sem: 5-6)
MGMT 409(3), PL ET 400(3), PL ET 430(2) (Sem: 7-8)

ADDITIONAL COURSES (15 credits)
MATH 081 GQ(3), MATH 082 GQ(3), MATH 083 GQ(4), MATH 210 GQ(3) and two credits of GN electives; or MATH 140 GQ(4), MATH 141 GQ(4), 2 credits of GN electives, and 5 credits of general electives (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select a total of 9 credits of technical electives from School-approved list. (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-009

Review Date: 10/26/06

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

BD

Political Science

Altoona College (PLSAL)
Capital College (PLSCA)
University Park, College of the Liberal Arts (PL SC)

PROFESSOR SCOTT BENNETT, *Head*

The Political Science major offers the student an opportunity to understand not only American federal, state, and local governments, but also the political systems of other nations and the philosophies that underlie them. Courses are offered in American, comparative, and international politics, and in political theory and methodology. Internship opportunities are available.

For the B.A. degree in Political Science, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

SUPPORTING COURSES AND RELATED AREAS (36 credits)
(In meeting these requirements, students must take at least one course at any level from the four fields offered in the department: Political Theory/Methodology, American Politics/Public Administration, Comparative Politics, and International Relations)
Select 12 credits from below the 400 level (Sem: 1-6)
Select 15 credits from the 400 level and above in political science (Sem: 3-8)
Select 9 credits in political science or in related disciplines from departmental list of approved courses. Substitutions may be made with the written permission of the faculty adviser. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/01

LA

Date department head updated by Publications: 4/20/10

Political Science

Altoona College (PLSAL)
Capital College (PLSCA)
University Park, College of the Liberal Arts (PL SC)

PROFESSOR SCOTT BENNETT, *Head*

The Political Science major offers the student an opportunity to understand not only American federal, state, and local governments, but also the political systems of other nations and the philosophies that underlie them. Courses are offered in American, comparative, and international politics, and in political theory and methodology. Internship opportunities are available.

For the B.A. degree in Political Science, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

SUPPORTING COURSES AND RELATED AREAS (36 credits)
(In meeting these requirements, students must take at least one course at any level from the four fields offered in the department: Political Theory/Methodology, American Politics/Public Administration, Comparative Politics, and International Relations)
Select 12 credits from below the 400 level (Sem: 1-6)
Select 15 credits from the 400 level and above in political science (Sem: 3-8)
Select 9 credits in political science or in related disciplines from departmental list of approved courses. Substitutions may be made with the written permission of the faculty adviser. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/01

LA

Date department head updated by Publications: 4/20/10

Political Science

Altoona College (PLSAL)
Capital College (PLSCA)
University Park, College of the Liberal Arts (PL SC)

PROFESSOR SCOTT BENNETT, *Head*

The Political Science major offers the student an opportunity to understand not only American federal, state, and local governments, but also the political systems of other nations and the philosophies that underlie them. Courses are offered in American, comparative, and international politics, and in political theory and methodology. Internship opportunities are available.

For the B.A. degree in Political Science, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selections, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

SUPPORTING COURSES AND RELATED AREAS (36 credits)
(In meeting these requirements, students must take at least one course at any level from the four fields offered in the department: Political Theory/Methodology, American Politics/Public Administration, Comparative Politics, and International Relations)
Select 12 credits from below the 400 level (Sem: 1-6)
Select 15 credits from the 400 level and above in political science (Sem: 3-8)
Select 9 credits in political science or in related disciplines from departmental list of approved courses. Substitutions may be made with the written permission of the faculty adviser. (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/01

LA

Date department head updated by Publications: 4/20/10

Political Science

Penn State Erie, The Behrend College (POLSC)

The discipline of political science consists of different related subfields such as American government, international relations, public policy and administration, the study of how governments accomplish objectives, and comparative politics, the study of foreign government. The major offers students the opportunity to take course work in most subfields as well as seek practical experience through an internship. All students are encouraged to develop research and writing and statistical skills. Many students have continued their education in law or graduate school.

For the B.A. degree in Political Science, a minimum of 120 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits

PRESCRIBED COURSES (6 credits)
PL SC 001 GS(3), PL SC 003 GS;IL(3) (Sem: 1-4)

ADDITIONAL COURSES (6 credits)
INTST 100 GS;IL(3) or PL SC 014 GS;IL(3) (Sem: 1-4)
PL SC 017 GS(3) or PL SC 017W GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (24 credits)
(In meeting this requirement, select at least one course beyond the prescribed and additional courses listed above from each of the four fields offered in the program: American Government, Comparative Politics, International Politics, and Government in Theory and Practice.)
Select 12 credits at any level from a program-approved list (Sem: 1-8)
Select 12 credits at the 400 level from a program-approved list (Sem: 3-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-04-004

Review Date: 1/17/06

BD

Premedical-Medical

University Park, Eberly College of Science (P M M)

PROFESSOR RONALD A. MARKLE, *in charge*

This is a special accelerated program in cooperation with the College of Medicine at Thomas Jefferson University in Philadelphia whereby exceptional students have the opportunity to earn both the B.S. and M.D. degrees in six years. Students are selected for this program while they are seniors in high school and must begin their undergraduate studies the summer immediately following their graduation. The first two years of the program are completed at University Park and the next four at Jefferson. The Penn State B.S. degree in Science is awarded after completion of 82 Penn State credits and the first two years of the standard curriculum at Jefferson Medical College.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection)

ELECTIVES: 0-1 credit

REQUIREMENTS FOR THE MAJOR: 51-53 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (41 credits)
BIOL 110 GN(4)**[1]**, CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
CHEM 210(4), CHEM 212(3), CHEM 213(2), PHYS 201 GN(4), PHYS 202 GN(4), PHYS 204 GN(4) (Sem: 3-4)

ADDITIONAL COURSES (at Jefferson Medical)
Anatomy (Sem: 5-6)
Physiology (Sem: 5-6)
Histology (Sem: 5-6)
Biochemistry (Sem: 5-6)
Biostatistics (Sem: 5-6)
Neuroscience (Sem: 5-6)
Mechanisms of Disease (Sem: 5-6)
Introduction to Clinical Medicine (Sem: 5-8)
Medicine and Society (Sem: 5-8)
Microbiology/Immunology (Sem: 7-8)
Pathology (Sem: 7-8)
Pharmacology (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (10-12 credits)
Select 4-5 credits of life science with lab (Sem: 1-4)
Select 3 credits from program list (Sem: 1-4)
Select 3-4 credits of life science (Sem: 3-4)

Note: Students must take at least 9 of the Penn State credits listed above during the summer session prior to the first semester. Depending on advanced placement credit and schedule load, it might also be necessary to enroll during one of the other summer sessions before entering Jefferson Medical College at semester five.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-03-107

Review Date: 01/19/00 (General Education information updated)

UCA Revision #1: 8/9/06

SC

Publications updated faculty in charge: 7/17/09

Premedicine

University Park, Eberly College of Science (P M)

PROFESSOR RONALD A. MARKLE, *in charge*

This major provides a broad foundation necessary to the understanding of the basic subjects of modern medical studies. The curriculum, which offers a good balance between science and nonscience courses, constitutes an excellent preparation for admission to medical school. It also gives students the freedom to tailor the program to meet their individual needs by permitting a generous number of supporting courses. Specific admission requirements or recommendations of a particular medical school, not already in the required courses of the major, may be included among the supporting courses. Many students also use their supporting courses to pursue a minor.

In order to be eligible for entrance to the Premedicine major, a student must have: 1) attained at least a 2.00 cumulative grade-point average; and 2) completed BIOL 110 GN(4), CHEM 110 GN(3), and MATH 140 GQ(4), and earned a grade of C or better in each of these courses.

THREE-YEAR ALTERNATIVE: A student may also become eligible for the Bachelor of Science degree in this major upon satisfactory completion of:
a. A total of 96 credits, including General Education credits in Writing/Speaking, Health Sciences and Physical Education, and Arts, Humanities, and Social and Behavioral Sciences; 8 credits in a single foreign language; BIOL 110 GN(4), BIOL 230W GN(4); CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3)**[1]**, CHEM 212(3)**[1]**, CHEM 213(2)**[1]**; MATH 140 GQ(4), MATH 141 GQ(4); PHYS 211 GN(4)**[1]**, PHYS 212 GN(4)**[1]**, PHYS 213 GN(2)**[1]** and PHYS 214 GN(2)**[1]**.
b. The first year of an accredited medical or dental postgraduate program.

For the B.S. degree in Premedicine, a minimum of 126 credits is required, with at least 18 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 99 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GHA courses.)

PRESCRIBED COURSES (53 credits)
BIOL 110 GN(4)**[1]**, BIOL 110 230W GN(4)**[1]**, CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, CHEM 112 GN(3)**[1]**, CHEM 113 GN(1)**[1]**, MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, NUTR 251(3)**[1]** (Sem: 1-2)
H P A 101(3), PHIL 432(3) (Sem: 1-6)
CHEM 210(3)**[1]**, CHEM 212(3)**[1]**, CHEM 213(2)**[1]** (Sem: 3-4)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4)**[1]**, PHYS 213 GN(2)**[1]**, and PHYS 214 GN(2)**[1]** (Sem: 3-6)

ADDITIONAL COURSES (16-20 credits)
Select 4-5 credits from BIOL 220W GN(4), BIOL 240W GN(4), MICRB 201(3)/MICRB 202(2) (Sem: 3-8)
Select 3-4 credits from CMPSC 101 GQ(3), CMPSC 121 GQ(3), STAT 250 GQ(3) (Sem: 3-8)
Select 4-5 credits**[1]** from BIOL 421(4), BIOL 437(4), BIOL 472(3)/BIOL 473(2), MICRB 412(3)/422(2) (Sem: 5-8)
Select 5-6 credits**[1]** from B M B 400(2-3), B M B 401(3), B M B 402(3); or CHEM 450(3), CHEM 452(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (26-30 credits)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)
Select 18-30 credits from program list (A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-07-147

Review Date: 4/10/01

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

SC

Publications updated faculty in charge: 7/17/09

Professional Writing

Berks College (PWRIT)

The major is intended to prepare students to write effectively in a variety of workplace and academic settings. Methods of instruction draw upon the strategies and techniques of practicing writers outside of the University, including workshops, peer conferencing, collaborative writing, portfolio preparation, and internships. At the same time, theory courses provide the necessary background to help students understand and appreciate the larger issues surrounding the writing and reading of texts.

As a liberal arts degree, the Professional Writing major is appropriate for students who wish to develop a set of applied communication skills to prepare for a wide range of professional positions or for graduate or professional schools. The degree differs from most current English majors in at least three ways: 1) a practical orientation prepares graduates for employment, in addition to post-graduate English studies; 2) a multidisciplinary focus integrates courses from the liberal arts, business, and information technology; and 3) a required internship ensures that students actively apply their skills.

For the B.A. degree in Professional Writing, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits

FIRST-YEAR SEMINAR
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 39 credits**[1]**

PRESCRIBED COURSES (15 credits)
ENGL 210(3) (Sem: 3-4)
ENGL 471(3), CAS 283(3) (Sem: 5-6)
ENGL 491(3), ENGL 495(3) (Sem: 5-8)

ADDITIONAL COURSES (24 credits)

a. Creative Writing and Literature
Select 6 credits from the following or 6 credits in Creative Writing or Literature at the 200 level or higher approved by the Degree Coordinator:
ENGL 200(3), ENGL 212(3), ENGL 213(3), ENGL 221W(3), ENGL 222W(3), ENGL 231W(3), ENGL 232W(3), ENGL 400(3), ENGL 402(3), ENGL 403(3), ENGL 483(3) (Sem: 3-4)

b. Rhetorical Theory
Select 3 credits from the following:
ENGL 472(3), ENGL 473(3), ENGL 474(3) (Sem: 5-8)

c. Professional Writing
Select 15 credits from the following:
CAS 214W(3), COMM 260W(3), ENGL 110(2-6), ENGL 215(3), ENGL 250(3), ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 418(3), ENGL 419(3), ENGL 420(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-05-012

Review Date: 5/9/06

BK

Psychological and Social Sciences

Abington College (PSSBA)

PROFESSOR GARY S. CALORE, *Head, Division of Social Sciences*

Building on the interdisciplinary and cross-disciplinary strengths of Penn State Abington, the Psychological and Social Sciences B.A. is designed to respond to the demand for a program emphasizing the social and behavioral sciences leading to an understanding of human behavior and its influence upon society as well as the influence of social forces on individuals. The program is distinguished by its interdisciplinary and cross-disciplinary course work and required field experience. The B.A. provides a broad theoretical foundation in social and psychological theory as well as the opportunity to engage in supervised field experience. The major offers students a choice of course clusters focused on specialized areas such as social psychology, developmental studies, organizational behavior and leadership, bio-behavior and diversity, and counseling. The major is designed to prepare students for a variety of career fields including human resources, business administration, mental health, and social work as well as for continued study in graduate or professional school.

For the B. A. degree in Psychological and Social Sciences, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in front of *Bulletin.)*

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 5-6 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 46-47 credits**[1]**

PRESCRIBED COURSES (10 credits)
PSYCH 100 GS(3) (Sem: 1-2)
ANTH 045 GS;US;IL(3) (Sem: 1-4)
PSYCH 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (15-16 credits)
PSYCH 238 GS(3) or SOC 109(3) (Sem: 1-4)
HD FS 129 GS(3) or PSYCH 212 GS(3) (Sem: 1-4)
HD FS 312W(3) or PSYCH 301W(4) (Sem: 3-4)
BB H 301(3) or HD FS 301(3) (Sem: 3-6)
Select 3 credits of ANTH 495(1-18), HD FS 495C(3-8), PSYCH 495(1-15), or SOC 495(1-18) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 12 credits from one of the following areas
Select 9 credits from a second area
(at least 15 credits must be at the 400-level):
a. Organizational Relations
CAS 352(3), CAS 455 US(3), MGMT 341(3), MGMT 441(3), PSYCH 281 GS(3), PSYCH 423(3), PSYCH 485(3), SOC 455(3), SOC 456(3) (Sem: 5-8)
b. Social Psychology
PSYCH 221 GS(3), PSYCH 420(3), PSYCH 424(3), SOC 003 GS(3), SOC 403(3) (Sem: 5-8)
c. Developmental Studies
EDPSY 014(3), HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3), HD FS 315 US(3), HD FS 433(3), HD FS 445(3)/PSYCH 416(3), PSYCH 415(3), PSYCH 412(3) (Sem: 5-8)
d. Media and Society
CAS 415(3 per semester), COMM 100 GS(3), COMM 120(3), COMM 411(3), SOC 462(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-03-002

Review Date: 06/20/05

UCA Revision #1: 9/1/06

Dept head revised by Publications: 4/23/07

AB

Psychological and Social Sciences

Abington College (PSSBS)

PROFESSOR GARY S. CALORE, *Head, Division of Social Sciences*

Building on the interdisciplinary and cross-disciplinary strengths of Penn State Abington, the Psychological and Social Sciences B.S. is designed to respond to the demand for a program emphasizing the social and behavioral sciences leading to an understanding of human behavior and its influence upon society as well as the influence of social forces on individuals. The program is distinguished by its interdisciplinary and cross-disciplinary course work and required field experience. The degree program offers students a choice of course clusters focused on specialized areas such as social psychology, developmental studies, organizational behavior and leadership, bio-behavior and diversity, and counseling. The B.S. provides a broad theoretical foundation in social and psychological theory as well as the opportunity to engage in supervised field experience. In addition, the B.S. degree emphasizes quantitative research skills and requires the completion of a senior thesis. The major is designed to prepare students for a variety of career fields including human resources, business administration, mental health, and social work as well as for continued study in graduate or professional school.

For the B.S. degree in Psychological and Social Sciences, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(7-8 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.)*

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12-17 credits

REQUIREMENTS FOR THE MAJOR: 66-70 credits**[1]**
(This includes 7-8 credits of General Education courses: 3-4 credits of GN courses; 4 credits of GQ courses.)

PRESCRIBED COURSES (17 credits)
MATH 110 GQ(4), PSYCH 100 GS(3) (Sem: 1-2)
ANTH 045 GS;US;IL(3) (Sem: 1-4)
PSYCH 200 GQ(4) (Sem: 3-4)
SOC 471(3) (Sem: 7-8)

ADDITIONAL COURSES (28-32 credits)
BIOL 110 GN(4) or BIOL 141 GN(3) and BIOL 142(1) (Sem: 1-4)
SOC 109(3) or PSYCH 238 GS(3) (Sem: 3-4)
HD FS 129 GS(3) or PSYCH 212 GS(3) (Sem: 1-4)
PSYCH 301W(4) or HD FS 312W(3) (Sem: 3-4)
BB H 301(3) or HD FS 301(3) (Sem: 3-6)
CAS 352(3) or CAS 455 US(3) (Sem: 5-8)
Select 3 credits of ANTH 495(1-18), HD FS 495C(3-8), PSYCH 495(1-15), or SOC 495(1-18) (Sem: 7-8)
Select 3-6 credits of ANTH 494(1-12), HD FS 494(1-12), PSYCH 494(3-6), or SOC 494(1-12) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 12 credits from one of the following areas
Select 9 credits from a second area
(at least 12 credits must be at the 400 level):
a. Society and Health
ANTH 464(3)/BIOL 464(3), BIOL 469(3)/BB H 469(3), BB H 302 US(3), BB H 315 US(3), HD FS 468(3), PSYCH 441(3), SOC 309(3) (Sem: 5-8)
b. Counseling and Testing
CNED 403(3), CNED 404(3), CNED 407(3), CNED 425(3) (Sem: 5-8)
c. Developmental Studies
EDPSY 014(3), HD FS 229 GS(3), HD FS 239 GS(3), HD FS 249 GS(3), HD FS 315 US(3), HD FS 433(3), HD FS 445(3)/PSYCH 416(3), PSYCH 415(3), PSYCH 412(3) (Sem: 5-8)
d. Organizational Relations
MGMT 321(3), MGMT 331(3), MGMT 341(3), MGMT 424(3), SOC 455(3), SOC 456(3) (Sem: 5-8)
e. Social Psychology
SOC 003 GS(3), SOC 403(3), PSYCH 221 GS(3), PSYCH 420(3), PSYCH 424(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-03-003

Review Date: 06/20/05

UCA Revision #1: 8/31/06

Dept head revised by Publications: 4/23/07

AB

Psychology

Altoona College (PSCBA)

The Psychology major will combine the knowledge, skills, and values of psychology with a liberal arts foundation. Students should develop a knowledge base consisting of concepts, theory, empirical findings, and trends within psychology; understand and apply basic research methods in psychology; use critical thinking and the scientific approach to solve problems related to behavior and mental processes; apply psychological principles to personal and social issues; and be able to understand the gender, sexual orientation, race, ethnicity, culture, and class issues in psychological theory, research, and practice. Students should also develop information and computer competence, communication skills, and develop realistic ideas about how to implement their psychology education in occupational pursuits in a variety of settings. The major may lead to either a Bachelor of Arts or a Bachelor of Science degree. The B.A. degree incorporates a broad exposure to the many facets of the field of psychology, in addition to the B.A. requirements. The B.S. degree provides the same exposure to the field of psychology and adds options in Science and Business to prepare students for more specific career directions. Students in both degree programs may also prepare for graduate school; research experience with faculty members is encouraged for such students.

For the B.A. degree in Psychology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 41 credits**[1]**
(This includes 0-4 credits of General Education GQ courses.)

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 301W(4) (Sem: 3-6)

ADDITIONAL COURSES (34 credits)
(Must include 15 credits at 400-level.)
Select 4 credits fromPSYCH 200(4) or STAT 200 GQ(4) (Sem: 3-4)

Select 18 credits--a minimum of 3 credits from each of the following six categories (may not double count PSYCH 439 for category e. and f. requirement):

1. Learning and Cognition: PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 452(3), PSYCH 456(3), PSYCH 457(3), PSYCH 461(3) (Sem: 2-8)
2. Individual Differences, Personality, and Social Processes: PSYCH 221 GS(3), PSYCH 238 GS(3), PSYCH 243 GS(3), PSYCH 270(3), PSYCH 420(3), PSYCH 438(3), PSYCH 470(3), PSYCH 471(3) (Sem: 2-8)
3. Biological Bases of Behavior and Mental Processes: PSYCH 253 GS(3), PSYCH 260(3), PSYCH 269(3), PSYCH 464(3), PSYCH 475(3) (Sem: 2-8)
4. Developmental Changes in Behavior and Mental Processes Across the Life Span: PSYCH 212 GS(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 416(3)/HD FS 445(3) (Sem: 2-8)
5. History of Psychology, Socio-cultural Contexts, and Diversity Issues: PSYCH 230 GS(3) or RL ST 236 GS(3), PSYCH 231 GS;US(3), PSYCH 432 US(3), PSYCH 436(3) or RL ST 414(3), PSYCH 439(3), PSYCH 479 US(3) (Sem: 2-8)
6. Capstone Experience: PSYCH 439(3), PSYCH 493(3-6), PSYCH 494(3-18), PSYCH 495(6-15), PSYCH 496(3-18) (Sem: 7-8)

Select 12 credits of additional Psychology courses from any offered for a total of 30 credits of Psychology courses beyond PSYCH 100 and PSYCH 301W (Sem: 2-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-011

Review Date: 4/10/07

UCA Revision #1: 9/1/06

AL

Psychology

Altoona College (PSCBS)

The Psychology major will combine the knowledge, skills, and values of psychology with a liberal arts foundation. Students should develop a knowledge base consisting of concepts, theory, empirical findings, and trends within psychology; understand and apply basic research methods in psychology; use critical thinking and the scientific approach to solve problems related to behavior and mental processes; apply psychological principles to personal and social issues; and be able to understand the gender, sexual orientation, race, ethnicity, culture, and class issues in psychological theory, research, and practice. Students should also develop information and computer competence, communication skills, and develop realistic ideas about how to implement their psychology education in occupational pursuits in a variety of settings. The major may lead to either a Bachelor of Arts or a Bachelor of Science degree. The B.A. degree incorporates a broad exposure to the many facets of the field of psychology, in addition to the B.A. requirements. The B.S. degree provides the same exposure to the field of psychology and adds options in Science and Business to prepare students for more specific career directions. Students in both degree programs may also prepare for graduate school; research experience with faculty members is encouraged for such students.

For the B.S. degree in Psychology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

REQUIREMENTS FOR THE MAJOR: 65 credits **[1]**
(This includes 0-4 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 41 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 301W(4) (Sem: 3-6)

ADDITIONAL COURSES (34 credits)
(Must include 15 credits at the 400-level.)
Select 4 credits from PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)

Select 18 credits--a minimum of 3 credits from each of the following six categories (may not double count PSYCH 439 for category e. and f. requirement):

1. Learning and Cognition: PSYCH 256 GS(3), PSYCH 261 GS(3), PSYCH 452(3), PSYCH 456(3), PSYCH 457(3), PSYCH 461(3) (Sem: 2-8)
2. Individual Differences, Personality, and Social Processes: PSYCH 221 GS(3), PSYCH 238 GS(3), PSYCH 243 GS(3), PSYCH 270(3), PSYCH 420(3), PSYCH 438(3), PSYCH 470(3), PSYCH 471(3) (Sem: 2-8)
3. Biological Bases of Behavior and Mental Processes: PSYCH 253 GS(3), PSYCH 260(3), PSYCH 269(3), PSYCH 464(3), PSYCH 475(3) (Sem: 2-8)
4. Developmental Changes in Behavior and Mental Processes Across the Life Span: PSY 213 GS(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 416(3)/HD FS 445(3) (Sem: 2-8)
5. History of Psychology, Socio-cultural Contexts, and Diversity Issues: PSYCH 230 GS(3) or RL ST 236 GS(3), PSYCH 231 GS;US(3); PSYCH 432(3), PSYCH 436(3) or RL ST 414(3); PSYCH 439(3), PSYCH 479(3) (Sem: 2-8)
6. Capstone Experience: PSYCH 439(3), PSYCH 493(3-6), PSYCH 494(3-18), PSYCH 495(6-15), PSYCH 496(3-18) (Sem: 7-8)

Select 8-12 credits of additional Psychology courses from any offered for a total of 30 credits of Psychology courses beyond PSYCH 100 and PSYCH 301W (Sem: 2-8)

REQUIREMENTS FOR THE OPTION: 24 credits

SCIENCE OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits from: ANTH 021 GN(3); BB H 101 GHA(3); BIOL 133 GN(3) or BIOL 222(3); BIOL 155 GN(3), BIOL 129(4), BIOL 141 GN(3), BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4), BIOL 177 GN(3), BIOL 406(3), BIOL 409(3), BIOL 421(4), BIOL 427(3), BIOL 464(3), BIOL 469(3), BIOL 472(3); BIOL 479(3), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 202(3) (Sem: 2-8)

SUPPORTING COURSES (9 credits)
Select 6 credits in natural sciences/quantification from department list (Sem: 2-8)
Select 3 credits in social and behavioral sciences from department list (Sem: 2-8)

BUSINESS OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits from: ACCTG 211(4); B A 241(2), B A 242(2); SCM 301(3); ECON 002 GS(3), ECON 004 GS(3); FIN 100(3), FIN 301(3); H P A 101(3), any H P A course numbered 301 or higher; MGMT 100(3), MGMT 301(3), MGMT 321(3), MGMT 341(3); MKTG 220(3), MKTG 221(3) or MKTG 301(3), MKTG 327(3), MKTG 330(3) (Sem: 2-8)

SUPPORTING COURSES (9 credits)
Select 6 credits in natural sciences/quantification from department list (MATH 022 or MATH 110 recommended) (Sem: 2-8)
Select 3 credits in social and behavioral sciences from department list (Sem: 2-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-012

Review Date: 6/14/07

UCA Revision #1: 8/31/06

AL

Psychology

Penn State Erie, The Behrend College (PSHBA)

Psychology is both a scientific discipline and a profession. Its overall focus is the study of behavior, cognition, and affect, and their associated physiological processes. Research is vital to the discipline of psychology. Investigators collect, quantify, analyze, and interpret data in order to understand the principles and theories of human thought and behavior. As a profession, psychology involves the application of knowledge, skills, and techniques for the solution and prevention of individual and social problems. Bachelor-level graduates in psychology are equipped for various positions in human service agencies, industrial settings, and laboratories. However, many students continue their training, working towards a master's or a doctoral degree in psychology, while still others go on to school in other disciplines, e.g., medical school or law school.

Students may select either the Bachelor of Arts or Bachelor of Science program. The Bachelor of Arts degree requires more credits in the arts, humanities, and social sciences and proficiency in a second language. The Bachelor of Science program, in turn, offers two options. The General option is intended for students with a strong interest in science and requires more course work in the biological, physical, and mathematical sciences than does the Bachelor of Arts program. The Business option is designed for students who wish to combine their interests in business and psychology.

For the B.A. degree in Psychology, a minimum of 124 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12-16 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 43 credits
(This includes 0-4 credits of General Education GQ courses.)

PRESCRIBED COURSES (12 credits)
CMPSC 100(1) (students may test out of this course) (Sem: 1-4)
PSYCH 100 GS(3)**[1]** (Sem: 1-4)
PSYCH 301W(4)**[1]** (Sem: 1-4)
PSYCH 406W(4) (Sem: 5-8)

ADDITIONAL COURSES (16 credits)
PSYCH 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-4)
Select 12 credits, including one course from at least four of the following five categories:
1. Foundations of Behavior: PSYCH 260(3), PSYCH 261 GS(3), PSYCH 439(3), PSYCH 461(3), PSYCH 462(3) (Sem: 1-6)
2. Social/Developmental: PSYCH 212 GS(3), PSYCH 221 GS(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 416(3), PSYCH 420(3) (Sem: 1-6)
3. Cognitive/Experimental: PSYCH 253(3), PSYCH 256(3), PSYCH 456(3), PSYCH 452(3), PSYCH 413(3), PSYCH 453(3) (Sem: 1-6)
4. Clinical/Personality: PSYCH 238 GS(3), PSYCH 140(3), PSYCH 414(3), PSYCH 471(3), PSYCH 470(3), PSYCH 481(3) (Sem: 1-6)
5. Diversity: PSYCH 231 GS;US(3), PSYCH 232 GS(3), PSYCH 479(3) (Sem: 3-8)
Note: PSYCH 414 may be counted in either Social/Developmental or Clinical/Personality, but not both.

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 6 additional credits of psychology courses at any level as interest dictates (3 credits of either PSYCH 495 or 496 may be applied to this requirement) (Sem: 3-8)
Select 9 credits of 400-level psychology courses from any combination of categories in consultation with adviser (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-07-017

Review Date: 03/11/05

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

BD

Psychology

Penn State Erie, The Behrend College (PSHBS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

Psychology is both a scientific discipline and a profession. Its overall focus is the study of behavior, cognition, and affect, and their associated physiological processes. Research is vital to the discipline of psychology. Investigators collect, quantify, analyze, and interpret data in order to understand the principles and theories of human thought and behavior. As a profession, psychology involves the application of knowledge, skills, and techniques for the solution and prevention of individual and social problems. Bachelor-level graduates in psychology are equipped for various positions in human service agencies, industrial settings, and laboratories. However, many students continue their training, working towards a master’s or a doctoral degree in psychology, while still others go on to school in other disciplines, e.g., medical school or law school.

Students may select either the Bachelor of Arts or Bachelor of Science program. The Bachelor of Arts degree requires more credits in the arts, humanities, and social sciences and proficiency in a second language. The Bachelor of Science program, in turn, offers two options. The General option is intended for students with a strong interest in science and requires more course work in the biological, physical, and mathematical sciences than does the Bachelor of Arts program. The Business option is designed for students who wish to combine their interests in business and psychology.

For the B.S. degree in Psychology, a minimum of 124 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4-8 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 15-19 credits

REQUIREMENTS FOR THE MAJOR: 68 credits
(This includes 4-8 credits of General Education GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 47 credits

PRESCRIBED COURSES (12 credits)
CMPSC 100(1), PSYCH 100 GS(3)**[1]** (Sem: 1-4)
PSYCH 301W(4)**[1]** (Sem: 3-6)
PSYCH 406W(4) (Sem: 5-8)

ADDITIONAL COURSES (20 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)
PSYCH 200(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-4)
Select 12 credits, including one course from at least four of the following five categories:
1. Foundations of Behavior: PSYCH 260(3), PSYCH 261 GS(3), PSYCH 439(3), PSYCH 461(3), PSYCH 462 (3) (Sem: 3-8)
2. Social/Developmental: PSYCH 212 GS(3), PSYCH 221 GS(3), PSYCH 412(3), PSYCH 413(3), PSYCH 414(3), PSYCH 416(3), PSYCH 420(3) (Sem: 3-8)
3. Cognitive/Experimental: PSYCH 253 GS(3), PSYCH 256 GS(3), PSYCH 413(3), PSYCH 452(3), PSYCH 453(3), PSYCH 456(3) (Sem: 3-8)
4. Clinical/Personality: PSYCH 140(3), PSYCH 238 GS(3), PSYCH 414(3), PSYCH 470(3), PSYCH 471(3), PSYCH 481(3) (Sem: 3-8)
5. Diversity: PSYCH 231 GS;US(3), PSYCH 232 GS;US;IL(3), PSYCH 479(3) (Sem: 3-8)
Note: PSYCH 414 may be counted in either Social/Developmental or Clinical/Personality, but not both.

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 6 additional credits of psychology courses at any level as interest dictates (3 credits of either PSYCH 495 or PSYCH 496 may be applied to this requirement) (Sem: 3-8)
Select 9 credits of 400-level psychology courses from any combination of categories in consultation with adviser (Sem: 3-8)

REQUIREMENTS FOR THE OPTION: 21 credits

BUSINESS OPTION: (21 credits)

SUPPORTING COURSES AND RELATED AREAS: 21 credits
Select 21 credits in business courses in consultation with adviser (Sem: 3-8)

GENERAL PSYCHOLOGY OPTION: (21 credits)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 21 credits in science courses in consultation with adviser (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-07-018

Review Date: 03/11/05

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

BD

Psychology

University Park, College of the Liberal Arts (PSYBA)
World Campus

PROFESSOR MELVIN MARK, *Head*

This major is designed for students who want to learn about behavior, normal and abnormal, how it is studied, and its relation to applied areas. Students are encouraged to conduct research with members of the faculty and/or take a practicum in an applied setting. Graduates are equipped for various positions in human service agencies, industrial settings, or laboratories. Others go on to professional school, e.g., medical school, law school, or to continue their training in psychology working toward a master's or a doctoral degree. Majors may elect either a Bachelor of Arts or a Bachelor of Science program.

In order to be eligible for entrance to the PSYBA major, a student at any location must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed PSYCH 100 GS(3) with a grade of C or better; 3) completed STAT 200 GQ(4) or PSYCH 200 GQ(4), at least 3 credits of GQ courses (not including STAT 200), and at least 3 credits of GS courses (not including PSYCH 100) with a grade of C or better.

For the B.A. degree in Psychology, a minimum of 123 credits is required

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 13 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 47 credits**[1]**
(This includes 6 credits of General Education GQ courses.)

PRESCRIBED COURSES (13 credits)
PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 105(3) (Sem: 2-5)
PSYCH 301W(4) (Sem: 3-6)
PSYCH 490(3) (Sem: 7-8)

ADDITIONAL COURSES (34 credits)
Select 6 credits of GQ courses (Sem: 1-4)
PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 12 credits of 200-level PSY courses (not to include PSYCH 294, PSYCH 296, or PSYCH 297). At least 3 credits must be from each group a, b, and c:
a. PSYCH 253 GS(3), PSYCH 256 GS(3), PSYCH 260(3), PSYCH 261 GS(3) (Sem: 3-8)
b. PSYCH 212 GS(3), PSYCH 221 GS(3), PSYCH 231 GS;US(3), PSYCH 238 GS(3) (Sem: 3-8)
c. PSYCH 243 GS(3), PSYCH 269(3), PSYCH 270(3), PSYCH 281 GS(3) (Sem: 3-8)
Select 12 credits of PSY courses at the 400 level (not to include PSYCH 490, and including no more than 3 credits of PSYCH 493, PSYCH 494, PSYCH 495, or PSYCH 496) (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-06-181

Review Date: 4/13/04

UCA Revision #1: 8/14/06

LA

Psychology

University Park, College of the Liberal Arts (PSYBS)
World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR MELVIN MARK, *Head*

This major is designed for students who want to learn about behavior, normal and abnormal, how it is studied, and its relation to applied areas. Students are encouraged to conduct research with members of the faculty and/or take a practicum in an applied setting. Graduates are equipped for various positions in human service agencies, industrial settings, or laboratories. Others go on to professional school, e.g., medical school, law school, or to continue their training in psychology working toward a master's or a doctoral degree. Majors may elect either a Bachelor of Arts or a Bachelor of Science program.

The B.S. degree program requires more course work in the sciences than the B.A. program, and students may select courses from one of four areas--mathematics/computer science, statistics, business, or biology--which may be taken instead of a foreign language.

In order to be eligible for entrance to the PSYBS major, a student at any location must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed PSYCH 100 GS(3) with a grade of C or better; 3) completed STAT 200 GQ(4) or PSYCH 200 GQ(4), at least 3 credits of GQ courses (not including STAT 200), and at least 3 credits of GS courses (not including PSYCH 100) with a grade of C or better.

For the B.S. degree in Psychology, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(9 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 10-13 credits

REQUIREMENTS FOR THE MAJOR: 74-77 credits**[1]**
(This includes 9 credits of General Education courses: 3 credits of GWS courses and 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 50 credits

PRESCRIBED COURSES (16 credits)
PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 105(3) (Sem: 2-5)
ENGL 202A GWS(3) (Sem: 3-4)
PSYCH 301W(4) (Sem: 3-6)
PSYCH 490(3) (Sem: 7-8)

ADDITIONAL COURSES (34 credits)
Select 6 credits of GQ courses (Sem: 1-4)
PSYCH 200 GQ(4) or STAT 200 GQ(4) (Sem: 3-4)
Select 12 credits of 200-level PSY courses (not to include PSYCH 294, PSYCH 296, or PSYCH 297). At least 3 credits must be from each group a, b, and c:
a. PSYCH 253 GS(3), PSYCH 256 GS(3), PSYCH 260(3), PSYCH 261 GS(3) (Sem: 3-8)
b. PSYCH 212 GS(3), PSYCH 221 GS(3), PSYCH 231 GS;US(3), PSYCH 238 GS(3) (Sem: 3-8)
c. PSYCH 243 GS(3), PSYCH 269(3), PSYCH 270(3), PSYCH 281 GS(3) (Sem: 3-8)
Select 12 credits of PSYCH courses at the 400 level (not including PSYCH 490, and including no more than 3 credits of PSYCH 493, PSYCH 494, PSYCH 495, or PSYCH 496) (Sem: 3-8)

REQUIREMENTS FOR THE OPTION: 24-27 credits

BIOLOGICAL AND EVOLUTIONARY SCIENCE OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits from groups a, b, c, and d, including at least 3 credits from each of three different groups:
--a. Genetics: ANTH 460(3), ANTH 473(3), ANTH 473W(3); BIOL 133 GN(3) or BIOL 222(3) (Sem: 3-6)
--b. Biological Anthropology: ANTH 021 GN(3), ANTH 401(3), ANTH 406W(3), BB H 410(3) (Sem: 3-6)
--c. Biobehavioral Implications: ANTH 464(3); BB H 101 GHA(3) or any higher-numbered BB H course, except BB H 310(3); HD FS 417(3), HD FS 468(3) (Sem: 3-6)

--d. Biology and Chemistry: BIOL 141 GN(3), BIOL 177 GN(3), BIOL 409(3), BIOL 421(4), BIOL 427(3), BIOL 472(3); CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits in natural sciences from department list (Sem: 1-8)
Select 6 credits in social and behavioral sciences from department list (Sem: 1-8)

BUSINESS OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select 15 credits from at least two different groups. Three (3) credits in any category can be replaced by internship (L A 495), but internship credits alone cannot be used to complete a category.
1.
a. ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3), ECON 302 GS(3) or higher-numbered ECON course; PHIL 420(3), PL SC 412(3), PL SC 444(3), PL SC 481(3), PL SC 490(3) (Sem: 3-6)
b. FIN 100(3), FIN 301(3) or any higher-numbered FIN course (Sem: 3-6)
c. MKTG 221(3), MKTG 301(3) or any higher-numbered MKTG course (Sem: 3-6)
d. ACCTG 211(4) (Sem: 3-6)

2.
a. Management: H P A 101(3), H P A 301(3) or any higher-numbered H P A course, MGMT 100(3), MGMT 301(3) or any higher-numbered MGMT course (Sem: 3-6)
b. Law and ethics: B LAW 243(3), LER 460(3), PHIL 119 GH(3), PHIL 406(3), PHIL /S T S 407(3), PHIL 418(3), PHIL /S T S 432(3), , SCM 301(3) (Sem: 3-6)
c. Labor relations: LER 100 GS(3), LER 400 IL(3), LER 401(3), LER 411(3), LER 414W(3), LER 437(3), LER 444(3), LER 465(3), LER 470(3) (Sem: 3-6)
d. Communication: CAS 352(3), CAS 450W(3), CAS 452(3), ENGL 419(3), LER 464(3) (Sem: 3-6)

3.
a. Global view: ANTH 451(3), ANTH 455(3), GEOG 424(3), GEOG 439(3), H P A 401(3), PL SC 487(3), PL SC 441(3) (Sem: 3-6)
b. Gender and race: AAA S/LER /PL SC 445Y(3), SOC 455(3), SOC /WMNST 456(3), CED/R SOC/WMNST 420(3), SOC/WMNST 456(3), LER/WMNST 472(3) (Sem: 3-6)
c. History: HIST 423 IL(3), HIST 425 IL(3), HIST/LER 458Y US(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits in arts/humanities from department list (Sem: 1-8)
Select 3 credits in natural sciences from department list (Sem: 1-8)
Select 3 credits in social and behavioral sciences from department list (Sem: 1-8)

NEUROSCIENCE OPTION: (24-27 credits)

ADDITIONAL COURSES (15-18 credits)
PSYCH 260(3) (also counts in category a of COMMON REQUIREMENTS FOR THE MAJOR) (Sem: 3-6)
Select 15 credits from groups a, b, c, d, and e, including at least 3 credits from each of four different groups:
--a. Genetics: BIOL 133 GN(3), BIOL 110 GN(4), or BIOL 222(3) (Sem: 3-6)
--b. Physiology: BIOL 141 GN(3) or BIOL 472(3) (Sem: 3-6)
--c. Organic Chemistry: CHEM 202(3), CHEM 210(3), or CHEM 212(3) (Sem: 3-6)
--d. Cell Biology: BIOL 230W GN(4), BIOL 469(3), MICRB 106 GN(3), MICRB 201(3), MICRB 251(3) (Sem: 3-6)
--e. Other Topics: BIOL 240W GN(4), BIOL 177 GN(3), BIOL 409(3), BB H 470(3) (Sem: 3-6)

NOTE: Students planning to apply to medical school should select this option and choose courses to meet the following minimal requirements for most medical schools: BIOL 110 GN(4) and BIOL 230W GN(4) or BIOL 240W GN(4); CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), CHEM 212(3), and CHEM 213(2); PHYS 211 GN(4) and PHYS 212 GN(4), or PHYS 250 GN(4) and PHYS 251 GN(4).

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 credits in natural sciences from department list (Sem: 1-8)
Select 3 credits in social and behavioral sciences from department list (Sem: 1-8)

QUANTITATIVE SKILLS OPTION: (24 credits)

ADDITIONAL COURSES (15 credits)
Select a total of 15 credits from groups a, b, c, and d:
--a. Select at least 3 credits from MATH 018 GQ(3), MATH 110 GQ(4), MATH 111 GQ(2), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 3-6)
--b. (Optional) Select 3 credits from CMPSC 101 GQ(3), CMPSC 121 GQ(3), CMPSC 201 GQ(3), CMPSC 202 GQ(3), CMPSC 203 GQ(4) (*NOTE: Students may take only one of the courses in category b for credit.)* (Sem: 3-6)
--c.1. Select 3 credits from STAT 318(3), STAT 414(3), STAT 418(3) (*NOTE: Students may take only one of the courses in category c.1. for credit.)* (Sem: 5-6)
--c.2. Select at least 3 credits from STAT 319(3), STAT 415(3), STAT 416(3), STAT 460(3), STAT 462(3), STAT 464(3) (Sem: 5-6)
--d. CAS 483(3), CMPSC 122(3), PSYCH 404(3), PSYCH 405(3) (Sem: 3-6)

NOTE: Students may fulfill the requirements of the Quantitative Skills option by completing a minor in either Statistics or Computer Science and Engineering in lieu of the course requirements listed above. Students choosing this option are encouraged to consult with an adviser designated by the Department of Psychology to determine the suitability of particular courses given their quantitative backgrounds. Other courses with advanced quantitative content may be substituted in category d with adviser's approval.

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits in arts/humanities from department list (Sem: 1-8)
Select 6 credits in natural sciences from department list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-04-041

Review Date: 01/12/2010

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

LA

Psychology

Capital College (PSYC)
University College: Penn State Schuylkill

PROFESSOR RICHARD FIENE, *Professor in Charge*

The Psychology major emphasizes the scientific study of human behavior in areas such as cognition, development, learning, physiology, personality, and social processes. The curriculum is designed to provide students with a broad background in psychological theory and research and to develop the analytical and critical thinking skills necessary to be good consumers of scientific information.

The Psychology program exposes students to a number of areas of psychology but allows flexibility in the specific courses that are taken in each sub-area. Students are also required to obtain applied experience by completing an internship or by assisting faculty with their research. Elective credits can be used for additional internship or research experience.

The Psychology program prepares students for careers in local, state, and federal government and for entry-level psychological services positions in human service, applied behavior, human resources, and related fields. The Psychology program also provides a strong background for graduate education at both the master's and the doctoral level in counseling, social work, and many areas of psychology.

For a B.S. degree in Psychology, a minimum of 122 credits is required.

Entry to Major Requirements:
Entry to the Psychology major requires a 2.00 cumulative grade-point average and an average of C (2.00) or better in any courses already taken in the major.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education Course Requirements in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES :
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 9 credits

REQUIREMENTS FOR THE MAJOR: 74 credits
(This includes 6 credits of General Education courses: 3 credits of GWS courses; 3 credits of GN courses.)

PRESCRIBED COURSES (10 credits)**[1]**
ENGL 202A GWS(3), PSYCH 100 GS(3) (Sem: 1-4)
PSYCH 301W(4) (Sem: 4-5)

ADDITIONAL COURSES (46 credits)**[1]**
Select BI SC 004 GN(3) or BIOL 141 GN(3) (Sem: 1-4)
(At least 15 credits of the following courses must be at the 400 level.)
Select 4 credits from: (Sem: 3-4)
Category 1 (Statistics) PSYCH 200 GQ(4) or STAT 200 GQ(4)
Select 6 credits from two different developmental categories (3 credits each category): (Sem: 2-8)
Category 2a (Lifespan) PSYCH 212 GS(3)
Category 2b (Adult) PSYCH 416(3)
Category 2c (Child) PSYCH 410(3)
Category 2d (Adolescence) PSYCH 412(3)
Select 6 credits from two different individual difference categories (3 credits each category) (Sem: 2-8)
Category 3a (Social Psychology) PSYCH 221 GS(3) or PSYCH 420(3)
Category 3b (Personality Psychology) PSYCH 238 GS(3) or PSYCH 438(3)
Category 3c (Personal Adjustment) PSYCH 243 GS(3) or PSYCH 471(3)
Category 3d (Health Psychology) PSYCH 441(3)
Select 6 credits from two different clinical categories (3 credits each category) (Sem: 5-8)
Category 4a (Physical Disabilities) PSYCH 370 US(3)
Category 4b (Childhood Disorders) PSYCH 476(3)
Category 4c (Abnormal Psychology) PSYCH 270(3) or PSYCH 470(3)
Category 4d (Behavior Modification) PSYCH 473(3)
Category 4e (Developmental Disabilities) PSYCH 443
Select 6 credits from two different experimental categories (3 credits each category) (Sem: 5-8)
Category 5a (Physiological Psychology) PSYCH 260 or PSYCH 462(3)
Category 5b (Cognitive Psychology) PSYCH 256 GS or PSYCH 452 or PSYCH 456(3)
Category 5c (Learning Theory) PSYCH 261 GS(3) or PSYCH 461(3)
Select 3 credits from applications in psychology (Sem: 5-8)

Category 6 (Applied Experience) PSYCH 395(1-18) or PSYC 494(1-12)
Select 12 credits of any PSYCH courses not used above, with the exception that only one course selected from any Category 1 through 5 will count for the major (Sem: 2-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 6 credits from AAA S, AM ST, ARAB, ART, ART H, BRASS, C ART, C MUS, CAMS, CAS, CHNS, CMLIT, COMM, DANCE, ELISH, ENGL, ENLSH, FR, GER, GREEK, HCOMM, HEBR, HIST, HUM, I HUM, INART, IT, J ST, JAPNS, KOR, LATIN, LING, LIT, MEDVL, MUSIC, PHIL, PHILO, PHLOS, PORT, RL ST, RUS, SP ST, SPAN, STS, THEA, THTRE, WMNST 003 GH;US;IL(3), WMNST 101 GH;US(3), WMNST 102 GH;IL(3), WMNST 104 GH;US(3), WMNST 117 GH;US;IL(3), WMNST 130 IL(3), WMNST 137 GH;US;IL(3), WMNST 194 GH;US;IL(3), WMNST 205 US(3), WMNST 270(3), WMNST 407 US(3), WMNST 410(3), WMNST 419 US;IL(3), WMNST 421 IL(3), WMNST 430 US(3),WMNST 438(3), WMNST 455 US(3), WMNST 457 US;IL(3), WMNST 462 US(3), WMNST 466 US;IL(3), WMNST 489(3), WMNST 490 US;IL(3), WMNST 491(3) (Sem: 1-8)
Select 12 credits from AAA S, AFRAS, ANTH, BE SC (except BE SC 302), CRIMJ, ECON, HCM, HD FS, PL SC, PUBPL, R SOC, SCLSC, SO SC, SOC, WMNST 001 GS;US;IL(3), WMNST 103 US(3), WMNST 110 GS;US(3), WMNST 116 GS;US;IL(3), WMNST 136 US(3), WMNST 202 GS;IL(3), WMNST 250 US(3), WMNST 415W GI(3), WMNST 423 US(3), WMNST 424 US(3), WMNST 428 US;IL(3), WMNST 432 US(3), WMNST 452(3), WMNST 453 US(3), WMNST 456(3), WMNST 464 US(3), WMNST 471 US(3), WMNST 476W(3) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 34-01-020

Review Date: 8/30/05

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

Publications updated department head: 4/28/08

CL

Public Policy

Capital College (PUBPL): Penn State Harrisburg

PROFESSOR CAROL NECHEMIAS, *Program Coordinator*
School of Public Affairs
Penn State Harrisburg
777 West Harrisburg Pike
Middletown, PA 17057
c4n@psu.edu
717-948-6049

The Public Policy major is designed for students interested in policy issues, politics, public administration, and related areas like policy analysis and policy advocacy. The program explores a myriad of critical issues facing our communities, the nation, and the world. Students receive the educational foundation for careers in the public sector, in government-related businesses, and in non-profit organizations, as well as for graduate work in the fields of law, public administration, criminal justice, public policy, political science, and health care administration. Building on the program core, students may choose electives from a broad array of courses in public policy and other areas. Students may wish but are not required to pursue a concentration within the Public Policy major. The following concentrations are available: U.S. Public Policy; Law and Justice; and International Policy. Students should consult their adviser for a complete listing of courses in each of these concentrations. Overall, the Public Policy program seeks to advance the ideals of an active, informed citizenry and a commitment to public service.

Our proximity to the state capital at Harrisburg provides students with a rich environment for both study and for internships. In addition to our full-time faculty, Public Policy draws on part-time faculty with particular professional strengths. In recent years students have explored politics and political issues in classes taught by a state senator, a former lieutenant governor, a corrections system administrator, and a governor's press secretary. This integration of academic study with the "real world" of Pennsylvania politics and policy making is further enhanced through quality internships. The Public Policy program prides itself in placing qualified students in internships that facilitate the development of professional skills and promote the prospects for professional employment following graduation. Internship options include the Harrisburg Semester: Public Service Leadership Internships (PSLI). (For more information, see www.hbg.psu.edu/hbg/hburgsem.) Students are encouraged to complete an internship during their senior year. Additional information regarding internships may be obtained by contacting the Public Policy Internship Coordinator.

Admission Requirements for Transfer Students:
Transfer students must have a 2.00 or higher cumulative grade-point average. The evaluation of prior college work is done on an individual basis by the Office of Enrollment Services at Penn State Harrisburg.

Entry to Major Requirements:
Entry to the Public Policy major requires a 2.00 or higher cumulative grade-point average and an average of C (2.00) or better in any course already taken in the major.

For a B.S. degree in Public Policy, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 16 credits

REQUIREMENTS FOR THE MAJOR: 65 credits
(This includes 6 credits of General Education GS courses.)
(At least 15 credits must be at the 400 level.)

PRESCRIBED COURSES (15 credits)**[1]**
ECON 002 GS(3), ECON 004 GS(3), PL SC 001 GS(3), PL SC 309(3), PUBPL 304W(3) (Sem: 1-6)

ADDITIONAL COURSES (18 credits)
Select 9 credits from the following: PL SC 300-499(3), PUBPL 241(3), PUBPL 300-499(3) (Sem: 1-8)
Select 6 credits from the following: PL SC 419(3), PL SC 425(3), PL SC 444(3), PL SC 488(3), PL SC 489(3), PUBPL 305(3) (Sem: 5-8)
Select 3 credits from the following: PUBPL 480(3), PUBPL 481(3), PUBPL 482(3), PUBPL 483(3), PUBPL 484(3), PUBPL 485(3), PUBPL 490(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (32 credits)
Select 12 credits from the following: ACCTG 200-499(3), AFRAS 300-499(3), AM ST 300-499(3), BE SC 300-499(3),

COMMS 300-499(3), CRIMJ 300-499(3), ECON 300-499(3), ENVE 460(3), FIN 300-499(3), HIST 300-499(3), MGMT 300-499(3), MKTG 300-499(3), SCLSC 300-499(3), SO SC 300-499(3), SOC 300-499(3), SRA 211(3), WMNST 300-499(3) (Sem: 5-8)
Select 20 credits in consultation with an academic adviser and in support of the student's interests (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-018

Review Date: 2/26/08

UCA Revision: #2: 7/30/07

CL

Recreation, Park, and Tourism Management

University Park, College of Health and Human Development (RPTM)

PROFESSOR GARRY CHICK, *Head of the Department*

Through this program, students can prepare for supervisory and administrative positions in public or private agencies at the federal, state, and local levels. These include, but are not limited to, park systems, environmental centers, resorts, university intramural and sport club programs, event management businesses, recreation services for the armed forces, and therapeutic recreation programs in hospitals and health care facilities. Four options are offered: (1) Commercial and Community Recreation Management, (2) Golf Management, (3) Outdoor Recreation, and (4) Therapeutic Recreation.

Students who have completed 28 credits with a 2.00 cumulative grade-point average are eligible for entrance into the major after filing a written application. First-year students are admitted directly into the Golf Management option at the University Park campus only. In addition to the University's academic requirements, each student admitted to the Golf Management option must have a playing proficiency represented by a minimum golf handicap of 12 or lower. This must be certified in writing by a PGA member or golf coach.

COMMERCIAL AND COMMUNITY RECREATION MANAGEMENT OPTION: This option focuses on management in the private/commercial, non-profit, and public sectors of recreation/leisure services. The private/commercial focus will be of interest to students seeking careers in a variety of commercial settings such as resorts; theme parks, convention centers; sports and fitness facilities, including arenas and stadiums; tourism promotion/planning agencies; and employee recreation departments within corporations. This focus will also appeal to students wishing to become entrepreneurs. For those interested in the community, public, or non-profit sectors, this option prepares students for positions within municipal, state, and federal government agencies; recreation divisions of the armed services; YMCA agencies; United Way agencies; scouting organizations; university-affiliated units such as student unions, intramural and alumni services; and other non-profit organizations.

GOLF MANAGEMENT OPTION: This option helps prepare students to manage golf facilities within the municipal, military, public, and private sectors. In addition to the core curriculum in Recreation, Park, and Tourism Management, this option includes a strong basic education in business coupled with course work in turf management and hospitality. Each student completes sixteen months of Co-op education under the supervision of a Class A member of the Professional Golfers' Association of America.

OUTDOOR RECREATION OPTION: This option helps prepare students for careers in environmental interpretation, adventure-based programming, or facilities and resource management. One track focuses upon natural and cultural history interpretation, including environmental education. Another track emphasizes adventure-based program leadership, including team-building facilitation. The third track focuses on the management of park and recreation facilities and resources. The outdoor recreation option would be of interest to students seeking employment in a variety of recreation and park venues (local, state, and national) offering outdoor activities to the public.

THERAPEUTIC RECREATION OPTION: This option helps prepare individuals to provide comprehensive therapeutic recreation services. These services are intended to facilitate the development of a satisfying leisure life-style for individuals of all ages experiencing limitations through disability, illness, or restricted social conditions. It will be of interest to students seeking employment in health and human service agencies, including rehabilitation centers, hospitals, and a variety of treatment, residential, and community-based facilities.

For the B.S. degree in Recreation, Park, and Tourism Management, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-7 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 8-13 credits

REQUIREMENTS FOR THE MAJOR: 65-70 credits
(This includes 3-7 credits of General Education courses: 3-4 credits of GQ courses; 0-3 credits of GN courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 26-27 credits

PRESCRIBED COURSES (23 credits)**[1]**
RPTM 101(2), RPTM 120 GS(3), RPTM 236(3) (Sem: 1-4)
RPTM 277 US(3), RPTM 356(3) (Sem: 3-6)
RPTM 410(3), RPTM 460(3) (Sem: 5-8)
RPTM 433W(3) (Sem: 7-8)

ADDITIONAL COURSES (3-4 credits)

EDPSY 101 GQ(3) or STAT 100 GQ(3) or STAT 200 GQ(4) (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 39-43 credits

COMMERCIAL AND COMMUNITY RECREATION MANAGEMENT OPTION: (39-40 credits)

PRESCRIBED COURSES (21 credits)**[1]**
RPTM 210(2), RPTM 300Y(3), RPTM 394(1) (Sem: 3-6)
RPTM 415(3), RPTM 495A(12) (Sem: 5-8)

ADDITIONAL COURSES (6-7 credits)
Select 6-7 credits from ACCTG 211(4) or HRIM 335(3), B A 250(3), FIN 100(3), HRIM 201(3), MGMT 100(3), MKTG 150(3), MKTG 221(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from department list in consultation with faculty adviser (Sem: 3-8)

GOLF MANAGEMENT OPTION: (42-43 credits)

PRESCRIBED COURSES (25 credits)
B LAW 243(3), MGMT 100(3), RPTM 210(2)**[1]** (Sem: 3-6)
HRIM 336(3), RPTM 360(3)**[1]** (Sem: 5-6)
HRIM 318(2), TURF 100(3) (Sem: 5-10)
HRIM 466(3), RPTM 415(3)**[1]** (Sem: 9-10)

ADDITIONAL COURSES (17-18 credits)
Select 3-4 credits from ACCTG 211(4) or HRIM 335(3) (Sem: 3-6)
Select 14 credits from RPTM 295A(1-4)**[1]**, RPTM 395B(1-4)**[1]**, RPTM 495B(1-4)**[1]**, RPTM 495C(1-4)**[1]**, RPTM 495D(1-4)**[1]** (Sem: 3-8)

OUTDOOR RECREATION OPTION: (41-42 credits)

PRESCRIBED COURSES (20 credits)**[1]**
RPTM 320(3), RPTM 394(1) (Sem: 3-4)
RPTM 470(3), RPTM 480(1), RPTM 495A(12) (Sem: 5-8)

ADDITIONAL COURSES (21-22 credits)
Select 6 credits from courses with the following abbreviations: E R M, FOR, GEOSC, W F S (Sem: 3-6)
Select among: a, b, or c (15-16 credits)
a. Environmental Interpretation Emphasis:
Select 12 credits from RPTM 325(3)**[1]**, RPTM 326(3)**[1]**, RPTM 327(3)**[1]**, RPTM 425(3)**[1]**, RPTM 430(3)**[1]** (Sem: 5-8)
Select 3 credits from department list, in consultation with faculty adviser (Sem: 3-8)
b. Adventure-based Programming Emphasis:
Select 6-9 credits from RPTM 230(3)**[1]**, RPTM 330(3)**[1]**, RPTM 440(3)**[1]** (Sem: 3-8)
Select 0-3 credits from RPTM 325(3)**[1]**, RPTM 334(3)**[1]**, RPTM 430(3)**[1]** (Sem: 3-8)
Select 6 credits from department list, in consultation with faculty adviser (Sem: 3-8)
c. Park Management Emphasis:
RPTM 334(3)**[1]**, RPTM 435(3)**[1]** (Sem: 6-8)
Select 6-7 credits from ACCTG 211(4) or HRIM 335(3), HRIM 201(3), MGMT 100(3), MGMT 341(3), MKTG 221(3) (Sem: 3-6)
Select 3 credits from department list, in consultation with faculty adviser (Sem: 3-8)

THERAPEUTIC RECREATION OPTION: (43 credits)

OPTION CURRENTLY ON HOLD;
NOT ACCEPTING NEW STUDENTS
Begin Date of Enrollment Hold: April 30, 2010

PRESCRIBED COURSES (34 credits)
BI SC 004 GN(3), RPTM 376(3)**[1]**, RPTM 394(1)**[1]** (Sem: 5-6)
PSYCH 470(3), RPTM 386(3)**[1]**, RPTM 476(3)**[1]**, RPTM 486(3)**[1]**, RPTM 490(3)**[1]** (Sem: 6-8)
RPTM 495A(12)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from HD FS 129 GS(3) or PSYCH 212 GS(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from department list, in consultation with adviser (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-06-123

Review Date: 01/21/05

UCA Revision #1: 9/1/06

HH

Dept Head updated: 5/20/10

Rehabilitation and Human Services

University Park, College of Education (RHS)

PROFESSOR JAMES T. HERBERT, *in charge*

This major helps prepare students for entry-level positions in a variety of human service settings, particularly settings that provide services to persons with physical, emotional, or mental disabilities. Graduates pursue employment in a variety of settings including rehabilitation centers, sheltered workshops, drug and alcohol programs, senior citizens centers, community mental health programs, mental retardation programs, corrections systems, and hospitals. Increasing opportunities are available in private for-profit insurance programs for the industrially injured, and in employee assistance programs within business and industry. Well-planned use of electives and internships allows for specialization. The full-semester (15-credit) internship is provided under the supervision of professionals in human service agencies across the country. These intensive "hands-on" experiences are frequently avenues for employment since the internship is completed during the senior year. Students may not go on internship until they have successfully completed all other course work. Students are encouraged to participate in volunteer activities and courses providing an opportunity for work with people with disabilities; this gives greater meaning to related course work. All students are encouraged to declare a minor in a related area. These choices must be discussed thoroughly with the student's adviser. The program also helps prepare students for graduate study in many human service professional disciplines.

Baccalaureate degree candidates must have a minimum 2.0 GPA to be admitted to the Rehabilitation and Human Services (RHS) major; thereafter, students must earn a C or better in all RHS required courses.

For the B.S. degree in Rehabilitation and Human Services, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-14 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14-18 credits

REQUIREMENTS FOR THE MAJOR: 75-77 credits
(This includes 14-18 credits of General Education courses: 6 credits of GS courses; 3-4 credits of GQ courses; 3-4 credits of GN courses.)

PRESCRIBED COURSES (57 credits)
EDPSY 014(3), PSYCH 100 GS(3), RHS 100 GS(3) (Sem: 1-4)
PSYCH 270(3), SOC 001 GS(3), SOC 005 GS(3) (Sem: 1-6)
RHS 300(3)**[1]**, RHS 301(3)**[1]**, RHS 302(3)**[1]**, RHS 303(3)**[1]**, RHS 400W(3)**[1]**, RHS 401(3)**[1]**, RHS 402(3)**[1]**, RHS 403(3)**[1]**, RHS 495A(15) (Sem: 5-8)

ADDITIONAL COURSES (18-20 credits)
EDPSY 010 GS(3), HD FS 239 GS(3), or PSYCH 212 GS(3) (Sem: 1-2)
Select 3-4 credits from ANTH 021 GN(3), BI SC 001 GN(3), BI SC 002 GN(3), BI SC 003 GN(3), BI SC 004 GN(3), BIOL 133 GN(3), BIOL 110 GN(4), or BIOL 141 GN(3) (Sem: 1-6)
STAT 100 GQ(3) or STAT 200 GQ(4) (Sem: 1-6)
Select 9 credits from CRIMJ, BB H, HD FS, KINES, PSYCH, or SOC (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better in this course, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-05-035

Review Date: 2/26/08

UCA Revision #1: 9/1/06

ED

Religious Studies

University Park, College of the Liberal Arts (RL ST)

PROFESSOR WILLIAM L. PETERSEN, *Director*

This major explores religious outlooks, institutions, and practices, and studies the relationship of these to other aspects of culture. The program includes courses in major religious traditions and uses the scholarly methods of the humanities and social sciences to study the human religious condition.

For the B.A. degree in Religious Studies, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 25 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 30 credits**[1]**

ADDITIONAL COURSES (18 credits)
Select 3 credits from RL ST 001-099 (Sem: 1-6)
Select 9 credits from RL ST 100-299 (Sem: 3-8)
Select 6 credits from RL ST 401-499 (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
(Include at least 6 credits at the 400 level.)
Select 12 credits from:
ANTH 045 GS;US;IL(3), ART H 120 GA;IL(3), ART H 212 GA(3), ART H 442(3), CAMS 045 GH;IL(3), CMLIT 003 GH;IL(3), CMLIT 004 GH;IL(3), CMLIT 108 GH;IL(3), CMLIT 120 GH(3), CMLIT 141 GH;US;IL(3), CMLIT 408 IL(3), ENGL 104 GH(3), HEBR 010 GH;IL(3), HIST 102 GH;IL(3), HIST 105 GH;IL(3), HIST 108 GH;IL(3), HIST 172 IL(3), HIST 174 GH;IL(3), HIST 181 GH;IL(3), HIST 191 GH;IL(3), HIST 405Y IL(3), HIST 408 IL(3), HIST 412 IL(3), HIST 414 IL(3), HIST 459Y US(3), HIST 471W(3), HIST 480 IL(3), HIST 483 IL(3), HIST 484Y IL(3), PHIL 007 GH;IL(3), PHIL 124 GH(3), PHIL 201 GH(3), PHIL 424(3), PHIL 435(3), PHIL 454(3), PSYCH 230 GS(3), PSYCH 436(3), RL ST 401 IL(3), RL ST 402(3), RL ST 408 US;IL(3), RL ST 409 US;IL(3), RL ST 411 US;IL(3), RL ST 420(3), RL ST 422(3), RL ST 430(3), RL ST 440W(3), RL ST 461(3), RL ST 479(3), RL ST 481 IL(3), RL ST 483 IL(3), RL ST 494(1-12), RL ST 496(1-18), RL ST 497(1-9), SOC 461(3), THEA 401W(3) or THEA 406 IL(3) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-06-147

Review Date: 4/8/03

UCA Revision #1: 9/1/06

LA

Russian

University Park, College of the Liberal Arts (RUS)

PROFESSOR LINDA IVANITS, *Director*

The B.A. in Russian provides the student with a command of spoken and written Russian and a general knowledge of the literature and culture of the Russian people. No previous study of Russian is required for admission to the major. Study in Russia under the University's Education Abroad Program is available for qualified students. Students are advised to combine their study of Russian with another foreign language, English, history, political science, the Russian Area Studies minor, the Business/Liberal Arts minor, or the Linguistics minor. Graduates of this program have found employment in international business, the U.S. government, in the educational and publishing fields, and in the travel industry.

For the B.A. degree in Russian, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 29 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 26 credits**[1]**

PRESCRIBED COURSE (17 credits)
RUS 204 IL(4) (Sem: 1-4)
RUS 214 IL(4) (Sem: 5-6)
RUS 304 IL(3) (Sem: 3-6)
RUS 305 IL(3) (Sem: 5-6)
RUS 400 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
Select 3 credits from RUS 141W IL(3) or RUS 142Y IL(3) (Sem: 5-8)
Select 3 credits from RUS 450 IL(3) or RUS 460 IL(3) (Sem: 7-8)
Select 3 credits from RUS 426 IL(3), RUS 427 IL(3), or RUS 497(3) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-01-035

Review Date: 08/28/01

LA

Russian Translation

University Park, College of the Liberal Arts (RUS T)

PROFESSOR LINDA IVANITS, *Director*

This major is designed to offer, within the context of a liberal education, specialized skills in translation from the Russian language. The curriculum is career-oriented and requires competence in a field or fields in addition to the language skill. Students will select such a field or fields in accordance with their special interests and in consultation both with the adviser and with persons directly involved with the field chosen.

For the B.S. degree in Russian Translation, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20 credits

REQUIREMENTS FOR THE MAJOR: 59-71 credits**[1]**

PRESCRIBED COURSES (17 credits)
RUS 204 IL(4), RUS 214 IL(4), RUS 304 IL(3), RUS 400 IL(3), RUS 412 IL(3) (Sem: 3-8)

ADDITIONAL COURSES (18 credits)
Select 3 credits from each category:
a. ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 418(3), ENGL 419(3), ENGL 421(3), or CMLIT 410(3) (Sem: 5-8)
b. HIST 141 GH(3), HIST 433 IL(3), or HIST 434 IL(3) (Sem: 3-8)
c. RUS 100 GH;IL(3), RUS 110 GH;IL(3), RUS 120 GH;IL(3), RUS 141W IL(3), or RUS 142Y IL(3) (Sem: 5-8)
d. PL SC 413(3) (Sem: 7-8)
e. RUS 426 IL(3) or RUS 427 IL(3) (Sem: 7-8)
f. RUS 450 IL(3) or RUS 460 IL(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (24-36 credits)
Proficiency in Russian must be demonstrated by either course work or examination equivalent to the completion of 12 credits of course work (0-12) (Sem: 3-6)
Select a minimum of 24 credits in a field (or fields) in which the student plans to specialize as a translator (Sem: 3-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-01-036

Review Date: 1/20/04

UCA Revision #2: 7/30/07

LA

Science

University Park, Eberly College of Science (SC BA)

PROFESSOR ROBERT B. MITCHELL, *in charge*

The Science major is an interdisciplinary degree that aims to provide a broad, general education in science. The bachelor of arts (B.A.) curriculum is designed specifically for students who have education goals relating to scientific theory and practice and who require a high degree of flexibility to obtain their educational objectives. After completing foundation courses in calculus, chemistry, physics, and the life sciences, students will select additional science courses from designated areas. A large number of supporting credits permit students to readily include the B.A. requirement and significant breadth or specialization into their undergraduate curriculum. Some examples include minors in business, computer and information science, education, kinesiology, or other fields. The degree allows students to become familiar with both the theory and the practice of science. It can help prepare students for various careers in pharmaceutical, biotechnical, chemical, medical, and agricultural industries. The degree can also be tailored to meet the specific requirements of professional programs such as medical, dental, or pharmacy schools.

In order to be eligible for entrance to the Science major, a student must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed MATH 140 GQ(4) with a grade of C or better; and 3) completed at least two of the following courses, BIOL 110 GN(4); CHEM 110 GN(3); PHYS 211 GN(4) or PHYS 250 GN(4), with a grade of C or better.

TWO-YEAR PREPROFESSIONAL PREPARATION: The first two years of the Science major (62 credits) can meet the preprofessional needs of those interested in admission to some schools of pharmacy, physical therapy, optometry, nursing, and physician assistant training. Successful students can then transfer after two years of undergraduate study to the professional school to which they are admitted. Note, however, that no Penn State degree can be awarded after only two years (62 credits) of study in the Science major. Also, note that the abbreviated two-year curriculum alone does not prepare students for admission to professional schools of general medicine, veterinary medicine, or dental medicine. Consult with the Eberly College of Science health sciences professional adviser for additional information.

For the B.A. degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in BACHELOR OF ARTS DEGREE REQUIREMENTS, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in BACHELOR OF ARTS DEGREE REQUIREMENTS, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in BACHELOR OF ARTS DEGREE REQUIREMENTS, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 70-78 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (20 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (17-23 credits)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-6)
Select 3-4 credits from B M B 211(3), BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4), or MICRB 201(3) (Sem: 3-6)
Select 3 credits from PHIL 110 GH(3), PHIL 221 GH(3), S T S 100 GH(3), or S T S 200 GS(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (27-41 credits)
(A maximum of 12 credits of Independent Study (296, 496) may be applied toward credits for graduation.)
Select 15 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 12-26 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[60] Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, CSE, MATH, STAT; life sciences include BIOL, BIOTC, B M B, MICRB.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-07-148

Review Date: 04/10/01

UCA Revision #1: 8/14/06

SC

Science

Abington College (SCIAB)
Altoona College (SCIAL)
Berks College (SCIBL)
Capital College (SCICA)
University College (SCICC): Penn State York
University Park, Eberly College of Science (SC BS)
Integrated Five-Year Science/Business M.B.A. Program (SCBUS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR RONALD MARKLE, *in charge*

The Science major is an integrated undergraduate-graduate (IUG) degree program that aims to provide a broad, general education in science. The bachelor of science (B.S.) curriculum is designed specifically for students who have education goals relating to scientific theory and practice and who require a high degree of flexibility to obtain their educational objectives. After completing foundation courses in calculus, chemistry, physics, and the life sciences, students will select additional science courses from designated areas. A large number of supporting credits permit students to readily include significant breadth or specialization into their undergraduate curriculum. Some examples include minors in business, computer and information science, education, kinesiology, or other fields. The degree allows students throughout the Commonwealth to become familiar with both the theory and the practice of science. It can help prepare students for various careers in pharmaceutical, biotechnical, chemical, medical, and agricultural industries. The degree can also be tailored to meet the specific requirements of professional programs such as medical, dental, or pharmacy schools. The General Science option of the B.S. Science degree allows for the most flexibility. Achievement in a more specialized set of goals can be met by selecting one of the other three B.S. options offered: the Life Sciences option, the Mathematical Sciences option, or the Physical Sciences option. Not all of these options are available at all locations, so see the Science program director at your College for further details.

In order to be eligible for entrance to the Science major, a student at any location must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed MATH 140 GQ(4) with a grade of C or better; 3) completed at least two of the following courses, BIOL 110 GN(4); CHEM 110 GN(3); PHYS 211 GN(4) or PHYS 250 GN(4), with a grade of C or better.

TWO-YEAR PREPROFESSIONAL PREPARATION: The first two years of the Science major (62 credits) can meet the preprofessional needs of those interested in admission to some schools of pharmacy, physical therapy, optometry, nursing, and physician assistant training. Successful students can then transfer after two years of undergraduate study to the professional school to which they are admitted. Note, however, that no Penn State degree can be awarded after only two years (62 credits) of study in the Science major. Also, note that the abbreviated two-year curriculum alone does not prepare students for admission to professional schools of general medicine, veterinary medicine, or dental medicine. Consult with your college's health sciences professional adviser for additional information.

ACCELERATED SCIENCE B.S./M.B.A. PROGRAM: Students admitted to this special cooperative program between the Eberly College of Science and The Smeal College of Business will be able to combine a Bachelor of Science degree in the Science major, with a Master of Business Administration degree. Highly motivated students, who enter the University with a sufficient number and proper distribution of AP credits, will have the opportunity to complete the requirements for both programs within five years. The B.S. degree in the Science major General Science option, will be conferred upon satisfactory completion of:

1. A minimum of 112 acceptable undergraduate credits, which must include:
    1. (30 credits) The University's General Education requirements in the areas of Writing and Speaking (9), Health and Physical Activity (3), Arts (6), Humanities (6), and Social and Behavioral Sciences (6). (Note: Students will be required to take ECON 002 GS(3) and ECON 004 GS(3) in order to satisfy the Social and Behavioral Sciences requirement. The University's General Education requirements in the areas of Quantification and Natural Sciences will be satisfied by course work listed under heading "c".)
    2. The University's First-Year Seminar, United States Cultures, International Cultures, and Writing Across the Curriculum requirements. (Note: These requirements may be double counted in order to satisfy other requirements in the program.)
    3. (53-57 credits) BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111(1), CHEM 112 GN(3), CHEM 113 GN(1), CMPSC 203 GQ(4), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), or PHYS 250 GN(4), PHYS 251 GN(4), STAT 200 GQ(4); an additional life science course selected from B M B 211(3), B M B 251(3), or MICRB 201(3); and 14 additional credits of course work from the Eberly College of Science, with at least nine credits at the 400 level.
    4. (0-8 credits) Demonstration of second semester proficiency in a single foreign language.
    5. (3-9 credits) SC 295(1-3), SC 395(1-3), SC 495(1-3) (Note: Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.)
    6. (4 credits) ACCTG 211(4)
    7. (4-22 credits) Supporting courses and related areas selected from the program list.

2. The first semester of course work in The Smeal College of Business M.B.A. program (i.e., a minimum of 12 graduate credits).

For the B.S. degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR or SUPPORTING COURSES AND RELATED AREAS)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 29-37 credits

PRESCRIBED COURSES (20 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6-14 credits)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 57-65 credits

GENERAL SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (11-16 credits)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-4)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

LIFE SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (21-27 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (30-44 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)
Select 21-35 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

MATHEMATICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (5 credits)
CMPSC 122(3), MATH 220 GQ(2-3) (Sem: 3-6)

ADDITIONAL COURSES (21-26 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
CMPSC 360(3) or MATH 311W(3-4); STAT 301 GQ(3) or STAT 318(3) (Sem: 3-8)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-39 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 17-30 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

PHYSICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (15 credits)
ASTRO 291 GN(3), PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)

ADDITIONAL COURSES (13-16 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
Select 3-4 credits from ASTRO 292 GN(3; E MCH 211(3); M E 300(3); or PHYS 237(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-37 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 17-28 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
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Last Revised by the Department: Summer Session 2006

In charge professor updated by Publications: 4/30/09

Blue Sheet Item #: 34-06-352

Review Date: 4/11/06

UCA Revision #1: 9/1/06
UCA Revision #2: 7/730/07

SC

Science

Abington College (SCIAB)
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    2. The University's First-Year Seminar, United States Cultures, International Cultures, and Writing Across the Curriculum requirements. (Note: These requirements may be double counted in order to satisfy other requirements in the program.)
    3. (53-57 credits) BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111(1), CHEM 112 GN(3), CHEM 113 GN(1), CMPSC 203 GQ(4), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), or PHYS 250 GN(4), PHYS 251 GN(4), STAT 200 GQ(4); an additional life science course selected from B M B 211(3), B M B 251(3), or MICRB 201(3); and 14 additional credits of course work from the Eberly College of Science, with at least nine credits at the 400 level.
    4. (0-8 credits) Demonstration of second semester proficiency in a single foreign language.
    5. (3-9 credits) SC 295(1-3), SC 395(1-3), SC 495(1-3) (Note: Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.)
    6. (4 credits) ACCTG 211(4)
    7. (4-22 credits) Supporting courses and related areas selected from the program list.

2. The first semester of course work in The Smeal College of Business M.B.A. program (i.e., a minimum of 12 graduate credits).

For the B.S. degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR or SUPPORTING COURSES AND RELATED AREAS)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 29-37 credits

PRESCRIBED COURSES (20 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6-14 credits)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 57-65 credits

GENERAL SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (11-16 credits)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-4)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

LIFE SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (21-27 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (30-44 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)
Select 21-35 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

MATHEMATICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (5 credits)
CMPSC 122(3), MATH 220 GQ(2-3) (Sem: 3-6)

ADDITIONAL COURSES (21-26 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
CMPSC 360(3) or MATH 311W(3-4); STAT 301 GQ(3) or STAT 318(3) (Sem: 3-8)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-39 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 17-30 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

PHYSICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (15 credits)
ASTRO 291 GN(3), PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)

ADDITIONAL COURSES (13-16 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
Select 3-4 credits from ASTRO 292 GN(3; E MCH 211(3); M E 300(3); or PHYS 237(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-37 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 17-28 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[60] Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, MATH, STAT; life sciences include BIOL, BIOTC, B M B, MICRB.

Last Revised by the Department: Summer Session 2006

In charge professor updated by Publications: 4/30/09

Blue Sheet Item #: 34-06-352

Review Date: 4/11/06

UCA Revision #1: 9/1/06
UCA Revision #2: 7/730/07

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Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR RONALD MARKLE, *in charge*

The Science major is an integrated undergraduate-graduate (IUG) degree program that aims to provide a broad, general education in science. The bachelor of science (B.S.) curriculum is designed specifically for students who have education goals relating to scientific theory and practice and who require a high degree of flexibility to obtain their educational objectives. After completing foundation courses in calculus, chemistry, physics, and the life sciences, students will select additional science courses from designated areas. A large number of supporting credits permit students to readily include significant breadth or specialization into their undergraduate curriculum. Some examples include minors in business, computer and information science, education, kinesiology, or other fields. The degree allows students throughout the Commonwealth to become familiar with both the theory and the practice of science. It can help prepare students for various careers in pharmaceutical, biotechnical, chemical, medical, and agricultural industries. The degree can also be tailored to meet the specific requirements of professional programs such as medical, dental, or pharmacy schools. The General Science option of the B.S. Science degree allows for the most flexibility. Achievement in a more specialized set of goals can be met by selecting one of the other three B.S. options offered: the Life Sciences option, the Mathematical Sciences option, or the Physical Sciences option. Not all of these options are available at all locations, so see the Science program director at your College for further details.

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TWO-YEAR PREPROFESSIONAL PREPARATION: The first two years of the Science major (62 credits) can meet the preprofessional needs of those interested in admission to some schools of pharmacy, physical therapy, optometry, nursing, and physician assistant training. Successful students can then transfer after two years of undergraduate study to the professional school to which they are admitted. Note, however, that no Penn State degree can be awarded after only two years (62 credits) of study in the Science major. Also, note that the abbreviated two-year curriculum alone does not prepare students for admission to professional schools of general medicine, veterinary medicine, or dental medicine. Consult with your college's health sciences professional adviser for additional information.

ACCELERATED SCIENCE B.S./M.B.A. PROGRAM: Students admitted to this special cooperative program between the Eberly College of Science and The Smeal College of Business will be able to combine a Bachelor of Science degree in the Science major, with a Master of Business Administration degree. Highly motivated students, who enter the University with a sufficient number and proper distribution of AP credits, will have the opportunity to complete the requirements for both programs within five years. The B.S. degree in the Science major General Science option, will be conferred upon satisfactory completion of:

1. A minimum of 112 acceptable undergraduate credits, which must include:
    1. (30 credits) The University's General Education requirements in the areas of Writing and Speaking (9), Health and Physical Activity (3), Arts (6), Humanities (6), and Social and Behavioral Sciences (6). (Note: Students will be required to take ECON 002 GS(3) and ECON 004 GS(3) in order to satisfy the Social and Behavioral Sciences requirement. The University's General Education requirements in the areas of Quantification and Natural Sciences will be satisfied by course work listed under heading "c".)
    2. The University's First-Year Seminar, United States Cultures, International Cultures, and Writing Across the Curriculum requirements. (Note: These requirements may be double counted in order to satisfy other requirements in the program.)
    3. (53-57 credits) BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111(1), CHEM 112 GN(3), CHEM 113 GN(1), CMPSC 203 GQ(4), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), or PHYS 250 GN(4), PHYS 251 GN(4), STAT 200 GQ(4); an additional life science course selected from B M B 211(3), B M B 251(3), or MICRB 201(3); and 14 additional credits of course work from the Eberly College of Science, with at least nine credits at the 400 level.
    4. (0-8 credits) Demonstration of second semester proficiency in a single foreign language.
    5. (3-9 credits) SC 295(1-3), SC 395(1-3), SC 495(1-3) (Note: Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.)
    6. (4 credits) ACCTG 211(4)
    7. (4-22 credits) Supporting courses and related areas selected from the program list.

2. The first semester of course work in The Smeal College of Business M.B.A. program (i.e., a minimum of 12 graduate credits).

For the B.S. degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
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WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR or SUPPORTING COURSES AND RELATED AREAS)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 29-37 credits

PRESCRIBED COURSES (20 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6-14 credits)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 57-65 credits

GENERAL SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (11-16 credits)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-4)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

LIFE SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (21-27 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (30-44 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)
Select 21-35 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

MATHEMATICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (5 credits)
CMPSC 122(3), MATH 220 GQ(2-3) (Sem: 3-6)

ADDITIONAL COURSES (21-26 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
CMPSC 360(3) or MATH 311W(3-4); STAT 301 GQ(3) or STAT 318(3) (Sem: 3-8)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-39 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 17-30 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

PHYSICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (15 credits)
ASTRO 291 GN(3), PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)

ADDITIONAL COURSES (13-16 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
Select 3-4 credits from ASTRO 292 GN(3; E MCH 211(3); M E 300(3); or PHYS 237(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-37 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 17-28 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[60] Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, MATH, STAT; life sciences include BIOL, BIOTC, B M B, MICRB.

Last Revised by the Department: Summer Session 2006

In charge professor updated by Publications: 4/30/09

Blue Sheet Item #: 34-06-352

Review Date: 4/11/06

UCA Revision #1: 9/1/06
UCA Revision #2: 7/730/07

SC

Science

Abington College (SCIAB)
Altoona College (SCIAL)
Berks College (SCIBL)
Capital College (SCICA)
University College (SCICC): Penn State York
University Park, Eberly College of Science (SC BS)
Integrated Five-Year Science/Business M.B.A. Program (SCBUS)

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    4. (0-8 credits) Demonstration of second semester proficiency in a single foreign language.
    5. (3-9 credits) SC 295(1-3), SC 395(1-3), SC 495(1-3) (Note: Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.)
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BIOL 110 GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6-14 credits)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 57-65 credits

GENERAL SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (11-16 credits)
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PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

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Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
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MATHEMATICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (5 credits)
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Last Revised by the Department: Summer Session 2006

In charge professor updated by Publications: 4/30/09

Blue Sheet Item #: 34-06-352

Review Date: 4/11/06

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SC

Science

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GENERAL SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (11-16 credits)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-4)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

LIFE SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (21-27 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (30-44 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)
Select 21-35 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

MATHEMATICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (5 credits)
CMPSC 122(3), MATH 220 GQ(2-3) (Sem: 3-6)

ADDITIONAL COURSES (21-26 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
CMPSC 360(3) or MATH 311W(3-4); STAT 301 GQ(3) or STAT 318(3) (Sem: 3-8)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-39 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 17-30 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

PHYSICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (15 credits)
ASTRO 291 GN(3), PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)

ADDITIONAL COURSES (13-16 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
Select 3-4 credits from ASTRO 292 GN(3; E MCH 211(3); M E 300(3); or PHYS 237(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-37 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 17-28 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[60] Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, MATH, STAT; life sciences include BIOL, BIOTC, B M B, MICRB.

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In charge professor updated by Publications: 4/30/09

Blue Sheet Item #: 34-06-352

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UCA Revision #1: 9/1/06
UCA Revision #2: 7/730/07

SC

Science

Abington College (SCIAB)
Altoona College (SCIAL)
Berks College (SCIBL)
Capital College (SCICA)
University College (SCICC): Penn State York
University Park, Eberly College of Science (SC BS)
Integrated Five-Year Science/Business M.B.A. Program (SCBUS)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR RONALD MARKLE, *in charge*

The Science major is an integrated undergraduate-graduate (IUG) degree program that aims to provide a broad, general education in science. The bachelor of science (B.S.) curriculum is designed specifically for students who have education goals relating to scientific theory and practice and who require a high degree of flexibility to obtain their educational objectives. After completing foundation courses in calculus, chemistry, physics, and the life sciences, students will select additional science courses from designated areas. A large number of supporting credits permit students to readily include significant breadth or specialization into their undergraduate curriculum. Some examples include minors in business, computer and information science, education, kinesiology, or other fields. The degree allows students throughout the Commonwealth to become familiar with both the theory and the practice of science. It can help prepare students for various careers in pharmaceutical, biotechnical, chemical, medical, and agricultural industries. The degree can also be tailored to meet the specific requirements of professional programs such as medical, dental, or pharmacy schools. The General Science option of the B.S. Science degree allows for the most flexibility. Achievement in a more specialized set of goals can be met by selecting one of the other three B.S. options offered: the Life Sciences option, the Mathematical Sciences option, or the Physical Sciences option. Not all of these options are available at all locations, so see the Science program director at your College for further details.

In order to be eligible for entrance to the Science major, a student at any location must have: 1) attained at least a 2.00 cumulative grade-point average; 2) completed MATH 140 GQ(4) with a grade of C or better; 3) completed at least two of the following courses, BIOL 110 GN(4); CHEM 110 GN(3); PHYS 211 GN(4) or PHYS 250 GN(4), with a grade of C or better.

TWO-YEAR PREPROFESSIONAL PREPARATION: The first two years of the Science major (62 credits) can meet the preprofessional needs of those interested in admission to some schools of pharmacy, physical therapy, optometry, nursing, and physician assistant training. Successful students can then transfer after two years of undergraduate study to the professional school to which they are admitted. Note, however, that no Penn State degree can be awarded after only two years (62 credits) of study in the Science major. Also, note that the abbreviated two-year curriculum alone does not prepare students for admission to professional schools of general medicine, veterinary medicine, or dental medicine. Consult with your college's health sciences professional adviser for additional information.

ACCELERATED SCIENCE B.S./M.B.A. PROGRAM: Students admitted to this special cooperative program between the Eberly College of Science and The Smeal College of Business will be able to combine a Bachelor of Science degree in the Science major, with a Master of Business Administration degree. Highly motivated students, who enter the University with a sufficient number and proper distribution of AP credits, will have the opportunity to complete the requirements for both programs within five years. The B.S. degree in the Science major General Science option, will be conferred upon satisfactory completion of:

1. A minimum of 112 acceptable undergraduate credits, which must include:

    1. (30 credits) The University's General Education requirements in the areas of Writing and Speaking (9), Health and Physical Activity (3), Arts (6), Humanities (6), and Social and Behavioral Sciences (6). (Note: Students will be required to take ECON 002 GS(3) and ECON 004 GS(3) in order to satisfy the Social and Behavioral Sciences requirement. The University's General Education requirements in the areas of Quantification and Natural Sciences will be satisfied by course work listed under heading "c".)
    2. The University's First-Year Seminar, United States Cultures, International Cultures, and Writing Across the Curriculum requirements. (Note: These requirements may be double counted in order to satisfy other requirements in the program.)
    3. (53-57 credits) BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111(1), CHEM 112 GN(3), CHEM 113 GN(1), CMPSC 203 GQ(4), MATH 140 GQ(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), or PHYS 250 GN(4), PHYS 251 GN(4), STAT 200 GQ(4); an additional life science course selected from B M B 211(3), B M B 251(3), or MICRB 201(3); and 14 additional credits of course work from the Eberly College of Science, with at least nine credits at the 400 level.
    4. (0-8 credits) Demonstration of second semester proficiency in a single foreign language.
    5. (3-9 credits) SC 295(1-3), SC 395(1-3), SC 495(1-3) (Note: Students must complete three Eberly College of Science Cooperative Education experiences, including at least one experience which is a full semester in length.)
    6. (4 credits) ACCTG 211(4)
    7. (4-22 credits) Supporting courses and related areas selected from the program list.

2. The first semester of course work in The Smeal College of Business M.B.A. program (i.e., a minimum of 12 graduate credits).

For the B.S. degree in Science, a minimum of 124 credits is required, with at least 15 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection or SUPPORTING COURSES AND RELATED AREAS)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR or SUPPORTING COURSES AND RELATED AREAS)

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR MAJOR (ALL OPTIONS): 29-37 credits

PRESCRIBED COURSES (20 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
BIOL 110 GN(4)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
Select 3 credits from B M B 211(3), B M B 251(3), or MICRB 201(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6-14 credits)
Select 6 credits of 400-level courses (Sem: 5-8)
Select 0-8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 57-65 credits

GENERAL SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (11-16 credits)
Select 3-4 credits from CMPSC 101 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-4)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (41-54 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 3 credits from earth and mineral sciences (Sem: 3-8)
Select 18 credits in life, mathematical, or physical sciences, with at least 9 credits**[1]** at the 400 level**[60]** (Sem: 3-8)
Select 20-33 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

LIFE SCIENCE OPTION: (57-65 credits)

ADDITIONAL COURSES (21-27 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-4)
Select 3 credits from CMPSC 101 GQ(3), MATH 250(3), or STAT 250 GQ(3) (Sem: 3-4)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (30-44 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level B M B, BIOL, BIOTC, or MICRB courses (Sem: 5-8)
Select 21-35 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

MATHEMATICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (5 credits)
CMPSC 122(3), MATH 220 GQ(2-3) (Sem: 3-6)

ADDITIONAL COURSES (21-26 credits)
CMPSC 121 GQ(3), CMPSC 201 GQ(3), or CMPSC 202 GQ(3) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
CMPSC 360(3) or MATH 311W(3-4); STAT 301 GQ(3) or STAT 318(3) (Sem: 3-8)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-39 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level CMPSC, CSE, MATH, or STAT courses (Sem: 5-8)
Select 17-30 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

PHYSICAL SCIENCE OPTION: (57-65 credits)

PRESCRIBED COURSES (15 credits)
ASTRO 291 GN(3), PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)

ADDITIONAL COURSES (13-16 credits)
CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
MATH 230(4) or MATH 251(4) (Sem: 3-6)
Select 3-4 credits from ASTRO 292 GN(3; E MCH 211(3); M E 300(3); or PHYS 237(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (26-37 credits)
(A maximum of 12 credits of Independent Study [296, 496] may be applied toward credits for graduation.)
Select 9 credits**[1]** of 400-level ASTRO, CHEM, or PHYS courses (Sem: 5-8)
Select 17-28 credits from program list (Students may apply 6 credits of ROTC.) (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[60] Physical sciences include ASTRO, CHEM, PHYS; mathematical sciences include CMPSC, MATH, STAT; life sciences include BIOL, BIOTC, B M B, MICRB.

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UCA Revision #2: 7/730/07

SC

Science

Penn State Erie, The Behrend College (SCNBD)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

This interdisciplinary major provides a broad, general education in science. The B.S. degree major includes options in General Science and Environmental Studies, and in Earth and Space Science Pre-certification and General Science Pre-certification for teaching. The curriculum is designed for students who have educational goals not readily met by one of the science majors or for those who require a high degree of flexibility to attain their educational objectives. After completing foundation courses in calculus, chemistry, computer science, the life sciences, and physics, students select additional science courses from designated areas. A large number of supporting credits will permit students to include a minor or course sequences in business, education, technical writing, or other fields.

For the B.S. degree in Science, a minimum of 120 credits is required, with at least 15 credits at the 400 level. Each student must earn at least a grade of C in each 300- and 400-level prescribed, additional, and supporting course.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES (0-1 credit)

REQUIREMENTS FOR THE MAJOR: 89-90 credits**[80]**
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 44-46 credits

PRESCRIBED COURSES (24 credits)
BIOL 110 GN(4)**[1]** (Sem. 1-4)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4)**[1]**, MATH 141 GQ(4) (Sem: 1-2)
CMPSC 121(3) (Sem: 1-4)

ADDITIONAL COURSES (12-14 credits)
PHYS 211 GN(4)**[1]**, PHYS 212 GN(4), PHYS 213 GN(2) or PHYS 214(2); or PHYS 250 GN(4)**[1]**, PHYS 251 GN(4) (Sem: 3-6)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits in a foreign language (proficiency demonstrated by examination or course work to the level of the second semester; if fewer than 8 credits are needed to reach the required proficiency, students choose selections from program list to total 8 credits) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 43-46 credits**[81]**

GENERAL SCIENCE OPTION: (43-46 credits)

ADDITIONAL COURSES (3-4 credits)
Select 3-4 credits from CMPSC 122 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (39-43 credits)
Select 3 credits from geosciences**[79]** (Sem: 1-8)
Select 18 credits, with at least 9 credits at the 400 level, in one of the areas: computer sciences, life sciences, mathematical sciences, or physical sciences**[79]** (Sem: 3-8)
Select 18-22 credits, with at least 6 credits at the 400 level, from program list (Students may apply 6 credits of basic ROTC.) (Sem: 1-8)

ENVIRONMENTAL STUDIES OPTION: (43-46 credits)

PRESCRIBED COURSES (7 credits)
BIOL 402W(3), GEOG 160 GS(3), GEOG 161(1) (Sem: 3-8)

ADDITIONAL COURSES (9-11 credits)
Select 3-4 credits from BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4),
or MICRB 201 GN(3) (Sem: 3-6)
CHEM 202(3) or CHEM 221(4) (Sem: 3-6)
STAT 200 GQ(3) or STAT 250 GQ(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (25-30 credits)
Select 6 credits from geosciences**[79] [82]** (Sem: 3-8)
Select 6 credits of 400-level courses in computer sciences, life sciences, mathematical sciences, or physical sciences**[79]** (Sem: 5-8)
Select 9-16 credits from Environmental Studies option program list with at least 6 credits with ECON, ECNS, PL SC, or POLSC designations and at least 5-7 credits at the 400 level (Students may apply 6 credits of basic ROTC.) (Sem: 1-8)
Select 2-4 credits of 400-level research, internship, field school, or studies abroad**[80]** (Sem: 5-8)

EARTH AND SPACE SCIENCE PRE-CERTIFICATION OPTION: (43-46 credits)
(This option is designed to prepare students in pre-certification for teaching earth and space science.)

PRESCRIBED COURSES (15 credits)
ASTRO 010 GN(2), ASTRO 011 GN(1), GEOSC 002 GN(3), GEOSC 020 GN(3), GEOSC 040 GN(3), METEO 003 GN(3) (Sem: 1-4)

ADDITIONAL COURSES (6 credits)
Select 6 credits from ASTRO 291 GN(3), ASTRO 292 GN(3), GEOG 010 GN(3), or GEOSC 010 GN(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (22-25 credits)
Select 6 credits from the geosciences**[79][82]** (Sem: 5-8)
Select at least 6 credits at the 400 level in one of the following areas: computer sciences, life sciences, mathematical sciences, or physical sciences**[79]** (Sem:5-8)
Select 10-13 credits, with at least 6-9 credits at the 400 level, from the program list (Students may apply 6 credits of basic ROTC.)**[80]** (Sem: 1-8)

GENERAL SCIENCE PRE-CERTIFICATION OPTION: (43-46 credits)
(This option is designed to prepare students in pre-certification for teaching general science.)

PRESCRIBED COURSES (19 credits)
ASTRO 010 GN(2), ASTRO 011 GN(1), BIOL 230W GN(4), GEOSC 002 GN(3), GEOSC 020 GN(3), GEOSC 040 GN(3), METEO 003 GN(3) (Sem: 1-4)

ADDITIONAL COURSES (7-8 credits)
Select 3-4 credits from CMPSC 122 GQ(3), MATH 230(4), MATH 250(3), or STAT 200 GQ(4) (Sem: 3-6)
Select 4 credits from BIOL 220W GN(4) or BIOL 240W GN(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (16-20 credits)
Select at least 6 credits at the 400 level in one of the following areas: computer sciences, life sciences, mathematical sciences, or physical sciences**[79]** (Sem: 5-8)
Select 10-14 credits, with 6-9 credits at the 400 level, from the program list (Students may apply 6 credits of basic ROTC.)**[80]** (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[79]Computer sciences include CENBD and CMPSC; geosciences include GEOG, GEOSC, MATSC, MATSE; life sciences include BIOL, B M B, MICRB; mathematical sciences include MATH and STAT; physical sciences include ASTRO, CHEM, PHYS.
[80]A student in this major must complete at least 15 credits of 400-level courses and 3 credits of W courses in prescribed, additional, or supporting courses from one of the areas: computer science, life sciences, mathematical sciences, or physical sciences.
[81]A maximum of 8 credits of Research (494), Internship (495), or Independent Study (296, 496) may be applied toward credits for graduation in all options.
[82]In addition to courses used to satisfy the prescribed courses requirement.

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Blue Sheet Item #: 31-04-013

Review Date: 1/14/03

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

BD

Science

Penn State Erie, The Behrend College (SCNCE)

This major provides broad, general training with a background in science. It allows students to prepare for graduate studies in their field of interest. Most graduates of the Science major go on to graduate school in order to obtain employment in research. Other students choose this major because of an educational objective more readily obtained by it than by some specific subject matter.

For the B.A. degree in Science, a minimum of 120 credits is required.

Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selections or BACHELOR OF ARTS DEGREE REQUIREMENTS)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-11 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 58-82 credits
(At least 6 credits must be at the 400 level.)
(This includes 18 credits of General Education courses; 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (23 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
ENGL 202C GWS(3) (Sem: 1-4)
MATH 230(4) (Sem: 3-4)

ADDITIONAL COURSES (8-12 credits)
PHYS 250 GN(4), PHYS 251 GN(4) or PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (27 credits)
Select 9 credits of biological sciences from General Education courses (Sem: 1-2)
Select 3 credits of arts or humanities (Sem: 1-8)
Select 15 credits: 12 credits in category a, b, c, or d and 3 additional credits in any one of the categories: (Sem: 5-8)
a. biological sciences
b. earth and material sciences
c. mathematical sciences
d. physical sciences

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Comments

BD

Secondary Education

Abington College (SECAB)
Penn State Erie, The Behrend College (SECBC)
University Park, College of Education (SECED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR GREGORY J. KELLY, *Head of the Department of Curriculum and Instruction*

The following teaching options are available for majors in Secondary Education: Biological Science, Chemistry, Earth and Space Science, English/Communication, Environmental Education, General Science, Mathematics, Physics, and Social Studies/Citizenship Education.

The Secondary Education major helps prepare students for middle school and/or high school teaching positions and for other employment in fields related to their content specialties.

BIOLOGICAL SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

CHEMISTRY TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

EARTH AND SPACE SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

ENGLISH/COMMUNICATION TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education. This program has a Language and Literature Core and a Media Literacies Core. This program is open to students outside the College of Education who desire certification.

ENVIRONMENTAL EDUCATION TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for a Pennsylvania teacher certification in Environmental Education when completed in conjunction with another secondary education teaching option (i.e., Biological Science Teaching option). The total number of credits required will depend primarily on that other option.

GENERAL SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching General Science at the secondary-school level, which is issued by the Pennsylvania Department of Education. This option may only be completed in conjunction with another secondary education option (e.g., Biology); the total number of credits required will depend primarily on that other option.

MATHEMATICS TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

PHYSICS TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

SOCIAL STUDIES TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching social studies courses in the secondary-school level, which is issued by the Pennsylvania Department of Education. This program has a prescribed component required for all candidates as well as a choice of concentrations that focus on a specific area. All graduates who successfully complete this program are highly qualified to teach history in secondary grades (7-12) and are eligible for PA certifcation in Social Studies (7-12) and /or Citizenship Education (7-12). Candidates who successfully complete the Civics & Government concentration are highly qualified to be teachers of U.S. government and civics (7-12). Candidates who successfully complete the Economics concentration are highly qualified to be teachers of economics and economic issues (7-12). Candidates who successfully complete the Geography concentration are highly qualified to be teachers of geography and global studies (7-12). Candidates who successfully complete teh Citizenship Education concentration receive additional in-depth content preparation in Economics, Geography, History, and Political Science (7-12). Candidates who successfully complete the Heritage Education concentration receive training to be educational specialists at heritage-museaum sites.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics
3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for Secondary Education must document 40 of these hours with learners who come from backgrounds that are different from the candidate's.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5. Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification
9. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.S. degree in Secondary Education with an option in *Biological Science Teaching*, a minimum of 129 credits is required; with an option in *Chemistry Teaching*, a minimum of 126 credits is required; with an option in *Earth and Space Science Teaching*, a minimum of 123 credits is required; with an option in *English/Communication Teaching*, a minimum of 126 credits is required; with an option in *Environmental Education Teaching* and a cohort option, a minimum of 123 credits is required; with an option in *General Science Teaching* and a cohort option, a minimum of 121 credits is required; with an option in *Mathematics Teaching*, a minimum of 132 credits is required; with an option in *Physics Teaching*, a minimum of 121 credits is required; with an option in *Social Studies Teaching*, a minimum of 132 credits is required. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-4 credits

REQUIREMENTS FOR THE MAJOR: 83-105 credits
(This includes 12-27 credits of General Education courses: Biological Science Teaching option, Chemistry Teaching option, Earth and Space Science Teaching option, Environmental Education Teaching option, General Science Teaching option, and Physics Teaching option--6 credits of GH courses; 9 credits of GN courses, 3-6 credits of GS courses; 6 credits of GQ courses. English/Communication Teaching option--3-6 credits of GA courses; 6 credits of GH courses; 3-6 credits of GS courses. Mathematics Teaching option--6 credits of GH courses; 3-6 credits of GS courses; 6 credits of GQ courses. Social Studies Teaching option--6 credits of GH courses; 3 credits of GN courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 45 credits**[18]**

PRESCRIBED COURSES (36 credits)
C I 295(2), EDPSY 014(3), PSYCH 100 GS(3) (Sem: 1-2)
C I 280 GH(3) (Sem: 1-6)
C I 495C(3), SPLED 400(4), SPLED 403B(3) (Sem: 5-8)
C I 495E(15) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
PSYCH 412(3) or HD FS 239 GS(3) (Sem: 4-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits of GH courses from Literature Selection (Sem: 1-4)
Select 3 credits EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-2) or 3 credits at the 400 level of any EDTHP course (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 38-66 credits

BIOLOGICAL SCIENCE TEACHING OPTION: (63-66 credits)**[18]**

PRESCRIBED COURSES (30 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-2)
BIOL 110 GN(4), BIOL 220W GN(4), BIOL 240W GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (25-28 credits)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses; BIOL 230W GN(4) or B M B 251(3) and B M B 252(3); BIOL 427(3), GEOSC 204(4), GEOSC 424(3), ANTH 021 GN(3) or ANTH 460(3); PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 4-7)
Select 6 credits from B M B 211(3), B M B 212(1), B M B 401(3), B M B 402(3), CHEM 202(3), CHEM 203(3), CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 4-7)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits of 300-level or 400-level BIOL or biological fields (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

CHEMISTRY TEACHING OPTION: (60-62 credits)**[18]**

PRESCRIBED COURSES (42 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-2)
BIOL 110 GN(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 1-4)
CHEM 451(3), CHEM 452(3), CHEM 457(2), SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (12-14 credits)
CHEM 202(3) and CHEM 203(3) or CHEM 210(3), CHEM 212(3), and CHEM 213(2) (Sem: 3-4)
Select 6 credits from CH E 435(3), or CHEM 402(3), CHEM 406(3), CHEM 408(3), CHEM 410(3), CHEM 412(3), CHEM 423W(3), CHEM 425(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in CHEM or chemistry-related fields at the 200 level or higher (e.g., B M B 211 and B M B 212, B M B 251, B M B 252, MICRB 251, MICRB 442, FD SC 400, AN SC 301, NUTR 251, CHEM, CH E) (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

EARTH AND SPACE SCIENCE TEACHING OPTION: (57-62 credits)**[18]**

PRESCRIBED COURSES (22 credits)
MATH 140 GQ(4), BIOL 110 GN(4), CHEM 110 GN(3), CHEM 112 GN(3), CHEM 111 GN(1), CHEM 113 GN(1) (Sem: 1-2)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (27-33 credits)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses (Sem: 1-4)
GEOSC 001(3), GEOSC 020 GN(3) or GEOSC 071(3) (Sem: 1-3)
GEOSC 021 GN(3) or GEOSC 204(4); EARTH 100 GN(3), EARTH 101 GN;US(3), EARTH 103 GN(3) or EARTH 105 GN;IL(3); METEO 003 GN(3), METEO 201(3), or METEO 300(4); ASTRO 010 GN(2) and ASTRO 011 GN(1), or ASTRO 291 GN(3) (Sem: 1-5)
PHYS 250 GN(4) and PHYS 251 GN(4), or PHYS 211 GN(4) and PHYS 212 GN(4), or PHYS 211 GN(4) and PHYS 213 GN(2) (Sem: 1-4)
GEOSC 040 GN(3), GEOSC 440(3) or GEOSC 445(4); or METEO 022(2); or BIOL 435(3) or BIOL 482(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits from EARTH, GEOSC, METEO, ASTRO, other earth science field, or BIOL 427(3) (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

ENGLISH/COMMUNICATION TEACHING OPTION: (54 credits)**[18]** Note: Must complete at least 3 credits of IL and 3 credits of US Cultures selections.

LANGUAGE AND LITERATURE CORE: (36 credits)

PRESCRIBED COURSES (12 credits)
LL ED 411(3), LL ED 412W(3), LL ED 420(3) (Sem: 5-8)
ENGL 444(3) (Sem: 5-6)

ADDITIONAL COURSES (24 credits)
Select 3 credits from each cluster (a-h) below:
(a) 200-level British or U.S. Literature Survey (Sem: 3-6)
ENGL 221(3), ENGL 221W(3), ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W, ENGL 232(3), ENGL 232W(3)

(b) Elements of Literature (Sem: 3-6)
ENGL 201(3), ENGL 261(3), ENGL 262 GH(3), ENGL 263 GH(3), ENGL 265 GH(3), ENGL 268 GH(30, ENGL 401(3), ENGL 401W(3), COMM 261(3)

(c)400-level Comparative Literature/Literature of Diverse Cultures (Sem: 5-8)
AM ST 493(3), CMLIT 400Y US;IL(3), CMLIT 401Y IL(3), CMLIT 402Y US;IL(3), CMLIT 403 US(3), CMLIT 404 IL(3), CMLIT 405 US;IL(3), CMLIT 406 IL(3), CMLIT 408 IL(3), CMLIT 422 IL(3), CMLIT 423 IL(3), CMLIT 453 IL(3), CMLIT 470 IL(3), CMLIT 480 IL(3), CMLIT 486 IL(3), CMLIT 487 IL(3), CMLIT 488 IL(3),ENGL 404(3), ENGL 426 US(3), ENGL 431 US(3), ENGL 449(3), ENGL 461 US(3), ENGL 462 US(3), ENGL 463 US(3), ENGL 466 US(3), ENGL 467 US(3), ENGL 468 US(3), ENGL 469 US(3), ENGL 490 US;IL(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(d) 400-level Topics in American Literature (sem: 5-8)
ENGL 430(3), ENGL 432(3), ENGL 433(3), ENGL 434(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), or ENGL 439(3), ENGL 492(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(e) Topics in British Literature (Sem: 5-8)
ENGL 440(3), ENGL 441(3), ENGL 442(3), ENGL 443(3), ENGL 445(3), ENGL 446(3), ENGL 447(3), ENGL 448(3), ENGL 450(3),

ENGL 452(3), ENGL 453(3), ENGL 454(3), ENGL 455(3), ENGL 456(3), ENGL 457(3), ENGL 458(3), ENGL 489(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(f) Grammar, Language, and Linguistics (Sem: 5-6)
ENGL 100(3), ENGL 407(3), ENGL 417(3), or LING 100 GS(3)

(g) Creative Writing and/or Advanced Composition (Sem: 5-6)
CAS 214W(3), COMM 260W(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 281(3), ENGL 412(3), ENGL 413(3), ENGL 414(3), ENGL 416(3), ENGL 418(3), ENGL 419(3), ENGL 420(3), ENGL 421(3), THEA 440(3)

(h) Rhetoric (Sem: 7-8)
CAS 215(3), CAS 415(3), CAS 475(3), COMM 467(3), ENGL 409(3), ENGL 411(3), ENGL 470(3), ENGL 471(3), ENGL 472(3), ENGL 473(3), ENGL 474(3), ENGL 487W(3)

MEDIA LITERACIES CORE: (18 credits)

PRESCRIBED COURSES (3 credits)
LL ED 480(3) (Sem: 5-6)

ADDITIONAL COURSES (15 credits)
(a) Mass Media. Select 3 credits from:
COMM 100 GS(3), COMM 118 GS(3), COMM 150 GA(3), COMM 205 US(3), COMM 411(3), COMM 413W(3) (Sem: 1-4)
(b) Speech and Oral Performance. Select 3 credits from:
CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 271 US;IL(3), CAS 280W(3) or CAS 480(3), CAS 375(3), CAS 422 US(3), THEA 102 GA(3) (Sem: 4-8)
(c) Media Literacy. Select 9 credits within one, or across several, of the following media literacy areas:

Multimedia
ART 100 GA(3), ART H 111 GA;IL(3), ART H 112 GA;IL(3), ART H 120 GA;IL(3), ART H 130 GA;US;IL(3), CAS 175 GH(3), CAS 283(3), CAS 415(3), CAS 483(3), COMM 100 GS(3), COMM 118(3), COMM 120(3), COMM 150 GA(3), COMM 180 GS(3), COMM 205 US(3), COMM 242(3), COMM 250 GA(3), COMM 283W(3), COMM 453 IL(3), COMM 454(3), CMLIT 453(3), PHOTO 100 GA(3), WMNST 205 US(3) (Sem: 1-8)

Theatre
THEA 102 GA(3), THEA 103(3), THEA 104(3), THEA 110(3), THEA 112(3), THEA 120(3), THEA 130(3), THEA 131(3), THEA 189(3), THEA 210(3), THEA 428(3) (Sem: 1-8)

Journalism
COMM 260W(3), COMM 261 GH(3), COMM 269(3), COMM 409(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), COMM 497 when topic appropriate (with adviser's approval) (Sem: 3-8)

Communication Arts and Sciences
CAS 201 GH(3), CAS 202 GS(3), CAS 203 GS(3), CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 280W(3), CAS 311(3), CAS 375(3), CAS 383(3), CAS 411(3), CAS 422 US(3), CAS 455 US(3), CAS 470(3), CAS 471 US;IL(3), CAS 475(3) (Sem: 3-8)

Creative Writing
ENGL 210(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 281(3), ENGL 412(3), ENGL 413(3), ENGL 422(3), ENGL 423(3), ENGL 425(3) Sem: (3-8)

Instructional Systems:
EDTEC 400(1-3), EDTEC 448(3), EDTEC 566(3), INSYS 200(3), INSYS 441(3), INSYS 446(3) (Sem: 3-8)

Bilingual Education and World Languages:
APLNG 482Y IL(3), APLNG 491(3), APLNG 493 IL(3), CAS 271 US;IL(3), CAS 471 US;IL(3), LL ED 445(3), WL ED 411(3), WL ED 412W(3), WL ED 414(3), WL ED 422(3), or a foreign language credits at the 12th credit level or above (Sem: 3-8)

ENVIRONMENTAL EDUCATION TEACHING OPTION: (55-58 credits)**[18]**

PRESCRIBED COURSES (24 credits)
CHEM 101 GN(3), MATH 140 GQ(4) (Sem: 1-3)
BIOL 110 GN(4), BIOL 220W GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3), SCIED 457(3) (Sem: 5-7)

ADDITIONAL COURSES (7-8 credits)
CHEM 020(3) and CHEM 021(1); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-3)
BIOL 240W GN(4), W F S 407(3) or W F S 408(3) (Sem: 3-5)

SUPPORTING COURSES AND RELATED AREAS (24-26 credits)
Select two courses (6-8 credits) in environmental law, economics, management and policy (e.g., AG ED 201; ECON 428; E R M 411, E R M 412, E R M 413W; W F S 410, W F S 447W, W F S 463W) (Sem: 4-7)
Select 4 credits of an environmentally related course in Science Technology and Society (e.g., S T S 047, S T S 135 GS, S T S 327, S T S 420, S T S 460, S T S 471) (Sem: 5-7)
Select at least 14 credits from the cohort Teaching option (see Note 1)

*Note 1:*This option may only be completed in conjunction with another secondary teaching option, such as the Biological Science Teaching option.

Note 2: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 3: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

GENERAL SCIENCE TEACHING OPTION: (38 credits)**[18]**

PRESCRIBED COURSES (22 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-3)
BIOL 110 GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (16 credits)
BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 3-5)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses (Sem: 3-5)
PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 3-5)

Note 1: This option may only be completed in conjunction with another secondary teaching option, such as Biology.

Note 2: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 3: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

MATHEMATICS TEACHING OPTION: (57 -59 credits)**[18]**

PRESCRIBED COURSES (32-34 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
MATH 220 GQ(2-3), MATH 311W(3-4) (Sem: 3-6)
MATH 310(3), MATH 312(3), MATH 471(4), MTHED 411(3), MTHED 412W(3), MTHED 427(3) (Sem: 5-8)

ADDITIONAL COURSES (19 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3); MATH 230(4) or MATH 231(2) and MATH 232(2); MATH 418(3) or MATH 414(3); STAT 401(3) or MATH 415(3) or 3 credits of MTHED from program list; MATH 435(3) or MATH 470(3); MATH 436(3) or MATH 441(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from 400-level MATH or MTHED courses (Sem: 5-8)

PHYSICS TEACHING OPTION: (55-62 credits)**[18]**

PRESCRIBED COURSES (45-46 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-3)
PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 3-4)
MATH 220 GQ(2-3), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)
PHYS 237(3), PHYS 400(3), PHYS 419(3), SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (6-12 credits)
PHYS 457(1-3), or PHYS 402(4) or PHYS 458(4); MATH 230(4) or MATH 231(2); MATH 250(3) or MATH 251(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (4 credits)
Introductory biological sciences survey courses [e.g., BIOL 110 GN(4)] (Sem: 3-6)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

SOCIAL STUDIES TEACHING OPTION: (57 credits)**[18]**

PRESCRIBED COURSES (30 credits)
ECON 004 GS(3), GEOG 010 GN(3), GEOG 020 GS(3), HIST 001 GH;IL(3), HIST 002 GH;IL(3), HIST 020 GH;US(3), HIST 021 GH;US(3), PL SC 001 GS(3) (Sem: 1-6)
SS ED 411(3), SS ED 412W(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
Select 3 credits from GEOG 030 GS(3) or GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: ANTH 045 GS;US;IL(3), ECON 002 GS(3), PL SC 003 GS;IL(3), PL SC 014 GS;IL(3), SOC 001 GS(3); C I 405(3) with adviser's approval. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits of 400-level History (Sem: 5-8)

Select one concentration (15 credits) below:
Citizenship Education
Select 3 credits from: ECON 002 GS(3), ECON 302 GS(3), ECON 304 GS(3), ECON 315 GS(3), ECON 323 GS(3), ECON 333 GS(3), or ECON 342 GS(3) (Sem: 1-8)
Select 3 credits from: GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 130 GS(3), or GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: PL SC 003 GS;IL(3), PL SC 007 GS(3), PL SC 014 GS;IL(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), or PL SC 130 GS;US(3) (Sem: 1-8)
Select 6 credits of HIST at the 100-level or above (Sem: 1-8)

Civics and Government

PL SC 003 GS;IL(3) (Sem: 1-8)
PL SC 014 GS;IL(3) (Sem: 1-8)
Select 3 credits from: PL SC 007 GS(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), or PL SC 130 GS;US(3) (Sem: 1-8)
Select 6 credits of 400-level Political Science (Sem: 5-8)

Economics
ECON 002 GS(3) (Sem: 1-8)
ECON 302 GS(3) (Sem: 1-8)
ECON 304 GS(3) (Sem: 1-8)
Select 6 credits of 400-level Economics (Sem: 5-8)

Geography
GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: GEOG 120 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 124 GS;IL(3), GEOG 126 GS;US;IL(3), GEOG 128 GS;IL(3), or GEOG 130 GS(3) (Sem: 1-8)
Select 3 credits from GEOG 110 GN(3), GEOG 111 GN(3), or GEOG 115 GN(3) (Sem: 1-8)
Select 6 credits of 400-level Geography (Sem: 5-8)

Heritage Education
C I 400(3) (Sem: 5-8)
C I 405 with adviser's approval
C I 495(3) (Sem: 5-8)
SS ED 470(6) (Sem: 5-8)

Note 1: Courses taken to meet Additional Courses and other Supporting Courses and Related Areas requirements cannot also be applied to the concentration. Different coures need to be selected for the concentration and Additional Courses and other Supporting Courses and Related Areas requirements.

[18] A grade of C or better per course is required for teacher certification.

Penn State Erie/Mathematics Option Only (3/7/07)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-034

Review Date: 4/14/09

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

ED

Publications updated department head: 8/21/08

Secondary Education

Abington College (SECAB)
Penn State Erie, The Behrend College (SECBC)
University Park, College of Education (SECED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR GREGORY J. KELLY, *Head of the Department of Curriculum and Instruction*

The following teaching options are available for majors in Secondary Education: Biological Science, Chemistry, Earth and Space Science, English/Communication, Environmental Education, General Science, Mathematics, Physics, and Social Studies/Citizenship Education.

The Secondary Education major helps prepare students for middle school and/or high school teaching positions and for other employment in fields related to their content specialties.

BIOLOGICAL SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

CHEMISTRY TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

EARTH AND SPACE SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

ENGLISH/COMMUNICATION TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education. This program has a Language and Literature Core and a Media Literacies Core. This program is open to students outside the College of Education who desire certification.

ENVIRONMENTAL EDUCATION TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for a Pennsylvania teacher certification in Environmental Education when completed in conjunction with another secondary education teaching option (i.e., Biological Science Teaching option). The total number of credits required will depend primarily on that other option.

GENERAL SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching General Science at the secondary-school level, which is issued by the Pennsylvania Department of Education. This option may only be completed in conjunction with another secondary education option (e.g., Biology); the total number of credits required will depend primarily on that other option.

MATHEMATICS TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

PHYSICS TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

SOCIAL STUDIES TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching social studies courses in the secondary-school level, which is issued by the Pennsylvania Department of Education. This program has a prescribed component required for all candidates as well as a choice of concentrations that focus on a specific area. All graduates who successfully complete this program are highly qualified to teach history in secondary grades (7-12) and are eligible for PA certifcation in Social Studies (7-12) and /or Citizenship Education (7-12). Candidates who successfully complete the Civics & Government concentration are highly qualified to be teachers of U.S. government and civics (7-12). Candidates who successfully complete the Economics concentration are highly qualified to be teachers of economics and economic issues (7-12). Candidates who successfully complete the Geography concentration are highly qualified to be teachers of geography and global studies (7-12). Candidates who successfully complete teh Citizenship Education concentration receive additional in-depth content preparation in Economics, Geography, History, and Political Science (7-12). Candidates who successfully complete the Heritage Education concentration receive training to be educational specialists at heritage-museaum sites.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics
3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for Secondary Education must document 40 of these hours with learners who come from backgrounds that are different from the candidate's.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5. Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification
9. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.S. degree in Secondary Education with an option in *Biological Science Teaching*, a minimum of 129 credits is required; with an option in *Chemistry Teaching*, a minimum of 126 credits is required; with an option in *Earth and Space Science Teaching*, a minimum of 123 credits is required; with an option in *English/Communication Teaching*, a minimum of 126 credits is required; with an option in *Environmental Education Teaching* and a cohort option, a minimum of 123 credits is required; with an option in *General Science Teaching* and a cohort option, a minimum of 121 credits is required; with an option in *Mathematics Teaching*, a minimum of 132 credits is required; with an option in *Physics Teaching*, a minimum of 121 credits is required; with an option in *Social Studies Teaching*, a minimum of 132 credits is required. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-4 credits

REQUIREMENTS FOR THE MAJOR: 83-105 credits
(This includes 12-27 credits of General Education courses: Biological Science Teaching option, Chemistry Teaching option, Earth and Space Science Teaching option, Environmental Education Teaching option, General Science Teaching option, and Physics Teaching option--6 credits of GH courses; 9 credits of GN courses, 3-6 credits of GS courses; 6 credits of GQ courses. English/Communication Teaching option--3-6 credits of GA courses; 6 credits of GH courses; 3-6 credits of GS courses. Mathematics Teaching option--6 credits of GH courses; 3-6 credits of GS courses; 6 credits of GQ courses. Social Studies Teaching option--6 credits of GH courses; 3 credits of GN courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 45 credits**[18]**

PRESCRIBED COURSES (36 credits)
C I 295(2), EDPSY 014(3), PSYCH 100 GS(3) (Sem: 1-2)
C I 280 GH(3) (Sem: 1-6)
C I 495C(3), SPLED 400(4), SPLED 403B(3) (Sem: 5-8)
C I 495E(15) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
PSYCH 412(3) or HD FS 239 GS(3) (Sem: 4-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits of GH courses from Literature Selection (Sem: 1-4)
Select 3 credits EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-2) or 3 credits at the 400 level of any EDTHP course (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 38-66 credits

BIOLOGICAL SCIENCE TEACHING OPTION: (63-66 credits)**[18]**

PRESCRIBED COURSES (30 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-2)
BIOL 110 GN(4), BIOL 220W GN(4), BIOL 240W GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (25-28 credits)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses; BIOL 230W GN(4) or B M B 251(3) and B M B 252(3); BIOL 427(3), GEOSC 204(4), GEOSC 424(3), ANTH 021 GN(3) or ANTH 460(3); PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 4-7)
Select 6 credits from B M B 211(3), B M B 212(1), B M B 401(3), B M B 402(3), CHEM 202(3), CHEM 203(3), CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 4-7)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits of 300-level or 400-level BIOL or biological fields (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

CHEMISTRY TEACHING OPTION: (60-62 credits)**[18]**

PRESCRIBED COURSES (42 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-2)
BIOL 110 GN(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 1-4)
CHEM 451(3), CHEM 452(3), CHEM 457(2), SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (12-14 credits)
CHEM 202(3) and CHEM 203(3) or CHEM 210(3), CHEM 212(3), and CHEM 213(2) (Sem: 3-4)
Select 6 credits from CH E 435(3), or CHEM 402(3), CHEM 406(3), CHEM 408(3), CHEM 410(3), CHEM 412(3), CHEM 423W(3), CHEM 425(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in CHEM or chemistry-related fields at the 200 level or higher (e.g., B M B 211 and B M B 212, B M B 251, B M B 252, MICRB 251, MICRB 442, FD SC 400, AN SC 301, NUTR 251, CHEM, CH E) (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

EARTH AND SPACE SCIENCE TEACHING OPTION: (57-62 credits)**[18]**

PRESCRIBED COURSES (22 credits)
MATH 140 GQ(4), BIOL 110 GN(4), CHEM 110 GN(3), CHEM 112 GN(3), CHEM 111 GN(1), CHEM 113 GN(1) (Sem: 1-2)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (27-33 credits)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses (Sem: 1-4)
GEOSC 001(3), GEOSC 020 GN(3) or GEOSC 071(3) (Sem: 1-3)
GEOSC 021 GN(3) or GEOSC 204(4); EARTH 100 GN(3), EARTH 101 GN;US(3), EARTH 103 GN(3) or EARTH 105 GN;IL(3); METEO 003 GN(3), METEO 201(3), or METEO 300(4); ASTRO 010 GN(2) and ASTRO 011 GN(1), or ASTRO 291 GN(3) (Sem: 1-5)
PHYS 250 GN(4) and PHYS 251 GN(4), or PHYS 211 GN(4) and PHYS 212 GN(4), or PHYS 211 GN(4) and PHYS 213 GN(2) (Sem: 1-4)
GEOSC 040 GN(3), GEOSC 440(3) or GEOSC 445(4); or METEO 022(2); or BIOL 435(3) or BIOL 482(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits from EARTH, GEOSC, METEO, ASTRO, other earth science field, or BIOL 427(3) (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

ENGLISH/COMMUNICATION TEACHING OPTION: (54 credits)**[18]** Note: Must complete at least 3 credits of IL and 3 credits of US Cultures selections.

LANGUAGE AND LITERATURE CORE: (36 credits)

PRESCRIBED COURSES (12 credits)
LL ED 411(3), LL ED 412W(3), LL ED 420(3) (Sem: 5-8)
ENGL 444(3) (Sem: 5-6)

ADDITIONAL COURSES (24 credits)
Select 3 credits from each cluster (a-h) below:
(a) 200-level British or U.S. Literature Survey (Sem: 3-6)
ENGL 221(3), ENGL 221W(3), ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W, ENGL 232(3), ENGL 232W(3)

(b) Elements of Literature (Sem: 3-6)
ENGL 201(3), ENGL 261(3), ENGL 262 GH(3), ENGL 263 GH(3), ENGL 265 GH(3), ENGL 268 GH(30, ENGL 401(3), ENGL 401W(3), COMM 261(3)

(c)400-level Comparative Literature/Literature of Diverse Cultures (Sem: 5-8)
AM ST 493(3), CMLIT 400Y US;IL(3), CMLIT 401Y IL(3), CMLIT 402Y US;IL(3), CMLIT 403 US(3), CMLIT 404 IL(3), CMLIT 405 US;IL(3), CMLIT 406 IL(3), CMLIT 408 IL(3), CMLIT 422 IL(3), CMLIT 423 IL(3), CMLIT 453 IL(3), CMLIT 470 IL(3), CMLIT 480 IL(3), CMLIT 486 IL(3), CMLIT 487 IL(3), CMLIT 488 IL(3),ENGL 404(3), ENGL 426 US(3), ENGL 431 US(3), ENGL 449(3), ENGL 461 US(3), ENGL 462 US(3), ENGL 463 US(3), ENGL 466 US(3), ENGL 467 US(3), ENGL 468 US(3), ENGL 469 US(3), ENGL 490 US;IL(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(d) 400-level Topics in American Literature (sem: 5-8)
ENGL 430(3), ENGL 432(3), ENGL 433(3), ENGL 434(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), or ENGL 439(3), ENGL 492(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(e) Topics in British Literature (Sem: 5-8)
ENGL 440(3), ENGL 441(3), ENGL 442(3), ENGL 443(3), ENGL 445(3), ENGL 446(3), ENGL 447(3), ENGL 448(3), ENGL 450(3),

ENGL 452(3), ENGL 453(3), ENGL 454(3), ENGL 455(3), ENGL 456(3), ENGL 457(3), ENGL 458(3), ENGL 489(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(f) Grammar, Language, and Linguistics (Sem: 5-6)
ENGL 100(3), ENGL 407(3), ENGL 417(3), or LING 100 GS(3)

(g) Creative Writing and/or Advanced Composition (Sem: 5-6)
CAS 214W(3), COMM 260W(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 281(3), ENGL 412(3), ENGL 413(3), ENGL 414(3), ENGL 416(3), ENGL 418(3), ENGL 419(3), ENGL 420(3), ENGL 421(3), THEA 440(3)

(h) Rhetoric (Sem: 7-8)
CAS 215(3), CAS 415(3), CAS 475(3), COMM 467(3), ENGL 409(3), ENGL 411(3), ENGL 470(3), ENGL 471(3), ENGL 472(3), ENGL 473(3), ENGL 474(3), ENGL 487W(3)

MEDIA LITERACIES CORE: (18 credits)

PRESCRIBED COURSES (3 credits)
LL ED 480(3) (Sem: 5-6)

ADDITIONAL COURSES (15 credits)
(a) Mass Media. Select 3 credits from:
COMM 100 GS(3), COMM 118 GS(3), COMM 150 GA(3), COMM 205 US(3), COMM 411(3), COMM 413W(3) (Sem: 1-4)
(b) Speech and Oral Performance. Select 3 credits from:
CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 271 US;IL(3), CAS 280W(3) or CAS 480(3), CAS 375(3), CAS 422 US(3), THEA 102 GA(3) (Sem: 4-8)
(c) Media Literacy. Select 9 credits within one, or across several, of the following media literacy areas:

Multimedia
ART 100 GA(3), ART H 111 GA;IL(3), ART H 112 GA;IL(3), ART H 120 GA;IL(3), ART H 130 GA;US;IL(3), CAS 175 GH(3), CAS 283(3), CAS 415(3), CAS 483(3), COMM 100 GS(3), COMM 118(3), COMM 120(3), COMM 150 GA(3), COMM 180 GS(3), COMM 205 US(3), COMM 242(3), COMM 250 GA(3), COMM 283W(3), COMM 453 IL(3), COMM 454(3), CMLIT 453(3), PHOTO 100 GA(3), WMNST 205 US(3) (Sem: 1-8)

Theatre
THEA 102 GA(3), THEA 103(3), THEA 104(3), THEA 110(3), THEA 112(3), THEA 120(3), THEA 130(3), THEA 131(3), THEA 189(3), THEA 210(3), THEA 428(3) (Sem: 1-8)

Journalism
COMM 260W(3), COMM 261 GH(3), COMM 269(3), COMM 409(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), COMM 497 when topic appropriate (with adviser's approval) (Sem: 3-8)

Communication Arts and Sciences
CAS 201 GH(3), CAS 202 GS(3), CAS 203 GS(3), CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 280W(3), CAS 311(3), CAS 375(3), CAS 383(3), CAS 411(3), CAS 422 US(3), CAS 455 US(3), CAS 470(3), CAS 471 US;IL(3), CAS 475(3) (Sem: 3-8)

Creative Writing
ENGL 210(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 281(3), ENGL 412(3), ENGL 413(3), ENGL 422(3), ENGL 423(3), ENGL 425(3) Sem: (3-8)

Instructional Systems:
EDTEC 400(1-3), EDTEC 448(3), EDTEC 566(3), INSYS 200(3), INSYS 441(3), INSYS 446(3) (Sem: 3-8)

Bilingual Education and World Languages:
APLNG 482Y IL(3), APLNG 491(3), APLNG 493 IL(3), CAS 271 US;IL(3), CAS 471 US;IL(3), LL ED 445(3), WL ED 411(3), WL ED 412W(3), WL ED 414(3), WL ED 422(3), or a foreign language credits at the 12th credit level or above (Sem: 3-8)

ENVIRONMENTAL EDUCATION TEACHING OPTION: (55-58 credits)**[18]**

PRESCRIBED COURSES (24 credits)
CHEM 101 GN(3), MATH 140 GQ(4) (Sem: 1-3)
BIOL 110 GN(4), BIOL 220W GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3), SCIED 457(3) (Sem: 5-7)

ADDITIONAL COURSES (7-8 credits)
CHEM 020(3) and CHEM 021(1); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-3)
BIOL 240W GN(4), W F S 407(3) or W F S 408(3) (Sem: 3-5)

SUPPORTING COURSES AND RELATED AREAS (24-26 credits)
Select two courses (6-8 credits) in environmental law, economics, management and policy (e.g., AG ED 201; ECON 428; E R M 411, E R M 412, E R M 413W; W F S 410, W F S 447W, W F S 463W) (Sem: 4-7)
Select 4 credits of an environmentally related course in Science Technology and Society (e.g., S T S 047, S T S 135 GS, S T S 327, S T S 420, S T S 460, S T S 471) (Sem: 5-7)
Select at least 14 credits from the cohort Teaching option (see Note 1)

*Note 1:*This option may only be completed in conjunction with another secondary teaching option, such as the Biological Science Teaching option.

Note 2: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 3: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

GENERAL SCIENCE TEACHING OPTION: (38 credits)**[18]**

PRESCRIBED COURSES (22 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-3)
BIOL 110 GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (16 credits)
BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 3-5)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses (Sem: 3-5)
PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 3-5)

Note 1: This option may only be completed in conjunction with another secondary teaching option, such as Biology.

Note 2: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 3: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

MATHEMATICS TEACHING OPTION: (57 -59 credits)**[18]**

PRESCRIBED COURSES (32-34 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
MATH 220 GQ(2-3), MATH 311W(3-4) (Sem: 3-6)
MATH 310(3), MATH 312(3), MATH 471(4), MTHED 411(3), MTHED 412W(3), MTHED 427(3) (Sem: 5-8)

ADDITIONAL COURSES (19 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3); MATH 230(4) or MATH 231(2) and MATH 232(2); MATH 418(3) or MATH 414(3); STAT 401(3) or MATH 415(3) or 3 credits of MTHED from program list; MATH 435(3) or MATH 470(3); MATH 436(3) or MATH 441(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from 400-level MATH or MTHED courses (Sem: 5-8)

PHYSICS TEACHING OPTION: (55-62 credits)**[18]**

PRESCRIBED COURSES (45-46 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-3)
PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 3-4)
MATH 220 GQ(2-3), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)
PHYS 237(3), PHYS 400(3), PHYS 419(3), SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (6-12 credits)
PHYS 457(1-3), or PHYS 402(4) or PHYS 458(4); MATH 230(4) or MATH 231(2); MATH 250(3) or MATH 251(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (4 credits)
Introductory biological sciences survey courses [e.g., BIOL 110 GN(4)] (Sem: 3-6)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

SOCIAL STUDIES TEACHING OPTION: (57 credits)**[18]**

PRESCRIBED COURSES (30 credits)
ECON 004 GS(3), GEOG 010 GN(3), GEOG 020 GS(3), HIST 001 GH;IL(3), HIST 002 GH;IL(3), HIST 020 GH;US(3), HIST 021 GH;US(3), PL SC 001 GS(3) (Sem: 1-6)
SS ED 411(3), SS ED 412W(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
Select 3 credits from GEOG 030 GS(3) or GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: ANTH 045 GS;US;IL(3), ECON 002 GS(3), PL SC 003 GS;IL(3), PL SC 014 GS;IL(3), SOC 001 GS(3); C I 405(3) with adviser's approval. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits of 400-level History (Sem: 5-8)

Select one concentration (15 credits) below:
Citizenship Education
Select 3 credits from: ECON 002 GS(3), ECON 302 GS(3), ECON 304 GS(3), ECON 315 GS(3), ECON 323 GS(3), ECON 333 GS(3), or ECON 342 GS(3) (Sem: 1-8)
Select 3 credits from: GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 130 GS(3), or GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: PL SC 003 GS;IL(3), PL SC 007 GS(3), PL SC 014 GS;IL(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), or PL SC 130 GS;US(3) (Sem: 1-8)
Select 6 credits of HIST at the 100-level or above (Sem: 1-8)

Civics and Government

PL SC 003 GS;IL(3) (Sem: 1-8)
PL SC 014 GS;IL(3) (Sem: 1-8)
Select 3 credits from: PL SC 007 GS(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), or PL SC 130 GS;US(3) (Sem: 1-8)
Select 6 credits of 400-level Political Science (Sem: 5-8)

Economics
ECON 002 GS(3) (Sem: 1-8)
ECON 302 GS(3) (Sem: 1-8)
ECON 304 GS(3) (Sem: 1-8)
Select 6 credits of 400-level Economics (Sem: 5-8)

Geography
GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: GEOG 120 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 124 GS;IL(3), GEOG 126 GS;US;IL(3), GEOG 128 GS;IL(3), or GEOG 130 GS(3) (Sem: 1-8)
Select 3 credits from GEOG 110 GN(3), GEOG 111 GN(3), or GEOG 115 GN(3) (Sem: 1-8)
Select 6 credits of 400-level Geography (Sem: 5-8)

Heritage Education
C I 400(3) (Sem: 5-8)
C I 405 with adviser's approval
C I 495(3) (Sem: 5-8)
SS ED 470(6) (Sem: 5-8)

Note 1: Courses taken to meet Additional Courses and other Supporting Courses and Related Areas requirements cannot also be applied to the concentration. Different coures need to be selected for the concentration and Additional Courses and other Supporting Courses and Related Areas requirements.

[18] A grade of C or better per course is required for teacher certification.

Penn State Erie/Mathematics Option Only (3/7/07)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-034

Review Date: 4/14/09

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

ED

Publications updated department head: 8/21/08

Secondary Education

Abington College (SECAB)
Penn State Erie, The Behrend College (SECBC)
University Park, College of Education (SECED)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR GREGORY J. KELLY, *Head of the Department of Curriculum and Instruction*

The following teaching options are available for majors in Secondary Education: Biological Science, Chemistry, Earth and Space Science, English/Communication, Environmental Education, General Science, Mathematics, Physics, and Social Studies/Citizenship Education.

The Secondary Education major helps prepare students for middle school and/or high school teaching positions and for other employment in fields related to their content specialties.

BIOLOGICAL SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

CHEMISTRY TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

EARTH AND SPACE SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

ENGLISH/COMMUNICATION TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education. This program has a Language and Literature Core and a Media Literacies Core. This program is open to students outside the College of Education who desire certification.

ENVIRONMENTAL EDUCATION TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for a Pennsylvania teacher certification in Environmental Education when completed in conjunction with another secondary education teaching option (i.e., Biological Science Teaching option). The total number of credits required will depend primarily on that other option.

GENERAL SCIENCE TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching General Science at the secondary-school level, which is issued by the Pennsylvania Department of Education. This option may only be completed in conjunction with another secondary education option (e.g., Biology); the total number of credits required will depend primarily on that other option.

MATHEMATICS TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

PHYSICS TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching at the secondary-school level, which is issued by the Pennsylvania Department of Education.

SOCIAL STUDIES TEACHING OPTION: This option enables the graduate to meet all of the academic requirements for the Instructional I certificate for teaching social studies courses in the secondary-school level, which is issued by the Pennsylvania Department of Education. This program has a prescribed component required for all candidates as well as a choice of concentrations that focus on a specific area. All graduates who successfully complete this program are highly qualified to teach history in secondary grades (7-12) and are eligible for PA certifcation in Social Studies (7-12) and /or Citizenship Education (7-12). Candidates who successfully complete the Civics & Government concentration are highly qualified to be teachers of U.S. government and civics (7-12). Candidates who successfully complete the Economics concentration are highly qualified to be teachers of economics and economic issues (7-12). Candidates who successfully complete the Geography concentration are highly qualified to be teachers of geography and global studies (7-12). Candidates who successfully complete teh Citizenship Education concentration receive additional in-depth content preparation in Economics, Geography, History, and Political Science (7-12). Candidates who successfully complete the Heritage Education concentration receive training to be educational specialists at heritage-museaum sites.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics
3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for Secondary Education must document 40 of these hours with learners who come from backgrounds that are different from the candidate's.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5. Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification
9. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.S. degree in Secondary Education with an option in *Biological Science Teaching*, a minimum of 129 credits is required; with an option in *Chemistry Teaching*, a minimum of 126 credits is required; with an option in *Earth and Space Science Teaching*, a minimum of 123 credits is required; with an option in *English/Communication Teaching*, a minimum of 126 credits is required; with an option in *Environmental Education Teaching* and a cohort option, a minimum of 123 credits is required; with an option in *General Science Teaching* and a cohort option, a minimum of 121 credits is required; with an option in *Mathematics Teaching*, a minimum of 132 credits is required; with an option in *Physics Teaching*, a minimum of 121 credits is required; with an option in *Social Studies Teaching*, a minimum of 132 credits is required. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-4 credits

REQUIREMENTS FOR THE MAJOR: 83-105 credits
(This includes 12-27 credits of General Education courses: Biological Science Teaching option, Chemistry Teaching option, Earth and Space Science Teaching option, Environmental Education Teaching option, General Science Teaching option, and Physics Teaching option--6 credits of GH courses; 9 credits of GN courses, 3-6 credits of GS courses; 6 credits of GQ courses. English/Communication Teaching option--3-6 credits of GA courses; 6 credits of GH courses; 3-6 credits of GS courses. Mathematics Teaching option--6 credits of GH courses; 3-6 credits of GS courses; 6 credits of GQ courses. Social Studies Teaching option--6 credits of GH courses; 3 credits of GN courses; 6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 45 credits**[18]**

PRESCRIBED COURSES (36 credits)
C I 295(2), EDPSY 014(3), PSYCH 100 GS(3) (Sem: 1-2)
C I 280 GH(3) (Sem: 1-6)
C I 495C(3), SPLED 400(4), SPLED 403B(3) (Sem: 5-8)
C I 495E(15) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
PSYCH 412(3) or HD FS 239 GS(3) (Sem: 4-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits of GH courses from Literature Selection (Sem: 1-4)
Select 3 credits EDTHP 115 US(3) or EDTHP 115A GS;US(3) (Sem: 1-2) or 3 credits at the 400 level of any EDTHP course (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 38-66 credits

BIOLOGICAL SCIENCE TEACHING OPTION: (63-66 credits)**[18]**

PRESCRIBED COURSES (30 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-2)
BIOL 110 GN(4), BIOL 220W GN(4), BIOL 240W GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (25-28 credits)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses; BIOL 230W GN(4) or B M B 251(3) and B M B 252(3); BIOL 427(3), GEOSC 204(4), GEOSC 424(3), ANTH 021 GN(3) or ANTH 460(3); PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 4-7)
Select 6 credits from B M B 211(3), B M B 212(1), B M B 401(3), B M B 402(3), CHEM 202(3), CHEM 203(3), CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 4-7)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits of 300-level or 400-level BIOL or biological fields (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

CHEMISTRY TEACHING OPTION: (60-62 credits)**[18]**

PRESCRIBED COURSES (42 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-2)
BIOL 110 GN(4), MATH 141 GQ(4), PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 1-4)
CHEM 451(3), CHEM 452(3), CHEM 457(2), SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (12-14 credits)
CHEM 202(3) and CHEM 203(3) or CHEM 210(3), CHEM 212(3), and CHEM 213(2) (Sem: 3-4)
Select 6 credits from CH E 435(3), or CHEM 402(3), CHEM 406(3), CHEM 408(3), CHEM 410(3), CHEM 412(3), CHEM 423W(3), CHEM 425(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in CHEM or chemistry-related fields at the 200 level or higher (e.g., B M B 211 and B M B 212, B M B 251, B M B 252, MICRB 251, MICRB 442, FD SC 400, AN SC 301, NUTR 251, CHEM, CH E) (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

EARTH AND SPACE SCIENCE TEACHING OPTION: (57-62 credits)**[18]**

PRESCRIBED COURSES (22 credits)
MATH 140 GQ(4), BIOL 110 GN(4), CHEM 110 GN(3), CHEM 112 GN(3), CHEM 111 GN(1), CHEM 113 GN(1) (Sem: 1-2)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (27-33 credits)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses (Sem: 1-4)
GEOSC 001(3), GEOSC 020 GN(3) or GEOSC 071(3) (Sem: 1-3)
GEOSC 021 GN(3) or GEOSC 204(4); EARTH 100 GN(3), EARTH 101 GN;US(3), EARTH 103 GN(3) or EARTH 105 GN;IL(3); METEO 003 GN(3), METEO 201(3), or METEO 300(4); ASTRO 010 GN(2) and ASTRO 011 GN(1), or ASTRO 291 GN(3) (Sem: 1-5)
PHYS 250 GN(4) and PHYS 251 GN(4), or PHYS 211 GN(4) and PHYS 212 GN(4), or PHYS 211 GN(4) and PHYS 213 GN(2) (Sem: 1-4)
GEOSC 040 GN(3), GEOSC 440(3) or GEOSC 445(4); or METEO 022(2); or BIOL 435(3) or BIOL 482(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (8 credits)
Select 8 credits from EARTH, GEOSC, METEO, ASTRO, other earth science field, or BIOL 427(3) (Sem: 5-7)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

ENGLISH/COMMUNICATION TEACHING OPTION: (54 credits)**[18]** Note: Must complete at least 3 credits of IL and 3 credits of US Cultures selections.

LANGUAGE AND LITERATURE CORE: (36 credits)

PRESCRIBED COURSES (12 credits)
LL ED 411(3), LL ED 412W(3), LL ED 420(3) (Sem: 5-8)
ENGL 444(3) (Sem: 5-6)

ADDITIONAL COURSES (24 credits)
Select 3 credits from each cluster (a-h) below:
(a) 200-level British or U.S. Literature Survey (Sem: 3-6)
ENGL 221(3), ENGL 221W(3), ENGL 222(3), ENGL 222W(3), ENGL 231(3), ENGL 231W, ENGL 232(3), ENGL 232W(3)

(b) Elements of Literature (Sem: 3-6)
ENGL 201(3), ENGL 261(3), ENGL 262 GH(3), ENGL 263 GH(3), ENGL 265 GH(3), ENGL 268 GH(30, ENGL 401(3), ENGL 401W(3), COMM 261(3)

(c)400-level Comparative Literature/Literature of Diverse Cultures (Sem: 5-8)
AM ST 493(3), CMLIT 400Y US;IL(3), CMLIT 401Y IL(3), CMLIT 402Y US;IL(3), CMLIT 403 US(3), CMLIT 404 IL(3), CMLIT 405 US;IL(3), CMLIT 406 IL(3), CMLIT 408 IL(3), CMLIT 422 IL(3), CMLIT 423 IL(3), CMLIT 453 IL(3), CMLIT 470 IL(3), CMLIT 480 IL(3), CMLIT 486 IL(3), CMLIT 487 IL(3), CMLIT 488 IL(3),ENGL 404(3), ENGL 426 US(3), ENGL 431 US(3), ENGL 449(3), ENGL 461 US(3), ENGL 462 US(3), ENGL 463 US(3), ENGL 466 US(3), ENGL 467 US(3), ENGL 468 US(3), ENGL 469 US(3), ENGL 490 US;IL(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(d) 400-level Topics in American Literature (sem: 5-8)
ENGL 430(3), ENGL 432(3), ENGL 433(3), ENGL 434(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), or ENGL 439(3), ENGL 492(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(e) Topics in British Literature (Sem: 5-8)
ENGL 440(3), ENGL 441(3), ENGL 442(3), ENGL 443(3), ENGL 445(3), ENGL 446(3), ENGL 447(3), ENGL 448(3), ENGL 450(3),

ENGL 452(3), ENGL 453(3), ENGL 454(3), ENGL 455(3), ENGL 456(3), ENGL 457(3), ENGL 458(3), ENGL 489(3); ENGL 401(3), ENGL 402(3), ENGL 404(3) when topic appropriate (with adviser's approval)

(f) Grammar, Language, and Linguistics (Sem: 5-6)
ENGL 100(3), ENGL 407(3), ENGL 417(3), or LING 100 GS(3)

(g) Creative Writing and/or Advanced Composition (Sem: 5-6)
CAS 214W(3), COMM 260W(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 281(3), ENGL 412(3), ENGL 413(3), ENGL 414(3), ENGL 416(3), ENGL 418(3), ENGL 419(3), ENGL 420(3), ENGL 421(3), THEA 440(3)

(h) Rhetoric (Sem: 7-8)
CAS 215(3), CAS 415(3), CAS 475(3), COMM 467(3), ENGL 409(3), ENGL 411(3), ENGL 470(3), ENGL 471(3), ENGL 472(3), ENGL 473(3), ENGL 474(3), ENGL 487W(3)

MEDIA LITERACIES CORE: (18 credits)

PRESCRIBED COURSES (3 credits)
LL ED 480(3) (Sem: 5-6)

ADDITIONAL COURSES (15 credits)
(a) Mass Media. Select 3 credits from:
COMM 100 GS(3), COMM 118 GS(3), COMM 150 GA(3), COMM 205 US(3), COMM 411(3), COMM 413W(3) (Sem: 1-4)
(b) Speech and Oral Performance. Select 3 credits from:
CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 271 US;IL(3), CAS 280W(3) or CAS 480(3), CAS 375(3), CAS 422 US(3), THEA 102 GA(3) (Sem: 4-8)
(c) Media Literacy. Select 9 credits within one, or across several, of the following media literacy areas:

Multimedia
ART 100 GA(3), ART H 111 GA;IL(3), ART H 112 GA;IL(3), ART H 120 GA;IL(3), ART H 130 GA;US;IL(3), CAS 175 GH(3), CAS 283(3), CAS 415(3), CAS 483(3), COMM 100 GS(3), COMM 118(3), COMM 120(3), COMM 150 GA(3), COMM 180 GS(3), COMM 205 US(3), COMM 242(3), COMM 250 GA(3), COMM 283W(3), COMM 453 IL(3), COMM 454(3), CMLIT 453(3), PHOTO 100 GA(3), WMNST 205 US(3) (Sem: 1-8)

Theatre
THEA 102 GA(3), THEA 103(3), THEA 104(3), THEA 110(3), THEA 112(3), THEA 120(3), THEA 130(3), THEA 131(3), THEA 189(3), THEA 210(3), THEA 428(3) (Sem: 1-8)

Journalism
COMM 260W(3), COMM 261 GH(3), COMM 269(3), COMM 409(3), COMM 460W(3), COMM 461(3), COMM 462(3), COMM 467(3), COMM 497 when topic appropriate (with adviser's approval) (Sem: 3-8)

Communication Arts and Sciences
CAS 201 GH(3), CAS 202 GS(3), CAS 203 GS(3), CAS 211(3), CAS 213(3), CAS 215(3), CAS 250(3), CAS 280W(3), CAS 311(3), CAS 375(3), CAS 383(3), CAS 411(3), CAS 422 US(3), CAS 455 US(3), CAS 470(3), CAS 471 US;IL(3), CAS 475(3) (Sem: 3-8)

Creative Writing
ENGL 210(3), ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 281(3), ENGL 412(3), ENGL 413(3), ENGL 422(3), ENGL 423(3), ENGL 425(3) Sem: (3-8)

Instructional Systems:
EDTEC 400(1-3), EDTEC 448(3), EDTEC 566(3), INSYS 200(3), INSYS 441(3), INSYS 446(3) (Sem: 3-8)

Bilingual Education and World Languages:
APLNG 482Y IL(3), APLNG 491(3), APLNG 493 IL(3), CAS 271 US;IL(3), CAS 471 US;IL(3), LL ED 445(3), WL ED 411(3), WL ED 412W(3), WL ED 414(3), WL ED 422(3), or a foreign language credits at the 12th credit level or above (Sem: 3-8)

ENVIRONMENTAL EDUCATION TEACHING OPTION: (55-58 credits)**[18]**

PRESCRIBED COURSES (24 credits)
CHEM 101 GN(3), MATH 140 GQ(4) (Sem: 1-3)
BIOL 110 GN(4), BIOL 220W GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3), SCIED 457(3) (Sem: 5-7)

ADDITIONAL COURSES (7-8 credits)
CHEM 020(3) and CHEM 021(1); or CHEM 110 GN(3) and CHEM 111 GN(1) (Sem: 1-3)
BIOL 240W GN(4), W F S 407(3) or W F S 408(3) (Sem: 3-5)

SUPPORTING COURSES AND RELATED AREAS (24-26 credits)
Select two courses (6-8 credits) in environmental law, economics, management and policy (e.g., AG ED 201; ECON 428; E R M 411, E R M 412, E R M 413W; W F S 410, W F S 447W, W F S 463W) (Sem: 4-7)
Select 4 credits of an environmentally related course in Science Technology and Society (e.g., S T S 047, S T S 135 GS, S T S 327, S T S 420, S T S 460, S T S 471) (Sem: 5-7)
Select at least 14 credits from the cohort Teaching option (see Note 1)

*Note 1:*This option may only be completed in conjunction with another secondary teaching option, such as the Biological Science Teaching option.

Note 2: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 3: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

GENERAL SCIENCE TEACHING OPTION: (38 credits)**[18]**

PRESCRIBED COURSES (22 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4) (Sem: 1-3)
BIOL 110 GN(4) (Sem: 1-4)
SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (16 credits)
BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 3-5)
MATH 141 GQ(4) or 4 credits of 200-level STAT GQ courses (Sem: 3-5)
PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 3-5)

Note 1: This option may only be completed in conjunction with another secondary teaching option, such as Biology.

Note 2: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 3: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

MATHEMATICS TEACHING OPTION: (57 -59 credits)**[18]**

PRESCRIBED COURSES (32-34 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
MATH 220 GQ(2-3), MATH 311W(3-4) (Sem: 3-6)
MATH 310(3), MATH 312(3), MATH 471(4), MTHED 411(3), MTHED 412W(3), MTHED 427(3) (Sem: 5-8)

ADDITIONAL COURSES (19 credits)
CMPSC 101 GQ(3) or CMPSC 121 GQ(3); MATH 230(4) or MATH 231(2) and MATH 232(2); MATH 418(3) or MATH 414(3); STAT 401(3) or MATH 415(3) or 3 credits of MTHED from program list; MATH 435(3) or MATH 470(3); MATH 436(3) or MATH 441(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from 400-level MATH or MTHED courses (Sem: 5-8)

PHYSICS TEACHING OPTION: (55-62 credits)**[18]**

PRESCRIBED COURSES (45-46 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-3)
PHYS 211 GN(4), PHYS 212 GN(4) (Sem: 3-4)
MATH 220 GQ(2-3), PHYS 213 GN(2), PHYS 214 GN(2) (Sem: 3-6)
PHYS 237(3), PHYS 400(3), PHYS 419(3), SCIED 411(3), SCIED 412(3) (Sem: 5-7)

ADDITIONAL COURSES (6-12 credits)
PHYS 457(1-3), or PHYS 402(4) or PHYS 458(4); MATH 230(4) or MATH 231(2); MATH 250(3) or MATH 251(4) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (4 credits)
Introductory biological sciences survey courses [e.g., BIOL 110 GN(4)] (Sem: 3-6)

Note 1: Students may complete multiple science teaching options concurrently by completing all of each option's requirements. The six science teaching options are: Biology, Chemistry, Earth and Space Science, Environmental Education, General Science, and Physics.

Note 2: Red Cross certification in First Aid and CPR (or their equivalent) must be earned for science certification.

SOCIAL STUDIES TEACHING OPTION: (57 credits)**[18]**

PRESCRIBED COURSES (30 credits)
ECON 004 GS(3), GEOG 010 GN(3), GEOG 020 GS(3), HIST 001 GH;IL(3), HIST 002 GH;IL(3), HIST 020 GH;US(3), HIST 021 GH;US(3), PL SC 001 GS(3) (Sem: 1-6)
SS ED 411(3), SS ED 412W(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
Select 3 credits from GEOG 030 GS(3) or GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: ANTH 045 GS;US;IL(3), ECON 002 GS(3), PL SC 003 GS;IL(3), PL SC 014 GS;IL(3), SOC 001 GS(3); C I 405(3) with adviser's approval. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 6 credits of 400-level History (Sem: 5-8)

Select one concentration (15 credits) below:
Citizenship Education
Select 3 credits from: ECON 002 GS(3), ECON 302 GS(3), ECON 304 GS(3), ECON 315 GS(3), ECON 323 GS(3), ECON 333 GS(3), or ECON 342 GS(3) (Sem: 1-8)
Select 3 credits from: GEOG 030 GS(3), GEOG 126 GS;US;IL(3), GEOG 130 GS(3), or GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: PL SC 003 GS;IL(3), PL SC 007 GS(3), PL SC 014 GS;IL(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), or PL SC 130 GS;US(3) (Sem: 1-8)
Select 6 credits of HIST at the 100-level or above (Sem: 1-8)

Civics and Government

PL SC 003 GS;IL(3) (Sem: 1-8)
PL SC 014 GS;IL(3) (Sem: 1-8)
Select 3 credits from: PL SC 007 GS(3), PL SC 110 GS;US(3), PL SC 123 GS;US;IL(3), PL SC 125(3), or PL SC 130 GS;US(3) (Sem: 1-8)
Select 6 credits of 400-level Political Science (Sem: 5-8)

Economics
ECON 002 GS(3) (Sem: 1-8)
ECON 302 GS(3) (Sem: 1-8)
ECON 304 GS(3) (Sem: 1-8)
Select 6 credits of 400-level Economics (Sem: 5-8)

Geography
GEOG 160 GS(3) (Sem: 1-8)
Select 3 credits from: GEOG 120 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 123 GS;IL(3), GEOG 124 GS;IL(3), GEOG 126 GS;US;IL(3), GEOG 128 GS;IL(3), or GEOG 130 GS(3) (Sem: 1-8)
Select 3 credits from GEOG 110 GN(3), GEOG 111 GN(3), or GEOG 115 GN(3) (Sem: 1-8)
Select 6 credits of 400-level Geography (Sem: 5-8)

Heritage Education
C I 400(3) (Sem: 5-8)
C I 405 with adviser's approval
C I 495(3) (Sem: 5-8)
SS ED 470(6) (Sem: 5-8)

Note 1: Courses taken to meet Additional Courses and other Supporting Courses and Related Areas requirements cannot also be applied to the concentration. Different coures need to be selected for the concentration and Additional Courses and other Supporting Courses and Related Areas requirements.

[18] A grade of C or better per course is required for teacher certification.

Penn State Erie/Mathematics Option Only (3/7/07)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-034

Review Date: 4/14/09

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

ED

Publications updated department head: 8/21/08

Secondary Education Social Studies

Capital College (SESST)

PROFESSOR KAMINI M. GRAHAME, *Program Coordinator*

The Secondary Education Social Studies major prepares students to meet the requirements to be certified for the Social Studies Instructional I Certificate as established by the Pennsylvania Department of Education. The major prepares students to teach history, government, economics, geography, psychology, sociology, and anthropology.

Students are challenged to prepare for teaching assignments at the middle and high school level, and in diverse settings characterized as rural, urban, and suburban. The art and science of teaching in secondary schools is undergoing significant transformation as new technologies, time allocation for instruction, and new instructional strategies are impacting the delivery of social studies instruction.

Entry to Major Requirements:
Entry to the Secondary Education Social Studies major requires the students to meet or exceed the state's minimum GPA of 3.0. Students must complete, with a grade of "C" or better, six (6) credits of college-level mathematics (MATH or STAT prefix), three (3) credits of college-level English literature, and three (3) credits of college-level composition.

Selective Retention:
Prior to the end of the first semester as Secondary Education Social Studies majors at Penn State Harrisburg, students will be required to submit their scores for the Praxis I examinations in reading, writing, and mathematics. Retention in the major is contingent on the student's maintaining a cumulative GPA of 3.0 or higher, demonstrating proficiency in written and spoken communications, receiving the recommendation of the faculty, and fulfilling all core course requirements.

For a B.SOSC. degree in Secondary Education Social Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 9 credits

REQUIREMENTS FOR THE MAJOR: 90 credits
(This includes 21 credits of General Education courses: 6 credits of GH courses, 3 credits of GN courses, 6 credits of GS courses, 6 credits of GQ courses.)
(At least 15 credits must be at the 400 level.)

PRESCRIBED COURSES (66 credits)**[1]**
BI SC 003 GN(3), ECON 002 GS(3), ECON 004 GS(3), HIST 001 GH;IL(3), HIST 020 GH;US(3), HIST 021 GH;US(3), PSYCH 100 GS(3), SOC 001 GS(3) (Sem: 1-4)
EDUC 313(2), EDUC 314(3), EDUC 315W US(3), EDUC 415(3), EDUC 435(1), EDUC 490(12), GEOG 040 GS;IL(3), GEOG 128 GS;IL(3), HIST 012 GH;US(3), HIST 320(3), PL SC 001 GS(3), PL SC 471(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following:
MATH 017 GQ(3), MATH 018 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), MATH 026 GQ(3), MATH 030 GQ(3), MATH 035 GQ(3), MATH 036 GQ(3), MATH 040 GQ(5), MATH 200 GQ(3) or MATH 220 GQ(2-3), STAT 100 GQ(3), STAT 200 GQ(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 3 credits of literature courses from approved department list (Sem: 1-4)
Select 3 credits of American studies from approved department list (Sem: 5-8)
Select 3 credits of history from approved department list (Sem: 5-8)
Select 3 credits of anthropology from approved department list (Sem: 5-8)
Select 3 credits of minority studies from approved department list (Sem: 5-8)
Select 3 credits of psychology from approved department list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-03-005

Review Date: 11/27/07

Program Coordinator updated by Publications: 4/30/09

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

Comments

CL

Security and Risk Analysis

Penn State Altoona
Penn State Berks
Penn State Harrisburg
University Park, College of Information Sciences and Technology (SRA)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR HENRY C. FOLEY, *Program Coordinator*

The Bachelor of Science in Security and Risk Analysis (SRA) in the College of Information Sciences and Technology is intended to familiarize students with the general frameworks and multidisciplinary theories that define the area of security and related risk analyses. Courses in the major will engage students in the challenges and problems associated with assuring information confidentiality and integrity (e.g., social, economic, technology-related, and policy issues), as well as the strengths and weaknesses of various methods for assessing and mitigating associated risk.

The major provides a grounding in the analysis and modeling efforts used in information search, visualization, and creative problem solving. This knowledge is supplemented through an examination of the legal, ethical, and regulatory issues related to security that includes analyzing privacy laws, internal control and regulatory policies, as well as basic investigative processes and principles. Such understanding is applied to venues that include transnational terrorism, cyber crimes, financial fraud, risk mitigation, and security and crisis management. It also includes overviews of the information technology that plays a critical role in identifying, preventing and responding to security-related events.

Advisory groups from within and outside the University involved in the design of the major have agreed that graduates who can understand the cognitive, social, economic, and policy issues involved in security and risk management as well as the basics of the information technology and analytics that are included in the security/risk arena will be very successful. These observations drove the design and objectives of the SRA major.

SRA majors will choose one of the following options:

INTELLIGENCE ANALYSIS AND MODELING OPTION. This option focuses on developing a more thorough knowledge of the strategic and tactical levels of intelligence collection, analysis, and decision-making. This includes examining the foundations of decision analysis, economic theory, statistics, data mining, and knowledge management, as well as the security-specific contexts in which such knowledge is applied.

INFORMATION AND CYBER SECURITY OPTION. This option includes a set of courses that provides an understanding of the theories, skills, and technologies associated with network security, cyber threat defense, information warfare, and critical infrastructure protection across multiple venues.

SOCIAL FACTORS AND RISK. This option includes the legal, regulatory, ethical, and other theories associated with security and risk. Such an examination is focused on understanding the social factors and causes that are linked to transnational terrorism, investigations and litigation involved in business, and other security-related environments.

Entrance Requirements: To be eligible for entrance to the Security and Risk Analysis (SRA) major, students must:

1. be taking, or have taken, a program appropriate for entry to the major as shown in the *Bulletin*, including approximately 60 credits of course work.
2. have completed the following entrance-to-major requirements with grades of C or better in each: IST 110(3); SRA 111(3); and SRA 211(3). These courses must be completed by the end of the semester during which the entrance-to-major procedure is carried out.
3. have achieved a minimum cumulative grade point average of 2.00 prior to and through the end of the semester during which the entrance-to-major procedure is carried out.

For the B.S. degree in Security and Risk Analysis, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(22 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of the *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3 credits

REQUIREMENTS FOR THE MAJOR: 94 credits
(This includes 22 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses, 3 credits of GH, and 4 credits of GN courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 73 credits

PRESCRIBED COURSES (43 credits)
CMPSC 101 GQ(3)**[1]**, SRA 111 GS(3)**[1]** (Sem: 1-2)
IST 110 GS(3)**[1]** (Sem: 1-3)
ACCTG 211(4) (Sem: 1-4)
MICRB 106 GN(3) and MICRB 107 GN(1) (Sem: 1-6)
SRA 211(3)**[1]**, SRA 221(3)**[1]**, SRA 231(3)**[1]** (Sem: 2-4)
STAT 200 GQ(4) (Sem: 3-6)
IST 495(1)**[1]** (Sem: 3-8)
IST 432(3)**[1]**, SRA 311(3)**[1]**, STAT 460(3) (Sem: 5-6)
IST 440W(3)**[1]** (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
AG BM 101 GS(3) or ECON 002 GS(3) (Sem: 1-4)
PL SC 001 GS(3), PL SC 014 GS;IL(3), or GEOG 040 GS;IL(3) (Sem: 1-4)
PSYCH 100 GS(3) or SOC 005 GS(3) (Sem: 1-6)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Attainment of third-level proficiency in a single foreign language (12 credits). Proficiency must be demonstrated by either examination or course work. See the admission section of the general information in this *Bulletin* for the placement policy for Penn State foreign language courses. (Sem: 1-4)
Select 6 credits of international courses from RL ST 001 GH(3), HIST 010 GH(3), or HIST 011 GH(3) (Sem: 5-8) or other courses approved by adviser.

REQUIREMENTS FOR THE OPTION: 21 credits

INTELLIGENCE ANALYSIS AND MODELING OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)**[1]**
CRIM 100 GS(3) or CRIMJ 100 GS(3) (Sem: 1-6)
ECON 302 GS(3) (Sem: 3-6)
ECON 402(3) (Sem: 5-8)
SRA 468(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

INFORMATION AND CYBER SECURITY OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)**[1]**
IST 220(3) (Sem: 1-6)
IST 451(3), IST 454(3), IST 456(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

SOCIAL FACTORS AND RISK OPTION: (21 credits)

PRESCRIBED COURSES (12 credits)**[1]**
INS 301(3) (Sem: 3-6)
IST 452(3), SRA 471(3), SRA 472(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from College-approved list (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-050

Review Date: 4/14/09

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

Comments

IS

Sociology

University Park, College of the Liberal Arts (SOCBA)

PROFESSOR JOHN McCARTHY, *Head*

The major provides graduates with a sociological perspective on human behavior informed by exposure to different substantive areas of the field; an understanding of the structure of American society, its internal diversity, and its international context; an understanding of basic principles of the scientific method, statistics, research design, computer use, logic and critical thinking, and how these apply to the study of human behavior; and experience in posing sociological questions and collecting and analyzing data to bear on those questions. Graduates have the background to seek employment in a variety of public and private sector jobs, to pursue graduate study in sociology or related areas, or to enter professional schools in social work, law, business, or health fields.

Students may choose either a Bachelor of Arts or a Bachelor of Science degree program. The B.A. degree in Sociology is a classic liberal arts degree. The B.S. degree is intended for students with a strong interest in quantitative skills. Students completing the B.S. degree have additional training in mathematics and other social science disciplines.

Opportunities to work as departmental teaching and research assistants are available. Students are encouraged to participate in study abroad and/or internship experiences while enrolled in either the B.A. or B.S. sociology majors.

Graduates of this program have found positions in social research, social service agencies, government and business research and planning offices, other business positions (especially sales and marketing), or have entered graduate school in sociology, social work, policy analysis or law school.

For the B.A. and B.S. degrees in Sociology, a minimum of 123 credits is required. Either degree may be combined with a minor such as Business/Liberal Arts, Human Development and Family Studies, or Information Systems and Statistical Analysis, among others.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(4 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 38 credits**[1]**
(This includes 4 credits of General Education GQ courses.)

PRESCRIBED COURSES (23 credits)
SOC 001 GS(3), STAT 200 GQ(4), CAS 283(3) (Sem: 1-6)
SOC 207(3) (Sem: 3-6)
SOC 405(3), SOC 470(4) (Sem: 5-8)
SOC 400W(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in sociology, at least 9 credits at the 400 level (Sem: 1-8)

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-04-042

Review Date: 01/12/2010

Dept head updated: 11/30/07

LA

Sociology

University Park, College of the Liberal Arts (SOCBS)

PROFESSOR JOHN McCARTHY, *Head*

Students may choose either a Bachelor of Arts or a Bachelor of Science degree program. The B.A. degree program provides a basic orientation to the field as a whole, study of its development and principles, training in methodology and study in depth of a major area of the discipline. It provides knowledge that is useful in a career in varied work settings as well as providing the foundation needed for graduate study in sociology of related fields.

For the B.S. degree in Sociology, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

INTERCULTURAL AND INTERNATIONAL COMPETENCE:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21-23 credits

REQUIREMENTS FOR THE MAJOR: 61-63 credits**[1]**
(This includes 6 credits of General Education GQ courses.)

PRESCRIBED COURSES (10 credits)
SOC 001 GS(3), SOC 007(3) (Sem: 1-8)
MATH 441(3) (Sem: 5-6)
STAT 480(1) (Sem: 5-8)

ADDITIONAL COURSES (6-8 credits)
MATH 110 GQ(4), MATH 111 GQ(2); or MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (45 credits)
Select 24 credits in sociology, 15 credits of which must be in an area of specialization chosen in consultation with a faculty adviser (15 credits must be at the 400 level) (Sem: 1-8)
Select 18 credits in social sciences, 9 credits in each of two fields of the social sciences other than sociology (at least 9 credits must be at the 400 level) (Sem: 3-8)
Select 3 credits in statistics at the 300 level or above (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-10-056

Review Date: 01/19/00

Dept head updated: 11/30/07

Sociology

Capital College (SOCIO)

PROFESSOR KAMINI M. GRAHAME, *Program Coordinator*

This major is intended for students who want a strong sociology background in preparation for work in government or social agencies or who are interested in graduate work in sociology. In addition to developing analytical and critical thinking skills, students will gain an understanding of various substantive areas of the field including social structure and institutions, social change, social class, gender, and race and ethnicity. Sociologists are employed in such diverse fields as social and human service agencies, non-profit and advocacy organizations, research and policy work, telecommunications, human resource management, and college teaching. This major is appropriate for work in any environment where an understanding of social structures and social dynamics is required.

Entry to Major Requirements:
Entry to the Sociology major requires 2.00 or higher cumulative grade-point average.

For a B.S. degree in Sociology, a minimum of 122 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 24 credits

REQUIREMENTS FOR THE MAJOR: 59 credits**[1]**
(This includes 6 credits of General Education course requirements: 3 credits of GWS courses and 3 credits of GS courses.)

PRESCRIBED COURSES (20 credits)
ENGL 202A GWS(3) (Sem: 1-4)
SCLSC 480W(4), SCLSC 481(4), SCLSC 492(3), SOC 405(3), SOCIO 384(3) (Sem: 5-8)

ADDITIONAL COURSES (27 credits)
Select 3 credits from SOC 001 GS(3), R SOC 011 GS(3) (Sem: 1-4)
Select 9 credits from SOC 030(3), SOC 416(3), SOC 429(3), SOC 444(3), SOC 446(3), SOC 448(3), SOC 455(3), SOC 456(3) (Sem: 5-8)
Select 9 credits from SOC 425(3), SOC 424(3), SOC 015(3), SOC 449(3), SOC 450(3), SOCIO 476(3) (Sem: 5-8)
Select 6 credits from AAA S 212 US(3), BE SC 464 US(3), SOC 435(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits (minimum of 3 credits at the 400-level) in consultation with adviser from AFRAS, BE SC, SOC (Sem: 5-8)
Select 6 credits (minimum of 3 credits at the 400-level) in consultation with adviser from AM ST, C ART, C MUS, CRIMJ, ENGL, ENLSH, HCOMM, I HUM, LIT, PSYCH, PL SC, PUBPL, THTRE, WMNST (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2003

Blue Sheet Item #: 31-03-029

Review Date: 3/8/04

Program coordinator updated by Publications: 4/30/09

UCA Revision #2: 7/30/07

CL

Software Engineering

Penn State Erie, The Behrend College (SE BD)

This major provides students with a strong foundation in software engineering through combination of classroom study, software development experience, and design projects. Design, analysis, verification, and maintenance of software systems are stressed. Built upon a core of science and mathematics courses, this major has the objective of educating graduates to be problem solvers. Students acquire the ability to work as members of a team toward successful attainment of a common goal, preparing them for work in industry or further study in graduate school. In addition, written and oral communication skills are developed from an early stage, culminating in a senior design project that stresses communication as well as engineering content.

In addition to completing a broad-based science core in mathematics, chemistry, and physics, students pursue their interest in software engineering by studying principles in computer programming, object-oriented design, software design, software verification, information systems, operating systems, and data communications. The program has a capstone software design project that requires students to work together on teams to design, plan, manage, and implement a software design project.

Entrance Requirement: In addition to the Carnegie unit and minimum GPA requirements described by University policies, all students applying for entrance to any of the engineering majors at The Behrend College must have at least a 2.0 cumulative GPA by the end of the semester prior to applying for entrance to the major and have completed, with a minimum grade of C: CHEM 110 GN(3), MATH 140 GQ(4), MATH 141 GQ(4), and PHYS 211 GN(4). These courses must be completed by the end of the semester during which the admission to major process is carried out.

For the B.S. degree in Software Engineering, a minimum of 127 credits is required. A student enrolled in this major must earn a grade of C or better in each 300- and 400-level course in the major.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of the 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 102-103 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses; 3 credits of GS courses.)

PRESCRIBED COURSES (87 credits)
CHEM 110 GN(3)**[1]**, CHEM 111 GN(1), CMPSC 121 GQ(4), CMPSC 122(3)**[1]** (Sem: 1-2)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2-3), MATH 250(3), PHYS 211 GN(4)**[1]**, PHYS 212 GN(4) (Sem: 1-4)
CMPEN 271(3)**[1]**, CMPEN 275(1), CMPSC 360(3)**[1]**, ENGL 202C GWS(3), MIS 336(3)**[1]**, SWENG 311(3)**[1]** (Sem: (3-4)
CMPEN 441(3)**[1]**, CMPSC 461(3)**[1]**, CMPSC 465(3)**[1]**, STAT 301 GQ(3)**[1]**, SWENG 352W(3)**[1]**, SWENG 411(3)**[1]**, SWENG 421(3)**[1]**, SWENG 431(3)**[1]** Sem: (5-6)
CMPEN 351(3)**[1]**, CMPEN 461(3)**[1]**, SWENG 480(3)**[1]**, SWENG 481(3)**[1]**, MGMT 301(3)**[1]** (Sem: (7-8)

ADDITIONAL COURSES (6-7 credits)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 3-4)
E E 210(4) or E E 211(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of technical elective courses from school-approved list. (Sem: 6-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-04-012

Review Date: 6/9/08

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

BD

Spanish

University Park, College of the Liberal Arts (SPNBA)

PROFESSOR CHIP GERFEN, *Head*

This major is designed to develop basic skills in speaking, understanding, reading, and writing Spanish. In addition, the program aims to acquaint students with the literature and civilization of the Hispanic world and introduce them to the study of Hispanic linguistics. Enough flexibility is provided to permit a degree of concentration in either Hispanic literature or linguistics. Specialized courses are offered in translation techniques and in the use of Spanish for social services. Courses taken in the University's Education Abroad Program in Spain and Mexico may be applied to the major. In conjunction with the College of Education, students may take work leading to certification as Spanish teachers in the secondary or elementary schools.

Combined with course work in business, social welfare, or bilingual education, the B.A. in Spanish can facilitate entry into a number of professional areas. In addition, it provides the traditional foundation for advanced degree work required for such careers as college teaching and government service. Students are eligible to participate in the University's Education Abroad Programs.

For the B.A. degree in Spanish, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or BACHELOR OF ARTS DEGREE REQUIREMENTS course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSES (6 credits)
SPAN 215(3) (Sem: 3-6)
SPAN 253W(3) (Sem: 3-8)

ADDITIONAL COURSES (15 credits)
SPAN 100(3) or SPAN 100A(3)* (Sem: 2-6)
SPAN 110(3) or SPAN 301(3)* (Sem: 2-6)
Select 9 credits from the following course list: SPAN 210(3), SPAN 220(3), SPAN 297(3), SPAN 300(3), SPAN 305(3), SPAN 353(3), SPAN 354(3), SPAN 355(3), SPAN 356(3), SPAN 397(3), SPAN 399(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits from the following course list: SPAN 410(3), SPAN 412(3), SPAN 414(3), SPAN 415(3), SPAN 418(3), SPAN 420(3), SPAN 439(3), SPAN 472(3), SPAN 476(3), SPAN 490(3), SPAN 491(3), SPAN 497(3), SPAN 499(3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

* Heritage speakers (students with Spanish language in family background but not necessarily a native speaker) should take SPAN 100A and SPAN 301 instead of SPAN 100 and SPAN 110.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-118

Review Date: 7/2/07

LA

Spanish

University Park, College of the Liberal Arts (SPNBS)

PROFESSOR CHIP GERFEN, *Head*

This major encourages students to prepare for careers in which fluency in Spanish can be combined with training in other academic disciplines.

For the B.S. degree in Spanish, a minimum of 122 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(0-13 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 17-19 credits

REQUIREMENTS FOR THE MAJOR: 60-71 credits**[1]**
(This includes 0-13 credits of General Education courses: 0-6 credits of GS courses, 0-3 credits of GWS courses, 0-4 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 21 credits

PRESCRIBED COURSES (6 credits)
SPAN 215(3), SPAN 253W(3) (Sem: 2-8)

ADDITIONAL COURSES (15 credits)
SPAN 100(3) or SPAN 100A(3)* (Sem: 2-6)
SPAN 110(3) or SPAN 301(3)* (Sem: 2-6)
Select 9 credits from SPAN 210(3), SPAN 220(3); SPAN 300(3) SPAN 305(3), SPAN 353(3), SPAN 354(3), SPAN 355(3), SPAN 356(3), SPAN 399 IL(1-12) (Sem: 1-8)

REQUIREMENTS FOR THE OPTION: 39-50 credits

APPLIED SPANISH OPTION: (39 credits)
This option is designed to develop basic skills in Spanish (speaking, understanding, reading, writing) and to provide Spanish majors with concentration in a professional area where a command of Spanish can be particularly relevant and useful. Students are eligible to participate in the University's Education Abroad Programs.

ADDITIONAL COURSES (18 credits)
Select 18 credits from SPAN 410(3), SPAN 412(3), SPAN 414(3), SPAN 415(3), SPAN 418(3), SPAN 420(3), SPAN 439(3), SPAN 440(3), SPAN 472(3), SPAN 476(3), SPAN 490(3), SPAN 491(3), SPAN 497(1-9), SPAN 499 IL(1-12) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 21 credits in consultation with the adviser in any related area of study such as social services, the teaching of English as a second language, or in any other professional area in which competency in Spanish is desirable. At least 6 credits of such courses must be at the 400 level. (Sem: 1-8)

BUSINESS OPTION: (50 credits)
This option is designed to develop basic skills in Spanish (speaking, understanding, reading, writing) and to acquaint students with a number of fields essential to business, especially in the international area. Courses in translation techniques, Spanish civilization, and Ibero-American civilization are an integral part of the option. Students are eligible to participate in the University's Education Abroad Programs.

PRESCRIBED COURSES (34 credits)
ACCTG 211(4), ECON 002 GS(3), ECON 004 GS(3), ECON 333 GS(3), ENGL 202D GWS(3), FIN 100(3), I B 303 IL(3), I B 403(3), MGMT 100W(3); MKTG 221(3), SPAN 420(3) (Sem: 1-8)

ADDITIONAL COURSES (16 credits)
Select 4 credits from SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-8)
Select 12 credits from SPAN 410(3), SPAN 412(3), SPAN 414(3), SPAN 415(3), SPAN 418(3), SPAN 439(3), SPAN 472(3), SPAN 476(3), SPAN 490(3), SPAN 491(3), SPAN 497(1-9), SPAN 499 IL(1-12) (Sem: 5-8)

* Heritage speakers (students with Spanish language in family background but not necessarily a native speaker) should take SPAN 100A and SPAN 301W instead of SPAN 100 and SPAN 110.

Integrated Spanish B.S. and Human Resources and Employment Relations M.S.

Degree Programs (SPHRER)

PROFESSOR MARK WARDELL, *in charge*

The integrated Spanish B.S. and HRER M.S. is a five-year program designed for highly qualified and motivated students seeking employment within a culturally diverse workplace. Students will develop basic skills in speaking, understanding, reading, and writing Spanish. Students will gain familiarity with Hispanic cultures through literature and the University's Education Abroad Program, if they choose to have that experience. Students also will learn about (1) the roles of employers, employees, employee organizations, and public policy makers play in the employment relationship, (2) the complex personal and organizational issues inherent in the employment relationship, and (3) how to systematically analyze those complex issues and evaluate research relevant to those analyses.

For the B. S./M. S. degree in Integrated Spanish B.S. and Human Resources and Employment Relations M.S., a minimum of 154 credits is required. Twelve graduate level credits can apply to both undergraduate and graduate degrees; six of these must be at the 500 level. Students can complete the B.S. in Spanish and not advanced to the M.S. HRER degree if they desire.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

BACHELOR OF SCIENCE

GENERAL EDUCATION: 45 credits
(10 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*).

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

REQUIREMENTS FOR THE MAJOR: 101 credits
(This includes 10 credits of General Education courses: 6 credits of GS courses; 4 credits of GQ courses.)

PRESCRIBED COURSES (27 credits)
[Some courses in this category have prerequisites that are not included in the major]
SPAN 100(3), SPAN 120(3), SPAN 200(3), SPAN 253W(3), SPAN 305(3) (Sem: 1-6)
SPAN 400(3), SPAN 410(3), SPAN 412(3), SPAN 414(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
SPAN 210(3) or SPAN 220(3), SPAN 353(3) or SPAN 354(3) (Sem: 3-6)
SPAN 472(3) or SPAN 476(3) (Sem: 5-8)
Select 3 credits of SPAN 415(3), SPAN 418(3), SPAN 420(3), SPAN 439(3), SPAN 490(3), SPAN 491(3), or SPAN 497(1-9) (Sem: 5-8)

LABOR AND EMPLOYMENT RELATIONS: (32 credits)
[Prescribed undergraduate credits in Labor and Employment Relations option]
ECON 002 GS(3), LER 100 GS(3), LER 201(3), LER 312(4), LER 400 IL(3), LER 414W(3), LER 458Y US(3), STAT 200 GQ(4) (Sem: 1–6)
HRER 501(3), HRER 512(3) (Sem: 7–8)

Master of Science

EMPLOYMENT RELATIONS/HUMAN RESOURCES M.S.: (30 credits)
[HRER credits to be selected from the following in consultation with an HRER adviser]
HRER 500, HRER 502, HRER 504, HRER 505, HRER 513, HRER 516, HRER 535, HRER 536, HRER 595*, HRER 596*, HRER 597, HRER 599

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

* Heritage speakers (students with Spanish language in family background but not necessarily a native speaker) should take SPAN 100A and SPAN 301W instead of SPAN 100 and SPAN 300W.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-119 (SPNBS); 35-06-466 (Integrated)

Review Date: 4/10/07

Comments

LA

Special Education

University Park, College of Education (SPLED)

PROFESSOR KATHLEEN McKINNON, *Coordinator of Teacher Education in Special Education*

The emphasis throughout the Special Education program is upon a broad clinical teaching model. Course work and practicum experiences focus upon the diagnosis and management of a wide range and degree of educational and behavioral problems of students with disabilities between the ages of 3 and 21. A core of Special Education courses aimed at general skill development in the areas of diagnosis, prescription, development of materials and teaching strategies, implementation, and evaluation is required of all students.

This major focuses on teaching principles and methodologies, classroom and behavioral management, and the development of teaching materials for children and youths with mild, moderate, and severe disabilities. This program helps prepare special education teachers to meet the needs of students enrolled in elementary and secondary public school special education programs.

The executive vice president and provost of the University has approved administrative enrollment controls for this major. The number of students admitted each year to this major is limited. Additional information about applying for this major is available in the dean's office in the College of Education.

Upon successful completion of the major outlined below, students become eligible for the Pennsylvania Level I Certificate in Teaching the Mentally and/or Physically Handicapped.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics
3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for Special Education must document two separate 40-hour experiences in two different settings, with learners who have special needs. One experience should include learners with a different level of severity or functioning (e.g., mild/severe, young/adult) from those learners in the other experience. One experience should also include learners with cultural, social, or ethnic backgrounds different from the candidates own.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5.Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification.
9. Approval from the professional education adviser or the head of the pertinent certification program.

For the B.S. degree in Special Education, 123 credits are required. (See also Teacher Education Programs.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selections)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3 credits**[19]**

REQUIREMENTS FOR THE MAJOR: 87-90 credits**[21]**
(This includes 12-15 credits of General Education courses: 6 credits of GQ courses; 6 credits of GS courses; and 0-3 credits of GHA courses.)

PRESCRIBED COURSES (81 credits)
EDPSY 014(3), EDPSY 101 GQ(3), EDTHP 115 US(3), HD FS 129 GS(3), MATH 200 GQ(3), PSYCH 100 GS(3), PSYCH 212 GS(3) (Sem: 1-4)
SPLED 425(3), SPLED 395W(3), SPLED 401(4), SPLED 404(3), SPLED 411(3), SPLED 412(4), SPLED 454(4), SPLED 495E(3) (Sem: 5-6)
EDTEC 400(2), SPLED 402(3), SPLED 409A(3), SPLED 409B(3), SPLED 409C(3), SPLED 495F(15), SPLED 495G(4) (Sem: 7-8)

ADDITIONAL COURSES (0-3 credits)
Red Cross Certification in First Aid and CPR(0) or KINES 303 GHA(3) or NURS 203 GHA(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)**[19]**
Select 3 credits in EDTHP at the 400 level (Sem: 5-8)
Select 3 credits in consultation with SPLED adviser (Sem: 5-8)

Integrated B.S. in Special Education - M.Ed. in Curriculum and Instruction

The Special Education and Curriculum and Instruction with Emphasis in Language and Literacy Education Integrated Undergraduate-Graduate (SE/CI-LL ED IUG) Degree Program consists of integration of required courses for a B.S. in Special Education with courses required for certification as a Reading Specialist and a M.Ed. in Curriculum and Instruction with emphasis in Language and Literacy Education. The five-year, SE/CI-LLED IUG is an option for highly qualified students seeking certification to teach Special Education in Pennsylvania in grades K-12. Completion of the IUG (along with earning a passing score on PDE required PRAXIS tests) leads to a B.S. in Special Education, certification in Special Education and as a Reading Specialist in the state of Pennsylvania, and a M.Ed. in Curriculum and Instruction. Students are expected to complete courses required for the graduate level K-12 reading specialist concurrent with their undergraduate experiences and coursework in Special Education and will complete a capstone Special Education teaching experience in their final semester.

Time of Admission to SE/CI-LLED IUG

Students wishing to apply for admission to the SE/CI-LLED IUG initiate application during the semester in which they complete SPLED 495E. They finalize the application process at the end of the semester with a grade of B or better in SPLED 412. While this is typically the end of the junior year of study, it may fall sooner or later.

Joint Admission Process

Special Education and Curriculum and Instruction are located in the College of Education, with Reading Specialist certification offered through the Department of Curriculum and Instruction's emphasis area in Language and Literacy Education. Admission to the SE/CI-LLED IUG will be based upon having attained a minimum GPA of 3.5 or higher, with a grade of B or better in SPLED 412.

Admission will be based on a recommendation by the Reading Specialist Program Coordinator in consultation with the Coordinator of Teacher Education in Special Education.

Students will be expected to maintain a minimum GPA of 3.0 throughout the IUG program of study. Failure to do so will result in the student being placed on academic probation for one semester; after which time, if the GPA is not 3.0 or higher, the student will be dropped from the IUG.

If the student decides not to continue enrollment in the joint SE/CI-LLED IUG, the student may, contingent upon fulfilling all other requirements for the B.S. in SPLED, complete SPLED 495 (the traditional capstone field experience) in their final semester and graduate with a B.S. in Special Education.

Advising

Beginning during the application process, as well as subsequent to admission, students should communicate with both their SPLED program adviser and the program adviser for the C I Reading Specialist program to ensure requirements of both programs are met.

Reduced Course Load

EDPSY 421 and LL ED 595A may be double counted for the M.Ed. as well as the B.S. degree.

Tuition Charges

Undergraduate tuition rates will apply as long as the student is an undergraduate, unless the student receives financial support, for example, an assistantship requiring payment of graduate tuition (from "Information and Guidelines for Establishing Integrated Undergraduate-Graduate Degree Programs" - approved by the Graduate Council, May 8, 1996).

[19] Students may apply 3 credits of ROTC.
[21] A grade of C or better per course is required for all Special Education prerequisites and teacher certification.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-04-024

Review Date: 01/12/2010

UCA Revision #1: 8/14/06

ED

Publications updated coordinator: 8/21/08

Statistics

University Park, Eberly College of Science (STAT)

PROFESSOR BRUCE G. LINDSAY, *Head, Department of Statistics*

This major helps prepare students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analysts, or for further graduate training in statistics. The major includes five options: An Actuarial Statistics Option for students interested in working as actuaries in the insurance or business fields; an Applied Statistics Option for students interested in a cross-disciplinary program, such as econometrics, or psychometrics; a Biostatistics Option for students interested in pursuing careers with pharmaceutical companies, research hospitals or other fields in which biological data is analyzed; a Graduate Study Option for students planning to go to graduate school in a statistics-related field; and a Statistics and Computing Option for students wishing to combine statistical expertise with programming skills.

In order to be eligible for entrance into the Statistics major, a student must have: 1) Attained at least a 2.00 cumulative grade point average. 2) Completed MATH 140 GQ(4) and MATH 141 GQ(4); and earned a grade of C or better in each of these courses.

For the B.S. degree in Statistics a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(6-15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.*)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in GENERAL EDUCATION course selection or REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 80-95 credits
(This includes 6-15 credits of General Education: 0-9 credits of GN courses; 6 credits of GQ courses, 0-6 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 32-34 credits

PRESCRIBED COURSES (30 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]** (Sem: 1-2)
MATH 220 GQ(2-3)**[1]**, STAT 200(4)**[1]** (Sem: 3-4)
STAT 414(3)**[1]**, STAT 415(3)**[1]**, STAT 460(3)**[1]**, STAT 462(3)**[1]**, STAT 470W(3)**[1]**, STAT 480(1)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (2-4 credits)
MATH 230(4)**[1]** or MATH 231(2)**[1]** (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 48-60 credits

ACTUARIAL STATISTICS OPTION: 51-57 credits

Students who major in statistics with the actuarial statistics option and who wish to complete a concurrent major in mathematics may not choose the actuarial mathematics option in mathematics. Any other option in mathematics is acceptable.

PRESCRIBED COURSES (31 credits)
ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-4)
ACCTG 211(4)**[1]**, FIN 100(3)**[1]** (Sem: 3-4)
FIN 408(3)**[1]**, INS 301(3)**[1]**, INS 410(3)**[1]**, INS 411(3)**[1]**, INS 412(3)**[1]**, STAT 463(3)**[1]** (Sem: 4-8)

ADDITIONAL COURSES (11-13 credits)
CMPSC 101 GQ(3)**[1]**, CMPSC 102(3)**[1]**, CMPSC 121 GQ(3)**[1]**, CMPSC 200 GQ(3)**[1]**, CMPSC 201 GQ(3)**[1]**, or CMPSC 202 GQ(3)**[1]** (Sem: 1-4)
B A 242(2)**[1]** or B A 243(4)**[1]** (Sem: 3-8)
Select 6 credits from I E 424(3)**[1]**; MATH 436(3)**[1]** or MATH 441(3)**[1]**; MATH 451(3)**[1]** or MATH 455(3)**[1];** STAT 416(3)**[1]**, STAT 440(3)**[1]**, STAT 461(3)**[1]**, STAT 464(3)**[1]**, STAT 466(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9-13 credits)
Select 9-13 credits from department list (Sem: 1-8)

APPLIED STATISTICS OPTION: (48-50 credits)

ADDITIONAL COURSES (15 credits)
Select 3 credits from: CMPSC 101 GQ(3)**[1]**, CMPSC 121 GQ(3)**[1]**, CMPSC 201 GQ(3)**[1]**, or CMPSC 202 GQ(3)**[1]** (Sem:1-4)
Select 12 credits from I E 433(3)**[1]**, MATH 436(3)**[1]** or MATH 441(3)**[1]**, MATH 451(3)**[1]** or MATH 455(3)**[1]**, STAT

416(3)**[1]**, STAT 440(3)**[1]**, STAT 461(3)**[1]**, STAT 463(3)**[1]**, STAT 464(3)**[1]**, STAT 466(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (33-35 credits)
Select 33-35 credits from department list, including a minor in a supporting field other than Mathematics. (Sem: 1-8)
(If a student wants to work in a supporting field that does not have a minor, he or she can propose a list of six appropriate courses and petition the Statistics Department for approval. It is the student's responsibility to justify the appropriateness of the proposed list. Students must receive a grade of C or better in each of these six courses.)

BIOSTATISTICS OPTION: (56-60 credits)

PRESCRIBED COURSES (8 credits)
BIOL 110 GN(4)**[1]**, CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]** (Sem: 1-3)

ADDITIONAL COURSES (28-29 credits)
Select 3 credits from: CMPSC 101 GQ(3)**[1]**, CMPSC 121 GQ(3)**[1]**, CMPSC 201 GQ(3)**[1]**, or CMPSC 202 GQ(3)**[1]** (Sem: 1-4)
Select 7-8 credits from BIOL 220W GN(4)**[1]**, BIOL 222(3)**[1]**, BIOL 230W GN(4)**[1]**, BIOL 240W GN(4)**[1]** (Sem: 3-4)
Select 6 credits from 400-level BIOL courses**[1]** (Sem: 5-8)
Select 12 credits from I E 433(3)**[1]**, MATH 436(3)**[1]** or MATH 441(3)**[1]**, MATH 451(3)**[1]** or MATH 455(3)**[1]**, STAT 416(3)**[1]**, STAT 440(3)**[1]**, STAT 461(3)**[1]**, STAT 463(3)**[1]**, STAT 464(3)**[1]**, STAT 466(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (20-23 credits)
Select 20-23 credits from department list (Sem: 1-8)

GRADUATE STUDY OPTION: (48-50 credits)

A student completing the Graduate Study option will have earned a minor in mathematics in addition to a B.S. in Statistics. However, a student must fill out and submit the appropriate paperwork to the Mathematics Department in order for this minor to be officially recognized.

PRESCRIBED COURSES (9 credits)
MATH 312(3)**[1]**, MATH 403(3)**[1]**, MATH 404(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (24 credits)
Select 3 credits from: CMPSC 101 GQ(3)**[1]**, CMPSC 121 GQ(3)**[1]**, CMPSC 201 GQ(3)**[1]**, or CMPSC 202 GQ(3)**[1]** (Sem: 1-4)
Select 9 credits from MATH 310(3)**[1]**, MATH 311W(3-4)**[1]**, MATH 421(3), MATH 422(3)**[1]**, MATH 426(3), MATH 429(3), MATH 456(3)**[1]**, MATH 468(3)**[1]**, MATH 469(3)**[1]** (Sem: 7-8)
Select 12 credits from I E 433(3)**[1]**, MATH 436(3)**[1]** or MATH 441(3)**[1]**, MATH 451(3)**[1]** or MATH 455(3)**[1]**, STAT 416(3)**[1]**, STAT 440(3)**[1]**, STAT 461(3)**[1]**, STAT 463(3)**[1]**, STAT 464(3)**[1]**, STAT 466(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15-17 credits)
Select 15-17 credits from department list (Sem: 1-8)

STATISTICS AND COMPUTING OPTION: (48-50 credits)

PRESCRIBED COURSES (9 credits)
CMPSC 121 GQ(3)**[1]**, CMPSC 122(3)**[1]**, CMPSC 465(3)**[1]** (Sem: 1-6)

ADDITIONAL COURSES (24 credits)
Select 3 credits from: CMPSC 360(3)**[1]** or MATH 311W(3-4)**[1]**(Sem: 3-6)
Select 9 credits from CMPSC 221(3)**[1]**, 400-level CMPSC **[1]** other than CMPSC/MATH 451 or CMPSC/MATH 455 (Sem: 5-8)
Select 12 credits from I E 433(3)**[1]**, MATH 436(3)**[1]** or MATH 441(3)**[1]**, MATH 451(3)**[1]** or MATH 455(3)**[1]**, STAT 416(3)**[1]**, STAT 440(3)**[1]**, STAT 461(3)**[1]**, STAT 463(3)**[1]**, STAT 464(3)**[1]**, STAT 466(3)**[1]** (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15-17 credits)
Select 15-17 credits from department list (Sem: 1-8)

Integrated B.S. in Statistics and Master of Applied Statistics (M.A.S.)

The Integrated Undergraduate-Graduate (IUG) degree with B.S. in Statistics and Master of Applied Statistics (M.A.S.) is designed to be completed in five years. This integrated degree will enable a select number of highly qualified and career-oriented students to obtain training in statistics focused on developing data analysis skills and exploration of core areas of applied statistics at the undergraduate and graduate levels. The M.A.S. degree is a professional master's degree that emphasizes applications and does not provide as much training in the mathematical and statistical theory. The degree prepares students with interests in mathematics, computation, and the quantitative aspects of science for careers in industry and government as statistical analyst. Research divisions in the pharmaceutical industry, quality control and quality engineering divisions in manufacturing companies, clinical research units, corporate planning and research units, and other data-intensive positions require persons with training in mathematics, computation, database management, and statistical analysis, which this program will provide.

Application Process

The number of openings in the integrated B.S./M.A.S. program is limited. Admission will be based on specific criteria and the recommendation of faculty. Applicants to the integrated program:

1. Must be enrolled in the Statistics B.S. program.
2. Must have completed at least 60 credits of the undergraduate degree program including the two courses: STAT 414

and STAT 415, and the students must apply to the program prior to completing 110 credits.

3. Must submit a transcript and a statement of purpose.
4. Must present a departmental-approved plan of study in the application process in consultation with the M.A.S. program director.
5. Must be recommended by the chair of the department's undergraduate program committee.
6. Must be accepted into the M.A.S. program in Statistics.

For the IUG B.S./M.A.S. degree, 120 credits are required for the B.S. and 30 credits for the M.A.S. The following twelve graduate-level credits (number of credits in parentheses) can apply to both B.S. and M.A.S. degrees; six of these are at the 500 level:

STAT 414 (3) Introduction to Probability Theory
STAT 415 (3) Introduction to Mathematical Statistics
STAT 501 (3) Regression Methods
STAT 502 (3) Analysis of Variance and Design of Experiments

Assuming all requirements for the B.S. are completed, students in the program can complete the B.S. degree and not advance to the M.A.S. Degree if they desire.

Degree Requirements

IUG Statistics B.S. prescribed Statistics courses: See above, but note that students in IUG Statistics B.S. take STAT 501 and 502 instead of STAT 460 and 462.

IUG Statistics M.A.S. requirement (30 credits)

STAT 414 (3) Introduction to Probability Theory
STAT 415 (3) Introduction to Mathematical Statistics
STAT 501 (3) Regression Methods
STAT 502 (3) Analysis of Variance and Design of Experiments
STAT 580 (2) Statistical Consulting Practicum I
STAT 581** (1) Statistical Consulting Practicum II
Electives (15) Choose from STAT 503-510 and the departmental list of additional courses for the M.A.S. program with the approval of the adviser.

**For all students in the M.A.S. program, the STAT 581 course will have a comprehensive written project report required as part of the course, which serves as the culminating experience.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010(STAT); Summer Session 2003 (Integrated B.S./M.A.S.)

Blue Sheet Item #: 38-01-056 (STAT); 31-01-123 (Integrated B.S./M.A.S.)

Review Date: 8/25/09

UCA Revision #1: 9/1/06
UCA Revision #2: 7/30/07

SC

Structural Design and Construction Engineering Technology

Capital College (SDCET)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JOSEPH J. CECERE, *Program Chair*

The program in Structural Design and Construction Engineering Technology provides the basic education required for the structural engineer and construction profession. Students learn the basic general engineering concepts needed for this major with emphasis on the fundamentals, structural design principles, and construction techniques through required course work. They are given the opportunity to focus in a discipline of construction management or structural design through a selected option or choose a broad general option. Courses in communication skills, arts, humanities, social and behavioral sciences, and other engineering related areas broaden the program. Students gain experience in working as members of a team and in using interdisciplinary approaches to solve problems. These experiences, as well as those related to design and construction principles, are taught through exercises in the classroom, laboratory, and field. The program culminates with a capstone project course in which the students' knowledge and skills are applied to specific problems.

For the B.S. degree in Structural Design and Construction Engineering Technology, a minimum of 125 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(20-24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1-9 credits

REQUIREMENTS FOR THE MAJOR: 95-103 credits
(This includes 24 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses; 3 credits of GHA courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 75-81 credits

PRESCRIBED COURSES (46 credits)
CHEM 110 GN(3), CHEM 111 GN(1), ENGL 202C GWS(3), MATH 140 GQ(4) (Sem: 1-4)
C E 254 GHA;US(3)**[1]**, SSET 295(1) (Sem: 3)
ET 200(3) (Sem: 2-5)
CET 242(2), CET 343(3) (Sem: 5-6)
C E 333W(3)**[1]**, CET 308(3), CET 430(3)**[1]**, CET 431(3)**[1]**, CET 432(3)**[1]**, CET 434(3), CET 435(3)**[1]**, I E 303(2) (Sem: 5-8)

ADDITIONAL COURSES (30-35 credits)
Select 2-3 credits from: EG T 101(1) and EG T 102(1) or EDSGN 100(3) (Sem: 1-2)
Select 3-4 credits from: PHYS 150 GN(3), PHYS 211 GN(4), PHYS 250 GN(4) (Sem: 1-3)
Select 3-4 credits from: PHYS 151 GN(3), PHYS 212 GN(4), PHYS 251 GN(4) (Sem: 2-4)
Select 2-3 credits from: C E 209(2), C E 310(3), SUR 111(3) (Sem: 2-7)
Select 3 credits from: E MCH 211(3)**[1]**, MCH T 111(3)**[1]** (Sem: 2-6)
Select 3 credits from: E MCH 213(3)**[1]**, MCH T 213(3)**[1],** ET 322(3)**[1]** (Sem: 2-6)
Select 1 credit from: ET 323(1), MCH T 214(1) (Sem: 2-6)
Select 3 credits from: CMPSC 101 GQ(3), CMPSC 121 GQ(3), CMPSC 201 GQ(3), CMPSC 202 GQ(3) (Sem: 3-4)
Select 3 credits from: ECON 002 GS(3), ECON 004 GS(3), ECON 014 GS(3) (Sem: 2-4)
Select 4 credits from: MATH 141 GQ(4), STAT 200 GQ(4) (Sem: 2-6)
Select 3-4 credits from: ACCTG 211(4), MGMT 100(3) or MGMT 301(3) (Sem: 3-8)

REQUIREMENTS FOR THE OPTION: 19-22 credits

CONSTRUCTION MANAGEMENT OPTION: (19-21 credits)

PRESCRIBED COURSES (10 credits)**[1]**
C E 456(3), C E 458(3), C E 488C(4) (Sem: 7-8)

ADDITIONAL COURSES (6-7 credits)
Select 3 credits from MET 435(3) or A E 310(3) (Sem: 7-8)
Select 3-4 credits from ACCTG 211(4) or MGMT 100(3), MGMT 301(3) (Sem: 2-8)

SUPPORTING COURSES AND RELATED AREAS (3-4 credits)

Select 3-4 credits from approved program list (Sem: 7-8)

STRUCTURAL DESIGN OPTION: (19-20 credits)

PRESCRIBED COURSES (13 credits)
C E 445(3)**[1]**, C E 449(3)**[1]**, C E 488D(4)**[1]**, E MCH 212(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from CET 361(3) or C E 360(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (3-4 credits)
Select 3-4 credits from approved program list (Sem: 7-8)

GENERAL OPTION: (22 credits)

PRESCRIBED COURSES (12 credits)**[1]**
C E 445(3), C E 449(3), C E 456(3), C E 458(3) (Sem: 7-8)

ADDITIONAL COURSES (10 credits)
Select 3 credits from MET 435(3) or A E 310(3) (Sem: 7-8)
Select 3 credits from CET 361(3) or C E 360(3) (Sem: 7-8)
Select 4 credits from C E 488C(4)**[1]** or C E 488D(4)**[1]** (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-172

Review Date: 4/11/06

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

CL

Supply Chain and Information Systems

University Park, Smeal College of Business (SC&IS)

PROFESSOR JOHN E. TYWORTH, *Chair of the Department of Supply Chain and Information Systems*

The SC&IS major concentrates on the management of value-creating supply chain networks that modern business enterprises use to acquire, produce, and deliver goods and services all over the world and on information technology as the key enabler of supply chain integration. Students learn how to analyze and design supply chains and manage core business processes including (1) sourcing and procuring raw materials, (2) manufacturing and service operations, and (3) planning and fulfilling customer demand. Students also develop knowledge, skills, and abilities in the information systems area, including information processing, databases, information systems design and analysis, and supply chain technologies.

Graduates are well-prepared for careers in the supply chain and information systems area in both industry and government, including manufacturing, service, technology, and merchandising companies, third-party logistics providers, transport system enterprises, consulting firms, and government agencies.

More information about the broad range of career opportunities is available at http://www.smeal.psu.edu/scis/recruit).

Entrance Requirement: To be eligible for entrance into the Supply Chain and Information Systems (SC&IS) major, a degree candidate must be enrolled in the Smeal College of Business or the Division of Undergraduate Studies and satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin, including approximately 60 credits of course work.
2. Complete the following entrance to major requirements: ACCTG 211(4)**[1]**; ECON 002 GS(3); SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]**; ENGL 015 GWS(3) or ENGL 030 GWS(3); and MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]**. These courses must be completed by the end of the semester during which the entrance to major process is carried out.
3. In addition to the above requirements, the Executive Vice President and Provost of the University may approve administrative enrollment controls that limit the number of students who are admitted to majors in the Smeal College of Business. In each case, however, academic requirements are established for admission. For information on enrollment controls, consult the Smeal College of Business Web site (http://www.smeal.psu.edu).

For the B.S. degree in Supply Chain and Information Systems, a minimum of 120 credits is required (at least 15 credits must be taken at the 400 level).

GENERAL EDUCATION: 45 credits
(12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

REQUIREMENTS FOR THE MAJOR: 73 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (52 credits)
ACCTG 211(4)**[1]**, ECON 002 GS(3), FIN 301(3)**[1]**; MGMT 301(3)**[1]**; and MKTG 301(3)**[1]** (Sem: 1-4)
MIS 204(3), SCM 301(3)**[1]** (Sem: 3-5)
B A 342(3), B A 411(3), B LAW 341(3), ECON 004 GS(3), ENGL 202D GWS(3), SCM 404(3)**[1]**, SCM 405(3)**[1]**, SCM 406(3)**[1],** SCM 421(3)**[1]**, SCM 450W(3)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (8 credits)
MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]** (Sem: 1-2)
SCM 200 GQ(4)**[1]** or STAT 200 GQ(4)**[1]** (Sem: 1-2)

SUPPORTING COURSES AND RELATED AREAS (13 credits)
Select 4 credits: Attainment of 12th-credit-level proficiency in a single foreign language. (4 credits) Proficiency must be demonstrated by either examination or coursework(Sem: 1-4)
Select 3 credits of related coursework. See department list. (Sem: 5-8)
Select 6 credits of supporting coursework. See department list. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-046

Review Date: 04/13/2010

UCA Revision #1: 8/14/06

BA

Surveying Engineering

University College, Penn State Wilkes-Barre (SUR E)

PROFESSOR WESLEY PARKS, *Program Coordinator, Penn State Wilkes-Barre*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

The Surveying Engineering major provides a basic undergraduate education required for private and public service in the profession of surveying. Particular emphasis is placed on fundamental surveying principles required in all areas of surveying. Instruction is provided in the main divisions of surveying, including land surveying, mapping, photogrammetry, data analysis and adjustment, geodesy and map projection coordinate systems, remote sensing, geographic information systems, and land development. Students study various data collection techniques using surveying tools including total stations, levels, softcopy photogrammetry, satellite imagery, and the global positioning system (GPS). They also study legal principles related to land surveying, professional ethics, applications for Geographic Information Systems (GIS) in surveying, and data management techniques. Through the use of elective courses, students can specialize in the areas of GIS, photogrammetry, remote sensing, land surveying, and geodesy. Through the use of projects and capstone courses students will design measurement systems, alignments, land information systems, and land development.

Specific educational objectives of the program are designed so that the graduate will have:

- A solid understanding of the basic principles of mathematics, science, and engineering and the technical competency to use the techniques, skills and modern surveying tools for practice in surveying engineering as well as for graduate education.
- An understanding of the principles in surveying engineering and understanding of professional practice and ethical issues including the ability to design and conduct experiments, as well as to analyze and interpret data.
- The ability to work in a team and develop problem-solving skills that include oral and written communication skills to effectively communicate technical and professional information.
- An awareness of organizations and activities that allow them to develop leadership skills, gain exposure to the surveying profession, and gain a broad understanding of contemporary societal issues.
- A recognition of the need for continued learning.

For the B. S. degree a minimum of 128 credits is required. The baccalaureate program in Surveying is accredited by the Applied Science Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org (Opens New Window). The Surveying program was renamed to Surveying Engineering effective Fall 2004. Surveying Engineering will be reviewed for accreditation as Surveying Engineering during Fall 2005.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(24 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 107 credits
(This includes 24 credits of General Education courses: 6 credits of GWS courses; 6 credits of GQ courses; 9 credits of GN courses; 3 credits of GS courses.)

PRESCRIBED COURSES (72 credits)
MATH 140 GQ(4)**[1]**, MATH 141 GQ(4)**[1]**, MATH 220 GQ(2-3), SUR 111(3)**[1]**, SUR 112(3), SUR 162(3)**[1]** (Sem: 1-2)
CAS 100A GWS(3), CMPSC 201 GQ(3), MATH 230(4), MATH 251(4), STAT 401(3), SUR 222(3), SUR 241(3)**[1]**, SUR 262(2) (Sem: 3-4)
ENGL 202C GWS(3), SUR 272(3)**[1]**, SUR 341(3), SUR 351(3), SUR 362(3), SUR 372W(3)**[1]** (Sem: 5-6)
SUR 441(3), SUR 471(3), SUR 482(3), SUR 490(1) (Sem: 7-8)

ADDITIONAL COURSES (26 credits)
Select 1 credit of First-Year Seminar
EDSGN 100(3) (Sem: 1-2)
CHEM 110 GN(3) or GEOG 010 GN(3) and PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2) (Sem: 1-4)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 5-6)
Select 6 credits, from SUR 313(3), SUR 325(3), SUR 335(3), SUR 375(2), SUR 445(3), SUR 455(3), SUR 465(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from department list of technical electives (Sem: 5-6, 9-10)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-03-019

Review Date: 7/25/08

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

EN

Telecommunications

University Park, College of Communications (TELCM)

PROFESSOR MATTHEW JACKSON, *Head, Department of Telecommunications*

The Telecommunications program seeks to prepare informed, responsible professionals for leadership roles in the electronic communication and information industries. The program stresses the social, cultural and economic impact of electronic media, including radio, television, videogames, telephones and the Internet.

Students can choose an emphasis in programming and production, promotion and sales, managment, law and policy, international telecommunications and society.

Graduates go on to careers at local radio and television stations; broadcast, cable and satellite networks; Internet content and service providers; wired and wireless telephone companies; and other related industries. The major emphasizes the business and legal parameters of telecommunications, making it an excellent preparation for law school or graduate school and careers in government policy and the entertainment field.

Students must select at least 80 credits in courses outside the College of Communications, including at least 65 in the liberal arts and sciences.

For the B.A. degree in Telecommunications, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 20 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 34 credits**[1]**
(This includes 3 credits of General Education GS courses.)

PRESCRIBED COURSES (10 credits)
COMM 160(1) (Sem: 1-4)
COMM 180(3) (Sem: 3-4)
COMM 387(3), COMM 381(3) (Sem: 5-6)

ADDITIONAL COURSES (18 credits)
ECON 102 GS(3) or ECON 014 GS(3) (Sem: 3-4)
Students must meet with a faculty advisor to approve their course selections from the following areas:
Select 15 credits from COMM 282(3), COMM 283W(3), COMM 374(3), COMM 384(3), COMM 385(3), COMM 386(3), COMM 479(3), COMM 484(3), COMM 485(3), COMM 487(3), COMM 489W(3), COMM 490(3), COMM 491(3), COMM 492(3), COMM 493(3), COMM 495(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in social aspects of communication from COMM 205 US(3), COMM 304(3), COMM 403(3), COMM 405(3), COMM 408(3), COMM 409(3), COMM 410 IL(3), COMM 411(3), COMM 413W(3), COMM 417(3), COMM 418(3), COMM 419 US;IL(3), COMM 496(1-3) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-073

Review Date: 4/13/10

CM

Publications: 2/16/05

Theatre

Berks College (THABL)
University Park, College of Arts and Architecture (THRBA)

PROFESSOR CLEO HOUSE, Jr., *Penn State Berks*
PROFESSOR ANNETTE McGREGOR, *Penn State University Park*

This program offers the theatre student a general background in the various facets of theatre. A broad liberal education is provided and complemented with advanced courses to best serve student interests, talents, and career objectives. Though a strong emphasis is given to the areas of production and performance, majors may also wish to emphasize an area of special interest such as literature, design or acting. Many students choose to spend a semester in study abroad.

Students learn to research, analyze and synthesize information. Majors develop strong oral and written skills and many go on to postgraduate study not only in theatre but in areas such as law, business and education.

Entrance criteria to this major include an audition or interview with members of the Theatre faculty.

For the B.A. degree in Theatre, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 37 credits**[1]**
(See description of General Education in this bulletin.)

PRESCRIBED COURSES (19 credits)
THEA 001S(1), THEA 120(3), THEA 150(3), THEA 200(2), THEA 289(1) (Sem: 1-2)
THEA 401W IL(3), THEA 410(3), THEA 434(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select 3 credits from THEA 100 GA;US;IL(3) or THEA 105 GA(3)
Select 6 credits from THEA 405 IL(3), THEA 406 IL(3), THEA 407 US(3), THEA 408 US(3), THEA 412(3), THEA 455(3), or THEA 464(3) (Sem: 4-8)
Select 3 credits from THEA 130(3) or THEA 131(3) (Sem: 3-4)
Select 3 credits from CAMS 411W(3), ENGL 405(3), ENGL 438(3), ENGL 440(3), ENGL 444(3), ENGL 445(3), ENGL 454(3), ENGL 488(3) (Sem: 4-8)
Note: Additional courses may be substituted on a case by case basis from upper division dramatic literature courses in modern languages.

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits of any THEA course (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-01-008

Review Date: 8/25/09

AA

Revised in-charge information, Publications: 11/18/09

Theatre

Berks College (THABL)
University Park, College of Arts and Architecture (THRBA)

PROFESSOR CLEO HOUSE, Jr., *Penn State Berks*
PROFESSOR ANNETTE McGREGOR, *Penn State University Park*

This program offers the theatre student a general background in the various facets of theatre. A broad liberal education is provided and complemented with advanced courses to best serve student interests, talents, and career objectives. Though a strong emphasis is given to the areas of production and performance, majors may also wish to emphasize an area of special interest such as literature, design or acting. Many students choose to spend a semester in study abroad.

Students learn to research, analyze and synthesize information. Majors develop strong oral and written skills and many go on to postgraduate study not only in theatre but in areas such as law, business and education.

Entrance criteria to this major include an audition or interview with members of the Theatre faculty.

For the B.A. degree in Theatre, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 14 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 37 credits**[1]**
(See description of General Education in this bulletin.)

PRESCRIBED COURSES (19 credits)
THEA 001S(1), THEA 120(3), THEA 150(3), THEA 200(2), THEA 289(1) (Sem: 1-2)
THEA 401W IL(3), THEA 410(3), THEA 434(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select 3 credits from THEA 100 GA;US;IL(3) or THEA 105 GA(3)
Select 6 credits from THEA 405 IL(3), THEA 406 IL(3), THEA 407 US(3), THEA 408 US(3), THEA 412(3), THEA 455(3), or THEA 464(3) (Sem: 4-8)
Select 3 credits from THEA 130(3) or THEA 131(3) (Sem: 3-4)
Select 3 credits from CAMS 411W(3), ENGL 405(3), ENGL 438(3), ENGL 440(3), ENGL 444(3), ENGL 445(3), ENGL 454(3), ENGL 488(3) (Sem: 4-8)
Note: Additional courses may be substituted on a case by case basis from upper division dramatic literature courses in modern languages.

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits of any THEA course (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-01-008

Review Date: 8/25/09

AA

Revised in-charge information, Publications: 11/18/09

Theatre

University Park, College of Arts and Architecture (THRFA)

PROFESSOR WILLIAM KENYON, *B.F.A. Program Coordinator, Design and Technology Option*
PROFESSOR TRAVIS DeCASTRO, *B.F.A. Program Coordinator, Stage Management Option*

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The Bachelor of Fine Arts in Theatre offers two options: Design and Technology, and Stage Management.

The B.F.A. degree in Theatre with the Design and Technology option is intended to develop a level of competence that will enable students who wish to pursue professional careers in theatre design, theatre technology and related entertainment fields to prepare themselves for specialized graduate studies, specialized professional training and/or immediate participation in creative work. The prescribed core curriculum introduces students to each of the theatre design areas and provides them with a basic skill level in technology. The curriculum also features acting, directing, script analysis, theatre history and criticism. Students choose an emphasis area after their third semester to focus their awareness, their capabilities and their critical faculties or abilities in their area of interest.

For the B.F.A. degree in Theatre with the Stage Management option is intended to provide students with specialized training leading to a high level of competence in the stage management field. Graduates should be able to begin professional work or pursue further training at the graduate level. The Stage Management option is intended to educate students for a career in stage management for theatre.

Acceptance into the Design and Technology option is based on a faculty interview and portfolio review. Acceptance into the Stage Management option is based on a faculty interview and production book review. Both options require a minimum of 120 credits.

GENERAL EDUCATION: 45 credits
(0-6 credits included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin)

FIRST-YEAR SEMINAR:
(Included in REQUIREMENTS FOR THE MAJOR)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-11 credits

REQUIREMENTS FOR THE MAJOR: 70-78 credits
(This includes 0-6 credits of General Education courses: Sound Design emphasis--3 credits of GN courses and 3 credits of GA courses. Scene Design emphasis--3 credits of GA courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 42 credits

PRESCRIBED COURSES (42 credits)**[1]**
THEA 100 GA;US;IL(3), THEA 001S(1), THEA 120(3), THEA 130(3), THEA 131(3), THEA 150(3), THEA 200(2) (Sem: 1-2)
THEA 250(3), THEA 251(2), THEA 260(3), THEA 270(3), THEA 280(3), THEA 285(3), THEA 289(1) (Sem: 3-6)
THEA 401W(3), THEA 481(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 28-36 credits

DESIGN AND TECHNOLOGY OPTION: (33-36 credits)

PRESCRIBED COURSES (9 credits)**[1]**
THEA 252(1) (Sem: 3-6)
THEA 434(3), THEA 454(3), THEA 459(2) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)**[1]**
Select 6 credits from THEA 456(1), THEA 457(1), THEA 466(1), THEA 467(1), THEA 477(1), THEA 487(1), THEA 489(1) (Sem: 3-8)
Select 3 credits from THEA 464(3) or THEA 465(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15-18 credits)**[1]**
Select 15-18 credits from one of the following emphases a, b, c, d, or e
a. Costume Design/Technology: THEA 146(2), THEA 253(1), THEA 261(3), THEA 460(3-6), THEA 461(3-6), THEA 464(3), or THEA 465(3) (Sem: 3-8)
b. Scene Design: THEA 253(1), THEA 450(6), THEA 453(2) (Sem: 3-8)
Select 3 credits from: THEA 460(3), THEA 470(3), THEA 480(3) (Sem:6-8)
Select 3 credits from: ART H 111 GA(3), ART H 112 GA(3), THEA 451(1), THEA 458(1), THEA 460(3), THEA 470(3), THEA 480(3), THEA 485(3) (Sem: 3-8)
c. Lighting Design: THEA 253(1), THEA 381(3), THEA 485(3), THEA 470(6), THEA 472(2) (Sem: 3-8)

d. Sound Design: INART 050 GN(3), INART 258A GA(3), THEA 381(3), THEA 484(3), THEA 485(3) (Sem: 3-8)
e. Scenic Technology: THEA 253(1), THEA 381(3), THEA 470(3), THEA 480(6), THEA 485(3) (Sem: 3-8)

STAGE MANAGEMENT OPTION: (28 credits)

PRESCRIBED COURSES (25 credits)**[1]**
THEA 146(2) (Sem: 1-2)
THEA 220(3), THEA 289(1), THEA 322(2), THEA 324(2) (Sem: 3-4)
THEA 486(9) (Sem: 5-8)
THEA 496(6) (Sem: 6-8)

ADDITIONAL COURSES (3 credits)**[1]**
Select 3 credits from: THEA 405(3), THEA 406(3), THEA 407 US(3), THEA 408(3), THEA 412 US(3), THEA 455(3), THEA 464(3), THEA 465(3) (Sem: 4-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[5] Students may apply 6 credits of ROTC.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-04-017

Review Date: 1/18/05

AA

Toxicology

University Park, College of Agricultural Sciences (TOX)

PROFESSOR JAMES ENDRES HOWELL, *Program Coordinator*

Toxicology addresses adverse effects of chemicals on animals and humans and includes exposure assessment, hazard identification, dose-response analysis, and risk characterization. This discipline relies on cutting-edge biotechnological approaches to gain insight into drug and toxicant action at the molecular level. Students enrolled in the Toxicology program will develop an understanding of the principles by which chemicals affect the health of humans and animals either adversely, as toxic agents, or beneficially, as therapeutic agents. Students will learn about: 1) mechanisms of action of drugs and toxicants on organ systems of the body; 2) general principles for assessing the safety of chemicals and therapeutic efficacy of drugs; and 3) state-of-the-art molecular, biological, and genetic approaches to understanding drugs, toxicants, and disease through a combination of laboratory and lecture experiences. The B.S. degree in Toxicology provides a strong foundation for graduate work leading to a Ph.D. in most biomedical fields. Students may choose to pursue a Ph.D. degree in Pharmacology, Toxicology, Biochemistry, Physiology, Pathobiology, Oncology, or Molecular Biology. Alternatively, students prepare for employment as research technicians, drug/toxicant specialists, or pharmaceutical sales representatives.

For the B.S. degree in Toxicology, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(15 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 12-15 credits

REQUIREMENTS FOR THE MAJOR: 79-83 credits
(This includes 15 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses.)

PRESCRIBED COURSES (52 credits)
BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-6)
BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4) (Sem: 3-6)
VB SC 330(3)**[1]** (Sem: 5-6)
E R M 431(3)**[1]**, VB SC 430(3)**[1]**, VB SC 433(3)**[1]** (Sem 7-8)

ADDITIONAL COURSES (18-21 credits)
Select 6-8 credits from CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
Select 3-4 credits from STAT 200 GQ(4) or STAT 250 GQ(3) (Sem: 3-4)
Select 3 credits from AN SC 423(3) or BIOL 472(3) (Sem: 5-6)
Select 6 credits from B M B 211(3), B M B 212(1), B M B 221(2); or B M B 401(3), B M B 402(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of 400-level courses from department list (must include 6 credits of a grade of C or better**[1]**) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-003

Review Date: 1/15/08

UCA Revision #1: 8/14/06

AG

Turfgrass Science

University Park, College of Agricultural Sciences
World Campus

PROFESSOR A. J. TURGEON, *Program Coordinator (TURF)*

This major provides an integrated program of study that includes basic and applied sciences, business management courses and an internship to prepare students for careers in turfgrass management and related areas. By carefully selecting supporting courses and electives, students can adapt the program to meet a variety of professional interests and educational needs.

Employment opportunities include golf course maintenance, professional lawn care, grounds maintenance, sod production, sales and service, athletic field maintenance, and research technician.

With appropriate selection of science courses, students can prepare for graduate study leading to careers in teaching, research, and extension.

A student wishing to transfer into the Turfgrass Science program must have completed CHEM 101 GN(3) or CHEM 110 GN(3) and CHEM 202(3) for a total of six credits and received a grade of C or better in each course prior to declaring the major.

For the B.S. degree in Turfgrass Science, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in SUPPORTING COURSES AND RELATED AREAS course selections) (Sem: 1)

UNITED STATES CULTURES AND INTERCULTURAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selections) (Sem: 1-8)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR) (Sem: 7-8)

ELECTIVES: 4 credits

REQUIREMENTS FOR THE MAJOR: 89 credits
(This includes 18 credits of General Education courses: 3 credits of GWS courses; 6 credits of GQ courses; 9 credits of GN courses.)

PRESCRIBED COURSES (53 credits)
BIOL 011 GN(3), BIOL 012 GN(1), BIOL 127 GN(3), CHEM 202(3), CMPSC 203 GQ(4), MATH 021 GQ(3), METEO 101 GN(3) (Sem: 1-4)
SOILS 101 GN(3)**[1]**, TURF 230(1)**[1]**, TURF 235(3)**[1]**, TURF 435(4)**[1]**, TURF 495(3)**[1]**(Sem: 3-4)
ENT 317(3)**[1]**, PPATH 412(3)**[1]**, TURF 238(3)**[1]**, TURF 434(3)**[1]** (Sem: 5-6)
TURF 425(3)**[1]**, TURF 436W(3)**[1]**, TURF 490(1)**[1]** (Sem: 6-8)

ADDITIONAL COURSES (6 credits)
CHEM 101 GN(3) or CHEM 110 GN(3) (Sem: 1-4)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (30 credits)
Select 15 credits from department professional agriculture list (Sem: 1-8)
Select 15 credits from department professional management and economics list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-04-003

Review Date: 6/14/07

UCA Revision #1: 8/14/06

Comments

AG

Veterinary and Biomedical Sciences

University Park, College of Agricultural Sciences (VB SC)

PROFESSOR LESTER C. GRIEL Jr., *Program Coordinator*

This major provides a strong background in those biological and physical sciences underlying contemporary veterinary science and establishes a sound foundation for graduate-level study in veterinary and related biomedical disciplines. The student has the option to focus their area of study by selecting supporting courses in a variety of areas.

The mission of the Veterinary and Biomedical Sciences major is to prepare students for admission to veterinary school and/or entry into graduate programs or employment in veterinary and biomedical research and development. Students may prepare for graduate programs in disciplines such as genetics, nutrition, microbiology, animal sciences, physiology, biochemistry, or others.

For the B.S. degree in Veterinary and Biomedical Sciences, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 46 credits
(18 of these 46 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-9 credits

REQUIREMENTS FOR THE MAJOR: 87-89 credits
(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses.)

PRESCRIBED COURSES (56 credits)
BIOL 110 GN(4), CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)
AN SC 001(4)**[1]**, PHYS 250 GN(4), PHYS 251 GN(4), STAT 250 GQ(3) (Sem: 3-4)
AN SC 301(3)**[1]**, BIOL 222(3)**[1]**, MICRB 201(3), MICRB 202(2) (Sem: 5-6)
VB SC 211 GQ(3), VB SC 303(3)**[1]**, VB SC 421(4) (Sem: 4-8)

ADDITIONAL COURSES (22-24 credits)
Select 4 credits from BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 3-4)
Select 6-8 credits from CHEM 202(3), CHEM 203(3); or CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-4)
Select 3 credits from AN SC 423(3) or BIOL 472(3) (Sem: 5-6)
Select 3 credits from AG BM 101 GS(3), ECON 002 GS(3), or ECON 004 GS(3) (Sem: 1-3)
Select 6 credits from B M B 211(3), B M B 212(1), B M B 221(2); or B M B 401(3), B M B 402(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)**[1]**
Select 9 credits of 400-level courses from department list (must include 3 credits of a grade of C or better) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-001

Review Date: 2/26/08

UCA Revision #1: 8/2/06

AG

Visual Art Studies

Altoona College (VAST)

The Bachelor of Arts degree in Visual Art Studies offers students the opportunity to explore studio work in Art within the context of a broader liberal arts education. Students can learn fundamental techniques and concepts common to the Visual Arts. Emphasis is also put on creative problem solving through advanced investigations of artistic themes and issues. Course work includes requirements (classes) related to the portfolio preparation necessary for employment in creative fields or for education at the graduate level.

Entry into the Visual Art Studies major requires a third semester standing (27.1 credits), the completion of 6 credits in ART with a C or better, an entrance interview, and a 2.00 or higher cumulative grade-point average. The entrance interview will be based on a review of the student's work in the 6 credits of ART, and any other work the student wishes to include.

For the B.A. degree in Visual Art Studies, a minimum of 121 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

GENERAL EDUCATION: 45 credits
(6 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 7-13 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 45 credits**[1]**
(This includes 6 credits of General Education courses: 6 credits of GA courses.

PRESCRIBED COURSES (42 credits)
ART H 111 GA;IL(3), ART H 112 GA;IL(3) (Sem: 1-2)
ART 165(3), ART 166(3), ART 168(3), ART 265(3), ART 266(3), ART 269(3) (Sem: 1-4)
ART 468(3) (Sem: 4-8)
ART 365(3), ART 366(3), ART 465(3), ART 466W(3), ART 469(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits of 400-level ART H courses (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-03-101

Review Date: 1/31/08

AA

Wildlife and Fisheries Science

University Park, College of Agricultural Sciences (W F S)

JAMIE MURPHY, *Instructor, Program Coordinator*

The purpose of the Wildlife and Fisheries Science major is to develop the knowledge, skills, and professional ethics of undergraduates interested in the conservation and management of fish and wildlife and their environments. The curriculum is designed to provide a broad-based science background that incorporates natural resource management principles that prepare our students for a diverse array of opportunities such as graduate school, natural resource management agencies, consulting firms, non-profits, etc. Students can choose from two options: Wildlife option and Fisheries option. Each option enables students to gain greater depth of knowledge in one area of the discipline. Coursework required for the Wildlife option meets The Wildlife Society's requirements for professional certification, and coursework required for the Fisheries option meets the American Fisheries Society's requirements for professional certification.

For the B.S. in Wildlife and Fisheries Science, a minimum of 120 credits is required for the Wildlife option and a minimum of 122 credits is required for the Fisheries option.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(21 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 3-9 credits

REQUIREMENTS FOR THE MAJOR: 87-95 credits
(This includes 21 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 69-72 credits

PRESCRIBED COURSES (45 credits)
BIOL 110 GN(4), BIOL 220W GN(4)**[1]**, CHEM 110 GN(3), CHEM 111 GN(1) (Sem: 1-4)
BIOL 240W GN(4), CHEM 202(3), PHYS 250 GN(4), SOILS 101 GN(3), W F S 209 GN(3)**[1]** (Sem: 3-4)
ECON 004 GS(3), W F S 300(2)**[1]**, W F S 301(2)**[1]**, W F S 310(3)**[1]** (Sem: 5-6)
W F S 446(3), ENGL 202C GWS(3) (Sem: 7-8)

ADDITIONAL COURSES (18-21 credits)
MATH 110 GQ(4)**[1]** or MATH 140 GQ(4)**[1]**; MATH 111 GQ(2) or MATH 141 GQ(4) (Sem: 1-2)
AN SC 322(3), BIOL 133 GN(3), BIOL 222(3), or BIOL 230W GN(4); STAT 240 GQ(3) or STAT 301 GQ(3) (Sem: 3-4)
FOR 350(3) or STAT 460(3) (Sem: 5-6)
AEE 440(3), CAS 211(3), ENGL 416(3), or ENGL 418(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in natural resource economics, policy, planning, law, administration, or human dimensions from departmental list (Sem: 5-8)

REQUIRMENTS FOR THE OPTION: 18-23 credits

FISHERIES OPTION: (22-23 credits)

PRESCRIBED COURSES (10 credits)
W F S 452(2), W F S 453(2) (Sem: 5-6)
W F S 410(3), W F S 463W(3) (Sem: 5-8)

ADDITIONAL COURSES (12-13 credits)
BIOL 141 GN(3), BIOL 142(1); or BIOL 446(3), or AN SC 201(4) (Sem: 5-6)
W F S 407(3), W F S 408(3), or W F S 447W(3) (Sem: 5-8)
ENT 425(3), FOR 470(3), W F S 422(3);W F S 435(3)/E R M 435(3) (Sem: 5-8)
GEOG 160 GS(3), GEOG 363(3), GEOSC 303(3), GEOSC 340(3), GEOSC 412(3), GEOSC 440(3), or GEOSC 452(3) (Sem: 7-8)

WILDLIFE OPTION: (18-19 credits)

PRESCRIBED COURSES (12 credits)
FOR 203(3) (Sem: 3-4)
W F S 407(3), W F S 408(3) (Sem: 5-6)
W F S 447W(3) (Sem: 7-8)

ADDITIONAL COURSES (6-7 credits)
W F S 406(1) or W F S 409(1) (Sem: 5-6)
W F S 410(3), W F S 422(3), W F S 452(2), W F S 453(2), or W F S 463W(3) (Sem: 5-8)
BIOL 414(3), FOR 308(3), HORT 101 GN(3), HORT 138(3), or HORT 445(3) (Sem: 7-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-004

Review Date: 1/15/08

UCA Revision #1: 8/14/06

AG

Women's Studies

University Park, College of the Liberal Arts (WS BA)

PROFESSOR LORRAINE DOWLER, *Director*

This interdisciplinary major is designed to develop a broad understanding of the study of women and women's perspectives in all areas of academic scholarship. The focus is on feminist analyses of women's lives, of women's social, cultural, and scientific contributions, and of the structure of sex/gender systems. The interdisciplinary and inclusive nature of the field is reflected in a curricular structure that includes courses cross-listed with a wide variety of departments, courses that deal with aspects of women's lives throughout history, and courses that recognize the diversities of culture, race, religion, ethnicity, age, disability, and sexual orientation.

For the B.A. degree in Women's Studies, a minimum of 123 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 18 credits

BACHELOR OF ARTS DEGREE REQUIREMENTS: 24 credits
(3 of these 24 credits are included in the REQUIREMENTS FOR THE MAJOR, GENERAL EDUCATION, or ELECTIVES and 0-12 credits are included in ELECTIVES if foreign language proficiency is demonstrated by examination.)
(See description of Bachelor of Arts Degree Requirements in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 36 credits**[1]**

PRESCRIBED COURSE (6 credits)
WMNST 301(3) (Sem: 1-4)
WMNST 492W(3) (Sem: 7-8)

ADDITIONAL COURSES (9 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL(3) (Sem: 1-4)
WMNST 400 US;IL(3) or WMNST 401(3) (Sem: 3-7)
WMNST 494(3), WMNST 495(3), or WMNST 496(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 21 credits in Women's Studies from the program-approved list and in consultation with an adviser; at least 6 credits must be at the 400 level (Sem: 1-8):
a. 6 credits of arts and humanities courses
b. 6 credits of natural or social sciences courses
c. at least 3 credits that focus on non-Western women
d. at least 3 credits that focus on women of color in the United States

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008

Review Date: 4/16/04

LA

Women's Studies

University Park, College of the Liberal Arts (WS BS)

PROFESSOR LORRAINE DOWLER, *Director*

This interdisciplinary major is designed to develop a broad understanding of the study of women and women's perspectives in all areas of academic scholarship. The focus is on feminist analyses of women's lives, of women's social, cultural, and scientific contributions, and of the structure of sex/gender systems. The interdisciplinary and inclusive nature of the field is reflected in a curricular structure that includes courses cross-listed with a wide variety of departments, courses that deal with aspects of women's lives throughout history, and courses that recognize the diversities of culture, race, religion, ethnicity, age, disability, and sexual orientation.

Students may choose either a Bachelor of Arts or a Bachelor of Science Program. The B.A. degree in Women’s Studies is a traditional Women’s Studies degree. The B.S. degree is intended for students with strong interest in quantitative skills, women’s health and sexuality, and/or women and science, or who wish to pursue a multiple major program with other B.S. degree programs.

For the B.S. degree in Women's Studies, a minimum of 120 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 21-30 credits

REQUIREMENTS FOR THE MAJOR: 57 credits**[1]**
(This includes 3-12 credits of General Education courses: 3-6 credits of GQ courses, 0-3 credits of GH courses, and 0-3 credits of GS courses.)

PRESCRIBED COURSES (6 credits)
WMNST 301(3) (Sem: 1-4)
WMNST 492W(3) (Sem: 7-8)

ADDITIONAL COURSES (36 credits)
Select 3 credits from WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL(3) (Sem: 1-4)
Select 3 credits from WMNST 400 US;IL(3) or WMNST 401(3) (Sem: 5-8)
Select 3 credits from WMNST 494(3), WMNST 495(3), or WMNST 496(3) (Sem: 5-8)
Select 27 credits in Women's Studies from the program-approved lists. At least 9 credits must be at the 400 level. The same course may be used to fulfill more than one requirement within Additional Courses. (Sem: 1-8).
a. 6 credits of arts and humanities courses: WMNST 003 GH(3), WMNST 083S GH(3), WMNST 101 GH(3), WMNST 102 GH(3), WMNST 104(3), WMNST 117 GH(3), WMNST 137 GH;US;IL(3), WMNST 194 GH(3), WMNST 407(3), WMNST 419 US;IL(3), WMNST 421 IL(3), WMNST 438(3), WMNST 457(3), WMNST 462(3), WMNST 466(3), WMNST 490(3) (Sem: 1-8)
b. 9 credits of natural or social sciences courses: WMNST 001 GS(3), WMNST 005(3), WMNST 103(3), WMNST 110 GS(3), WMNST 116 GS(3), WMNST 136 GS(3), WMNST 202 GS(3), WMNST 205(3), WMNST 410(3), WMNST 412(3), WMNST 415W(3), WMNST 420(3), WMNST 423(3), WMNST 424 US(3), WMNST 428(3), WMNST 452(3), WMNST 453(3), WMNST 455(3), WMNST 456(3), WMNST 458(3), WMNST 471(3), WMNST 476W(3) (Sem: 1-8)
c. at least 6 credits that focus on women’s health and sexuality or women in science and technology: WMNST 005(3), WMNST 205(3), WMNST 452(3), WMNST 457(3), WMNST 458(3) (Sem: 1-8)
d. at least 3 credits that focus on non-Western women: WMNST 102 GH(3), WMNST 202 GS(3), WMNST 420(3), WMNST 476W(3) (Sem: 1-8)
e. at least 3 credits that focus on women of color in the United States: WMNST 101 GH(3), WMNST 103(3), WMNST 136 GS(3), WMNST 205(3), WMNST 410(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits total from groups a, b, and c, with at least 3 credits from each group.
a. Quantification (GQ) and Research Methods (Sem: 1-8)
b. Values, Ethics, and Scientific Inquiry (Sem: 1-8)
c. Social and behavioral sciences, health sciences, or natural sciences (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2004

Blue Sheet Item #: 32-01-081

Review Date: 9/2/03

Wood Products

University Park, College of Agricultural Sciences (W P)

JAMIE MURPHY, *Instructor, Program Coordinator*

The primary purpose of this major is to help prepare students for careers in wood products industry. Students can choose from two options: Wood Products Business and Marketing and Wood Products Processing and Manufacturing. The options are designed to give the student flexibility for a science or business/marketing emphasis supported by a general education in communication, natural science, social science and humanities, and quantification.

Proper selection in elective courses enables the student to be prepared for employment in various aspects of wood products business management or marketing, process and product quality control, or research and development. The wide scope of the wood industry--from harvesting to the use of wood, fiber, and chemical products--presents a broad spectrum of employment opportunities. Within the employment spectrum are jobs related to roundwood processing to lumber and plywood, drying and protection of wood and fiber products, adhesives and coatings, reconstituted wood composites, paper manufacture, board products, and construction and housing.

For the B.S. degree in Wood Products, a minimum of 125 credits is required. Students should be aware that completion of the Wood Products degree in four years is difficult if they are not at the University Park campus beginning the fall semester of the sophomore year.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(12-19 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 2-6 credits

REQUIREMENTS FOR THE MAJOR: 86-97 credits
(For the Business and Marketing option this includes 12 credits of General Education courses: 3 credits of GWS courses; 3 credits of GS courses; 6 credits of GQ courses. For the Processing and Manufacturing option this includes 19 credits of General Education courses: 3 credits of GWS courses, 3 credits of GS courses, 6 credits of GQ courses, and 7 credits of GN courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 41-43 credits

PRESCRIBED COURSES (26 credits)
MATH 110 GQ(4), MATH 111 GQ(2) (Sem: 1-4)
FOR 203(3)**[1]**, W P 200W(3)**[1]**, W P 411(4) (Sem: 3-4)
W P 203(1)**[1]** (Sem: 3-6)
W P 417(4)**[1]**, W P 437W(4)**[1]**, W P 490(1)**[1]** (Sem: 5-8)

ADDITIONAL COURSES (15-17 credits)
Select 3-4 credits from CMPSC 101 GQ(3), CMPSC 103 GQ(4), CMPSC 201 GQ(3), CMPSC 202 GQ(3), or CMPSC 203 GQ(4) (Sem: 3-4)
Select 3-4 credits of STAT 200 GQ(4), STAT 240 GQ(3), STAT 250 GQ(3), or STAT 301 GQ(3) (Sem: 3-6)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 3-6)
CAS 211(3) or ENGL 215(3) (Sem: 3-6)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3) (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 45-54 credits

WOOD PRODUCTS BUSINESS AND MARKETING OPTION: (45-47 credits)

PRESCRIBED COURSES (8 credits)
W P 400(2), W P 416(3), W P 435(3) (Sem: 5-8)

ADDITIONAL COURSES (24 credits)
Select 24 credits from ACCTG 211(4); AG BM 101 GS(3) or ECON 002 GS(3); B A 250(3), B LAW 243(3), ECON 004 GS(3); ECON 315 GS(3) or LER 100 GS(3); FIN 100(3), I B 303 IL(3) or ECON 333 GS(3); I E 302(3), MGMT 100(3), MKTG 221(3), PSYCH 100 GS(3), SCM 301(3), any GQ B A course or CMPSC 203 GQ(4), or any additional W P course (2-3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (13-15 credits)
Select 13-15 credits in consultation with adviser from department list.
(Students may apply 3 credits of ROTC.)

WOOD PRODUCTS PROCESSING AND MANUFACTURING OPTION: (52-54 credits)

PRESCRIBED COURSES (21 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3) (Sem: 1-4)
W P 337(2), W P 412(3), W P 413(3), W P 418(4), W P 423(2) (Sem: 5-8)

ADDITIONAL COURSES (17-19 credits)
Select 17-19 credits from BIOL, BI SC (GN), PHYS (GN) biochemistry or organic chemistry, and any additional W P courses (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (14 credits)
Select 14 credits in consultation with adviser from department list.
(Students may apply 3 credits of ROTC.) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-005

Review Date: 1/15/08

UCA Revision #1: 8/14/06
UCA Revision #2: 7/30/07

AG

Workforce Education and Development

University Park, College of Education (WF ED)

PROFESSOR RICHARD A. WALTER, *in charge*

This major leads to the B.S. degree and may also lead to certification as a career and technical education teacher, and/or a coordinator of cooperative education, provided other requirements of the Pennsylvania Department of Education are met. The Industrial Training option does not lead to teacher certification.

To be certified by the Pennsylvania Department of Education as a career and technical education teacher, a person must have sufficient employment experience beyond the learning period to establish competency in the occupation to be taught. Further interpretation of this requirement may be secured by contacting the Department of Adult Education, Instructional Systems, and Workforce Education and Development. (See also Teacher Education Programs.)

Baccalaureate degree candidates must meet the following requirements by the end of their fourth semester to be admitted to the Workforce Education (WF ED) major:

1. Complete ECON 002 GS(3) or ECON 004 GS(3); EDPSY 014(3), EDTHP 115(3), ENGL 015 GWS(3) or ENGL 030 GWS(3), WF ED 101(1)
2. Complete 3 credits in literature (GH)
3. Complete 6 credits in Quantification (GQ)
4. Minimum 3.00 cumulative GPA
5. Meet PRAXIS PPST-READING current qualifying scores
6. Meet PRAXIS PPST-WRITING current qualifying scores
7. Meet PRAXIS PPST-MATHEMATICS current qualifying scores
8. Complete and document a minimum of 80 hours of experience

For the B.S. degree in Workforce Education and Development, a minimum of 124 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(3 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 0-1 credits

REQUIREMENTS FOR THE MAJOR: 81-82 credits
(This includes 3 credits of General Education GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 38 credits**[18]**

PRESCRIBED COURSES (35 credits)
ECON 002 GS(3) or ECON 004 GS(3); EDPSY 014(3), EDTHP 115(3), WF ED 001(3), WF ED 101(1), WF ED 105(3), WF ED 323(3) (Sem: 3-6)
WF ED 445(3) (Sem: 3-8)
WF ED 106(3), WF ED 207W(3), WF ED 413(3), WF ED 441(2) (Sem: 5-8)
WF ED 442(2) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
WF ED 450 US;IL(3), INSYS 100 GS;IL(3), or S T S 245 GS;IL(3) (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 43-44 credits

HEALTH OCCUPATIONS EDUCATION OPTION: (43 credits)**[18]**

PRESCRIBED COURSES (34 credits)
WF ED 395C(24) (Sem: 5-8)
WF ED 495C(10) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in course work related to the student's field of study (Sem: 3-8)
(Students may apply 6 credits of ROTC.)

INDUSTRIAL EDUCATION OPTION: (43 credits)**[18]**

PRESCRIBED COURSES (34 credits)
WF ED 395A(24) (Sem: 5-8)
WF ED 495C(10) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of course work related to the student's field of study (Sem: 3-8)
(Students may apply 6 credits of ROTC.)

INDUSTRIAL TRAINING OPTION: (44 credits)**[18]**

PRESCRIBED COURSES (35 credits)
WF ED 270(3) (Sem: 3-6)
WF ED 471(3) (Sem: 5-6)
WF ED 395D(24) (Sem: 5-8)
WF ED 495D(5) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in course work related to the student's field of study (Sem: 3-8)
(Students may apply 6 credits of ROTC.)

OCCUPATIONAL HOME ECONOMICS EDUCATION OPTION: (43 credits)**[18]**

PRESCRIBED COURSES (34 credits)
WF ED 395B(24) (Sem: 5-8)
WF ED 495C(10) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits in course work related to the student's field of study (Sem: 3-8)

[18] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-013

Review Date: 1/13/09

ED

World Languages (K-12) Education

University Park, College of Education (WL ED)

PROFESSOR MATTHEW POHNER, *in charge*

The World Languages Education major helps prepare students for kindergarten through high school teaching positions and for other employment in fields related to their content language areas.

The following teaching options are available for majors in World Languages Education: Bilingual Education, English as a Second Language, French, German, Latin, Russian, and Spanish. Pennsylvania does not issue a teacher certificate in Bilingual Education; many other states do. Completers of the English as a Second Language (ESL) option may qualify for the Pennsylvania Program Specialist: ESL credential if they hold a Pennsylvania teacher certificate.

BILINGUAL EDUCATION TEACHING OPTION: Although Pennsylvania does not issue a teacher certificate in Bilingual Education, other states do. Thus, completion of this option as well as any tests or requirements stipulated by the pertinent state department of education (other than Pennsylvania) should lead to a teacher certificate in Bilingual Education. In addition to the Common Requirements of the World Languages Education major, candidates select one of the language emphases, i.e., French, German, Latin, Russian, or Spanish, complete the courses associated with that emphasis and also the Common Requirements for all Emphases. Consequently, candidates also become eligible for teacher certification in the language selected as their language emphasis. Further, completers of this B.S. degree and option may also become eligible for the English as a Second Language (ESL) credential by completing six additional credits, i.e., APLNG 410 or APLNG 484, and APLNG 493.

Candidates are expected to have taken their choice of language coursework beyond the intermediate level to be eligible for enrollment in FR 201, or GER 201, or LATIN 400, or RUS 204, or SPAN 200. In general, students are encouraged to take at least one course in the chosen language each semester without interruption. Participation in an approved Education Abroad Study Program is required, typically during semester six.

ENGLISH AS A SECOND LANGUAGE (ESL) TEACHING OPTION: This option will lead to a baccalaureate degree only in conjunction with one of the other companion World Language Education Teaching options.

The ESL Teaching option is a joint offering of the Department of Curriculum and Instruction in the College of Education and the Department of Linguistics and Applied Language Studies in the College of the Liberal Arts. Dr. Youb Kim, Assistant Professor of Education and Applied Linguistics, and Joan Kelly Hall, Professor of Linguistics and Applied Linguistics, are co-directors of the program.

This option prepares candidates for advanced work in ESL and for the Pennsylvania teacher credential Program Specialist: English as a Second Language (ESL). However, the Pennsylvania Department of Education only issues the Program Specialist: ESL credential to holders of Pennsylvania Instructional I or II certificates. Thus, completers of another World Languages Education Teaching option may first seek the Pennsylvania Instructional certificate in that language and may then add the Program Specialist: ESL credential, subsequently.

FRENCH TEACHING OPTION: Completion of this option and pertinent tests required by the Pennsylvania Department of Education lead to the Pennsylvania Instructional I teacher certificate in French. Candidates are expected to have taken French coursework beyond the intermediate level to be eligible for enrollment in FR 201. In general, students are encouraged to take at least one course in French each semester without interruption. Participation in an approved Education Abroad Study Program is required, typically during semester six.

GERMAN TEACHING OPTION: Completion of this option and pertinent tests required by the Pennsylvania Department of Education lead to the Pennsylvania Instructional I teacher certificate in German. Candidates are expected to have taken German coursework beyond the intermediate level to be eligible for enrollment in GER 201. In general, students are encouraged to take at least one course in German each semester without interruption. Participation in an approved Education Abroad Study Program is required, typically during semester six.

LATIN TEACHING OPTION: Completion of this option and pertinent tests required by the Pennsylvania Department of Education lead to the Pennsylvania Instructional I teacher certificate in Latin. Candidates are expected to have taken Latin coursework beyond the intermediate level to be eligible for enrollment in LATIN 400. In general, students are encouraged to take at least one course in Latin each semester without interruption. Participation in an approved Education Abroad Study Program is highly recommended, typically during semester six.

RUSSIAN TEACHING OPTION: Completion of this option and pertinent tests required by the Pennsylvania Department of Education lead to the Pennsylvania Instructional I teacher certificate in Russian. Candidates are expected to have taken Russian coursework beyond the intermediate level to be eligible for enrollment in RUS 204. In general, students are encouraged to take at least one course in Russian each semester without interruption. Participation in an approved Education Abroad Study Program is required, typically during semester six.

SPANISH TEACHING OPTION: Completion of this option and pertinent tests required by the Pennsylvania Department of Education lead to the Pennsylvania Instructional I teacher certificate in Spanish. Candidates are expected to have taken Spanish coursework beyond the intermediate level to be eligible for enrollment in SPAN 110. In general, students are encouraged to take at least one course in Spanish each semester without interruption. Participation in an approved Education Abroad Study Program is required, typically during semester six.

Baccalaureate degree candidates must meet the following requirements 1-3 by the end of their third semester:
1. A minimum cumulative grade point average of 3.00
2. Qualifying scores from the PRAXIS I - PPST for Reading, Writing and Mathematics

3. Documentation of at least 80 hours of volunteer or paid education work experience with learners of the age group the candidate plans to teach. Candidates for World Languages Education must document 40 of these hours with learners who come from backgrounds that are different from the candidate's.

Requirements 4-9 must be met by the end of the fourth semester when students typically participate in the Entrance to Major process.

4. A grade of "C" or better in all specified courses.
5.Completion of an early field experience specified by the certification program.
6. Completion of a core of Education courses specified by the certification program.
7. Completion of additional credits as specified by the certification program.
8. Completion of at least 48 semester credit hours, including ENGL 015 GWS(3)or ENGL 030 GWS(3), three credits of literature, and six credits of quantification
9. Language proficiency as described below.
10. Approval from the professional education adviser or the head of the pertinent certification program.

French Option:
Proficiency equivalent through FR 003
Literature selection options in language: FR 351 or 352
FR 201 and 202

Spanish Option:
Proficiency equivalent through SPAN 003
Literature selection options in language: SPAN 210, 220, or 253
SPAN 215

German Option:
Proficiency equivalent through GER 003
Literature selection options in language: GER 310
GER 201

Russian Option:
Proficiency equivalent through: RUS 003
Literature selection options in language: RUS 304
RUS 204

Latin Option:
Proficiency equivalent through: LATIN 003
Literature selection options in language: CAMS 045, LATIN 404

For the B.S. degree in World Languages Education with a dual certification option in *Bilingual Education Teaching*, a minimum of 140 credits is required; with an option in *English as a Second Language (ESL) Teaching*, a minimum of 136 credits is required, i.e., a minimum of 123 credits for the companion World Languages Education Teaching option selected, plus 12 credits to meet eligibility for the Program Specialist: ESL credential; with an option in *French Teaching*, a minimum of 128 credits is required; with an option in *German Teaching*, a minimum of 126 credits is required; with an option in *Latin Teaching*, a minimum of 125 credits is required; with an option in *Russian Teaching*, a minimum of 124 credits is required; with an option in *Spanish Teaching*, a minimum of 128 credits is required. (See also Teacher Education Programs.)

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits
(9-12 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:
(Included in ELECTIVES or GENERAL EDUCATION course selection)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in ELECTIVES, GENERAL EDUCATION course selection, or REQUIREMENTS FOR THE MAJOR)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 88-106 credits
(This includes 9-12 credits of General Education GS and GH courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 55 credits **[18]**

PRESCRIBED COURSES (52 credits)
EDPSY 014(3), EDTHP 115(3), HD FS 229 GS(3), C I 295(3), WL ED 300(3) (Sem: 1-4)
C I 280 GH(3), C I 495E(15), SPLED 400(4), SPLED 403B(3), WL ED 411(3), WL ED 412W(3), WL ED 495B(3), WL ED 495C(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
PSYCH 412(3) or HD FS 239 GS(3) (Sem: 3-6)

REQUIREMENTS FOR THE OPTION: 33-51 credits

BILINGUAL EDUCATION TEACHING OPTION: (48-51 credits)

PRESCRIBED COURSES (9 credits)
WL ED 414(3), WL ED 422(3), WL ED 444(3) (Sem 5-7)

ADDITIONAL COURSES (39-42 credits)
Select 6 credits of 300- or 400-level option-related courses, with departmental recommendation (Sem: 5-7)
Select 33-36 credits from one of the following emphases areas (proficiency in the language of choice must be demonstrated by either examination or coursework equivalent to the completion of 12 credits in order to enroll in FR 201 or GER 201 or LATIN 400 or RUS 204 or SPAN 110):

a. French Emphasis (36 credits)
Prescribed Courses (24 credits)
FR 201 IL(3), FR 202(3), FR 331(3), FR 332(3) (Sem: 3-5)
FR 316(3), FR 401(3), FR 402Y(3), FR 440(3) (Sem: 5-8)
Additional Courses (12 credits)
Select 3 credits from FR 137 GH;IL(3), FR 138 GH(3), FR 139 GH;IL(3) (Sem: 1-4)
Select 3 credits from FR 351(3), FR 352(3), FR 460(3) (Sem: 4-7)
Select 3 credits from FR 417(3), FR 418(3) (Sem: 4-7)
Select 3 credits from FR 430(3), FR 458 IL(3), FR 470 IL(3), FR 471 IL(3), FR 489(3) (Sem: 5-7)

b. German Emphasis (34 credits)
Prescribed Courses (19 credits)
GER 201 IL(4), GER 301 IL(3), GER 310 IL(3), GER 344 IL(3), GER 401Y IL(3), GER 411(3) (Sem: 3-7)
Additional Courses (15 credits)
Select 3 credits from GER 157 GH;US(3), GER 200 GH;IL(3) (Sem: 1-4)
Select 3 credits from GER 412 IL(3), GER 430 IL(3) (Sem: 4-6)
Select 3 credits from GER 431 IL(3), GER 432 IL(3) (Sem: 4-6)
Select 3 credits from GER 480 IL(3), GER 481 IL(3), GER 482 IL(3) (Sem: 4-6)
Select 3 credits from GER 399 IL(3), GER 440 IL(3), GER 482 IL(3), GER 497(1-9), GER 499 IL(3) (Sem: 5-8)

c. Latin Emphasis (33 credits)
Prescribed Courses (24 credits)
CAMS 005 GH;IL(3), CAMS 050 GH(3), CAMS 400W(3), LATIN 404(3), LING 102 GH(3) (Sem: 3-5)
LATIN 402(3), LATIN 403(3), LATIN 450W(3) (Sem: 5-8)
Additonal Courses (9 credits)
Select 3 credits from ANTH 045 GS;US;IL(3), CAMS 033 GH;IL(3), CAMS 045 GH;IL(3) (Sem: 1-4)
Select 3 credits from CAMS 101 GH;IL(3), CAMS 150 GH;IL(3) (Sem 3-5)
Select 3 credits from CAMS 440W(3), CAMS 497(1-9), LATIN 400(3), LATIN 420(3), LATIN 497(1-9) (Sem: 5-8)

d. Russian Emphasis (35 credits)
Prescribed Courses (23 credits)
RUS 204 IL(4), RUS 214 IL(4) (Sem: 3-5)
RUS 304 IL(3), RUS 305 IL(3), RUS 400 IL(3), RUS 412 IL(3), RUS 450 IL(3) (Sem: 5-8)
Additional Courses (12 credits)
Select 3 credits from RUS 100 GH;IL(3), RUS 110 GH;IL(3), RUS 120 GH;IL(3) (Sem: 1-4)
Select 3 credits from RUS 130 IL(3), RUS 141Y(3), RUS 142Y(3), RUS 143 GH;IL(3) (Sem: 1-4)
Select 3 credits from RUS 450 IL(3), RUS 497(1-9) (Sem: 1-4)
Select 3 credits from RUS 426 IL(3), RUS 427 IL(3), RUS 494(3), RUS 497(1-9), RUS 499 IL(3) (Sem: 5-8)

e. Spanish Emphasis (33 credits)
Prescribed Courses (21 credits)
SPAN 110(3), SPAN 215(3), SPAN 253W(3), (Sem: 3-5)
SPAN 410(3), SPAN 412(3), SPAN 414(3), SPAN 440(3) (Sem: 5-8)
Additional Courses (12 credits)
Select 3 credits from SPAN 210(3), SPAN 220(3) (Sem: 1-4)
Select 3 credits from SPAN 415(3), SPAN 418(3) (Sem: 5-8)
Select 3 credits from SPAN 305(3), SPAN 353(3), SPAN 354(3), SPAN 355(3), SPAN 356(3), SPAN 399 IL(3) (Sem: 4-6)
Select 3 credits from SPAN 399 IL(3), SPAN 472(3), SPAN 476(3), SPAN 490(3), SPAN 491(3), SPAN 497(1-9) (Sem: 5-8)

ENGLISH AS A SECOND LANGUAGE (ESL) TEACHING OPTION: (45-49 credits)
Select 33-37 credits: This option must be taken in conjunction with one of the other World Languages Education Teaching Options.

PRESCRIBED COURSES (9 credits)
APLNG 493(3), WL ED 444(3), WL ED 483(3) (Sem: 4-7)

ADDITIONAL COURSES (3 credits)
APLNG 410(3) or APLNG 484(3) (Sem: 5-7)

Holders of a baccalaureate degree and a valid Pennsylvania Instructional certificate, who seek only the Program Specialist: English as a Second Language credential, must complete the 15 credits of Prescribed and Additional Courses listed below. Typically, they do so in connection with other post-baccalaureate studies.

PRESCRIBED COURSES (12 credits)
APLNG 493 IL(3), WL ED 300(3), WL ED 444(3), WL ED 483(3) (Sem: 4-7)

ADDITIONAL COURSES (3 credits)

APLNG 410(3) or APLNG 484(3) (Sem: 5-7)

FRENCH TEACHING OPTION: (36 credits)

PRESCRIBED COURSES (24 credits)
(Proficiency in French must be demonstrated by either examination or coursework equivalent to the completion of 12 credits in order to enroll in FR 201.)
FR 201 IL(3), FR 202 IL(3), FR 331 IL(3), FR 332 IL(3) (Sem: 3-5)
FR 316(3), FR 401 IL(3), FR 402Y IL(3), FR 440 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
FR 137 GH;IL(3) or FR 138 GH(3) or FR 139 GH;IL(3) (Sem: 1-4)
FR 351 IL(3) or FR 352 IL(3) or FR 460 IL(3); FR 417 IL(3) or FR 418 IL(3) (Sem: 4-6)
Select 3 credits from FR 430 IL(3), FR 458 IL(3), FR 470 IL(3), FR 471 IL(3), FR 489 IL(3) (Sem: 6-7)

GERMAN TEACHING OPTION: (34 credits)

PRESCRIBED COURSES (19 credits)
(Proficiency in German must be demonstrated by either examination or coursework equivalent to the completion of 12 credits in order to enroll in GER 201.)
GER 201 IL(4), GER 301 IL(3), GER 310 IL(3), GER 344 IL(3) (Sem: 3-5)
GER 401Y IL(3), GER 411(3) (Sem: 4-7)

ADDITIONAL COURSES (15 credits)
GER 157 GH;US(3) or GER 200 GH;IL(3) (Sem: 1-4)
GER 412 IL(3) or GER 430 IL(3); GER 431 IL(3) or GER 432 IL(3); GER 480 IL(3) or GER 481 IL(3) or GER 482 IL(3) (Sem: 4-6)
Select 3 credits from GER 399 IL(3), GER 440 IL(3), GER 482 IL(3), GER 497(1-9), GER 499 IL(3) (Sem: 5-8)

LATIN TEACHING OPTION: (33 credits)

PRESCRIBED COURSES (24 credits)
(Proficiency in Latin must be demonstrated by either examination or coursework equivalent to the completion of 12 credits in order to enroll in LATIN 400 or other 400-level Latin courses.)
CAMS 050 GH(3), CAMS 400W(3), LATIN 404(3), LING 102 GH(3) (Sem: 3-5)
CAMS 005 GH;IL(3), LATIN 402(3), LATIN 403(3), LATIN 450W(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
CAMS 033 GH;IL(3) or CAMS 045 GH;IL(3) (Sem: 1-4)
CAMS 101 GH(3) or CAMS 150 GH;IL(3) (Sem 3-5)
Select 3 credits from CAMS 440W(3), CAMS 497(1-9), LATIN 400(3), LATIN 420(3), LATIN 497(1-9) (Sem: 5-8)

RUSSIAN TEACHING OPTION: (35 credits)

PRESCRIBED COURSES (23 credits)
(Proficiency in Russian must be demonstrated by either examination or coursework equivalent to the completion of 12 credits in order to enroll in RUS 204.)
RUS 204 IL(4), RUS 214 IL(4), RUS 304 IL(3), RUS 305 IL(3) (Sem: 3-5)
RUS 400 IL(3), RUS 412 IL(3), RUS 450 IL(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
RUS 100 GH;IL(3) or RUS 110 GH;IL(3) or RUS 120 GH;IL(3); RUS 130 IL(3) or RUS 141Y(3) or RUS 142Y(3) or RUS 143 GH;IL(3) (Sem: 1-4)
Select 3 credits from RUS 450 IL(3) or RUS 497(1-9) (Sem: 4-6)
Select 3 credits from RUS 426 IL(3), RUS 427 IL(3), RUS 494(3), RUS 497(1-9), RUS 499 IL(3) (Sem: 6-8)

SPANISH TEACHING OPTION: (33 credits)

PRESCRIBED COURSES (21 credits)
(Proficiency in Spanish must be demonstrated by either examination or coursework equivalent to enroll in SPAN 110.)
SPAN 110(3), SPAN 215(3), SPAN 253W(3) (Sem: 3-5)
SPAN 410(3), SPAN 412(3), SPAN 414(3), SPAN 440(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
SPAN 210(3) or SPAN 220(3) (Sem: 1-4)
SPAN 415(3) or SPAN 418(3) (Sem: 5-8)
Select 3 credits from SPAN 305(3), SPAN 353(3), SPAN 354(3), SPAN 355(3), SPAN 356(3), SPAN 399 IL(3) (Sem: 4-6)
Select 3 credits from SPAN 399 IL(3), SPAN 472(3), SPAN 476(3), SPAN 490(3), SPAN 491(3), SPAN 497(1-9) (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[18] A grade of C or better per course is required for teacher certification.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-035

Review Date: 4/14/09

UCA Revision #1: 9/1/06

ED

Associate Degree Programs

Majors that lead to two-year associate degrees are available at most of Penn State's undergraduate locations. These majors provide concentrated instruction to prepare graduates for specialized occupational assignments, except for the Letters, Arts, and Sciences major, which provides graduates with a general education and some specialization in their fields of interest.

More than twenty associate degree majors lead to either the Associate in Arts degree, the Associate in Engineering Technology degree, or the Associate in Science degree.

In addition, check out Penn State's World Campus for available two-year degrees at www.worldcampus.psu.edu.

Concurrent and Sequential Majors Programs--At the baccalaureate or associate degree level, students may be approved for admission to more than one major under the Concurrent Majors program. A Concurrent Majors program is one in which students take courses to concurrently meet the requirements of at least two majors, with graduation for all majors in the program occurring during the same semester. Concurrent majors must all be at the baccalaureate or associate degree level. Under the Sequential Majors program, upon graduation from an associate or baccalaureate degree program, a student may apply for re-enrollment in another undergraduate degree program.

Agricultural Business

Berks College
University Park, College of Agricultural Sciences (2 AGB)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR JANELLE B. LARSON, *in charge, Berks College*
PROFESSOR JAMES W. DUNN, *Program Coordinator, College of Agricultural Sciences, Penn State University Park*

The Agricultural Business major helps prepare students for employment in commercial agriculture and businesses serving agriculture. Five options allow students to specialize in either Crop or Animal Production, Food Technology, Horticulture, or General Agribusiness Management, which provides training in management, business organization, and marketing.

The first two semesters are offered at selected locations, where students fulfill basic course requirements in accounting, business, English, and natural and social sciences. The second year at the University Park campus provides course work in livestock and crop production, food technology, horticulture, management, and agribusiness. Each option allows the student a choice of courses to satisfy special interests and needs. The Food Technology and Horticulture options can be completed at both University Park and at Penn State Berks, although some course substitutions may be necessary, as not all courses listed below are offered at both campuses.

For the Associate in Science degree in Agricultural Business, a minimum of 63 credits is required depending on the option chosen.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR. Requirements for certain options also will fulfill other general education requirements.)
(See description of General Education in this bulletin.)

ELECTIVES: 3-5 credits

REQUIREMENTS FOR THE MAJOR: 45-48 credits
(This includes 9 credits of General Education courses: 6 credits of GWS courses; 3 credits of GS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 16 credits

PRESCRIBED COURSES (13 credits)
ENGL 015 GWS(3), CAS 100 GWS(3), ACCTG 211(4), AG BM 101 GS(3)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
AG BM 200(3)**[1]** or MGMT 301(3)**[1]** (Sem: 1-2)

REQUIREMENTS FOR THE OPTION: 29-32 credits

ANIMAL PRODUCTION OPTION: (31-32 credits)

PRESCRIBED COURSES (13 credits)
AGRO 028(3), AN SC 201(4)**[1]**, A S M 101(3), SOILS 101 GN(3) (Sem: 1-4)

ADDITIONAL COURSES (6-7 credits)
B A 243(4) or B LAW 243(3) or AG 301W(3) or B A 241(2) and B A 242(2) (Sem: 3-4)
AG BM 102(3) or AG BM 220(3) or MKTG 220(3) or MKTG 221(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in animal science from AN SC 100(3), AN SC 207(2), AN SC 208(1), AN SC 301(3), AN SC 305(3), AN SC 306(3), AN SC 308(4), AN SC 309(4), AN SC 310(3), AN SC 311(4), AN SC 322(3), AN SC 324(3), and AN SC 327(3) (Note: some courses may have biology and/or chemistry prerequisites.) (Sem: 3-4)

CROP PRODUCTION OPTION: (30-31 credits)

PRESCRIBED COURSES (12 credits)
A S M 101(3), AGRO 028(3)**[1]**, ENT 313(2) and ENT 316(1), SOILS 101 GN(3) (Sem: 3-4)

ADDITIONAL COURSES (6-7 credits)
B A 243(4) or B LAW 243(3) or AG 301W(3) or B A 241(2) and B A 242(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from agronomy, agroecosystems science, horticulture or turfgrass science. (Note: some may have biology and/or chemistry or other prerequisites.) (Sem: 3-4)

FOOD OPTION: (29-30 credits)
(Note: some courses may have biology and/or chemistry prerequisites.)

PRESCRIBED COURSES (23 credits)
CHEM 110 GN(3), CHEM 111 GN(1), MICRB 106 GN(3), MICRB 107 GN(1), FD SC 200(3)**[1]**, FD SC 201(1), FD SC 205(3), FD SC 206(3), MIS 204(2), NUTR 251 GHA(3) (Sem: 1-4)

ADDITIONAL COURSES (6-7 credits)

AG BM 102(3) or AG BM 220(3) or MKTG 220(3) or MKTG 221(3) (Sem: 3-4)
B A 243(4) or B LAW 243(3) or AG 301W(3) or B A 241(2) and B A 242(2) (Sem: 3-4)

GENERAL OPTION: (30-31 credits)

PRESCRIBED COURSES (15 credits)
AG BM 102(3), AG BM 106(3), AGRO 028(3), SOILS 101 GN(3), A S M 101(3) (Sem: 3-4)

ADDITIONAL COURSES (6-7 credits)
B A 243(4) or B LAW 243(3) or AG 301W(3) or B A 241(2) and B A 242(2) (Sem: 3-4)
AG BM 220(3)**[1]** or MKTG 220(3)**[1]**, or MKTG 221(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 6 credits in agribusiness management or business (Sem: 3-4)
Select 3 credits in agronomy, animal science, agroecosystems science, horticulture, or other courses in agriculture. (Sem: 3-4)

HORTICULTURE OPTION: (30-31 credits)

PRESCRIBED COURSES (9 credits)
HORT 101 GN(3)**[1]**, HORT 202(3), SOILS 101 GN(3) (Sem: 1-4)

ADDITIONAL COURSES (9-10 credits)
AG BM 102(3) or AG BM 220(3) or MKTG 220(3) or MKTG 221(3) (Sem: 3-4)
HORT 137(3) or HORT 138(3) (Sem: 3-4)
B A 243(4) or B LAW 243(3) or AG 301W(3) or B A 241(2) and B A 242(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from horticulture, turfgrass science, agribusiness or business. (Note: some may have prerequisites.)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-03-001

Review Date: 6/9/08

UCA Revision #1: 8/2/06

AG

Biomedical Engineering Technology

University College: Penn State New Kensington (2 BET)

PROFESSOR MYRON HARTMAN, *Program Coordinator, Penn State New Kensington*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

The medical community has grown to depend on medical devices and systems to diagnose, treat and monitor patients in health care. These medical devices have become very complex systems, as they are becoming microprocessor controlled, PC based, and networked to share information. Biomedical Equipment Technicians (BETs) are specialized individuals who are educated and trained on the methods of: physiological measurement; equipment application and operation; safety, performance and preventive maintenance testing; calibration; problem solving; and troubleshooting. In addition, BETs may be involved in equipment and technology management programs, selection and installation of medical equipment, manufacturer and FDA recalls of medical devices, quality improvement programs, and training programs for hospital personnel in the safe and proper use of medical equipment. The classroom and laboratory portions of this major focus on electronically and PC based medical devices for patient monitoring and life-support equipment. The student is exposed to a much broader spectrum of medical equipment through a 400-hour (ten-week) practical internship in an approved health care facility.

The major prepares graduates who, during the first few years of professional practice, will be able to:

- Perform preventive maintenance, performance assurance and safety inspections (PMs) on a wide range of medical devices.
- Understand use, application, and operation on a wide range of medical equipment and systems, with normal/abnormal outcomes/measurements.
- Demonstrate a broad knowledge of electrical and electronic engineering technology fundamentals, components and circuits.
- Apply basic mathematical and scientific principals to identify, analyze, and solve technical problems on a wide range of medical equipment and systems.
- Understand use and application of applicable test equipment, simulators and tools required to PM and service medical equipment and systems.
- Awareness, understanding and application of applicable codes, standards, and regulations regarding medical equipment support.
- Perform and assist application design, installation and acceptance testing for medical equipment and systems.
- Work with fellow technicians, clinical professionals, and other related professionals by functioning effectively on committees, teams, and by independent work.
- Properly document actions and follow required procedures, policies, and regulatory requirements.
- Communicate effectively with fellow technicians, clinical professionals, and other related professionals.
- Continue professional development by participating in education and training on medical equipment and systems.
- Participate in quality improvement programs that support medical equipment and systems.
- Participate in recognizing, reporting, and monitoring improvements to medical equipment and the related profession, as required by regulation and on a professional voluntary basis.

This program also articulates with Pennsylvania Department of Education approved Tech Prep programs. Secondary school Tech Prep students who have graduated from a program covered by a signed Penn State Tech Prep Articulation Agreement may be eligible for special admission procedures and/or advanced placement. Students completing the 2 BET degree need only complete several additional courses to obtain the Associate in Engineering Technology degree in Electrical Engineering Technology. Graduates of the program may qualify for admission to the baccalaureate degree major in Electrical Engineering Technology offered at Penn State Harrisburg and at Penn State Erie, The Behrend College and the baccalaureate degree major in Electro-Mechanical Engineering Technology offered at Penn State New Kensington, Altoona, York, and Berks.

For the Associate in Engineering Technology degree in Biomedical Engineering Technology, a minimum of 71 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR) (See description of General Education in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 62 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (56 credits)
BE T 101(1), BE T 201(5)**[1]**, BE T 202(4)**[1]**, BE T 203 (4)**[1]**, BE T 204W(5)**[1]**, BE T 205(3)**[1]**, CAS 100 GWS(3), CHEM 101 GN(3), EET 105(3), CMPET 117(3), CMPET 120(1), ENGL 015 GWS(3), IST 110 GS(3)**[1]**, MATH 022 GQ(3), MATH 026 GQ(3), PHYS 150 GN(3) (Sem: 1)

IST 220(3) (Sem: 2)
RADSC 230(3) (Sem: 3)

ADDITIONAL COURSE (6 credits)
BI SC 004 GN(3) or BIOL 141 GN(3) (Sem: 1)
Select 3 credits from the following technical courses: BE T 210(3), BE T 296(1-18), BE T 297(1-9), BIOL 129 GN(4), CMPSC 101 GQ(3), EDSGN 100(3), CMPE T 211(3), EET 213W(5), EET 297(1-9), EG T 201(2) or MCH T 111(3) (Sem: 1-2)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-016

Review Date: 11/27/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

Comments

EN

Biomedical Engineering Technology

University College: Penn State New Kensington (2 BET)

PROFESSOR MYRON HARTMAN, *Program Coordinator, Penn State New Kensington*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

The medical community has grown to depend on medical devices and systems to diagnose, treat and monitor patients in health care. These medical devices have become very complex systems, as they are becoming microprocessor controlled, PC based, and networked to share information. Biomedical Equipment Technicians (BETs) are specialized individuals who are educated and trained on the methods of: physiological measurement; equipment application and operation; safety, performance and preventive maintenance testing; calibration; problem solving; and troubleshooting. In addition, BETs may be involved in equipment and technology management programs, selection and installation of medical equipment, manufacturer and FDA recalls of medical devices, quality improvement programs, and training programs for hospital personnel in the safe and proper use of medical equipment. The classroom and laboratory portions of this major focus on electronically and PC based medical devices for patient monitoring and life-support equipment. The student is exposed to a much broader spectrum of medical equipment through a 400-hour (ten-week) practical internship in an approved health care facility.

The major prepares graduates who, during the first few years of professional practice, will be able to:

- Perform preventive maintenance, performance assurance and safety inspections (PMs) on a wide range of medical devices.
- Understand use, application, and operation on a wide range of medical equipment and systems, with normal/abnormal outcomes/measurements.
- Demonstrate a broad knowledge of electrical and electronic engineering technology fundamentals, components and circuits.
- Apply basic mathematical and scientific principals to identify, analyze, and solve technical problems on a wide range of medical equipment and systems.
- Understand use and application of applicable test equipment, simulators and tools required to PM and service medical equipment and systems.
- Awareness, understanding and application of applicable codes, standards, and regulations regarding medical equipment support.
- Perform and assist application design, installation and acceptance testing for medical equipment and systems.
- Work with fellow technicians, clinical professionals, and other related professionals by functioning effectively on committees, teams, and by independent work.
- Properly document actions and follow required procedures, policies, and regulatory requirements.
- Communicate effectively with fellow technicians, clinical professionals, and other related professionals.
- Continue professional development by participating in education and training on medical equipment and systems.
- Participate in quality improvement programs that support medical equipment and systems.
- Participate in recognizing, reporting, and monitoring improvements to medical equipment and the related profession, as required by regulation and on a professional voluntary basis.

This program also articulates with Pennsylvania Department of Education approved Tech Prep programs. Secondary school Tech Prep students who have graduated from a program covered by a signed Penn State Tech Prep Articulation Agreement may be eligible for special admission procedures and/or advanced placement. Students completing the 2 BET degree need only complete several additional courses to obtain the Associate in Engineering Technology degree in Electrical Engineering Technology. Graduates of the program may qualify for admission to the baccalaureate degree major in Electrical Engineering Technology offered at Penn State Harrisburg and at Penn State Erie, The Behrend College and the baccalaureate degree major in Electro-Mechanical Engineering Technology offered at Penn State New Kensington, Altoona, York, and Berks.

For the Associate in Engineering Technology degree in Biomedical Engineering Technology, a minimum of 71 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR) (See description of General Education in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 62 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (56 credits)
BE T 101(1), BE T 201(5)**[1]**, BE T 202(4)**[1]**, BE T 203 (4)**[1]**, BE T 204W(5)**[1]**, BE T 205(3)**[1]**, CAS 100 GWS(3), CHEM 101 GN(3), EET 105(3), CMPET 117(3), CMPET 120(1), ENGL 015 GWS(3), IST 110 GS(3)**[1]**, MATH 022 GQ(3), MATH 026 GQ(3), PHYS 150 GN(3) (Sem: 1)

IST 220(3) (Sem: 2)
RADSC 230(3) (Sem: 3)

ADDITIONAL COURSE (6 credits)
BI SC 004 GN(3) or BIOL 141 GN(3) (Sem: 1)
Select 3 credits from the following technical courses: BE T 210(3), BE T 296(1-18), BE T 297(1-9), BIOL 129 GN(4), CMPSC 101 GQ(3), EDSGN 100(3), CMPE T 211(3), EET 213W(5), EET 297(1-9), EG T 201(2) or MCH T 111(3) (Sem: 1-2)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-016

Review Date: 11/27/07

UCA Revision #1: 8/2/06
UCA Revision #2: 7/26/07

Comments

EN

Building Engineering Technology

University College: Penn State Fayette, Penn State Worthington Scranton (2 BLET)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR DAVID MEREDITH, *Program Coordinator, Penn State Fayette*
PROFESSOR TINA MERLI, *Program Coordinator, Penn State Worthington Scranton*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

This major is designed to provide technically trained personnel between the level of high school graduate and professional engineer or architect to support the architectural design/construction industry, and technical support firms.

Graduates of the Building Engineering Technology major may qualify for admission to baccalaureate degree majors in Environmental Engineering Technology, Mechanical Engineering Technology, or Structural Design and Construction Engineering Technology offered at Penn State Harrisburg.

ARCHITECTURAL ENGINEERING TECHNOLOGY OPTION: This option helps prepare students to translate sketches and design concepts into working drawings and specifications, and to work with architects, structural engineers, and all phases of the building/construction industry.

Graduates from the Architectural Engineering Technology option must:
I. Have the technical knowledge and skills to work in the professional sector and building industry.
II. Use critical thinking skills to solve complex and real world challenges and applications.
III. Communicate effectively using information technology when appropriate.
IV. Possess workplace skills needed to function in a business environment.
V. Continue to learn and adopt emerging technology in formal and informal settings.

BUILDING ENVIRONMENTAL SYSTEMS TECHNOLOGY OPTION: This option helps prepare students for the heating, ventilating, air conditioning, and refrigeration (HVAC&R) industry as system designers, equipment sales representatives, building automation supervisors, and indoor air quality specialists.

Graduates from the Building Environmental Systems Technology option must:
I. Have the technical knowledge and skills to work in the professional sector of the HVAC&R Industry.
II. Use critical thinking skills to solve complex real world problems and applications.
III. Communicate effectively using information technology when appropriate.
IV. Possess the workplace skills needed to function well in a business environment.
V. Continue to learn and adapt emerging technologies in either formal or informal settings.

For the Associate in Engineering Technology degree in Building Engineering Technology, a minimum of 72 credits is required. These options are accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org (Opens New Window).

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 63-64 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 42 credits

PRESCRIBED COURSES (42 credits)
AE T 101(3)**[1]**, AE T 102(3), AE T 103(3), CMPSC 101 GQ(3), EG T 101(1), EG T 102(1), ENGL 015 GWS(3), MATH 081 GQ(3), MATH 082 GQ(3), PHYS 150 GN(3) (Sem: 1-2)
AE T 204(3), AE T 210W(3)**[1]**, CAS 100 GWS(3), MATH 083 GQ(4), PHYS 151 GN(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 21-22 credits

ARCHITECTURAL ENGINEERING TECHNOLOGY OPTION: (21-22 credits)

PRESCRIBED COURSES (16 credits)
AE T 113(2), MCH T 111(3) (Sem: 1-2)
AE T 206(2), AE T 207(3), AE T 214(3)**[1]**, AE T 215(3) (Sem: 3-4)

ADDITIONAL COURSES (5-6 credits)
Select 5-6 credits from the following technical courses: AE T 212(3), AE T 297(1-9), CHEM 101 GN(3), EET 100(3), EG T 201(2), EG T 297(1-9), IET 105(2), MATH 140 GQ(4), MATH 231(2), MATH 250(3), MCH T 213(3), MET 281(4) (Sem: 3-4)

BUILDING ENVIRONMENTAL SYSTEMS TECHNOLOGY OPTION: (21 credits)

PRESCRIBED COURSES(15 credits)

AE T 121(2), MET 281(4) (Sem: 1-2)
AE T 227(3), AE T 228(3), AE T 229(3) (Sem: 3-4)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following technical courses: AE T 212(3), AE T 297(1-9), CHEM 101 GN(3), EET 100(3), EG T 201(2), EG T 297(1-9), IET 105(2), MATH 140 GQ(4), MATH 231(2), MATH 250(3), MCH T 213(3), MET 281(4) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-03-017

Review Date: 11/22/05

UCA Revision #1: 8/20/06
UCA Revision #2: 7/26/07

EN

Business Administration

Abington College (2BAAB)
Altoona College (2BAAL)
Berks College (2BABL)
Capital College (2BACA)
University College (2BACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University College (2BACC): Via World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The associate degree program in Business Administration provides a foundation in business that, through two options, prepares graduates for either entrance to the Bachelor of Science in Business (BSB) programs in business or for direct entry into the work place. The primary objective of this major is to provide a business-oriented program with sufficient communicative and mathematical skills, socially relevant course work, and specific business specialties to develop a well-rounded and knowledgeable graduate.

The General Business Option provides an introductory foundation to core aspects of the business environment while also preparing students for future transfer into the Bachelor of Science in Business (BSB).

The Professional Studies Option provides a technically oriented program that prepares students for direct entry into the work force. Because some of the course work in this option is not accepted in baccalaureate business programs, students are encouraged to work closely with faculty and staff advisers.

Students who plan to continue into BSB should meet with their advisers regarding entrance to major and other related requirements.

For the Associate in Science degree in Business Administration, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9 credits of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48-50 credits
(This includes 3 credits of GQ General Education courses and 6 credits of GWS General Education courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (13 credits)
CAS 100 GWS(3) (Sem: 2-4)
ACCTG 211(4), ENGL 202D GWS(3)**[1]**, MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (17-18 credits)
ENGL 015 GWS(3)**[1]** or ENGL 030 GWS(3)**[1]** (Sem: 1-2)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1-2) **[74]**
B A 243(4)**[1]** or B A 241(2)**[1]** and B A 242(2)**[1]** (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 18-19 credits
(Both options may not be available at every campus.)

GENERAL BUSINESS OPTION: (18-19 credits)

ADDITIONAL COURSES (18-19 credits)
a) Select 3 credits from MGMT 301(3)**[1]** or MGMT 301W(3)**[1]** (Sem: 3-4)
b) Select 3 credits from MKTG 301(3)**[1]** or MKTG 301W(3)**[1]** (Sem: 3-4)
c) Select 12-13 credits from B A 250(3); CAS 250(3) or CAS 252(3); LER 100 GS(3) or LER 136 US(3); ECON 002 GS(3) or ECON 004 GS(3); MATH 022 GQ(3), MATH 110 GQ(4), MKTG 220(3) (Sem: 1-4)

PROFESSIONAL STUDIES OPTION: (18 credits) **[75]**

ADDITIONAL COURSES (18 credits)
Select 18 credits from ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 186(3), B A 100 GS(3), B A 250(3); ECON 002 GS(3) or ECON 004 GS(3);CMPSC 140(3), FIN 100(3), FIN 108(3), H P A 101(3), IST 110 GS(3), IST 210(3), IST 220(3), IST 250(3), LER 100 GS(3), LER 136 US(3); MGMT 100(3) or MGMT 100W(3); MGMT 150(3), MIS 103(3), MIS 106(1-6), MIS 120(3); MIS 130(3), MIS 190(3), MKTG 220(3); MKTG 221(3) or MKTG 221W(3); R EST 100(3) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[74] Students should work closely with academic advisers to ensure the completion of any and all course work required for entrance to BSB.
[75] This Option is designed for students planning to enter the work force directly upon graduation. Some courses included in this option will not transfer into baccalaureate business programs. Students are encouraged to work closely

with their advisers.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-534

Review Date: 4/10/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/26/07

UC

Business Administration

Abington College (2BAAB)
Altoona College (2BAAL)
Berks College (2BABL)
Capital College (2BACA)
University College (2BACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University College (2BACC): Via World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The associate degree program in Business Administration provides a foundation in business that, through two options, prepares graduates for either entrance to the Bachelor of Science in Business (BSB) programs in business or for direct entry into the work place. The primary objective of this major is to provide a business-oriented program with sufficient communicative and mathematical skills, socially relevant course work, and specific business specialties to develop a well-rounded and knowledgeable graduate.

The General Business Option provides an introductory foundation to core aspects of the business environment while also preparing students for future transfer into the Bachelor of Science in Business (BSB).

The Professional Studies Option provides a technically oriented program that prepares students for direct entry into the work force. Because some of the course work in this option is not accepted in baccalaureate business programs, students are encouraged to work closely with faculty and staff advisers.

Students who plan to continue into BSB should meet with their advisers regarding entrance to major and other related requirements.

For the Associate in Science degree in Business Administration, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9 credits of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48-50 credits
(This includes 3 credits of GQ General Education courses and 6 credits of GWS General Education courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (13 credits)
CAS 100 GWS(3) (Sem: 2-4)
ACCTG 211(4), ENGL 202D GWS(3)**[1]**, MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (17-18 credits)
ENGL 015 GWS(3)**[1]** or ENGL 030 GWS(3)**[1]** (Sem: 1-2)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1-2) **[74]**
B A 243(4)**[1]** or B A 241(2)**[1]** and B A 242(2)**[1]** (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 18-19 credits
(Both options may not be available at every campus.)

GENERAL BUSINESS OPTION: (18-19 credits)

ADDITIONAL COURSES (18-19 credits)
a) Select 3 credits from MGMT 301(3)**[1]** or MGMT 301W(3)**[1]** (Sem: 3-4)
b) Select 3 credits from MKTG 301(3)**[1]** or MKTG 301W(3)**[1]** (Sem: 3-4)
c) Select 12-13 credits from B A 250(3); CAS 250(3) or CAS 252(3); LER 100 GS(3) or LER 136 US(3); ECON 002 GS(3) or ECON 004 GS(3); MATH 022 GQ(3), MATH 110 GQ(4), MKTG 220(3) (Sem: 1-4)

PROFESSIONAL STUDIES OPTION: (18 credits) **[75]**

ADDITIONAL COURSES (18 credits)
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[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[74] Students should work closely with academic advisers to ensure the completion of any and all course work required for entrance to BSB.
[75] This Option is designed for students planning to enter the work force directly upon graduation. Some courses included in this option will not transfer into baccalaureate business programs. Students are encouraged to work closely

with their advisers.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-534

Review Date: 4/10/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/26/07

UC

Business Administration

Abington College (2BAAB)
Altoona College (2BAAL)
Berks College (2BABL)
Capital College (2BACA)
University College (2BACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
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The Professional Studies Option provides a technically oriented program that prepares students for direct entry into the work force. Because some of the course work in this option is not accepted in baccalaureate business programs, students are encouraged to work closely with faculty and staff advisers.

Students who plan to continue into BSB should meet with their advisers regarding entrance to major and other related requirements.

For the Associate in Science degree in Business Administration, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9 credits of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48-50 credits
(This includes 3 credits of GQ General Education courses and 6 credits of GWS General Education courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (13 credits)
CAS 100 GWS(3) (Sem: 2-4)
ACCTG 211(4), ENGL 202D GWS(3)**[1]**, MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (17-18 credits)
ENGL 015 GWS(3)**[1]** or ENGL 030 GWS(3)**[1]** (Sem: 1-2)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1-2) **[74]**
B A 243(4)**[1]** or B A 241(2)**[1]** and B A 242(2)**[1]** (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 18-19 credits
(Both options may not be available at every campus.)

GENERAL BUSINESS OPTION: (18-19 credits)

ADDITIONAL COURSES (18-19 credits)
a) Select 3 credits from MGMT 301(3)**[1]** or MGMT 301W(3)**[1]** (Sem: 3-4)
b) Select 3 credits from MKTG 301(3)**[1]** or MKTG 301W(3)**[1]** (Sem: 3-4)
c) Select 12-13 credits from B A 250(3); CAS 250(3) or CAS 252(3); LER 100 GS(3) or LER 136 US(3); ECON 002 GS(3) or ECON 004 GS(3); MATH 022 GQ(3), MATH 110 GQ(4), MKTG 220(3) (Sem: 1-4)

PROFESSIONAL STUDIES OPTION: (18 credits) **[75]**

ADDITIONAL COURSES (18 credits)
Select 18 credits from ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 186(3), B A 100 GS(3), B A 250(3); ECON 002 GS(3) or ECON 004 GS(3);CMPSC 140(3), FIN 100(3), FIN 108(3), H P A 101(3), IST 110 GS(3), IST 210(3), IST 220(3), IST 250(3), LER 100 GS(3), LER 136 US(3); MGMT 100(3) or MGMT 100W(3); MGMT 150(3), MIS 103(3), MIS 106(1-6), MIS 120(3); MIS 130(3), MIS 190(3), MKTG 220(3); MKTG 221(3) or MKTG 221W(3); R EST 100(3) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[74] Students should work closely with academic advisers to ensure the completion of any and all course work required for entrance to BSB.
[75] This Option is designed for students planning to enter the work force directly upon graduation. Some courses included in this option will not transfer into baccalaureate business programs. Students are encouraged to work closely

with their advisers.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-534

Review Date: 4/10/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/26/07

UC

Business Administration

Abington College (2BAAB)
Altoona College (2BAAL)
Berks College (2BABL)
Capital College (2BACA)
University College (2BACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University College (2BACC): Via World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The associate degree program in Business Administration provides a foundation in business that, through two options, prepares graduates for either entrance to the Bachelor of Science in Business (BSB) programs in business or for direct entry into the work place. The primary objective of this major is to provide a business-oriented program with sufficient communicative and mathematical skills, socially relevant course work, and specific business specialties to develop a well-rounded and knowledgeable graduate.

The General Business Option provides an introductory foundation to core aspects of the business environment while also preparing students for future transfer into the Bachelor of Science in Business (BSB).

The Professional Studies Option provides a technically oriented program that prepares students for direct entry into the work force. Because some of the course work in this option is not accepted in baccalaureate business programs, students are encouraged to work closely with faculty and staff advisers.

Students who plan to continue into BSB should meet with their advisers regarding entrance to major and other related requirements.

For the Associate in Science degree in Business Administration, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9 credits of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48-50 credits
(This includes 3 credits of GQ General Education courses and 6 credits of GWS General Education courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (13 credits)
CAS 100 GWS(3) (Sem: 2-4)
ACCTG 211(4), ENGL 202D GWS(3)**[1]**, MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (17-18 credits)
ENGL 015 GWS(3)**[1]** or ENGL 030 GWS(3)**[1]** (Sem: 1-2)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1-2) **[74]**
B A 243(4)**[1]** or B A 241(2)**[1]** and B A 242(2)**[1]** (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 18-19 credits
(Both options may not be available at every campus.)

GENERAL BUSINESS OPTION: (18-19 credits)

ADDITIONAL COURSES (18-19 credits)
a) Select 3 credits from MGMT 301(3)**[1]** or MGMT 301W(3)**[1]** (Sem: 3-4)
b) Select 3 credits from MKTG 301(3)**[1]** or MKTG 301W(3)**[1]** (Sem: 3-4)
c) Select 12-13 credits from B A 250(3); CAS 250(3) or CAS 252(3); LER 100 GS(3) or LER 136 US(3); ECON 002 GS(3) or ECON 004 GS(3); MATH 022 GQ(3), MATH 110 GQ(4), MKTG 220(3) (Sem: 1-4)

PROFESSIONAL STUDIES OPTION: (18 credits) **[75]**

ADDITIONAL COURSES (18 credits)
Select 18 credits from ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 186(3), B A 100 GS(3), B A 250(3); ECON 002 GS(3) or ECON 004 GS(3);CMPSC 140(3), FIN 100(3), FIN 108(3), H P A 101(3), IST 110 GS(3), IST 210(3), IST 220(3), IST 250(3), LER 100 GS(3), LER 136 US(3); MGMT 100(3) or MGMT 100W(3); MGMT 150(3), MIS 103(3), MIS 106(1-6), MIS 120(3); MIS 130(3), MIS 190(3), MKTG 220(3); MKTG 221(3) or MKTG 221W(3); R EST 100(3) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[74] Students should work closely with academic advisers to ensure the completion of any and all course work required for entrance to BSB.
[75] This Option is designed for students planning to enter the work force directly upon graduation. Some courses included in this option will not transfer into baccalaureate business programs. Students are encouraged to work closely

with their advisers.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-534

Review Date: 4/10/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/26/07

UC

Business Administration

Abington College (2BAAB)
Altoona College (2BAAL)
Berks College (2BABL)
Capital College (2BACA)
University College (2BACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Lehigh Valley, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University College (2BACC): Via World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The associate degree program in Business Administration provides a foundation in business that, through two options, prepares graduates for either entrance to the Bachelor of Science in Business (BSB) programs in business or for direct entry into the work place. The primary objective of this major is to provide a business-oriented program with sufficient communicative and mathematical skills, socially relevant course work, and specific business specialties to develop a well-rounded and knowledgeable graduate.

The General Business Option provides an introductory foundation to core aspects of the business environment while also preparing students for future transfer into the Bachelor of Science in Business (BSB).

The Professional Studies Option provides a technically oriented program that prepares students for direct entry into the work force. Because some of the course work in this option is not accepted in baccalaureate business programs, students are encouraged to work closely with faculty and staff advisers.

Students who plan to continue into BSB should meet with their advisers regarding entrance to major and other related requirements.

For the Associate in Science degree in Business Administration, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9 credits of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 48-50 credits
(This includes 3 credits of GQ General Education courses and 6 credits of GWS General Education courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (13 credits)
CAS 100 GWS(3) (Sem: 2-4)
ACCTG 211(4), ENGL 202D GWS(3)**[1]**, MIS 204(3) (Sem: 2-4)

ADDITIONAL COURSES (17-18 credits)
ENGL 015 GWS(3)**[1]** or ENGL 030 GWS(3)**[1]** (Sem: 1-2)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1-2) **[74]**
B A 243(4)**[1]** or B A 241(2)**[1]** and B A 242(2)**[1]** (Sem: 1-4)
ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-4)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 2-4)

REQUIREMENTS FOR THE OPTION: 18-19 credits
(Both options may not be available at every campus.)

GENERAL BUSINESS OPTION: (18-19 credits)

ADDITIONAL COURSES (18-19 credits)
a) Select 3 credits from MGMT 301(3)**[1]** or MGMT 301W(3)**[1]** (Sem: 3-4)
b) Select 3 credits from MKTG 301(3)**[1]** or MKTG 301W(3)**[1]** (Sem: 3-4)
c) Select 12-13 credits from B A 250(3); CAS 250(3) or CAS 252(3); LER 100 GS(3) or LER 136 US(3); ECON 002 GS(3) or ECON 004 GS(3); MATH 022 GQ(3), MATH 110 GQ(4), MKTG 220(3) (Sem: 1-4)

PROFESSIONAL STUDIES OPTION: (18 credits) **[75]**

ADDITIONAL COURSES (18 credits)
Select 18 credits from ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 186(3), B A 100 GS(3), B A 250(3); ECON 002 GS(3) or ECON 004 GS(3);CMPSC 140(3), FIN 100(3), FIN 108(3), H P A 101(3), IST 110 GS(3), IST 210(3), IST 220(3), IST 250(3), LER 100 GS(3), LER 136 US(3); MGMT 100(3) or MGMT 100W(3); MGMT 150(3), MIS 103(3), MIS 106(1-6), MIS 120(3); MIS 130(3), MIS 190(3), MKTG 220(3); MKTG 221(3) or MKTG 221W(3); R EST 100(3) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[74] Students should work closely with academic advisers to ensure the completion of any and all course work required for entrance to BSB.
[75] This Option is designed for students planning to enter the work force directly upon graduation. Some courses included in this option will not transfer into baccalaureate business programs. Students are encouraged to work closely

with their advisers.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-534

Review Date: 4/10/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/26/07

UC

Criminal Justice

Altoona College (2 CJ)

PROFESSOR TIMOTHY SLEKAR, *in charge*

Students receiving an associate degree in criminal justice should understand each of the three main components of the criminal justice system and their interrelationships. This program includes study in law enforcement, courts, and corrections individually and as components of a system, plus work in theories of crime causation, and crime control policy. Students should expect reading, writing, and critical thinking skills to be rigorously applied and developed throughout the degree program. The Associate in Science degree in Criminal Justice prepares students for entry-level positions in criminal justice or for study at the baccalaureate level.

For the Associate in Science in Criminal Justice, a minimum of 64 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(13 of these credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 27 credits

REQUIREMENTS FOR THE MAJOR: 29 credits**[1]**
(This includes 13 credits of General Education courses: 3 credits of GH courses; 4 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (29 credits)
CRIMJ 100(3), PHIL 103 GH(3), SOC 012 GS(3), SOC 207(3), SOC 119 GS;US(4) (Sem: 1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3), STAT 200 GQ(4) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-009

Review Date: 4/14/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

AL

Electrical Engineering Technology

Altoona College
Berks College
Penn State Erie, The Behrend College
University College: Penn State Fayette, Penn State Hazleton, Penn State Wilkes-Barre, Penn State York (2 EET)

PROFESSOR SOHAIL ANWAR, *Program Coordinator, Penn State Altoona*
PROFESSOR DALE LITWHILER, *Program Coordinator, Penn State Berks*
PROFESSOR DAVID LOKER, *Program Coordinator, Penn State Erie, The Behrend College*
PROFESSOR ANDRZEJ GAPINSKI, *Program Coordinator, Penn State Fayette*
PROFESSOR KENNETH DUDECK, *Program Coordinator, Penn State Hazleton*
PROFESSOR ALBERT LOZANO, *Program Coordinator, Penn State Wilkes-Barre*
PROFESSOR MICHAEL MARCUS, *Program Coordinator, Penn State York*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

The Electrical Engineering Technology (2 EET) major helps prepare graduates for technical positions in the expanding fields of electronics, computers and microprocessors, instrumentation, and electrical equipment. The primary objective is to provide a broad foundation of theoretical and practical knowledge in the areas of electrical and electronic circuits, digital circuits, computers, electrical machinery, and programmable logic controls. The program also articulates with Pennsylvania Department of Education-approved Tech Prep programs. Secondary students who have graduated from a program covered by a signed Penn State Tech Prep Articulation Agreement may be eligible for special admission procedures and /or advanced placement. The major prepares graduates who, during the first few years of professional practice, will:

- Demonstrate broad knowledge of electrical and electronics engineering technology practices to support design, application, installation, manufacturing, operation, and maintenance of electrical, electronic, computer, and instrumentation systems,
- Apply basic mathematical and scientific principles for technical problem solving in areas that may include circuit analysis of both analog and digital electronics, microprocessors, programmable logic controls, and electrical machines,
- Use computers and software in a technical environment,
- Demonstrate competence in written and oral communication,
- Work effectively as an individual and as a member of a multidisciplinary team,
- Show awareness of social concerns and professional responsibilities in the workplace, and
- Matriculate into a baccalaureate degree and/or continue their professional training and adapt to changes in the workplace, through additional formal or informal education.

Graduates of the Electrical Engineering Technology major may qualify for admission to the baccalaureate degree majors in Electrical Engineering Technology or Computer Engineering Technology offered at Penn State Harrisburg, Capital College; the baccalaureate degree major in Electrical Engineering Technology at Penn State Erie, The Behrend College; or the baccalaureate degree major in Electro-Mechanical Engineering Technology offered at Penn State Altoona, Penn State Berks, Penn State New Kensington or Penn State York.

For the Associate in Engineering Technology degree in Electrical Engineering Technology, a minimum of 66 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.>

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See General Education description in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 57 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (38 credits)
EET 105(3), CMPET 117(3)**[1]**, CMPET 120(1); ENGL 015 GWS(3), MATH 022 GQ(3), MATH 026 GQ(3), MCH T 111(3), MCH T 112(1), MET 105(3) (Sem: 1-2)
CAS 100 GWS(3), CMPET 211(3), EE T 114(4)**[1]**, EE T 118(1)**[1]**, EET 212W(4) (Sem: 3-4)

ADDITIONAL COURSES (19 credits)
EDSGN 100 (3) or EG T 119 (2) and EET 002S (1) (Sem: 1-2)
PHYS 150 GN(3) or PHYS 250 GN (4) (Sem:3-4)

Select 13 additional credits from one of the following tracks **a** or **b**:

a. Students following the baccalaureate track must complete the following courses (10-11 credits):
EET 214 (3); MATH 083 GQ(4) or MATH 140 GQ(4); CHEM 110 GN (3) and CHEM 111 GN (1) or PHYS 151 GN(3) or PHYS 251 GN (4) (Sem: 3-4)
Select at least 3 additional credits from the following technical courses:

BET 201(5), BI SC 003 GN(3), CHEM 101 GN(3), CHEM 110 (3), CHEM 111 (1), CMPSC 101 GQ(3), CMPSC 201C GQ(3), EET 215 (1), EET 275 (3), EET 297 (1-9), EMET 230 (3), IST 210 (4), IST 220(3), IST 221(3), MATH 141 GQ(4), TELECOM 140 (2) (Sem: 3-4)

b. Students following the general track must select at least 3 credits science from the following:
CHEM 110 GN(3) and CHEM 111 GN(1), PHYS 151 GN(3), PHYS 251 GN (4) (Sem: 3-4)
Select at least 10 additional credits from the following technical courses: BET 201 (5), BI SC 003 GN(3), CHEM 101 GN(3), CHEM 110 (3), CHEM 111 (1), CMPSC 101 GQ(3), CMPSC 201C GQ(3), EET 214 (3), EET 215 (1), EET 275 (3), EET 297 (1-9), EMET 230 (3), IST 210 (4), IST 220(3), MATH 083 GQ(4) or MATH 140 GQ(4), MATH 141 GQ(4), PHYS 151 GN(3) or PHYS 251 GN (4), TELECOM 140 (2) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-017

Review Date: 11/27/07

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

Comments

EN

Forest Technology

University College: Penn State Mont Alto
University Park, College of Agricultural Sciences (2 FORT)

PROFESSOR CRAIG T. HOUGHTON, *in charge*

The objectives of the major are to train forestry field personnel in the technical aspects of evaluating, managing, and protecting forest resources. Laboratories held in the Michaux State Forest, adjacent to Penn State Mont Alto, stress field applications of classroom theory. Both written and oral communication skills are stressed in all courses. Graduates of the program are employed by private businesses including forestry consulting firms, sawmills, and other wood products manufacturers; public agencies including federal, state, and municipal forest resource management and recreation programs; urban tree service companies, pulp and paper manufacturers, surveying firms and landscaping firms, utility companies, and other businesses requiring personnel skilled in field inventory procedures, analysis, and presentation.

Some graduates transfer their credits to bachelor's degree programs such as forest science, wildlife and fisheries science, recreation and parks management, wood products, environmental resource management, soil science, biology, and business management.

For the Associate in Science degree in Forest Technology, a minimum of 67 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 46 credits

PRESCRIBED COURSES (40 credits)
FORT 100(1), FORT 105(3)**[1]**, FORT 120(2), FORT 150(3)**[1]** (Sem: 1)
FORT 110(3)**[1]**, FORT 130(2), FORT 140(3), FORT 160(3)**[1]** (Sem: 2)
FORT 170(3), FORT 175(1) (Sem: Summer)
FORT 200(1), FORT 220(4), FORT 230(2), MGMT 100W(3) (Sem: 3)
FORT 240(3), FORT 250(3) (Sem: 4)

ADDITIONAL COURSES (6 credits)
Select 6 credits from FORT 210(3), FORT 260(3), WILDL 101(3), or WILDL 207(3) (Sem: 3-4)

NOTE: BIOL 110(4), CHEM 110(3), and MATH 110(4) are recommended for students planning to continue in the Forest Science baccalaureate program.

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 38-02-001

Review Date: 10/06/09

UCA Revision #1: 8/4/06

AG

General Business

Penn State Erie, The Behrend College (2GBBC)

PROFESSOR JOHN M. MAGENAU III, *Director, School of Business, Behrend College*

The associate degree major in General Business provides an opportunity for students to earn an associate degree which gives them a general introduction to several aspects of business. In addition, it provides a foundation that allows those students who qualify for admission to baccalaureate degree programs in business to make a smooth transition into four-year majors offered at Penn State Erie, The Behrend College, and Penn State Harrisburg, The Capital College. The business coursework required by the major introduces students to basics of accounting; economics; management information systems; quantitative business analysis; and the social, legal, ethical and political environments within which businesses operate. The general education and other requirements of the major provide an opportunity for students to strengthen their skills in oral and written communication and quantitative reasoning which are essential for success in business careers. To develop a well-rounded graduate, students select supporting courses from those approved for General Education.

For the Associate in Science degree in General Business, a minimum of 60 credits is required.

Recommended Scheduling by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 51-52 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 3 credits of GQ courses; 6 credits of GS courses.)

PRESCRIBED COURSES (33 credits)
CMPSC 203 GQ(4), ENGL 015 GWS(3) (Sem: 1-2)
ACCTG 211(4)**[1]**, B A 243(4), CAS 100 GWS(3), ECON 002 GS(3), ECON 004 GS(3),
ENGL 202D GWS(3), MIS 204(2)**[1]**, SCM 200(4)**[1]** (Sem: 2-4)

ADDITIONAL COURSES (3-4 credits)
MATH 021 GQ(3), MATH 022 GQ(3), or MATH 110 GQ(4) (Sem: 1-2)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits from courses approved for General Education, including 6 credits in the natural sciences (GN), 3 credits in the arts (GA), and 3 credits in the humanities (GH) (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Review Date: Summer Session 1998

UCA Revision #1: 8/8/06

BD

Hotel, Restaurant, and Institutional Management

Berks College
University Park, College of Health and Human Development (2HRIM)
World Campus

PROFESSOR JAMES A. BARDI, *Director, Penn State University Park*

The Hotel, Restaurant, and Institutional Management major is an intensive four-semester major designed to prepare students for managerial positions in the hospitality industry. The course of study places heavy reliance on experience acquired in an on-the-job setting.

Students who achieve outstanding records may, upon completing this program, apply for admission to the baccalaureate degree major in Hotel, Restaurant, and Institutional Management in the College of Health and Human Development. Six or more additional semesters of satisfactory work are required to earn the baccalaureate degree. Graduates of this major may qualify for admission to other baccalaureate degree majors.

For the Associate in Science degree in Hotel, Restaurant, and Institutional Management, a minimum of 64 credits is required.

Scheduling Recommendation by semester given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 49-51 credits
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (34 credits)
D S M 101(3), ENGL 015 GWS(3)**[70]**, ENGL 202D GWS(3)**[70]**, HRIM 201(3)**[70]**, HRIM 250(3)**[1]**, HRIM 270(4)**[1]**, HRIM 295W(3), HRIM 305(3)**[70]**, HRIM 310(3)**[70]**, HRIM 319(3)**[70]**, HRIM 380(3)**[70]** (Sem: 1-4)

ADDITIONAL COURSES (9-11 credits)
HRIM 204(3) or MKTG 221(3)**[70]** (Sem: 1-4)
HRIM 260(4) or MGMT 341(3) (Sem: 1-4)
ACCTG 211(4) or HRIM 335(3)**[70]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits in nutrition (Sem: 1-4)
Select 3 credits in consultation with adviser to develop more depth in hospitality management (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.
[70] These courses are required for the baccalaureate degree in Hotel, Restaurant, and Institutional Management.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-451

Review Date: 4/10/07

HH

Human Development and Family Studies

Altoona College (2FSAL)
University College (2FSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Schuylkill, Penn State Shenango, Penn State Worthington Scranton, Penn State York
University Park, College of Health and Human Development (2EHFS)
World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

For more information, contact: Mary Jo Spicer, S-120 Henderson Building

This major integrates practical and academic experiences to provide the student with entry-level professional competence in the human service field. The objective of the major is to offer a general education background, a knowledge base in life span and family development, and a core of professional skills that may be applied in program planning and service delivery activities. The major is offered part-time, in the evening, and through independent learning.

ADULT DEVELOPMENT AND AGING SERVICES OPTION: This option is designed to prepare students for a wide variety of service roles in mental health facilities, nursing homes and other institutions for the aged, area agencies on aging, public welfare and family service agencies, women's resource centers, human relations programs, employee assistance programs and customer services and consumer relations programs in business and industry. An improved field experience in any of a wide variety of settings that serve adults, the aged, and their families, is required for this option.

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: This option is designed to prepare students for service roles in preschools; day care centers; hospitals; institutional and community programs for emotionally disturbed, abused, or neglected children and adolescents; as well as a variety of public welfare and family service agencies. An approved field experience in a children, youth, or family services setting is required for this option.

EARLY CHILDHOOD CARE AND EDUCATION OPTION: This option is designed to increase professional capabilities in child care training in regard to issues of quality, affordability, and accessibility of programming. The primary foci are on language, literacy, and science reasoning. In the course work, there is a blending of theory and practice that requires experience in a group setting with young children. Courses concentrate on infants and toddlers as well as older preschoolers. Each course has a strong parent/family communications component and stresses observation techniques appropriate for assessing and evaluating the development of young children.

For the Associate in Science degree in Human Development and Family Studies, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 51-55 credits
(This includes 15 credits of General Education courses: 6 credits of GWS courses; 3 credits of GS courses; 3 credits of GN courses; and 3 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (21 credits)
CAS 100 GWS(3), ENGL 015 GWS(3), HD FS 129 GS(3)**[1]**, HD FS 301(3)**[1]**, PSYCH 100 GS(3) (Sem: 1-2)
HD FS 395(6) (Sem: 3-4)

ADDITIONAL COURSES (9-10 credits)
EDPSY 101 GQ(3)**[1]**, STAT 100 GQ(3)**[1]**, or STAT 200 GQ(4)**[1]** (Sem: 1-2)
HD FS 315 US(3)**[1]** or SOC 030 GS(3) (Sem: 3-4)
BIOL 141 GN(3), BIOL 155 GN(3), or BI SC 004 GN(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 21-24 credits

ADULT DEVELOPMENT AND AGING SERVICES OPTION: (21 credits)

PRESCRIBED COURSES (6 credits)
HD FS 249 GS(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option (Sem: 1-4)

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: (24 credits)

PRESCRIBED COURSES (9 credits)
HD FS 229 GS(3)**[1]**, HD FS 239 GS(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option

(Sem: 1-4)

EARLY CHILDHOOD CARE AND EDUCATION OPTION: (24 credits)

PRESCRIBED COURSES (24 credits)
HD FS 229 GS(3)**[1]**, HD FS 230(3)**[1]**, HD FS 231(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-2)
HD FS 232(3)**[1]**, HD FS 233(3)**[1]**, HD FS 234(3)**[1]**, HD FS 330(3)**[1]** (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-03-026

Review Date: 12/19/07

UCA Revision #1: 8/8/06

HH

Human Development and Family Studies

Altoona College (2FSAL)
University College (2FSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Schuylkill, Penn State Shenango, Penn State Worthington Scranton, Penn State York
University Park, College of Health and Human Development (2EHFS)
World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

For more information, contact: Mary Jo Spicer, S-120 Henderson Building

This major integrates practical and academic experiences to provide the student with entry-level professional competence in the human service field. The objective of the major is to offer a general education background, a knowledge base in life span and family development, and a core of professional skills that may be applied in program planning and service delivery activities. The major is offered part-time, in the evening, and through independent learning.

ADULT DEVELOPMENT AND AGING SERVICES OPTION: This option is designed to prepare students for a wide variety of service roles in mental health facilities, nursing homes and other institutions for the aged, area agencies on aging, public welfare and family service agencies, women's resource centers, human relations programs, employee assistance programs and customer services and consumer relations programs in business and industry. An improved field experience in any of a wide variety of settings that serve adults, the aged, and their families, is required for this option.

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: This option is designed to prepare students for service roles in preschools; day care centers; hospitals; institutional and community programs for emotionally disturbed, abused, or neglected children and adolescents; as well as a variety of public welfare and family service agencies. An approved field experience in a children, youth, or family services setting is required for this option.

EARLY CHILDHOOD CARE AND EDUCATION OPTION: This option is designed to increase professional capabilities in child care training in regard to issues of quality, affordability, and accessibility of programming. The primary foci are on language, literacy, and science reasoning. In the course work, there is a blending of theory and practice that requires experience in a group setting with young children. Courses concentrate on infants and toddlers as well as older preschoolers. Each course has a strong parent/family communications component and stresses observation techniques appropriate for assessing and evaluating the development of young children.

For the Associate in Science degree in Human Development and Family Studies, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 51-55 credits
(This includes 15 credits of General Education courses: 6 credits of GWS courses; 3 credits of GS courses; 3 credits of GN courses; and 3 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (21 credits)
CAS 100 GWS(3), ENGL 015 GWS(3), HD FS 129 GS(3)**[1]**, HD FS 301(3)**[1]**, PSYCH 100 GS(3) (Sem: 1-2)
HD FS 395(6) (Sem: 3-4)

ADDITIONAL COURSES (9-10 credits)
EDPSY 101 GQ(3)**[1]**, STAT 100 GQ(3)**[1]**, or STAT 200 GQ(4)**[1]** (Sem: 1-2)
HD FS 315 US(3)**[1]** or SOC 030 GS(3) (Sem: 3-4)
BIOL 141 GN(3), BIOL 155 GN(3), or BI SC 004 GN(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 21-24 credits

ADULT DEVELOPMENT AND AGING SERVICES OPTION: (21 credits)

PRESCRIBED COURSES (6 credits)
HD FS 249 GS(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option (Sem: 1-4)

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: (24 credits)

PRESCRIBED COURSES (9 credits)
HD FS 229 GS(3)**[1]**, HD FS 239 GS(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option

(Sem: 1-4)

EARLY CHILDHOOD CARE AND EDUCATION OPTION: (24 credits)

PRESCRIBED COURSES (24 credits)
HD FS 229 GS(3)**[1]**, HD FS 230(3)**[1]**, HD FS 231(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-2)
HD FS 232(3)**[1]**, HD FS 233(3)**[1]**, HD FS 234(3)**[1]**, HD FS 330(3)**[1]** (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-03-026

Review Date: 12/19/07

UCA Revision #1: 8/8/06

HH

Human Development and Family Studies

Altoona College (2FSAL)
University College (2FSCC): Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Mont Alto, Penn State Schuylkill, Penn State Shenango, Penn State Worthington Scranton, Penn State York
University Park, College of Health and Human Development (2EHFS)
World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

For more information, contact: Mary Jo Spicer, S-120 Henderson Building

This major integrates practical and academic experiences to provide the student with entry-level professional competence in the human service field. The objective of the major is to offer a general education background, a knowledge base in life span and family development, and a core of professional skills that may be applied in program planning and service delivery activities. The major is offered part-time, in the evening, and through independent learning.

ADULT DEVELOPMENT AND AGING SERVICES OPTION: This option is designed to prepare students for a wide variety of service roles in mental health facilities, nursing homes and other institutions for the aged, area agencies on aging, public welfare and family service agencies, women's resource centers, human relations programs, employee assistance programs and customer services and consumer relations programs in business and industry. An improved field experience in any of a wide variety of settings that serve adults, the aged, and their families, is required for this option.

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: This option is designed to prepare students for service roles in preschools; day care centers; hospitals; institutional and community programs for emotionally disturbed, abused, or neglected children and adolescents; as well as a variety of public welfare and family service agencies. An approved field experience in a children, youth, or family services setting is required for this option.

EARLY CHILDHOOD CARE AND EDUCATION OPTION: This option is designed to increase professional capabilities in child care training in regard to issues of quality, affordability, and accessibility of programming. The primary foci are on language, literacy, and science reasoning. In the course work, there is a blending of theory and practice that requires experience in a group setting with young children. Courses concentrate on infants and toddlers as well as older preschoolers. Each course has a strong parent/family communications component and stresses observation techniques appropriate for assessing and evaluating the development of young children.

For the Associate in Science degree in Human Development and Family Studies, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 0-3 credits

REQUIREMENTS FOR THE MAJOR: 51-55 credits
(This includes 15 credits of General Education courses: 6 credits of GWS courses; 3 credits of GS courses; 3 credits of GN courses; and 3 credits of GQ courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30-31 credits

PRESCRIBED COURSES (21 credits)
CAS 100 GWS(3), ENGL 015 GWS(3), HD FS 129 GS(3)**[1]**, HD FS 301(3)**[1]**, PSYCH 100 GS(3) (Sem: 1-2)
HD FS 395(6) (Sem: 3-4)

ADDITIONAL COURSES (9-10 credits)
EDPSY 101 GQ(3)**[1]**, STAT 100 GQ(3)**[1]**, or STAT 200 GQ(4)**[1]** (Sem: 1-2)
HD FS 315 US(3)**[1]** or SOC 030 GS(3) (Sem: 3-4)
BIOL 141 GN(3), BIOL 155 GN(3), or BI SC 004 GN(3) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 21-24 credits

ADULT DEVELOPMENT AND AGING SERVICES OPTION: (21 credits)

PRESCRIBED COURSES (6 credits)
HD FS 249 GS(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option (Sem: 1-4)

CHILDREN, YOUTH, AND FAMILY SERVICES OPTION: (24 credits)

PRESCRIBED COURSES (9 credits)
HD FS 229 GS(3)**[1]**, HD FS 239 GS(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with the adviser from University-wide offerings that enhance competence in the option

(Sem: 1-4)

EARLY CHILDHOOD CARE AND EDUCATION OPTION: (24 credits)

PRESCRIBED COURSES (24 credits)
HD FS 229 GS(3)**[1]**, HD FS 230(3)**[1]**, HD FS 231(3)**[1]**, HD FS 311(3)**[1]** (Sem: 1-2)
HD FS 232(3)**[1]**, HD FS 233(3)**[1]**, HD FS 234(3)**[1]**, HD FS 330(3)**[1]** (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-03-026

Review Date: 12/19/07

UCA Revision #1: 8/8/06

HH

Information Sciences and Technology

Berks College
Continuing Education
University College: Penn State Beaver, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of Information Sciences and Technology (2 IST)
World Campus

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

PROFESSOR MICHAEL D. McNEESE, *in charge*

This associate degree major is structured to prepare graduates for immediate and continuing employment opportunities in the broad disciplines of information science and technology. This includes positions such as application programmers, associate systems designers, network managers, Web designers and administrators, or information systems support specialists. Specifically, the major is designed to ensure a thorough knowledge of information systems and includes extensive practice using contemporary technologies in the creation, organization, storage, analysis, evaluation, communication, and transmission of information. The major fosters communications, interpersonal, and group interaction skills through appropriate collaborative and active learning projects and experiences. Technical material covers the structure of database systems, Web and multi-media systems, and considerations in the design of information systems. Team projects in most courses, a required internship, and a second-year capstone experience provide additional, focused venues for involving students in the cutting-edge issues and technologies in the field.

The Associate of Science in IST degree will be offered at multiple campuses within the Penn State system of colleges and campuses. Note that not all options will be available at all locations.

Baccalaureate Option: This option provides maximum articulation with the baccalaureate degree. Students who complete this option will meet all lower division requirements for the baccalaureate degree. This is not the case with the remaining options, although the degree of articulation is quite high for all associate degree options.

Generalized Business Option: This option enables students to specialize in the general business areas of accounting, marketing, and management.

Individualized Option: This option enables students to work closely with an adviser to develop a plan of study that meets the dual objectives of allowing a flexible academic program and providing breadth of technical specialization. An example would be a program where a student would take some of the courses listed in the Web Administration option and the remainder in the Software option.

Software Option: This option prepares graduates for entry-level programming support positions in industry. Students take courses in Web programming, database programming, and other contemporary programming environments.

Web Administration Option: This prepares graduates for positions as Web administrators and Web programmers.

Networking Option: This option prepares graduates for positions as entry-level computer network administrators. Students take courses in personal computer hardware, networking essentials, and network administration.

Data/Information Option: This option prepares graduates for entry-level database support positions. Students take courses in relational database systems and database management.

Industrial/Manufacturing Option: This option prepares graduates for entry-level manufacturing information systems positions. Students take courses in electrical and mechanical systems, and business and industrial processes.

Telecommunications Option: This option prepares graduates for entry-level positions in the telecommunications industry. Students take courses in voice and data communications, protocols, networks, and wireless systems.

For the Associate in Science degree in IST, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9-12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See the description of General Education in this bulletin.)

ELECTIVES: 2-6 credits

REQUIREMENTS FOR THE MAJOR: 45-47 credits
(This includes 9-12 credits of General Education courses, i.e., ALL options: 3 credits of GQ courses; 6 credits of GWS courses. The Baccalaureate Option also includes 3 credits of GS courses to equal a total of 12 credits that double count; the General Business Option also includes 0-3 credits of GS courses to equal 9-12 credits that double count.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 30 credits

PRESCRIBED COURSES (26 credits)
CMPSC 101 GQ(3)**[1]** (Sem: 1-2)
CAS 100B GWS(3), IST 110 GS(3)**[1]**, IST 111S(1), IST 210(4)**[1]**, IST 220(3)**[1]**, IST 250(3), ENGL 015 GWS(3) (Sem: 1-2)

IST 260W(3) (Sem: 3-4)

ADDITIONAL COURSES (4 credits)
ENGL 202C GWS(3) or ENGL 202D GWS(3) (Sem: 3-4)
IST 295A(1) or IST 295B(1) (Sem: 3-4)

REQUIREMENTS FOR THE OPTION: 15-18 credits

BACCALAUREATE OPTION: (17-18 credits)

PRESCRIBED COURSES (13 credits)
IST 230(3) and IST 240(3) (Sem: 3-4)
ECON 002 GS(3) (Sem: 3-4)
STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (4 credits)
MATH 110 GQ(4) or MATH 140 GQ(4) (Sem: 1-2)

GENERALIZED BUSINESS OPTION: (15-16 credits)

ADDITIONAL COURSES (15-16 credits)
Select 15 credits in consultation with the adviser from the following list: (Sem:1-4)
ACCTG 151(3), ACCTG 152(3), ACCTG 153(3), ACCTG 160(3), ACCTG 170(3), ACCTG 186(3), ACCTG 211(4), B A 250(3), MKTG 220(3), MKTG 221(3), MKTG 310(3), MKTG 327(3), MGMT 100(3), MGMT 150(3), MGMT 321(3), MGMT 341(3)
ECON 002 GS(3), ECON 004 GS(3), or ECON 014 GS(3)
MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3)

INDIVIDUALIZED OPTION: (15 credits)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in consultation with an adviser that follow a coherent theme in information sciences and technology. (Sem: 1-4)

SOFTWARE OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)
CMPSC 302(3) (Sem: 2-4)
IST 211(3), IST 247(3), and IST 256(3) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

NETWORKING OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)
IST 225(3), IST 226(3), IST 227(3), and IST 228(3) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

WEB ADMINISTRATION OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)
IST 255(3), IST 256(3), IST 257(3), and IST 258(3) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

MANUFACTURING OPTION: (16 credits)

PRESCRIBED COURSES (12 credits)
IST 271(3), IST 272(3), IST 273(3), and IST 274(3) (Sem: 3-4)

ADDITIONAL COURSES (4 credits)
MATH 110(4) or MATH 140(4) (Sem: 1-2)

TELECOMMUNICATIONS OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)
IST 221(3), IST 222(3), IST 223(3), and IST 224(3) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

DATA/INFORMATION OPTION: (15 credits)

PRESCRIBED COURSES (12 credits)
IST 211(3), IST 212(3), IST 213(3), and IST 214(3) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
MATH 017 GQ(3), MATH 021 GQ(3), MATH 022 GQ(3), or MATH 026 GQ(3) (Sem: 1-2)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2003

Blue Sheet Item #: 31-04-085

Review Date: 10/6/05

UCA Revision #2: 7/27/07

IS

Letters, Arts, and Sciences

Abington College (2LAAB)
Altoona College (2LAAL)
Penn State Erie, The Behrend College (2LABC)
Berks College (2LABL)
Capital College (2LACA)
University College (2LACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State Greater Allegheny, Penn State Lehigh Valley, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango Valley, Penn State Wilkes-Barre, Penn State Worthington-Scranton, Penn State York
University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

The objectives of the Letters, Arts, and Sciences major are to broaden the student's understanding, interests, and skills; to help the student become a more responsible, productive member of the family and community; and to offer a degree program with sufficient electives to permit some specialization according to the student's interests or career plans. Letters, Arts, and Sciences is a complete two-year degree major. However, graduates who later seek admission to baccalaureate degree majors may apply baccalaureate credits toward the new degree.

In addition to a wide variety of baccalaureate majors offered at University Park campus, graduates of the Letters, Arts, and Sciences major may qualify for admission to the baccalaureate degree majors in Behavioral Sciences, Elementary Education, Humanities, or Public Policy offered at Penn State Harrisburg. Or they may qualify for any of a large number of baccalaureate degree majors offered by Penn State Erie, The Behrend College, in business, the liberal arts, and sciences.

For the Associate in Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#**[1]**
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (6 credits)
ENGL 015 GWS(3) (Sem: 1-2)
CAS 100 GWS(3) (Sem: 3-4)

ADDITIONAL COURSE (3 credits)
ENGL 202A GWS(3), ENGL 202B GWS(3), ENGL 202C GWS(3), or ENGL 202D GWS(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 3 credits in any course designated as arts* (Sem: 1-4)
Select 3 credits in any course designated as humanities* (Sem: 1-4)
Select 3 credits in any course designated as social and behavioral sciences* (Sem: 1-4)
Select 3 credits in any course designated as physical, biological, or earth sciences* (Sem: 1-4)
Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

#The required credits of General Education and Requirements for the Major must be baccalaureate-level courses. For students intending to seek admission to a baccalaureate program upon graduation, it is recommended that most, if not all, of the courses be at the baccalaureate level. For those students who will seek a bachelor of arts degree upon graduation from Letters, Arts, and Sciences, it is strongly recommended that a foreign language be taken since admission to a bachelor of arts program in the College of the Liberal Arts requires one college-level course, or the equivalent, in a foreign language.

*****Courses that will satisfy the arts, humanities, social and behavioral sciences, natural sciences, and quantification requirements are defined on the Letters, Arts, and Sciences checksheet, which may be obtained from the College of the Liberal Arts associate dean for undergraduate studies at the University Park campus or from any Letters, Arts, and Sciences representative at other locations.

Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-10-044

Review Date: 10/8/02

Reviewed by Publications: 06/23/06

LA

Letters, Arts, and Sciences

Abington College (2LAAB)
Altoona College (2LAAL)
Penn State Erie, The Behrend College (2LABC)
Berks College (2LABL)
Capital College (2LACA)
University College (2LACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State Greater Allegheny, Penn State Lehigh Valley, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango Valley, Penn State Wilkes-Barre, Penn State Worthington-Scranton, Penn State York
University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

The objectives of the Letters, Arts, and Sciences major are to broaden the student's understanding, interests, and skills; to help the student become a more responsible, productive member of the family and community; and to offer a degree program with sufficient electives to permit some specialization according to the student's interests or career plans. Letters, Arts, and Sciences is a complete two-year degree major. However, graduates who later seek admission to baccalaureate degree majors may apply baccalaureate credits toward the new degree.

In addition to a wide variety of baccalaureate majors offered at University Park campus, graduates of the Letters, Arts, and Sciences major may qualify for admission to the baccalaureate degree majors in Behavioral Sciences, Elementary Education, Humanities, or Public Policy offered at Penn State Harrisburg. Or they may qualify for any of a large number of baccalaureate degree majors offered by Penn State Erie, The Behrend College, in business, the liberal arts, and sciences.

For the Associate in Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#**[1]**
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (6 credits)
ENGL 015 GWS(3) (Sem: 1-2)
CAS 100 GWS(3) (Sem: 3-4)

ADDITIONAL COURSE (3 credits)
ENGL 202A GWS(3), ENGL 202B GWS(3), ENGL 202C GWS(3), or ENGL 202D GWS(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 3 credits in any course designated as arts* (Sem: 1-4)
Select 3 credits in any course designated as humanities* (Sem: 1-4)
Select 3 credits in any course designated as social and behavioral sciences* (Sem: 1-4)
Select 3 credits in any course designated as physical, biological, or earth sciences* (Sem: 1-4)
Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

#The required credits of General Education and Requirements for the Major must be baccalaureate-level courses. For students intending to seek admission to a baccalaureate program upon graduation, it is recommended that most, if not all, of the courses be at the baccalaureate level. For those students who will seek a bachelor of arts degree upon graduation from Letters, Arts, and Sciences, it is strongly recommended that a foreign language be taken since admission to a bachelor of arts program in the College of the Liberal Arts requires one college-level course, or the equivalent, in a foreign language.

*****Courses that will satisfy the arts, humanities, social and behavioral sciences, natural sciences, and quantification requirements are defined on the Letters, Arts, and Sciences checksheet, which may be obtained from the College of the Liberal Arts associate dean for undergraduate studies at the University Park campus or from any Letters, Arts, and Sciences representative at other locations.

Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-10-044

Review Date: 10/8/02

Reviewed by Publications: 06/23/06

LA

Letters, Arts, and Sciences

Abington College (2LAAB)
Altoona College (2LAAL)
Penn State Erie, The Behrend College (2LABC)
Berks College (2LABL)
Capital College (2LACA)
University College (2LACC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State Greater Allegheny, Penn State Lehigh Valley, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango Valley, Penn State Wilkes-Barre, Penn State Worthington-Scranton, Penn State York
University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

The objectives of the Letters, Arts, and Sciences major are to broaden the student's understanding, interests, and skills; to help the student become a more responsible, productive member of the family and community; and to offer a degree program with sufficient electives to permit some specialization according to the student's interests or career plans. Letters, Arts, and Sciences is a complete two-year degree major. However, graduates who later seek admission to baccalaureate degree majors may apply baccalaureate credits toward the new degree.

In addition to a wide variety of baccalaureate majors offered at University Park campus, graduates of the Letters, Arts, and Sciences major may qualify for admission to the baccalaureate degree majors in Behavioral Sciences, Elementary Education, Humanities, or Public Policy offered at Penn State Harrisburg. Or they may qualify for any of a large number of baccalaureate degree majors offered by Penn State Erie, The Behrend College, in business, the liberal arts, and sciences.

For the Associate in Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#**[1]**
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (6 credits)
ENGL 015 GWS(3) (Sem: 1-2)
CAS 100 GWS(3) (Sem: 3-4)

ADDITIONAL COURSE (3 credits)
ENGL 202A GWS(3), ENGL 202B GWS(3), ENGL 202C GWS(3), or ENGL 202D GWS(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 3 credits in any course designated as arts* (Sem: 1-4)
Select 3 credits in any course designated as humanities* (Sem: 1-4)
Select 3 credits in any course designated as social and behavioral sciences* (Sem: 1-4)
Select 3 credits in any course designated as physical, biological, or earth sciences* (Sem: 1-4)
Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

#The required credits of General Education and Requirements for the Major must be baccalaureate-level courses. For students intending to seek admission to a baccalaureate program upon graduation, it is recommended that most, if not all, of the courses be at the baccalaureate level. For those students who will seek a bachelor of arts degree upon graduation from Letters, Arts, and Sciences, it is strongly recommended that a foreign language be taken since admission to a bachelor of arts program in the College of the Liberal Arts requires one college-level course, or the equivalent, in a foreign language.

*****Courses that will satisfy the arts, humanities, social and behavioral sciences, natural sciences, and quantification requirements are defined on the Letters, Arts, and Sciences checksheet, which may be obtained from the College of the Liberal Arts associate dean for undergraduate studies at the University Park campus or from any Letters, Arts, and Sciences representative at other locations.

Last Revised by the Department: Summer Session 1988

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University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

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In addition to a wide variety of baccalaureate majors offered at University Park campus, graduates of the Letters, Arts, and Sciences major may qualify for admission to the baccalaureate degree majors in Behavioral Sciences, Elementary Education, Humanities, or Public Policy offered at Penn State Harrisburg. Or they may qualify for any of a large number of baccalaureate degree majors offered by Penn State Erie, The Behrend College, in business, the liberal arts, and sciences.

For the Associate in Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#**[1]**
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (6 credits)
ENGL 015 GWS(3) (Sem: 1-2)
CAS 100 GWS(3) (Sem: 3-4)

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Select 3 credits in any course designated as arts* (Sem: 1-4)
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Select 3 credits in any course designated as social and behavioral sciences* (Sem: 1-4)
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Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

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University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

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Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

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University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

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Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

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ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#**[1]**
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CAS 100 GWS(3) (Sem: 3-4)

ADDITIONAL COURSE (3 credits)
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SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 3 credits in any course designated as arts* (Sem: 1-4)
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Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

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University Park, College of the Liberal Arts (2 LAS)
World Campus

ASSOCIATE DEAN JOHN L. SELZER, *in charge, Penn State University Park*

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For the Associate in Arts degree in Letters, Arts, and Sciences, a minimum of 60 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(6 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

ELECTIVES: 15 credits

REQUIREMENTS FOR THE MAJOR: 30 credits#**[1]**
(This includes 6 credits of General Education GWS courses.)

PRESCRIBED COURSES (6 credits)
ENGL 015 GWS(3) (Sem: 1-2)
CAS 100 GWS(3) (Sem: 3-4)

ADDITIONAL COURSE (3 credits)
ENGL 202A GWS(3), ENGL 202B GWS(3), ENGL 202C GWS(3), or ENGL 202D GWS(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (21 credits)
Select 3 credits in any course designated as arts* (Sem: 1-4)
Select 3 credits in any course designated as humanities* (Sem: 1-4)
Select 3 credits in any course designated as social and behavioral sciences* (Sem: 1-4)
Select 3 credits in any course designated as physical, biological, or earth sciences* (Sem: 1-4)
Select 9 credits in any one of the following areas*: arts, humanities, social and behavioral sciences, natural sciences and quantification, and foreign language skills. (If foreign language courses are chosen, it is recommended that these courses be in one foreign language sequence.) (Sem: 1-4)

[1]A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

#The required credits of General Education and Requirements for the Major must be baccalaureate-level courses. For students intending to seek admission to a baccalaureate program upon graduation, it is recommended that most, if not all, of the courses be at the baccalaureate level. For those students who will seek a bachelor of arts degree upon graduation from Letters, Arts, and Sciences, it is strongly recommended that a foreign language be taken since admission to a bachelor of arts program in the College of the Liberal Arts requires one college-level course, or the equivalent, in a foreign language.

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Last Revised by the Department: Summer Session 1988

Blue Sheet Item #: 16-10-044

Review Date: 10/8/02

Reviewed by Publications: 06/23/06

LA

Materials Engineering Technology

University College (2MATE): Penn State DuBois

PROFESSOR CRAIG STRINGER, *Program Coordinator, Penn State Dubois*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

The curriculum of the program provides students with an introduction to the range of practical skills needed to be an engineering technician in materials-related industries and organizations The program emphasizes particulate materials technology, but the student is prepared for entry-level positions in other materials-related organizations.

Among the responsibilities of a materials technician are carrying out a variety of destructive and nondestructive tests or special problem-solving projects that require property or failure analysis. Other duties may entail preparing or examining samples under a microscope, using materials specifications or blueprints, or developing and debugging materials processing procedures.

The primary goal of the program is achieved through a core of materials engineering topics, including structure and properties of engineering materials, materials testing, powder metallurgy, and materials characterization. The technical courses are supported by foundation courses in written and oral communications, technical mathematics and calculus, chemistry, physics, computer-aided drafting (CAD), and basic engineering topics. This program is one of the Pennsylvania Department of Education-approved Tech Prep programs. Secondary school students who have graduated from a program covered by a signed Penn State Articulation Agreement may be eligible for special admission procedures and/or advanced placement. Graduates of the Associate Degree Materials Engineering Technology program will:

- Have a broad knowledge in the area of materials engineering, materials testing, materials characterization, particulate materials processing, technical problem solving, and hands on application of engineering technology.
- Have the ability to further their education through additional degree study in related fields, short courses, and/or industrial training.
- Be prepared to communicate effectively and work collaboratively in multi-disciplinary, team orientated work environments.
- Have the ability to learn and adapt to rapid changes in chosen technical field of education and professional work environments.
- Demonstrate a high standard of professional ethics and be cognizant of social concerns as they relate to the practice of engineering technology.

For the Associate in Engineering Technology degree in Materials Engineering Technology, a minimum of 64 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin.)*

REQUIREMENTS FOR THE MAJOR: 55 credits
(This includes 12 credits of General Education courses: 6 credits of GWS courses; 3 credits of GN courses; 3 credits of GQ courses.)

PRESCRIBED COURSES (49 credits)
CAS 100 GWS(3), CHEM 110 GN(3), CHEM 111 GN(1), EET 101(3), EET 109(1), EG T 101(1), EG T 102(1), ENGL 015 GWS(3), ET 002(1), MATH 081 GQ(3), MATH 082 GQ(3), PHYS 150 GN(3) (Sem: 1-2)
IET 109(3), MAE T 201(3)**[1]**, MAE T 202(3)**[1]**, MAE T 203(3)**[1]**, MAE T 204W(3), MAE T 205(4)**[1]**, MATH 083 GQ(4)**[1]** (Sem: 3-4)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following technical courses: EGT 114(2), EGT 201(2), EGT 297(2), MCH T 111(3), MCH T 213(3), MCH T 214(1), MAE T 297(3) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Spring Semester 2006

Blue Sheet Item #: 34-05-127A

Review Date: 5/2/07

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

EN

Mechanical Engineering Technology

Altoona College
Berks College
Penn State Erie, The Behrend College
University College: Penn State DuBois, Penn State Hazleton, Penn State New Kensington, Penn State York (2 MET)

PROFESSOR BRUCE MULLER, *Program Coordinator, Penn State Altoona*
PROFESSOR BARBARA MIZDAIL, *Program Coordinator, Penn State Berks*
PROFESSOR DAVID JOHNSON, *Program Coordinator, Penn State Erie, The Behrend College*
PROFESSOR SOMNATH CHATTOPADHYAY, *Program Coordinator, Penn State DuBois*
PROFESSOR WIESLAW GREBSKI, *System-wide Program Coordinator, Penn State Hazleton*
PROFESSOR JOAN KOWALSKI, *Program Coordinator, Penn State New Kensington*
PROFESSOR DANIEL STYDUHAR, *Program Coordinator, Penn State Shenango*
PROFESSOR MARSHALL COYLE, *Program Coordinator, Penn State York*
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

This major helps graduates prepare for technical positions in manufacturing, machine and tool design, computer drafting and design, computer integrated manufacturing, materials selection and processes, technical sales, and other related industries in mechanical applications. The primary objective of the program is to provide a broad foundation in mechanical systems and applications; computer systems in drafting (CAD), manufacturing (CAM), and automation and robotics (CIM); production and product design; mechanics, dynamics, and strength of materials. This program also articulates with Pennsylvania Department of Education-approved Tech Prep programs. Secondary students who have graduated from a program covered by a signed Penn State Tech Prep Articulation Agreement may be eligible for special admission procedures and/or advanced placement. Graduates of the Associate Degree Mechanical Engineering Technology program will:

- Have a broad knowledge in the areas of applied design, manufacturing, testing, evaluation, and technical sales, 2D and 3D modeling.
- Have the ability to enter a Baccalaureate Mechanical Engineering Technology or related Engineering Technology program.
- Be prepared to communicate effectively and work collaboratively in multi-disciplinary teams.
- Be able to learn and adapt to changes in a professional work environment.
- Demonstrate a high standard of professional ethics and be cognizant of social concerns as they relate to the practice of Engineering Technology.

Graduates of this major may qualify for admission to the baccalaureate degree majors in Mechanical Engineering Technology and Structural Design and Construction Engineering Technology programs at Penn State Harrisburg; the Mechanical Engineering Technology and the Plastics Engineering Technology programs at Penn State Erie, The Behrend College; or the baccalaureate degree major in Electro-Mechanical Engineering Technology offered at Penn State Altoona, Penn State Berks, Penn State New Kensington, or Penn State York.

For the Associate in Engineering Technology degree in Mechanical Engineering Technology, a minimum of 64 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in front of *Bulletin*.)

REQUIREMENTS FOR THE MAJOR: 55-57 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (31 credits)
ENGL 015 GWS(3), CAS 100 GWS(3), CMPET 117(3), CMPET 120(1), MCH T 111(3)**[1]** (Sem: 1-2)
EG T 114(2), IET 215(2), IET 216(2), MCH T 213(3), MET 206(3)**[1]**, MET 210W(3), PHYS 151 GN(3) (Sem: 3-4)

ADDITIONAL COURSES (24-26 credits)
EDSGN 100(3) or EG T 120(3) (Sem: 1-2)
MATH 026 GQ(3) or MATH 081 GQ(3) (Sem: 1-2)
EET 100(3) or EET 105(3) (Sem: 1-2)
IET 101(3)**[1]** or MET 105 (3)**[1]** (Sem: 1-2)
MATH 022(3) or MATH 082 GQ(3) (Sem: 1-2)
MCH T 112(1) or MCH T 214(1) (Sem: 1-2)

Select 8-10 credits from one of the following tracks a, b, or c:

a) General Track
AE T 297(1-9), CHEM 101 GN(3), CHEM 110 GN(3), CHEM 111 GN(1), CMPSC 101 GQ(3), EET 100(3), EET 114(4), EET 118(1), EG T 297(1-9), IET 105(2), IET 109(3), IET 297(1-9), MET 281(4), SUR 111(3), or select 3 credits in consultation

with an advisor from 200-level MET courses (Sem: 3-4)
IST 110 GS(3), IST 210(4), IST 220(3), IST 250(3), MATH 140 GQ(4), STAT 200 GQ(4), MATH 083 GQ(4), PHYS 150 GN(3), EG T 201(2) (Sem: 3-4)

b) CAD/IST Track
EG T 201(2) (Sem: 3-4)
IST 210(4) or IST 220(3) or IST 250 (3) (Sem: 3-4)
Select 3 credits in consultation with an advisor from 200-level MET courses (Sem: 3-4)

c)Baccalaureate Degree Track
MATH 140 GQ(4), STAT 200 GQ(4), CHEM 110 GN(3), EET 114(4), EG T 201(2) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-03-019

Review Date: 11/27/07

UCA Revision #1: 8/3/06
UCA Revision #2: 7/30/07

Comments

EN

Medical Laboratory Technology

University College (2 MLT): Penn State Hazleton

PROFESSOR PHILIP W. MOHR, *in charge, Penn State University Park*

This two-calendar-year Medical Laboratory Technology major (four semesters, two summer sessions) is designed to provide the necessary general and technical training for hospital personnel between the level of the medical laboratory technician (certificate program) and the medical technologist (baccalaureate program). The course of study includes one year of intensive clinical experience at an affiliated hospital and the theoretical background necessary for the clinical procedures performed by the certified medical laboratory technician (associate degree program). Upon completion of program requirements, the student receives the associate degree and is eligible to sit for examinations leading to certification and registry as a medical laboratory technician.

Graduates of the Medical Laboratory Technology major may qualify for admission to the baccalaureate degree majors in Behavioral Sciences, Humanities, or Public Policy offered at Penn State Harrisburg.

For the Associate in Science degree in Medical Laboratory Technology, a minimum of 70 credits is required. (Scheduling of courses in summer session depends on campus location.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of the 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 61-64 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GN courses; 3 credits of GQ courses.)

PRESCRIBED COURSES (53 credits)
BIOL 141 GN(3), BIOL 142(1), CHEM 110 GN(3), CHEM 111 GN(1), MICRB 201(3), MICRB 202(2) (Sem: 1-2)
CHEM 202(3), ENGL 015 GWS(3), MICRB 150(4) (Sem: 1-2, Summer)
CAS 100 GWS(3) (Sem: Summer)
MICRB 151A(7)**[1]**, MICRB 151C(6)**[1]**, MICRB 151D(4)**[1]**, MICRB 151E(2)**[1]**, MICRB 151F(2)**[1]**, MICRB 151W(6)**[1]** (Sem: 3-4)

ADDITIONAL COURSES (8-11 credits)
BIOL 011 GN(3), BIOL 012 GN(1); or BIOL 110 GN(4) (Sem: 1-2)
CMPSC 100(3) (Sem: Summer)
MATH 021 GQ(3) or higher-numbered MATH course, except MATH 035, MATH 036, and MATH 200; or STAT 200 GQ(4); or STAT 250 GQ(3) (Sem: 1-2)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-03-104

Review Date: 4/2/03

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

UC

Mining Technology

University College (2MNGT): Penn State Fayette

The Associate of Science degree in Mining Technology blends basic sciences, mathematics, principles and practices of management, and applied courses in Mining Technology to prepare students for supervisory roles in the Mining industry. This major helps prepare students for either a production-oriented or a maintenance-oriented position in the mining industry. Graduates of this major, after serving the required apprenticeship, should be qualified to become certified managers in their field. All students complete a common core of classes, but must also choose to enroll in one of two emphases, Maintenance or Production.

The maintenance emphasis prepares students to become maintenance supervisors. Initially, graduates may work as apprentice electricians or mechanics to gain experience in repairs and planned maintenance. After certification is obtained, they may become involved with maintenance planning, working as or with the chief mine mechanic or chief mine electrician.

The production emphasis helps prepare students to become mine supervisors or engineering aides. Initially, some of the duties are to run transit and act as survey party chief, keep mine maps up to date and make projections, take samples and run analyses, make time studies, and assist with materials handling layouts.

For the Associate of Science degree in Mining Technology, a minimum of 67 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:
(Included in GENERAL EDUCATION course selection)

WRITING ACROSS THE CURRICULUM:
(Included in REQUIREMENTS FOR THE MAJOR)

REQUIREMENTS FOR THE MAJOR: 58- 59 credits
(This includes 12 credits of General Education courses: 6 credits of GWS courses; 3 credits of GN courses; 3 credits of GQ courses)

PRESCRIBED COURSES: (50 credits)
CMPSC 100(3), EDSGN 100(3), ENGL 015 GWS(3), GEOSC 020 GN(3), MATH 081 GQ(3), MATH 082 GQ(3), MNG 023(2), MNG T 030(2), MNG T 100(1)**[1]**, MNG T 110(3), PHYS 150 GN(3) (Sem: 1-2)
CAS 100 GWS(3), MNG T 204(3)**[1]**, MNG T 205W(3), MNG T 210(3), MNG T 211(3), MNG T 214(3), MNG T 216(3)**[1]** (Sem: 3-4)

ADDITIONAL COURSES: (8-9 credits)
Select 8-9 credits from one of the following two emphases:
a. Maintenance Emphasis: MNG T 207(3), MNG T 208(3), MNG T 209(2) (Sem: 3-4)
b. Production Emphasis: MNG T 202(3), MNG T 213(3), MNG T 215(3) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-147

Review Date: 02/23/2010

UCA Revision #1: 8/9/06

EN

Nanofabrication Manufacturing Technology

University College (2 NMT): Penn State Fayette, Penn State Hazleton, Penn State Greater Allegheny, Penn State Wilkes-Barre, Penn State York

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

This degree prepares graduates for technical positions in the expanding fields of nanofabrication technology or professional nanomanufacturing technology, biotechnology, and/or work in biomedical industries (bionanofabrication). There are two options provided; both require a capstone semester to be taken at the NMT Facility at the University Park campus where students take six ESci courses (3 credits each) of instruction for a total of 18 credits.

NANOMANUFACTURING ENGINEERING TECHNOLOGY OPTION (2NMT/ET): This option helps prepare graduates for technical positions in the field of nanofabrication technology. The primary objective is to provide a broad foundation of theoretical and practical knowledge in the areas of nanofabrication manufacturing, electrical and electronic circuits, digital circuits, nanofabrication manufacturing equipment, processing and testing. The program will also articulate with Pennsylvania Department of Education-approved Tech Prep programs. Secondary students who have graduated from a program covered by an assigned Penn State Articulation Agreement may be eligible for special admission procedures and/or advanced placement.

NANOMANUFACTURING SCIENCE OPTION (2NMT/SC): The Nanofabrication Science option is designed to provide for the basic educational needs of students who want to pursue professional programs in nanomanufacturing technology fields primarily in the biotech and biomedical industries (bionanofabrication). The program provides a fundamental group of science courses and a comprehensive group of nanomanufacturing technology courses to those who wish to pursue employment opportunities where such knowledge is necessary or desirable. The program offers a pathway for students to obtain jobs in new and exciting fields, as well as older, established disciplines that are upgrading with this new and emerging technology. Graduates of the program may qualify for admission to the baccalaureate degrees in science. Students who plan to continue in baccalaureate degrees are encouraged to work closely with their advisers.

For the Associate in Engineering Technology degree in Nanofabrication Manufacturing Technology, a minimum of 66-70 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12-15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See General Education description in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 60-66 credits
(This includes 12-15 credits of General Education courses: Nanomanufacturing Engineering Technology Option - 3 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GQ, GWS, or GN courses; Nanomanufacturing Science Technology Option - 3 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GH courses; 3 credits of GQ, GWS, GH, or GN courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 31 credits

PRESCRIBED COURSES (31 credits)
ENGL 015 GWS(3)**[1]** (Sem: 1-2)
CAS 100 GWS(3)**[1]**, CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]**, NMT 210W(3) (Sem: 3-4)
E SC 211(3), E SC 212(3), E SC 213(3), E SC 214(3), E SC 215(3), E SC 216(3) (Sem: 4)

REQUIREMENTS FOR THE OPTION: 29-35 credits

NANOMANUFACTURING ENGINEERING TECHNOLOGY OPTION: (30 credits)

PRESCRIBED COURSES (27 credits)
EET 101(3), EET 109(l), EET 114(4), CMPET 117(3)**[1]**, EET 118(l)**[1]**, CMPET 120(l), MATH 081 GQ(3), MATH 082 GQ(3) (Sem: 1-2)
NMT 250(1), PHYS 150 GN(3), STAT 200 GQ(4) (Sem: 3-4)

ADDITIONAL COURSES (3 credits)
EDSGN 100(3) or ET 002(1), EG T 101(1), and EG T 102(1) (Sem: 1-2)

NANOMANUFACTURING SCIENCE OPTION: (29-35 credits)

ADDITIONAL COURSES (29-35 credits)
BIOL 110 GN(4)**[1]** or BIOL 141 GN(3)**[1]** (Sem: 1-4)
EET 101(3) and EET 109(l) or E E 210(4) (Sem: 1-4)
Note: PHYS 250 and PHYS 251 ***or*** *PHYS 211 and PHYS 212 and MATH 140 are recommended for students planning to continue in baccalaureate programs of science.*
Select 4-6 credits from MATH 022 GQ(3) and MATH 026 GQ(3), or MATH 040 GQ(5), or MATH 140 GQ(4) (Sem: 1-2)
Select 3-4 credits from STAT 200 GQ(4), STAT 220(3), STAT 250 GQ(3) (Sem: 1-4)
Select 3 credits from PHIL 002 GH(3), PHIL 103 GH(3), PHIL 103W GH(3), PHIL 110 GH(3), PHIL 118 GH(3), PHIL 221 GH(3) (Sem: 1-4)
Select 3 credits from CMPSC 100(3), CMPSC 101 GQ(3), MIS 103(3) (Sem: 1-4)

Select 6-8 credits from PHYS 150 GN(3) and PHYS 151 GN(3) or PHYS 250 GN(4) and PHYS 251 GN(4) or PHYS 211 GN(4) and PHYS 212 GN(4) (Sem: 2-4)
Select 3 credits from BIOL 222(3), CHEM 112 GN(3), CHEM 202(3), CMPEN 271(3), or EDSGN 100(3) (Sem: 2-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-095

Review Date: 6/28/05

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

UC

Nursing

Penn State Altoona (2NURS)
Penn State Erie, The Behrend College (2NURS)
University College: Penn State Fayette, Penn State Mont Alto, Penn State Worthington Scranton (2NURS)

PROFESSOR PAULA MILONE-NUZZO, *Dean, School of Nursing*

Graduates of this major are prepared to provide care in a variety of health care settings to individuals with commonly occurring acute or chronic health problems. After earning the associate degree, students are eligible to take the registered nurse examination for licensure by the State Board of Nursing. The Nursing program is accredited by The National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (404-975-5000), and approved by the Pennsylvania State Board of Nursing.

All transportation and expenses related to clinical are the responsibility of the student. All students must meet the following clinical facility requirements: carry professional liability insurance; complete annual health examination, criminal background and child abuse history clearances, maintain CPR certification and adhere to any additional requirements of the clinical facilities.

Undergraduate Academic Progression Policy

The Academic Progression policy delineates the academic standards for pre-licensure students (students without an RN license), who are admitted to the undergraduate nursing program. The policy states that all prerequisite courses may be repeated only one time and failure of two nursing courses results in dismissal from the nursing major. Details of the academic progression policy are available in the student handbook.(http://www.hhdev.psu.edu/nurs/Handbooks/index.html).

Graduates of this major may qualify for admission to the RN to BS program in Nursing.

For the Associate in Science degree in Nursing, a minimum of 68 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 62 credits**[1]**
(This includes 15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses)

PRESCRIBED COURSES (53 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), ENGL 015 GWS(3), NURS 111S(4), NURS 112(4), NURS 113(3), NURS 114(3), NURS 116(2), PSYCH 100 GS(3) (Sem: 1-2)
MICRB 106 GN(3), MICRB 107 GN(1), NURS 211(5), NURS 212(4), NURS 213(5), NURS 214W(3), NURS 216(2)(Sem: 3-4)

ADDITIONAL COURSES (9 credits)
HD FS 129 GS(3) or PSYCH 212 GS(3); SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-2)
Select 3 credits of GQ courses (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-060

Review Date: 02/23/2010

(R&T 2/28/06)

UCA Revision #1: 8/9/06

Accrediting agency address updated: 10/2/09

HH

Nursing

Penn State Altoona (2NURS)
Penn State Erie, The Behrend College (2NURS)
University College: Penn State Fayette, Penn State Mont Alto, Penn State Worthington Scranton (2NURS)

PROFESSOR PAULA MILONE-NUZZO, *Dean, School of Nursing*

Graduates of this major are prepared to provide care in a variety of health care settings to individuals with commonly occurring acute or chronic health problems. After earning the associate degree, students are eligible to take the registered nurse examination for licensure by the State Board of Nursing. The Nursing program is accredited by The National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (404-975-5000), and approved by the Pennsylvania State Board of Nursing.

All transportation and expenses related to clinical are the responsibility of the student. All students must meet the following clinical facility requirements: carry professional liability insurance; complete annual health examination, criminal background and child abuse history clearances, maintain CPR certification and adhere to any additional requirements of the clinical facilities.

Undergraduate Academic Progression Policy

The Academic Progression policy delineates the academic standards for pre-licensure students (students without an RN license), who are admitted to the undergraduate nursing program. The policy states that all prerequisite courses may be repeated only one time and failure of two nursing courses results in dismissal from the nursing major. Details of the academic progression policy are available in the student handbook.(http://www.hhdev.psu.edu/nurs/Handbooks/index.html).

Graduates of this major may qualify for admission to the RN to BS program in Nursing.

For the Associate in Science degree in Nursing, a minimum of 68 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 62 credits**[1]**
(This includes 15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GS courses; 3 credits of GWS courses)

PRESCRIBED COURSES (53 credits)
BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), ENGL 015 GWS(3), NURS 111S(4), NURS 112(4), NURS 113(3), NURS 114(3), NURS 116(2), PSYCH 100 GS(3) (Sem: 1-2)
MICRB 106 GN(3), MICRB 107 GN(1), NURS 211(5), NURS 212(4), NURS 213(5), NURS 214W(3), NURS 216(2)(Sem: 3-4)

ADDITIONAL COURSES (9 credits)
HD FS 129 GS(3) or PSYCH 212 GS(3); SOC 001 GS(3) or SOC 005 GS(3) (Sem: 1-2)
Select 3 credits of GQ courses (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-060

Review Date: 02/23/2010

(R&T 2/28/06)

UCA Revision #1: 8/9/06

Accrediting agency address updated: 10/2/09

HH

Occupational Therapy

Berks College (2OTBL)
University College (2OTCC): Penn State DuBois, Penn State Mont Alto

This major helps graduates prepare to be occupational therapy assistants who are qualified to be employed by agencies that provide occupational therapy and related services. The goal of occupational therapy is to enable the client to be as independent as possible in the daily performance of self-care, productive, and leisure occupations. General education, basic science, and occupational therapy courses are followed by supervised field experience. Upon successful graduation from the program, students must sit for and successfully pass the NBCOT national certification examination to practice. Most states also require licensure as a condition for employment. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination and obtain licensure. NBCOT may be contacted at NBCOT, 800 South Frederick Street, Gaithersburg, MD 20877. 301-990-7979 or on the Web at www.NBCOT.org.

To enter this major, students must have a high school diploma or its equivalent. To be admitted to degree candidacy, the applicant must have completed educational background requirements called Carnegie Units or Secondary School Units. Students are responsible for proof of liability insurance and other requirements specified by the facility providing supervised field experience.

The size of each entering class is limited so that optimal clinical experiences and practical application situations can be maintained. Students are expected to progress through the program in the prescribed manner. Fieldwork affiliations are maintained over a wide geographical area. Students may be required to make special housing and transportation arrangements during the fieldwork phase. Students must complete all Level II fieldwork within eighteen months of successful completion of OTA didactic course work. The 2OTCC curriculum is delivered in 4 semesters at the Berks campus and in 5 semesters at the Mont Alto and Dubois campuses.

The Penn State Occupational Therapy program is fully accredited by ACOTE which can be reached at: Accreditation Council for Occupational Therapy Education, P. O. Box 31220, Bethesda, MD 20824-1220, telephone number 301-652-2682.

For the Associate in Science degree in Occupational Therapy, a minimum of 64 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 55 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GS courses; 3 credits of GN courses.)

PRESCRIBED COURSES (55 credits)
BIOL 129 GN(4)**[1]**, BIOL 141 GN(3)**[1]**, BIOL 142 (1)**[1]**, ENGL 015 GWS(3), HD FS 129 GS(3), O T 100S(1), O T 101(3)**[1]**, PSYCH 100 GS(3) (Sem: 1-2)
O T 103 US(3)**[1]**, O T 105W(3)**[1]**, O T 107(3)**[1]** (Sem: 2-3)
KINES 013 GHA(1), O T 202(3)**[1]**, O T 204(3)**[1]**, O T 206(3)**[1]**, PSYCH 243 GS(3) (Sem: 3-4)
O T 295A(6)**[1]**, O T 295B(6)**[1]** (Sem: 4-5)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-04-022

Review Date: 5/4/04

UCA Revision #1: 8/9/06

Occupational Therapy

Berks College (2OTBL)
University College (2OTCC): Penn State DuBois, Penn State Mont Alto

This major helps graduates prepare to be occupational therapy assistants who are qualified to be employed by agencies that provide occupational therapy and related services. The goal of occupational therapy is to enable the client to be as independent as possible in the daily performance of self-care, productive, and leisure occupations. General education, basic science, and occupational therapy courses are followed by supervised field experience. Upon successful graduation from the program, students must sit for and successfully pass the NBCOT national certification examination to practice. Most states also require licensure as a condition for employment. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination and obtain licensure. NBCOT may be contacted at NBCOT, 800 South Frederick Street, Gaithersburg, MD 20877. 301-990-7979 or on the Web at www.NBCOT.org.

To enter this major, students must have a high school diploma or its equivalent. To be admitted to degree candidacy, the applicant must have completed educational background requirements called Carnegie Units or Secondary School Units. Students are responsible for proof of liability insurance and other requirements specified by the facility providing supervised field experience.

The size of each entering class is limited so that optimal clinical experiences and practical application situations can be maintained. Students are expected to progress through the program in the prescribed manner. Fieldwork affiliations are maintained over a wide geographical area. Students may be required to make special housing and transportation arrangements during the fieldwork phase. Students must complete all Level II fieldwork within eighteen months of successful completion of OTA didactic course work. The 2OTCC curriculum is delivered in 4 semesters at the Berks campus and in 5 semesters at the Mont Alto and Dubois campuses.

The Penn State Occupational Therapy program is fully accredited by ACOTE which can be reached at: Accreditation Council for Occupational Therapy Education, P. O. Box 31220, Bethesda, MD 20824-1220, telephone number 301-652-2682.

For the Associate in Science degree in Occupational Therapy, a minimum of 64 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 55 credits
(This includes 12 credits of General Education courses: 3 credits of GWS courses; 6 credits of GS courses; 3 credits of GN courses.)

PRESCRIBED COURSES (55 credits)
BIOL 129 GN(4)**[1]**, BIOL 141 GN(3)**[1]**, BIOL 142 (1)**[1]**, ENGL 015 GWS(3), HD FS 129 GS(3), O T 100S(1), O T 101(3)**[1]**, PSYCH 100 GS(3) (Sem: 1-2)
O T 103 US(3)**[1]**, O T 105W(3)**[1]**, O T 107(3)**[1]** (Sem: 2-3)
KINES 013 GHA(1), O T 202(3)**[1]**, O T 204(3)**[1]**, O T 206(3)**[1]**, PSYCH 243 GS(3) (Sem: 3-4)
O T 295A(6)**[1]**, O T 295B(6)**[1]** (Sem: 4-5)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-04-022

Review Date: 5/4/04

UCA Revision #1: 8/9/06

Physical Therapist Assistant

University College (2 PTA): Penn State DuBois, Penn State Fayette, Penn State Hazleton, Penn State Mont Alto, Penn State Shenango

PROFESSOR THOMAS E. GLUMAC, *Director, Penn State Mont Alto*
PROFESSOR BARBARA E. REINARD, *Coordinator, Penn State DuBois*
PROFESSOR ROSE PETRILLA, *Coordinator, Penn State Hazleton*
PROFESSOR RICHARD L. HOLZWORTH, *Coordinator, Penn State Shenango*

This major helps prepare individuals to become skilled technical health workers who assist the physical therapist in patient treatment. Students develop knowledge and skills in the appropriate use of equipment and exercise associated with various physical therapy treatment modalities. In order to accomplish these tasks, the major utilizes a combination of basic science and nonscience course work coupled with health education courses specifically designed for the physical therapist assistant. The program culminates with a full semester of clinical experience.

The size of each entering class is limited so that optimal clinical experiences and practical application situations can be maintained. Students are admitted into the program only during the fall semester and must progress through the program in the prescribed manner. Clinical affiliations are maintained over a wide geographical area. Students may be required to make special housing and transportation arrangements during the clinical phase. In order to accommodate the clinical practicum, this major requires five semesters to satisfy graduation requirements.

For the Associate in Science degree in Physical Therapist Assistant, a minimum of 68 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(9-12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 59 credits
(This includes 9-12 credits of General Education courses: 3-6 credits of GWS courses; 3 credits of GN courses; 3-6 credits of GS courses.)

PRESCRIBED COURSES (41 credits)
BIOL 129 GN(4)**[1]**, BIOL 141 GN(3)**[1]**, BIOL 142(1)**[1]**, ENGL 015 GWS(3), P T 100(3)**[1]**, P T 384(4)**[1]** (Sem: 1-2)
P T 150(2)**[1]**, P T 160(3)**[1]**, P T 250(4)**[1]**, P T 260(3)**[1]**, PSYCH 100 GS(3) (Sem: 3-4)
P T 395F(4)*__[1]__, P T 395G(4)*__[1]__ (Sem: 5)

ADDITIONAL COURSES (18 credits)
P T 270(3)**[1]** or P T 270W(3)**[1]** (Sem: 1-2)
KINES 013(1) or KINES 303 GHA(3) (Sem: 1-4)
P T 280(4)**[1]** or P T 280W(4)**[1]** (Sem: 3-4)
CAS 203(3), ENGL 202C GWS(3), or PSYCH 212 GS(3) (Sem: 4-5)
P T 395E(4)**[1]*** or P T 395W(4)**[1]*** (Sem: 5)
Select 1-3 credits from any P T course not listed above in prescribed or additional courses. (Sem: 1-5)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

*Courses that include clinical education experiences may require the student to travel long distances or obtain housing near the assigned clinic. Housing and transportation arrangements are the responsibility of the student.

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-05-007

Review Date: 5/12/04

UCA Revision #1: 8/9/06

DS/MA/HN/SV

Plastics Engineering Technology

Penn State Erie, The Behrend College (2PLET)

This major is designed to help graduates prepare for careers as engineering technicians in the plastics industry. Graduates are qualified for positions requiring setting up and operating plastics processing equipment, troubleshooting processing problems, production line management, solids modeling and design, and technical service and support.

The curriculum provides training in applied mathematics, physics, chemistry, fundamentals of the chemical and physical properties of plastics materials and their processing characteristics, quality control, solids modeling and engineering design principles, and technical communications. The processing component of the curriculum emphasizes injection molding.

Students will receive extensive hands-on experience in the college's state-of-the-art processing laboratory, learning the fundamental principles of operating equipment currently utilized in the plastics industry, including application of statistical methods and quality control. Students will also be trained in the use of solids modeling and fundamentals of plastic tooling and part design.

Graduates of this program may qualify for admission to the baccalaureate degree program in Plastics Engineering Technology offered at Penn State Erie, The Behrend College.

For the Associate in Engineering Technology degree in Plastics Engineering Technology, a minimum of 66 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 57 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (57 credits)
CHEM 110 GN(3), CHEM 111 GN(1), EG T 120(3), EG T 121(3), ENGL 015 GWS(3), MATH 081 GQ(3), MATH 082 GQ(3), PHYS 250 GN(4), PL ET 050(2) (Sem: 1-2)
PL ET 222(4) (Sem: 3)
CAS 100 GWS(3), MATH 083 GQ(4), MCH T 111(3)**[1]**, MCH T 213(3)**[1]**, PL ET 205(3)**[1]**, PL ET 206W(3)**[1]**, PL ET 225(2)**[1]**, PL ET 227(4)**[1]**, PL ET 232(3)**[1]**, (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-008

Review Date: 04/12/05

UCA Revision #1: 8/9/06

Reviewed by Publications: 06/23/06

BD

Radiological Sciences

University College: Penn State New Kensington (2RSCC), Penn State Schuylkill (2RSCC)

For students interested in pursuing an education in the paramedical field of radiography (radiologic technology), the radiological sciences major meets the educational and clinical requirements for the graduate to function as an entry-level radiographer. Required course work is divided into three interrelated areas including general education, radiography specific, and clinical education components. During the clinical education component, students perform radiographic exams under the directed supervision of certified radiographers at multiple area clinical education settings. The clinical component emphasizes the concepts of team practice and patient-centered care. Both the radiography-specific course work and the clinical component are structured sequentially over seven consecutive semesters, commencing each fall semester. Upon successful completion of the 72-credit associate degree, the graduate will be eligible to attempt the American Registry of Radiologic Technologists (ARRT) examination for certification.

For the Associate in Science degree in Radiological Sciences, a minimum of 72 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 66 credits
(This includes 15 credits of General Education courses: 3 credits of GH courses; 3 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

PRESCRIBED COURSES (66 credits)
BIOL 129 GN(4)**[1]**, BIOL 141 GN(3), ENGL 015 GWS(3), MATH 021 GQ(3), RADSC 101(4)**[1]**, RADSC 102(4)**[1]**, RADSC 110(3)**[1]**, RADSC 295(2.5)**[1]** (Sem: 1-2)
RADSC 103(3)**[1]**, RADSC 210W(3)**[1]**, RADSC 295(1)**[1]** (Sem: 3)
CMPSC 101 GQ(3), PHIL 103 GH(3), RADSC 204(3)**[1]**, RADSC 205(3)**[1]**, RADSC 220(3)**[1]**, RADSC 230(3)**[1]**, RADSC 295(2.5)**[1]** (Sem: 4-5)
RADSC 206(3)**[1]**, RADSC 240(2)**[1]**, RADSC 295(1)**[1]** (Sem: 6)
RADSC 207(4)**[1]**, RADSC 295(2)**[1]** (Sem: 7)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-03-073

Review Date: 12/19/07

CL/UC

Science

Altoona College (2SCAL)
University College (2SCCC): Penn State Beaver, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Shenango

The Science major is designed primarily to provide for the basic educational needs of students who want to pursue professional programs in various scientific or medical fields. The program provides a fundamental group of science courses of value to those who seek positions in government or industry where such knowledge is necessary or desirable. The program offers sufficient flexibility to meet diverse academic and career goals.

Graduates of the of the program may qualify for admission to the baccalaureate degrees in science. Students planning on continuing in baccalaureate degrees are encouraged to work closely with their advisers.

For the Associate in Science degree in Science, a minimum of 67 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 61 credits
(This includes 15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GH courses; 3 credits of GQ, GWS, GH, or GN courses.

PRESCRIBED COURSES (14 credits)
BIOL 110 GN(4)**[1]**, CAS 100 GWS(3)**[1]**, CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]** ENGL 015 GWS(3)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (22-27 credits)
(Note: PHYS 250 and PHYS 251 and MATH 140 are recommended for students planning to continue in baccalaureate programs of science.)
Select 4-6 credits from MATH 022 GQ(3), MATH 026 GQ(3), or MATH 040 GQ(5), or MATH 140 GQ(4) (Sem: 1-2)
Select 3-4 credits from STAT 200 GQ(4), STAT 220(3), STAT 250 GQ(3) (Sem: 1-4)
Select 3 credits from PHIL 002 GH(3), PHIL 103 GH(3), PHIL 103W GH(3), PHIL 110 GH(3), PHIL 118 GH(3), PHIL 221 GH(3) (Sem: 1-4)
Select 3 credits form CMPSC 100(3), MIS 103(3), CMPSC 101 GQ(3) (Sem: 1-4)
Select 6-8 credits from PHYS 150 GN(3) and PHYS 151 GN(3) or PHYS 250 GN(4) and PHYS 251 GN(4) (Sem: 2-4)
Select 3 credits from CHEM 112 GN(3), CHEM 202(3) (Sem: 2-4)

SUPPORTING COURSES AND RELATED AREAS (20-25 credits)
Select 20-25 credits from approved departmental list of BIOLOGICAL/MATH/PHYSICAL SCIENCES (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-03-074

Review Date: 11/22/02

UCA Revision #1: 8/14/06

UC/AL/CL

Science

Altoona College (2SCAL)
University College (2SCCC): Penn State Beaver, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Shenango

The Science major is designed primarily to provide for the basic educational needs of students who want to pursue professional programs in various scientific or medical fields. The program provides a fundamental group of science courses of value to those who seek positions in government or industry where such knowledge is necessary or desirable. The program offers sufficient flexibility to meet diverse academic and career goals.

Graduates of the of the program may qualify for admission to the baccalaureate degrees in science. Students planning on continuing in baccalaureate degrees are encouraged to work closely with their advisers.

For the Associate in Science degree in Science, a minimum of 67 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(15 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 61 credits
(This includes 15 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 3 credits of GWS courses; 3 credits of GH courses; 3 credits of GQ, GWS, GH, or GN courses.

PRESCRIBED COURSES (14 credits)
BIOL 110 GN(4)**[1]**, CAS 100 GWS(3)**[1]**, CHEM 110 GN(3)**[1]**, CHEM 111 GN(1)**[1]** ENGL 015 GWS(3)**[1]** (Sem: 1-4)

ADDITIONAL COURSES (22-27 credits)
(Note: PHYS 250 and PHYS 251 and MATH 140 are recommended for students planning to continue in baccalaureate programs of science.)
Select 4-6 credits from MATH 022 GQ(3), MATH 026 GQ(3), or MATH 040 GQ(5), or MATH 140 GQ(4) (Sem: 1-2)
Select 3-4 credits from STAT 200 GQ(4), STAT 220(3), STAT 250 GQ(3) (Sem: 1-4)
Select 3 credits from PHIL 002 GH(3), PHIL 103 GH(3), PHIL 103W GH(3), PHIL 110 GH(3), PHIL 118 GH(3), PHIL 221 GH(3) (Sem: 1-4)
Select 3 credits form CMPSC 100(3), MIS 103(3), CMPSC 101 GQ(3) (Sem: 1-4)
Select 6-8 credits from PHYS 150 GN(3) and PHYS 151 GN(3) or PHYS 250 GN(4) and PHYS 251 GN(4) (Sem: 2-4)
Select 3 credits from CHEM 112 GN(3), CHEM 202(3) (Sem: 2-4)

SUPPORTING COURSES AND RELATED AREAS (20-25 credits)
Select 20-25 credits from approved departmental list of BIOLOGICAL/MATH/PHYSICAL SCIENCES (Sem: 1-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-03-074

Review Date: 11/22/02

UCA Revision #1: 8/14/06

UC/AL/CL

Surveying Technology

University College: Penn State Wilkes-Barre (2 SRT)

PROFESSOR WESLEY PARKS, Program Coordinator, Penn State Wilkes-Barre
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

This major provides the basic undergraduate education required for private and public service as a technician in the surveying profession. Basic knowledge is provided in the areas of boundary, construction, topographic, and photogrammetric surveying. The curriculum is designed to develop an individual understanding of the skills and equipment needed to make precise surveying measurements. The major prepares graduates who, during the first few years of professional practice, will:

- Have a solid understanding of the basic principles of mathematics and science, and the technical competency to use these principles, along with the necessary methods, skills, and modern surveying tools, for practice as a surveying technician.
- Have the ability to apply the principles of surveying, including the ability to conduct field surveys, as well as research, analyze, and interpret data, and do so with an understanding of professional and ethical issues.
- Have the ability to work in a team, using problem-solving skills that include effective communication of technical and professional information, using oral and written communication skills.
- Recognize the value of professional organizations and related activities for the development of leadership skills through service, while maintaining a contemporary understanding of the surveying profession and related societal issues.
- Recognize the need for life-long learning.

Graduates of the Surveying Technology major may qualify for admission to the baccalaureate degree majors in Surveying Engineering at Penn State Wilkes-Barre or Structural Design and Construction Engineering Technology at Penn State Harrisburg.

For the Associate in Engineering Technology degree in Surveying Technology, a minimum of 67 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org (Opens New Window).

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR:58 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (56 credits)
EG T 101(1), EG T 102(1), ENGL 015 GWS(3), ET 002(1), MATH 081 GQ(3), MATH 082 GQ(3), PHYS 150 GN(3), SUR 111(3)**[1]**, SUR 112(3), SUR 162(3)**[1]** (Sem: 1-2)
CAS 100A GWS(3), ENGL 202C GWS(3), MATH 083 GQ(4), PHYS 151(3), SUR 211(2), SUR 222(3), SUR 241(3), SUR 262(2), SUR 272(3), SUR 313(3), SUR 372W(3) (Sem: 3-4)

ADDITIONAL COURSES (2-3 credits)
Select a minimum of 2-3 credits from the following technical courses: MCH T 111(3), SUR 362(3), SUR 375(2) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-04-036

Review Date: 1/24/06

UCA Revision #2: 7/30/07

EN

Surveying Technology

University College: Penn State Wilkes-Barre (2 SRT)

PROFESSOR WESLEY PARKS, Program Coordinator, Penn State Wilkes-Barre
PROFESSOR THOMAS A. SEYBERT, *Director of Engineering Technology, Penn State Wilkes-Barre*
PROFESSOR SVEN BILEN, *Interim Head, School of Engineering Design, Technology, and Professional Programs, Penn State University Park*

This major provides the basic undergraduate education required for private and public service as a technician in the surveying profession. Basic knowledge is provided in the areas of boundary, construction, topographic, and photogrammetric surveying. The curriculum is designed to develop an individual understanding of the skills and equipment needed to make precise surveying measurements. The major prepares graduates who, during the first few years of professional practice, will:

- Have a solid understanding of the basic principles of mathematics and science, and the technical competency to use these principles, along with the necessary methods, skills, and modern surveying tools, for practice as a surveying technician.
- Have the ability to apply the principles of surveying, including the ability to conduct field surveys, as well as research, analyze, and interpret data, and do so with an understanding of professional and ethical issues.
- Have the ability to work in a team, using problem-solving skills that include effective communication of technical and professional information, using oral and written communication skills.
- Recognize the value of professional organizations and related activities for the development of leadership skills through service, while maintaining a contemporary understanding of the surveying profession and related societal issues.
- Recognize the need for life-long learning.

Graduates of the Surveying Technology major may qualify for admission to the baccalaureate degree majors in Surveying Engineering at Penn State Wilkes-Barre or Structural Design and Construction Engineering Technology at Penn State Harrisburg.

For the Associate in Engineering Technology degree in Surveying Technology, a minimum of 67 credits is required. This program is accredited by the Technology Accreditation Commission of ABET, Inc., 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: 410-347-7700, or www.abet.org (Opens New Window).

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(12 of these 21 credits are included in the REQUIREMENTS FOR THE MAJOR)
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR:58 credits
(This includes 12 credits of General Education courses: 3 credits of GN courses; 3 credits of GQ courses; 6 credits of GWS courses.)

PRESCRIBED COURSES (56 credits)
EG T 101(1), EG T 102(1), ENGL 015 GWS(3), ET 002(1), MATH 081 GQ(3), MATH 082 GQ(3), PHYS 150 GN(3), SUR 111(3)**[1]**, SUR 112(3), SUR 162(3)**[1]** (Sem: 1-2)
CAS 100A GWS(3), ENGL 202C GWS(3), MATH 083 GQ(4), PHYS 151(3), SUR 211(2), SUR 222(3), SUR 241(3), SUR 262(2), SUR 272(3), SUR 313(3), SUR 372W(3) (Sem: 3-4)

ADDITIONAL COURSES (2-3 credits)
Select a minimum of 2-3 credits from the following technical courses: MCH T 111(3), SUR 362(3), SUR 375(2) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-04-036

Review Date: 1/24/06

UCA Revision #2: 7/30/07

EN

Wildlife Technology

University College: Penn State DuBois
University Park, College of Agricultural Sciences (2 WLT)

PROFESSOR CHARLES P. SCHAADT, *in charge, Penn State DuBois*

The Wildlife Technology major helps prepare students in the techniques of wildlife management. Personnel trained in this field are needed to assist in the applied phases of natural resource management, wildlife biology, range management, and the care, maintenance, and propagation of animals. Graduates should be able to support professionals in wildlife biology, park managers, game refuge managers, and laboratory technicians in research.

For the Associate in Science degree in Wildlife Technology, a minimum of 66 credits is required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 21 credits
(See description of General Education in this bulletin.)

REQUIREMENTS FOR THE MAJOR: 45 credits

PRESCRIBED COURSES (45 credits)
FORT 150(3), FORT 160(3), ENGL 202C(3), WILDL 101(3)**[1]**, WILDL 103(3)**[1]**, WILDL 106(4) (Sem: 1-2)
AG 113(1), FOR 242(3), KINES 013 GHA(1), WILDL 204(4), WILDL 207(3), WILDL 208(3)**[1]**, WILDL 209(4), WILDL 211(4), WILDL 213(3) (Sem: 3-4)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-002

Review Date: 3/6/07

AG

MINORS FOR BACCALAUREATE CANDIDATES

A minor is defined as an academic program of at least 18 credits that supplements a major. A minor program may consist of course work in a single area or from several disciplines, with at least 6 but ordinarily not more than half of the credits at the 400-course level. Total requirements are to be specified and generally limited to 18 to 21 credits. Entrance to some minors may require the completion of a number of prerequisites, including courses, portfolios, auditions, or other forms of documentation that are not included in the total requirements for the minor. All courses for the minor require a grade of C or higher.

IMPACT ON A STUDENT'S RECORD

When a student graduates, completion of a minor is recorded on his/her transcript by the Registrar, and the student receives an official certificate certifying completion of the minor. (The certificate is given with the diploma.)

Accounting Minor

Penn State Erie, The Behrend College (ACNTG)

The accounting minor requires students to complete 16 additional credits in accounting beyond the 4 credits required in ACCTG 211. It is designed to introduce students to advanced topics in financial and cost accounting, as well to the basics of income tax accounting for individuals. This minor can provide an enhanced understanding of accounting information flows, costing systems, and the general tax environment to students majoring in other business areas, and it is a particularly good compliment to the finance and management information systems majors. On its own, it will not generally enable students to meet the requirements for professional licensing in accounting.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20 credits

PRESCRIBED COURSES (14 credits)
ACCTG 211(4) (Sem: 3-4)
ACCTG 305(4) or ACCTG 371(4), ACCTG 310(3) (Sem: 5-6)
ACCTG 340(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of additional ACCTG courses, at least 3 credits at the 400-level (Sem: 3-8)

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-06-038

Review Date: 4/13/04

UCA Revision #2: 7/26/07

BD

African American Studies Minor

Abington College (AFAAB)
University Park, College of the Liberal Arts (AFAMR)

The Department of African and African American Studies awards a certificate to students who, in addition to meeting the requirements for a major, complete 18 credits in the African American Studies minor. This minor is designed for students interested in African American culture and the educational, social, political, and economic development of people of African descent in the United States. In particular, it provides students with the opportunity to explore the experiences of African Americans using theories and methods originating in the field. Students are made aware of the potential to apply such knowledge to the solution of social, political, and economic problems. The minor also promotes greater understanding of the relationship between African Americans and other ethnic groups.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
AAA S 100 GS;US(3), AAA S/WMNST 101 GH;US(3), AAA S 110 GS;IL(3) (Sem: 1-4)

ADDITIONAL COURSES (9 credits)
Select 9 credits; at least 6 credits of AAA S courses must be at the 400 level
AAA S/WMNST 102 GH;IL(3), AAA S/SOC/WMNST 103 US(3), AAAS/RL ST 145 GH;US;IL(3), AAA S 146 GH;US(3), AAA S/RL ST 147 GH;US(3), AAA S/HIST 191 GH;IL(3), AAA S/THEA 208 GA;US;IL(3), AAA S/HIST 210 GH;US(3), AAA S/HIST 240 GH;US(3) COMM/WMNST 205 US(3), ENGL 235 US;IL(3), SOC 119 GS;US(4) (Sem: 1-4)
AAA S 401(3), AAA S/SOC 409 GS;US(3), AAA S/WMNST 410(3), AAA S/THEA 412 US;IL(3), AAA S/HIST 415 US;IL(3), AAA S/CAS 422 US;IL(3), AAA S/HIST 431 US;IL(3), CRIMJ 451 US(3), ECON 436W US(3), EDTHP 411(3), ENGL 463 US(3), AAA S/HIST 465 US(3), AAA S/ENGL 469 US(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-132

Review Date: 8/31/04

UCA Revision #2: 7/26/07

LA

African American Studies Minor

Abington College (AFAAB)
University Park, College of the Liberal Arts (AFAMR)

The Department of African and African American Studies awards a certificate to students who, in addition to meeting the requirements for a major, complete 18 credits in the African American Studies minor. This minor is designed for students interested in African American culture and the educational, social, political, and economic development of people of African descent in the United States. In particular, it provides students with the opportunity to explore the experiences of African Americans using theories and methods originating in the field. Students are made aware of the potential to apply such knowledge to the solution of social, political, and economic problems. The minor also promotes greater understanding of the relationship between African Americans and other ethnic groups.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
AAA S 100 GS;US(3), AAA S/WMNST 101 GH;US(3), AAA S 110 GS;IL(3) (Sem: 1-4)

ADDITIONAL COURSES (9 credits)
Select 9 credits; at least 6 credits of AAA S courses must be at the 400 level
AAA S/WMNST 102 GH;IL(3), AAA S/SOC/WMNST 103 US(3), AAAS/RL ST 145 GH;US;IL(3), AAA S 146 GH;US(3), AAA S/RL ST 147 GH;US(3), AAA S/HIST 191 GH;IL(3), AAA S/THEA 208 GA;US;IL(3), AAA S/HIST 210 GH;US(3), AAA S/HIST 240 GH;US(3) COMM/WMNST 205 US(3), ENGL 235 US;IL(3), SOC 119 GS;US(4) (Sem: 1-4)
AAA S 401(3), AAA S/SOC 409 GS;US(3), AAA S/WMNST 410(3), AAA S/THEA 412 US;IL(3), AAA S/HIST 415 US;IL(3), AAA S/CAS 422 US;IL(3), AAA S/HIST 431 US;IL(3), CRIMJ 451 US(3), ECON 436W US(3), EDTHP 411(3), ENGL 463 US(3), AAA S/HIST 465 US(3), AAA S/ENGL 469 US(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-132

Review Date: 8/31/04

UCA Revision #2: 7/26/07

LA

African Studies Minor

University Park, College of the Liberal Arts (AFRST)

The minor in African Studies is designed for students interested in exploring the political, historical, socioeconomic, and cultural aspects of Africa. The minor provides students with the opportunity to examine both the totality of Africa and/or specific geographical and cultural regions from several disciplinary perspectives.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
AAA S 100 GS;US(3), AAA S 110 GS;IL(3), AAA S/HIST 191 GH;IL(3)

ADDITIONAL COURSES (9 credits, 6 of which must be AAA S courses at the 400 level)
AAA S/EARTH 105 GN;IL(3), AAA S/HIST 192 GH;IL(3), AAA S/WMNST 202 GS;IL(3), CMLIT 003(3) (Sem: 1-4)
AAA S 400(3), AAA S 404 IL(3), CMLIT 422 IL(3), CMLIT 423 IL(3), AAA S 440 US;IL(3), AAA S 443 IL(3), ANTH 447 IL(3), AAA S/PL SC 454 IL(3), FR 458 IL(3)(Sem: 5-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-133

Review Date: 8/31/04

LA

Agribusiness Management Minor

University Park, College of Agricultural Sciences (AG BM)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
AG BM 102(3), AG BM 106(3), AG BM 200(3) (Sem: 2-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits from AG 301W(3), AG BM 302(3), AG BM 308W(3), AG BM 320(3), AG BM 338(3), AG BM 407(3), AG BM 408(3), AG BM 420(3), AG BM 440(3), AG BM 460(3), and AG BM 495A(1-3) or AG BM 495B(1-3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-002

Review Date: 4/8/03

AG

Agricultural and Biological Engineering Minor

University Park, College of Agricultural Sciences
University Park, College of Engineering (A B E)

This minor provides students with an opportunity to apply engineering principles to agricultural and biological production and processing systems and to the management of our natural resources. Courses may be selected by students to gain a better understanding of soil conservation and water quality, food and biological process engineering, structures and their environments, power and machinery, or microbiological engineering.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-20 credits

PRESCRIBED COURSES (3 credits)
B E 300(3) (Sem: 5-6)

ADDITIONAL COURSES (15-17 credits)
Select 5-6 credits from B E 301(3), B E 302(3), B E 303(3), B E 304(3), B E 305(3), B E 306(3), B E 307(3), B E 308(3) (Sem: 5-8)
Select 10-11 credits from one of the following areas; one course marked with * must be selected (Sem: 5-8)
(a) Power and Machinery Systems: B E 461(3)*, A S M 420(3), A S M 424(3), M E 431, M E 480(3)
(b) Biological Systems: B E 468(3)*, BIOE 401(3), CH E 438(3), CHEM 202(3), MICRB 201(3)
(c) Natural Resource Systems: B E 467(3)*, B E 477(3), C E 370(3), C E 371(3), C E 461(3), C E 471(3)
(d) Food Process Systems: B E 465(3)*, CH E 446(3), FD SC 430(3), I E 312(3)
(e) Structural Systems: B E 462(3)*, A E 308(4), C E 340(3), C E 341(3), C E 342(3)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-05-031

Review Date: 2/24/09

UCA Revision #2: 7/26/07

EN

Agricultural Communications Minor

University Park, College of Agricultural Sciences (AGCOM)

Through the Department of Agricultural and Extension Education, this interdisciplinary program of study is designed to introduce majors in the College of Agricultural Sciences to the skills and professional practices in communications and to the interdependence between communications and society. A grade of C or better is required in every course used to satisfy the requirements for the minor.

Students are required to complete a total of 19 credits, including 6 credits at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (7 credits)
COMM 160(1) (Sem: 1-2)
COMM 260W(3) (Sem: 3-4)
AGCOM 462W(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 3-6 credits from AEE 330W(3), AEE 440(3), or AGCOM 495(1-3) (Sem: 3-8)
Select 3-6 credits from COMM 180 GS(3), COMM 283W(3), COMM 401(3), COMM 403(3), COMM 405(3), COMM 409(3), COMM 411(3), COMM 413W(3), or COMM 460W(3) (Sem: 3-8)
Select 3 credits from COMM 401(3), COMM 403(3), COMM 405(3), COMM 409(3), or COMM 413W(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-02-001

Review Date: 03/12/08

AG

Agricultural Economics and Rural Sociology Minor

University Park, College of Agricultural Sciences (AE RS)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits of Agricultural Economics and Rural Sociology courses (Sem: 1-6)
Select 6 credits of 400-level Agricultural Economics and Rural Sociology courses (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

AG

Agricultural Systems Management Minor

University Park, College of Agricultural Sciences (A S M)

The Agricultural System Management minor covers the mechanical, structural, natural resource, processing, and electronic technologies applied in agriculture systems. Students who graduate with this minor will have a solid understanding of how physical sciences and biological principles apply to real world problems in food and fiber industries. With industry teams often formed purposefully with many disciplines represented, this background of applied engineering basics and the focus on quantitative analysis has proven helpful to past graduates.

Integration of the applied technologies is addressed using a systems approach in each required course. Technologies addressed by courses in this minor include combustion engines, electric motors, mechanical and hydraulic power transmission systems, mobile equipment functions and operations, sensor and control systems, building structures, ventilation, drying, irrigation, drainage, food processing. The minor is targeted to students who will use these technologies or manage others who are responsible for systems utilizing these technologies. Most courses required for the minor are taught by engineering faculty, and nearly every course has a laboratory period.

Admission to the minor requires introductory calculus (MATH 110 or MATH 140) and introductory physics (PHYS 211 or PHYS 250).

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Students must select from the following to account for 18 or more credits: A S M 221(3), A S M 307(3), A S M 310(3), A S M 320(3), A S M 326(2), A S M 327(3), A S M 420(3), A S M 422(3), A S M 424(3), A S M 425(3), A S M 426(3), A S M 428(3), A S M 429W(3). A total of 3 credits in A S M 495(1-3), A S M 496(1-3) and/or A S M 497(1-3) may also be used.

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-04-002

Review Date: 1/18/05

AG

Agronomy Minor

University Park, College of Agricultural Sciences (AGRO)

Agronomy is concerned with the principles and practices of field crop production and the conservation of soils and land resources. Areas of emphasis include crop production and protection, plant breeding, forage management, nutrient management, and soil conservation and fertility. Education in this minor emphasizes the principles of plant and soil management and the basic sciences upon which these principles are grounded. A minor in agronomy can complement several majors, and will enhance career opportunities in farm management and the agricultural industry. Employment possibilities include farm chemical and fertilizer store managers, sales representatives, field and laboratory technicians, crop management consultants, extension agents, soil and water conservationists, and inspectors for various state and federal regulatory agencies.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
AGRO 028(3), SOILS 101 GN(3) (Sem: 3-4)

ADDITIONAL COURSES: (6 credits)
Select 6 credits from AGRO 423(3), AGRO 425(3), AGRO 438(4), or SOILS 402(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits from courses in Entomology, Plant Pathology or AGRO 495(1-5) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 1/20/04

AG

American Studies Minor

Abington College (AMSAB)
University College (AMSCC): Penn State Brandywine, Penn State Fayette, Penn State York

This interdisciplinary minor is designed for students who want to complement their major program. With the approval of the American Studies Program committee, appropriate courses other than those below may be selected, including those from the 200, 496, and 497 series. To complete the minor successfully, a candidate must complete the course requirements with at least a C cumulative grade-point average. The minor consists of 18 credits.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
AM ST 491W(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
AM ST 100 GH(3), AM ST 100W(3), or AM ST 105 GH;US(3) (Sem: 1-4)
Select 12 credits from the following list, including at least 6 credits at the 400 level:
CRIMJ 100(3), CRIMJ 221(3), ART H 307 GA(3), COMM 100 GS(3), COMM 120(3), COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), ENGL 133 GH(3), ENGL 134 GH(3), ENGL 139 GH;US(3), ENGL 140 GH(3), ENGL 194 GH;US;IL(3), ENGL 231W(3), ENGL 232W(3), HIST 020 GH;US(3), HIST 021 GH;US(3), HIST 150 US(3), HIST 151 GS(3), HIST 152 GH;US;IL(3), HIST 155 GH;US(3), HIST 156(3), HIST 158 US;IL(3), LER 156(3), MUSIC 007 GA;US(3), PL SC 001 GS(3), RL ST 140W GH;US(3), RL ST 145 GH;US;IL(3), WMNST 001 GS;US;IL(3) (Sem: 1-8)
AM ST 410(3), AM ST 415(3), AM ST 432(3), ART H 404(3), ART H 415(3), ART H 416(3), CAS 415(3), CAS 478(3), COMM 407(3), COMM 408(3), COMM 409(3), COMM 411(3), COMM 413W(3), COMM 426(3), CRIMJ 210(3), CRIMJ 421(3), CRIMJ 451 US(3), ENGL 430(3), ENGL 432(3), ENGL 433(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), ENGL 439(3), ENGL 458(3), ENGL 490 US;IL(3), ENGL 493(3), KINES 441 US(3), KINES 444(3), HIST 441 US(3), HIST 442 US(3), HIST 444 US(3), HIST 445 US(3), HIST 446 US(3), HIST 447 US(3), HIST 449 US(3), HIST 450 US(3), HIST 452 US;IL(3), HIST 454 US(3), HIST 458W(3), HIST 459Y US(3), HIST 460 US;IL(3), LER 411(3), LER 414W(3), LER 458W(3), MUSIC 464W(3), PHIL 401(3), PHIL 403(3), PHIL 432(3), PL SC 417(3), PL SC 419(3), PL SC 425(3), PL SC 426(3), PL SC 427(3), PL SC 435(3), PL SC 436(3), PL SC 472(3), PL SC 474(3), RL ST 422(3), SOC 409 GS;US(3), SOC 412(3), SOC 454(3), SOC 461(3), SOC 462(3), THEA 405(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-05-121

Review Date: 04/12/05

UCA Revision #2: 7/26/07

AB

American Studies Minor

Abington College (AMSAB)
University College (AMSCC): Penn State Brandywine, Penn State Fayette, Penn State York

This interdisciplinary minor is designed for students who want to complement their major program. With the approval of the American Studies Program committee, appropriate courses other than those below may be selected, including those from the 200, 496, and 497 series. To complete the minor successfully, a candidate must complete the course requirements with at least a C cumulative grade-point average. The minor consists of 18 credits.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
AM ST 491W(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
AM ST 100 GH(3), AM ST 100W(3), or AM ST 105 GH;US(3) (Sem: 1-4)
Select 12 credits from the following list, including at least 6 credits at the 400 level:
CRIMJ 100(3), CRIMJ 221(3), ART H 307 GA(3), COMM 100 GS(3), COMM 120(3), COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), ENGL 133 GH(3), ENGL 134 GH(3), ENGL 139 GH;US(3), ENGL 140 GH(3), ENGL 194 GH;US;IL(3), ENGL 231W(3), ENGL 232W(3), HIST 020 GH;US(3), HIST 021 GH;US(3), HIST 150 US(3), HIST 151 GS(3), HIST 152 GH;US;IL(3), HIST 155 GH;US(3), HIST 156(3), HIST 158 US;IL(3), LER 156(3), MUSIC 007 GA;US(3), PL SC 001 GS(3), RL ST 140W GH;US(3), RL ST 145 GH;US;IL(3), WMNST 001 GS;US;IL(3) (Sem: 1-8)
AM ST 410(3), AM ST 415(3), AM ST 432(3), ART H 404(3), ART H 415(3), ART H 416(3), CAS 415(3), CAS 478(3), COMM 407(3), COMM 408(3), COMM 409(3), COMM 411(3), COMM 413W(3), COMM 426(3), CRIMJ 210(3), CRIMJ 421(3), CRIMJ 451 US(3), ENGL 430(3), ENGL 432(3), ENGL 433(3), ENGL 435(3), ENGL 436(3), ENGL 437(3), ENGL 438(3), ENGL 439(3), ENGL 458(3), ENGL 490 US;IL(3), ENGL 493(3), KINES 441 US(3), KINES 444(3), HIST 441 US(3), HIST 442 US(3), HIST 444 US(3), HIST 445 US(3), HIST 446 US(3), HIST 447 US(3), HIST 449 US(3), HIST 450 US(3), HIST 452 US;IL(3), HIST 454 US(3), HIST 458W(3), HIST 459Y US(3), HIST 460 US;IL(3), LER 411(3), LER 414W(3), LER 458W(3), MUSIC 464W(3), PHIL 401(3), PHIL 403(3), PHIL 432(3), PL SC 417(3), PL SC 419(3), PL SC 425(3), PL SC 426(3), PL SC 427(3), PL SC 435(3), PL SC 436(3), PL SC 472(3), PL SC 474(3), RL ST 422(3), SOC 409 GS;US(3), SOC 412(3), SOC 454(3), SOC 461(3), SOC 462(3), THEA 405(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-05-121

Review Date: 04/12/05

UCA Revision #2: 7/26/07

AB

American Studies Minor

Capital College (AMSTD)

American Studies is an interdisciplinary field that explores the patterns of life and thought of the American peoples, past and present. Its courses are grouped into three general areas of history, society, and culture, and it has special offerings in public history and heritage studies, material culture, and cultural history. The program encourages students to integrate theories, methods, and findings from various fields, including history, literature, folklore, ethnography, politics, art, architecture, and music. It also encourages applications of this knowledge to public history and cultural conservation. American Studies helps students prepare for further study or careers in education, government, communication, law, museums, historical and cultural agencies, and archives. Internships are available for qualified students in American Studies. The internship is an extension of the student's academic studies and is an opportunity to gain practical experience.

A student seeking admission to the American Studies Minor must first be admitted to a major at Penn State. Upon admission, a Minor Adviser will be appointed from within the American Studies faculty to guide the student. For the American Studies Minor, a total of 18 credits is required. At least 6 credits must be at the 400 level.

A grade of C or better is required for all courses in the minor.

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
AM ST 302(3), AM ST 491W(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits from any American Studies offerings (AM ST). Three of these credits must be at the 400 level. (Sem: 5-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-06-053

Review Date: 3/12/02

UCA Revision #2: 7/26/07

CL

Animal Sciences Minor

University Park, College of Agricultural Sciences (ANSCI)

COOPERATING DEPARTMENTS: *Dairy and Animal Science and Poultry Science*

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20 credits

PRESCRIBED COURSES: (8 credits)
AN SC 201(4), AN SC 290(1), AN SC 301(3) (Sem: 3-4)

ADDITIONAL COURSES: (6 credits)
Select 3 credits from AN SC 207(2) or AN SC 300 GN(3) (Sem: 3-4)
Select 3-4 credits from AN SC 305(3), AN SC 306(3), AN SC 308(4), AN SC 309(4), AN SC 310(3), AN SC 311(4), AN SC 327(3) (Sem:3-6)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits of 400-level AN SC courses (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 6/9/08

AG

Anthropology Minor

Abington College (ANTAB)
University Park, College of the Liberal Arts (ANTH)

The Anthropology Minor is designed to provide undergraduate students with exposure to the range of human variation across time and space. Our minors enroll in courses that explore that variation through the subdisciplines of archaeological, biological, and cultural anthropology. We maintain laboratory facilities in all three subdisciplines and the Matson Museum of Anthropology, all excellent learning facilities for our students. In addition, the department offers summer field school opportunities in cultural anthropology and archaeology. A Minor in Anthropology is excellent preparation for further study in any discipline that requires ability to understand and deal with other cultures, for example, teaching, counseling, business, medicine, law, or communications.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
ANTH 002 GS(3), ANTH 021 GN(3), ANTH 045 GS;US;IL(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits from any ANTH course except ANTH 001 GS;US;IL(3) (Sem: 1-8)
Select 6 credits from the ANTH 400-489 range (Sem: 3-6)

Last Revised by the Department: Fall Semester 2001

Review Date: 4/9/02

Dept head updated by Publications: 5/21/07

LA

Anthropology Minor

Abington College (ANTAB)
University Park, College of the Liberal Arts (ANTH)

The Anthropology Minor is designed to provide undergraduate students with exposure to the range of human variation across time and space. Our minors enroll in courses that explore that variation through the subdisciplines of archaeological, biological, and cultural anthropology. We maintain laboratory facilities in all three subdisciplines and the Matson Museum of Anthropology, all excellent learning facilities for our students. In addition, the department offers summer field school opportunities in cultural anthropology and archaeology. A Minor in Anthropology is excellent preparation for further study in any discipline that requires ability to understand and deal with other cultures, for example, teaching, counseling, business, medicine, law, or communications.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
ANTH 002 GS(3), ANTH 021 GN(3), ANTH 045 GS;US;IL(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits from any ANTH course except ANTH 001 GS;US;IL(3) (Sem: 1-8)
Select 6 credits from the ANTH 400-489 range (Sem: 3-6)

Last Revised by the Department: Fall Semester 2001

Review Date: 4/9/02

Dept head updated by Publications: 5/21/07

LA

Arboriculture Minor

College of Agricultural Sciences (ARBOR)

The Arboriculture minor has been designed to provide students with a comprehensive introduction to the principled and practices of the arboriculture profession. Combined with a major in Horticulture or Forestry, this minor will help prepare students for a career in arboriculture. The courses in the minor include arboriculture, disease and insect control, the planting and maintenance of plants in the landscape, and management of trees in urban environments. HORT 201, and many of the introductory positions available to graduates with an arboriculture minor, require physical strength and conditioning.The profession of arboriculture has many opportunities available in the application of arboricultural practices, sales, consulting, management of companies, and management of urban trees.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 20-21 credits

PRESCRIBED COURSES: (15 Credits)
HORT 201(2), HORT/FOR 301(3) (Sem: 3-4)
ENT 313(2), ENT 314(1) (Sem: 5-6)
FOR 401(3), HORT 408(4) (Sem 7-8)

ADDITIONAL COURSES (5-6 credits)
Select 3 credits from FOR 203(3), HORT 137(3) (Sem: 3-4)
Select 2-3 credits from PPATH 300(3) or PPATH 318(2) (Sem:5-6)

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-002

Review Date: 4/15/08

AG

Architectural History Minor

University Park, College of Arts and Architecture (ARC H)

This interdisciplinary minor administered by the Department of Art History is designed for students interested in exploring architectural history from a variety of disciplines.

This minor is open to students in all majors. Majors in Art History, Anthropology, Architecture, Landscape Architecture, Classics and Ancient Mediterranean Studies, and Geography may only double count 6 credits taken in their major field towards this minor. A grade of C or better is required in all course requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (6 credits) (Sem: 1-4)
ART H 201(3), ART H 202(3)

ADDITIONAL COURSES (15 credits)
Select 3 credits from the following: ARCH 210 GA(3) or LARCH 060 GA;US;IL(3)
Select 12 credits from the following list, including at least 6 at the 400 level. No more than 9 credits may be taken from any one department. (Sem: 1-8)
AM ST/ART H 307 GA;US(3), AM ST/INART 410(3), AM ST 460(3), AM ST 461(3), AM ST 462(3), AM ST 481(3)
ANTH 008 GS;IL(3), ANTH 009 GS;IL(3), ANTH 420(3), ANTH 422(3), ANTH 423(3)
ARCH 312(3), ARCH 316(3), ARCH 317(3), ARCH 417(3), ARCH 499C(3), ART H 120 GA;IL(3), ART H/AM ST 307 GA;US(3), ART H 315 GA;IL(3), ART H 330 GA; IL(3), ART H 401(3), ART H 404(3), ART H 405(3-6), ART H 411(3-9), ART H 412(3), AR H 415(3), ART H 420(3), ART H 440 IL(3), ART H 456 IL(3), ART H 458 IL(3), ART H 497(1-9) (if topic is architecture)
CAMS 012 GH;IL(3), CAMS 015 GH(3), CAMS 020 GH(3), CAMS 090 GH;IL(3), CAMS 140 GH(3), CAMS 150 GH(3)
FR 137 GH;IL(3), GEOG 120 GS;US;IL(3), GEOG 122 GH;US(3), GEOG 423Y US(3), GEOG 427(3), HIST 456Y IL(3), INART/AM ST 410(3), INART 415(3), LARCH 361W(3), LARCH 497(1-9) (if topic is history)

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-022

Review Date: 02/23/2010

AA

Architecture Studies Minor

University Park, College of Arts and Architecture (ARCST)

The Architecture Studies Minor will permit students in other majors the opportunity to gain insight into the discipline of Architecture. In addition, the Architecture Studies Minor will give students transferring out of the Architecture major the opportunity to receive recognition for their efforts and time spent while in the major. Combined with a degree in another major, it will allow students to work in allied design fields. They may not pursue licensure to practice Architecture. Coursework includes a design studio, art history, and architecture theory as well as courses from interest areas in digital design and community design.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES: (6 credits)
A&A 101(3) and A&A 103(3) or ARCH 210 GA(3) and ARCH 211 GA(3) (Sem: 1-2)

ADDITIONAL COURSES: (9 credits)
Select 3 credits from A&A 102S(3)**[5]**, A&A 104(3)**[5]**, ARCH 101(3)**[4]**, ARCH 130A(3-6)**[2]**, ARCH 231(6)**[3]**, ARCH 232(6)**[3]**, ARCH 441(3)**[2]**, ARCH 442(3)**[2]** (Sem: 1-8)
Select 6 credits from 400 level (or above) ARCH courses: ARCH 443(1), ARCH 481(3), ARCH 482(3), ARCH 496(1-18), ARCH 497(1-9), ARCH 499C IL(3), but excluding ARCH 441 and ARCH 442 (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits within Architecture, Art History, Landscape Architecture or Architecture Engineering in consultation with an adviser and the discretion of the Architecture Department Head (Sem: 7-8)

[2]Courses available to Architectural Engineering majors only.
[3]Courses available to Architecture majors only.
[4]Students will not be permitted to take ARCH 101 after a 6-credit studio experience in order to increase credits contributing to fulfilling the minor.
[5]Courses available to students in the College of Arts and Architecture Core curriculum; those majoring in Architecture, Art, Art Education, Art History, Graphic Design, Integrative Arts, Landscape Architecture, and Theatre.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-06-011

Review Date: 4/11/06

AA

Art History Minor

University Park, College of Arts and Architecture (ART H)

The minor in Art History provides students with a broad introduction to the history of art, as well as the opportunity for more specialized study in one or two fields. Specialized study may concentrate upon one region of the world (e.g. India) or one period (e.g. Renaissance). A student should seek the advice of her/his minor adviser on course selections. The study of art history develops a student's visual acuity by providing a critical understanding of visual culture in a diversity of societies around the world. Students learn to understand art within the contexts of religion, politics, philosophy, culture, technology, society, and gender. A minor in Art History can be of particular interest for students pursuing careers in art, art education, history, anthropology, archaeology, classics, English, foreign language/literature, cultural studies, international business, and arts administration. Students majoring in Art History cannot take this minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES: (6 credits)
ART H 111 GA;IL(3), ART H 112 GA;IL(3) (Sem: 1-4)

ADDITONAL COURSES: (3 credits)
Select 3 credits from: ART H 120 GA;IL(3), ART H 130 GA;US;IL(3), ART H 301 GA;IL(3), ART H 315 GA;IL(3), ART H 320 GA;IL(3), ART H 330 GA;IL(3), ART H 335 GA;IL(3), or ART H 340 GA;IL(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS: (12 credits)
Select 6 credits of 001 to 400-level ART H courses, except ART H 100 GA(3) (Sem: 3-8)
Select 6 credits of 400-level ART H courses (Sem: 3-8)

(Note: Students are encouraged to use these supporting courses to focus their studies in one or two areas of art history and should discuss these course selections with an Art History faculty member.)

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-05-021

Review Date: 02/23/2010

AA

Asian Studies Minor

University Park, College of the Liberal Arts (ASIA)

This is an interdisciplinary minor designed for students with special interests in the Asian area. In addition to the requirements of the student's major department, the minor consists of 21 credits selected from such disciplines as anthropology, art history, economics, geography, history, linguistics, literature, philosophy, political science, religious studies, speech, theatre arts, and appropriate Asian languages.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (3 credits)
ASIA 100 GH;IL(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
HIST 174 GH;IL(3), HIST 175 GH;IL(3), HIST 176 GH;IL(3), or RL ST 003 GH;US;IL(3) (Sem:3-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits from a departmental list, at least 6 at the 400 level; independent study credits selected in consultation with adviser; additional further credits in language studies may be permitted up to 6 credits. (Sem: 1-8)

Courses not on the list that deal substantially with some aspect of Asia in any discipline may also count, pending approval of an adiviser.

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-06-051

Review Date: 4/14/09

LA

Astrobiology Minor

Intercollege Program (ABIOL)

Astrobiology is the study of life in the universe. Astrobiology has become a major focus of scientific research in the United States and a topic often discussed in popular science literature and the general media. The Astrobiology Minor is designed to educate students in this interdisciplinary field covering the varied scientific disciplines that contribute to our general understanding of life, the origin of life, the past history of life on Earth, possible futures for life on Earth, and the possible existence of life on other planetary environments. The principle goal of the minor is to develop student's literacy in astrobiology so that they can critically evaluate claims related to this field that they encounter well after their college education has ended.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENT FOR THE MINOR: 18 credits with at least 6 credits at the 400 level

PRESCRIBED COURSES (3 credits)
BIOL/GEOSC 474(3) (Sem: 5-8)

ADDITIONAL COURSES (9-10 credits)
EARTH 002 GN(3) or GEOSC 021 GN(3) (Sem: 1-6)
ASTRO 140 GN(3) or ASTRO 291 GN(3)(Sem: 5-8)
GEOSC 204(4) or BIOL 427(3)(Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (5-6 credits)
Select 5-6 credits from ASTRO 475W(3), BIOL 405(3), B M B 401(3), B M B 402(3), GEOSC 416(3), GEOSC 419(3), METEO 466(3), or MICRB 201(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2000

Blue Sheet Item #: 28-07-084A

Review Date: 7/27/05

Astronomy and Astrophysics Minor

University Park, Eberly College of Science (ASTRO)

The minor in Astronomy and Astrophysics, available at the University Park campus, provides educational options to students with interest in astronomy but with principal commitments to an allied field. It is designed principally for majors in Aerospace Engineering, Electrical Engineering, Engineering Sciences, Geosciences, Meteorology, and Physics. The educational objectives are to provide students with a profound understanding of the large-scale properties and processes in our Universe including planets and solar systems, our Sun and other stars, our Galaxy and other galaxies; and cosmology. Students in the minor survey the field in the 200-level sequence and then select from a choice of advanced astronomy and allied courses. Minors will be encouraged to take advantage of the many undergraduate research opportunities in the department, often using space-based observatories.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

PRESCRIBED COURSES (6 credits)
ASTRO 291 GN(3), ASTRO 292 GN(3) (Sem: 3-4)

ADDITIONAL COURSES (6-7 credits)
Select 6-7 credits from additional ASTRO 400-level courses, AERSP 308(3), AERSP 312(4), E E 472(3), GEOSC 474(3), GEOSC 481(3), METEO 466(3), or PHYS 458(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from 400-level ASTRO courses, except ASTRO 496 (Sem: 5-8)

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-03-111

Review Date: 05/22/02

UCA Revision #2: 7/26/07

SC

Biochemistry and Molecular Biology Minor

University Park, Eberly College of Science (B M B)

The Biochemistry and Molecular Biology minor provides a foundation in traditional biochemistry and an exploration of the current understanding of molecular biology. The fields of biochemistry and molecular biology are extensively interconnected and are taught in the context of the biology of the cell. Stated another way, the B M B minor is a substantial treatment of life processes at the molecular and cellular levels. The minor requires coursework in general biochemistry, cell biology, and molecular biology. A required laboratory course exposes students to the basic techniques and instrumentation used in modern biochemistry and molecular biology laboratories. Students considering this minor should be comfortable with the study of chemistry.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-21 credits

PRESCRIBED COURSES: (17-18 credits)
B M B 251(3), B M B 252(3), B M B 442(3) (Sem: 3-4)
B M B 400(2-3), B M B 401(3), B M B 402(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS: (0-3 credits)
Select 0-3 credits of B M B courses at the 400-level (Sem: 7-8)

Note: B M B 408(1-2) and B M B 496(1-18) may not be used to fulfill requirements for the minor.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-142

Review Date: 02/23/2010

SC

Bioengineering Minor

University Park, College of Engineering (BIOE)

This interdisciplinary minor is designed for students interested in the application of engineering principles to medical and biological problems. Prerequisites for the prescribed and supporting courses include PHYS 211 GN(4), PHYS 212 GN(4), and calculus through differential equations. Students interested in pursuing this minor should contact the Bioengineering program office.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (3 credits)
CHEM 112 GN(3) (Sem: 1-2)

ADDITIONAL COURSES (6 credits)
Select 3 credits of physiology from BIOL 141 GN(3) or BIOL 472(3) (Sem: 3-6)
*Select 3 credits of molecular/cell biology from B M B 251(3), BIOE 201(3), or BIOL 230W GN(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
*Select 6-9 credits of Bioengineering coursework from 3-credit courses at the 300, 400, or 500 level (Sem: 5-8)
*Select 0-3 credits of electives from Bioengineering-related courses (department list) or complete an Honors thesis on a bioengineering topic in any department (Sem: 5-8)

* At least 9 credits of bioengineering must be taken.

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-03-100

Review Date: 11/20/01

UCA Revision #1: 8/2/06

EN

Bioethics and Medical Humanities Minor

Intercollege Progam (BMH)

The tremendous current activity in the biomedical sciences affects both the public and private sectors, including medical care, the pharmaceutical industry, genetics, environmental epidemiology, agricultural science, the insurance industry, occupational health, forensic sciences, and behavioral variation. All these areas go beyond the science itself, with varied impact on people in different age, sex, ethnic, geographic, or economic segments of society. For that reason, life and health sciences research has major social implications that bear on humanities disciplines ranging from ethics and history to religious studies and literature, affecting clinical practice, agricultural practice and research, public policy and private investment. Understanding these issues is important for an informed citizenry. Students electing the BMH minor will start with a basic background of biology coursework, and will take a curriculum that includes 18 credit hours, beginning with an introductory course on basic ideas of bioethics, followed by a choice of other relevant humanities courses, and capped with an integrative course involving original research by the student. The minor will be suitable for students in almost any major, especially students going on to further academic work or careers in health, the life sciences, informatics, forensic or legal professions.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
BMH 490(3), PHIL 132 GH(3)/RL ST 131 GH(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits, at least 3 credits must be at the 400 level, and one course must be selected from the list of Ethics courses:
Ethics (select at least one course from this group) BB H 301(3), BIOL 461(3), NURS 464 US;IL(3), PHIL 432(3) or S T S 432(3), PHIL 498(1-9), WMNST 458(3) (Sem: 5-8)
Humanities CAS 253(3), CAS 453(3), HIST 103 GH;IL(3) (Sem: 5-8)
Other ANTH 470H(3), ANTH 471H(3), CSD 269 US;IL(3), FD SC 280H GH(3), H P A 301W(3), KINES 345(3), NUTR 430 IL(3), WMNST 250 US(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-01-182

Review Date: 8/29/06

Co-chairs added by Publications: 06/06/07

LA

Biology Minor

Penn State Erie, The Behrend College (BIOBD)

The minor in Biology gives students opportunities to combine a background in the biological sciences with other majors. The minor can provide valuable expertise in cross-disciplinary areas, such as mathematical biology, biochemisty, and biophysics; or a biological grounding in fields like psychology or ecology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (4 credits)
BIOL 110 GN(4) (Sem: 1-4)

ADDITIONAL COURSES (8 credits)
Select 8 credits from BIOL 220W GN(4), BIOL 230W GN(4), or BIOL 240W GN(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of additional 400-level BIOBD courses, excluding BIOL 492(1), BIOL 496(1-12), BIOL 495(3-12) and BIOL 496(1-18) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #2: 7/26/07

BD

Biology Minor

Altoona College (BIOAL)
University Park, Eberly College of Science (BIOL)

This minor is designed for students in non-Life Science majors, who desire to obtain an in-depth and well-rounded knowledge of Biology -- the science of life and living organisms. This minor is not intended for "Life Science" oriented majors, including Biological Anthropology, Premedicine, and Science, Life Science option. After taking an introductory survey course which exposes students to the basics of Biology, including the chemistry of life, cell structure, genetics, mechanisms of evolution and evolutionary history of biological diversity, plant and animal form and function, and ecology, students select additional courses based on their biological emphasis to account for a total of 18-20 credits. In conjunction with the student's major, the minor prepares students for entry to graduate school or professional school programs, as well as for technical or research careers with governmental agencies or industry. Majors complemented by this minor would include but not be limited to other life and physical sciences, engineering, and business.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-20 credits

PRESCRIBED COURSES (4 credits)
BIOL 110 GN(4) (Sem. 5-6)

ADDITIONAL COURSES (7-8 credits)
Select 7-8 credits from BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), BIOL 222(3), BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4), BIOL 322(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6-9 credits)
Select 6-9 credits from 400-level Biology courses (BIOL 400, BIOL 496, and SC 495 credits may not be used to fulfill this requirement.) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-521

Review Date: 4/10/07

Biology Minor

Altoona College (BIOAL)
University Park, Eberly College of Science (BIOL)

This minor is designed for students in non-Life Science majors, who desire to obtain an in-depth and well-rounded knowledge of Biology -- the science of life and living organisms. This minor is not intended for "Life Science" oriented majors, including Biological Anthropology, Premedicine, and Science, Life Science option. After taking an introductory survey course which exposes students to the basics of Biology, including the chemistry of life, cell structure, genetics, mechanisms of evolution and evolutionary history of biological diversity, plant and animal form and function, and ecology, students select additional courses based on their biological emphasis to account for a total of 18-20 credits. In conjunction with the student's major, the minor prepares students for entry to graduate school or professional school programs, as well as for technical or research careers with governmental agencies or industry. Majors complemented by this minor would include but not be limited to other life and physical sciences, engineering, and business.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-20 credits

PRESCRIBED COURSES (4 credits)
BIOL 110 GN(4) (Sem. 5-6)

ADDITIONAL COURSES (7-8 credits)
Select 7-8 credits from BIOL 129 GN(4), BIOL 141 GN(3), BIOL 142(1), BIOL 222(3), BIOL 220W GN(4), BIOL 230W GN(4), BIOL 240W GN(4), BIOL 322(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6-9 credits)
Select 6-9 credits from 400-level Biology courses (BIOL 400, BIOL 496, and SC 495 credits may not be used to fulfill this requirement.) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-521

Review Date: 4/10/07

Black Diaspora Studies Minor

University Park, College of the Liberal Arts (BLDSP)

The minor in Black Diaspora Studies is designed to broaden the perspectives of students through an examination of the international/transnational dimensions of the experiences of African and African-descent populations, particularly those in the Western Hemisphere. Since the early sixteenth century, when Europe, the Americas, and Africa were brought into a pattern of sustained interaction following the onset of the Age of European Discovery, the African slave trade and other forms of migration and exchange have been critical to the formative experience of Africans and African-descent populations linked by the Atlantic. The intensity and impact of those exchanges have varied over time, but the presence of Africans and African-descent populations in the evolution of Atlantic civilization constitutes the core of the study of the African Diaspora.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

A. PRESCRIBED COURSES (9 credits)

AAA S 100 GS;US(3), AAA S 110 GS;IL(3), AAA S/HIST 211 GH;US;IL(3) (Sem: 1-4)

B. ADDITIONAL REQUIREMENTS (9 credits, 6 of which must be at the 400 level)

AAA S/SPAN 132 IL(3), AAA S/HIST 191 GH;IL(3), AAA S/HIST 250 GH;IL(3) (Sem: 1-4)
AAA S/HIST 431 US;IL(3), AAA S/HIST 432 IL(3), AAA S 440 US;IL(3), PL SC 453 IL(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-134

Review Date: 8/31/04

LA

Business Administration Minor

Capital College (BADMN)

This interdisciplinary minor provides students in all majors with a business-oriented supplement to their major fields of study. It is intended to provide a set of basic skills that complement the unique competencies gained in their non-business disciplines. It is strongly recommended that students taking this minor elect at least one course in mathematics through college calculus, and a second course in descriptive and inferential statistics, as part of their General Education requirements or electives for the major. Students taking this minor may not have more than 25 percent of their total credits for graduation in business courses, and must receive a grade of C or better in all courses required for the minor. Students pursuing the Business Administration minor should apply to the School of Business Administration and select business courses in consultation with a business adviser.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22 credits

PRESCRIBED COURSES (7 credits)
ACCTG 211(4), MGMT 301(3) (Sem: 3-4)

ADDITIONAL COURSES (9 credits)
Select 3 credits from ECON 002 GS(3) or ECON 004 GS(3) (Sem: 3-4)
Select 6 credits from B A 243(4) or B LAW 243(3), B A 100 GS(3), B LAW 340(3), B A 364Y US;IL(3), ECON 342(3), ECON 351(3), FIN 100(3) or FIN 301(3), MGMT 321(3), MIS 390(3), MRKT 221(3) or MKTG 301(3), SCM 320(3) (course prerequisites must be met)(Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits at the 400 level in ACCTG, B A, ECNMS, FIN, HCM, MIS, IST, MGMT, MRKT, or BE SC 408(3), BE SC 410(3), BE SC 468(3), COMM 414(3), PSYCH 473(3), or other School-approved courses (course prerequisites must be met) (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-06-054

Review Date: 1/14/03

UCA Revision #1: 8/3/06
UCA Revision #2: 7/26/07

CL

Business Logistics Minor

University Park, Smeal College of Business (B LOG)

The Business Logistics minor is structured to provide the student with a working knowledge of the discipline and to complement a student's major field of study. Because Business Logistics crosses both functional and organizational boundaries in business, it is an appropriate minor for non-logistics majors within The Smeal College as well as for students in other majors.

The B LOG minor provides exposure to basic business principles along with logistics and supply chain concepts. Because of the importance of transportation links in supply chains, the minor also requires a course on domestic and international freight transportation systems. Students within the minor may pursue supporting courses in Business Logistics, covering topics such as e-fulfillment and operations, strategic procurement, transportation management and policy, urban transportation, and international logistics. To be successful in the B LOG minor, the student must, at a minimum, possess a working knowledge of quantitative techniques and an understanding of basic economic principles.

Because Business Logistics is common to many industries, students graduating with a minor in Business Logistics can apply their expanded knowledge in areas such as agriculture, health care, manufacturing, wholesaling, retailing, minerals and petroleum production, civilian and military government agencies, consulting, and food and hotel services.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
ECON 002 GS(3), SCM 320(3) (Sem: 5-6)

ADDITIONAL COURSES: (12 credits)
Select 6 credits from a or b:
a) Business Majors: BA 303(3)
b) Non-Business Majors: B LAW 243(3), SCM 301(3)
Select 6 credits from B LOG 410(3), SCM 416(3), SCM 430(3), SCM 432(3), or SCM 435(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2000

Blue Sheet Item #: 28-04-015

Review Date: 11/01

UCA Revision #1: 8/14/06

BA

Business Minor

Abington College (BSBAB)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

This interdisciplinary minor provides students with a business-oriented supplement to their academic major. It is designed to introduce students to a variety of fundamental business skills and knowledge. The minor consists of 22-23 credits, at least 6 credits of which must be at the 400 level. Only courses in which students earn a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22-23 credits

PRESCRIBED COURSES: (10 credits)
ACCTG 211(4) (Sem: 1-5)
MGMT 301(3), MKTG 301(3) (Sem: 5-8)

ADDITIONAL COURSES: (6-7 credits)
Select 3 credits from ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-5)
Select 3-4 credits from B A 241(2) and B A 242(2) or B A 243(4); MIS 204(3), SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-5)
FIN 301(3), I B 303(3), SCM 301(3) (Sem: 5-8)
Note: A student who receives credits for B A 243 may not receive credit for either B A 241 or B A 242.

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits at the 400 level in consultation with your adviser and the approval of the director of the business minor (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-01-057

Review Date: 8/28/07

UCA Revision #1: 8/3/06

Comments

AB/BK/UC

Business Minor

Abington College (BSBAB)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

This interdisciplinary minor provides students with a business-oriented supplement to their academic major. It is designed to introduce students to a variety of fundamental business skills and knowledge. The minor consists of 22-23 credits, at least 6 credits of which must be at the 400 level. Only courses in which students earn a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22-23 credits

PRESCRIBED COURSES: (10 credits)
ACCTG 211(4) (Sem: 1-5)
MGMT 301(3), MKTG 301(3) (Sem: 5-8)

ADDITIONAL COURSES: (6-7 credits)
Select 3 credits from ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-5)
Select 3-4 credits from B A 241(2) and B A 242(2) or B A 243(4); MIS 204(3), SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-5)
FIN 301(3), I B 303(3), SCM 301(3) (Sem: 5-8)
Note: A student who receives credits for B A 243 may not receive credit for either B A 241 or B A 242.

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits at the 400 level in consultation with your adviser and the approval of the director of the business minor (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-01-057

Review Date: 8/28/07

UCA Revision #1: 8/3/06

Comments

AB/BK/UC

Business Minor

Abington College (BSBAB)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

This interdisciplinary minor provides students with a business-oriented supplement to their academic major. It is designed to introduce students to a variety of fundamental business skills and knowledge. The minor consists of 22-23 credits, at least 6 credits of which must be at the 400 level. Only courses in which students earn a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22-23 credits

PRESCRIBED COURSES: (10 credits)
ACCTG 211(4) (Sem: 1-5)
MGMT 301(3), MKTG 301(3) (Sem: 5-8)

ADDITIONAL COURSES: (6-7 credits)
Select 3 credits from ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-5)
Select 3-4 credits from B A 241(2) and B A 242(2) or B A 243(4); MIS 204(3), SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-5)
FIN 301(3), I B 303(3), SCM 301(3) (Sem: 5-8)
Note: A student who receives credits for B A 243 may not receive credit for either B A 241 or B A 242.

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits at the 400 level in consultation with your adviser and the approval of the director of the business minor (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-01-057

Review Date: 8/28/07

UCA Revision #1: 8/3/06

Comments

AB/BK/UC

Business Minor

Abington College (BSBAB)
Berks College (BSBBL)
University College (BSBCC): Penn State Beaver, Penn State Brandywine, Penn State DuBois, Penn State Fayette, Penn State Greater Allegheny, Penn State Hazleton, Penn State Mont Alto, Penn State New Kensington, Penn State Schuylkill, Penn State Shenango, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York

This interdisciplinary minor provides students with a business-oriented supplement to their academic major. It is designed to introduce students to a variety of fundamental business skills and knowledge. The minor consists of 22-23 credits, at least 6 credits of which must be at the 400 level. Only courses in which students earn a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22-23 credits

PRESCRIBED COURSES: (10 credits)
ACCTG 211(4) (Sem: 1-5)
MGMT 301(3), MKTG 301(3) (Sem: 5-8)

ADDITIONAL COURSES: (6-7 credits)
Select 3 credits from ECON 002 GS(3) or ECON 004 GS(3) (Sem: 1-5)
Select 3-4 credits from B A 241(2) and B A 242(2) or B A 243(4); MIS 204(3), SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 1-5)
FIN 301(3), I B 303(3), SCM 301(3) (Sem: 5-8)
Note: A student who receives credits for B A 243 may not receive credit for either B A 241 or B A 242.

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits at the 400 level in consultation with your adviser and the approval of the director of the business minor (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-01-057

Review Date: 8/28/07

UCA Revision #1: 8/3/06

Comments

AB/BK/UC

Business and the Liberal Arts Minor

Abington College (BSLAB)
University Park, College of the Liberal Arts (BUSLA)

This minor offers fundamental courses in business, the opportunity for more advanced business courses, and Liberal Arts coursework emphasizing various perspectives on business. All students take a course on Business and the Liberal Arts co-taught by alumni, along with a course on Leadership, and have a reasonable degree of flexibility in remaining courses.

Only courses in which the student earns a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Students pursuing the Minor in Business and the Liberal Arts are encouraged to use ENGL 202D to satisfy their English 202 requirement.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 25-26 credits

PRESCRIBED COURSES (5 credits)
ACCTG 211(4), L A 200(1) (Sem: 3-8)

ADDITIONAL COURSES (20-21 credits)
At least 6 credits in additional courses must be at the 400 level.
ECON 002 GS(3) or ECON 014 GS(3) (Sem: 3-8)
FIN 100(3) or FIN 301(3) (Sem: 3-8)
Select 2-3 credits from PHIL 119 GH(3) or B E 392 GWS(2); COMM 427(3), COMM 475(3), COMM 487(3), ENGR 407(3), RPTM 230(3) (Sem: 3-8)

Select 6 credits from the following course list:
B A 250(3), B A 321(1-3), COMM 385(3), COMM 424(3), COMM 473(3), COMM 493(3), ECON 390(3), ECON 490(3), LER 100 GS(3); MGMT 100(3) or MGMT 301(3); MGMT 425(3), MGMT 426(3); MKTG 221(3) or MKTG 301(3); MKTG 302(3), MKTG 310(3), MKTG 327(3), MKTG 330(3), MKTG 342(3), SCM 301(3), STAT 220(3), or 3 credits of appropriate internship selected in consultation with adviser.

Select 6 credits from the following course list:
AAA S 445Y US(3), AG EC 430(3), CED 450 IL(3), ANTH 451(3), ANTH 455(3), CAS 352(3), CAS 426W(3), CAS 450W(3), CAS 452(3), CAS 452W(3), CAS 471 US;IL(3), COMM 405(3), COMM 410 IL(3), COMM 419 US;IL(3), COMM 489W(3), COMM 490(3), COMM 491(3), COMM 492(3), CRIM 467(3), CRIMJ 460(3), CRIMJ 467(3), ECON 315 GS(3), ECON 333 GS(3), ECON 342 GS(3), ECON 402(3), ECON 412(3), ECON 428(3), ECON 432(3), ECON 433(3), ECON 434(3), ECON 436W US(3), ECON 443(3), ECON 444(3), ECON 445(3), ECON 447W(3), ECON 463 IL(3), ECON 471(3), ECON 472(3), ENGL 419(3), E B F 473(3), ENNEC 482(3), ENNEC 483(3), FR 407 IL(3), FR 408 IL(3), GEOG 424 US;IL(3), GEOG 439(3), GEOG 475H(3), GER 308Y IL(3), GER 408 IL(3), H P A 420(3), H P A 445(3), HD FS 424 US(3), HD FS 425 US(3), HIST 423 IL(3), HIST 425 IL(3), HIST 430 IL(3), HIST 445 US(3), HIST 446 US(3), HIST 447 US(3), HIST 451 US(3), HIST 458Y US(3), HIST 468 IL(3), HIST 475Y IL(3), HIST 481 IL(3), IST 431(3), IST 432(3), IST 445H(3), IST 452(3), JAPNS 403Y IL(3), JAPNS 404 IL(3), LER 400 IL(3), LER 401(3), LER 411(3), LER 414W(3), LER 425(3), LER 434(3), LER 437(3), LER 444(3), LER 445Y US(3), LER 458Y US(3), LER 460(3), LER 464(3), LER 465(3), LER 470(3), PHIL 406(3), PHIL 407(3), PHIL 418(3), PHIL 418W(3), PHIL 420(3), PHIL 431(3), PHIL 432(3), PL SC 412(3), PL SC 419(3), PL SC 490(3), PL SC 426(3), PL SC 440 US;IL(3), PL SC 441(3), PL SC 444(3), PL SC 445Y US(3), PL SC 474(3), PL SC 481(3), PL SC 487(3), PL SC 490(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3), SOC 420(3), SOC 422(3), SOC 444(3), SOC 447(3), SOC 455(3), SOC 456(3), SPAN 420(3), STAT 470W(3), WMNST 426Y US;IL(3), WMNST 420 US;IL(3), WMNST 456(3), WMNST 472(3) (Sem: 3-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-05-115

Review Date: 6/9/08

UCA Revision #1: 8/3/06
UCA Revision #2: 7/26/07

Business and the Liberal Arts Minor

Abington College (BSLAB)
University Park, College of the Liberal Arts (BUSLA)

This minor offers fundamental courses in business, the opportunity for more advanced business courses, and Liberal Arts coursework emphasizing various perspectives on business. All students take a course on Business and the Liberal Arts co-taught by alumni, along with a course on Leadership, and have a reasonable degree of flexibility in remaining courses.

Only courses in which the student earns a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Students pursuing the Minor in Business and the Liberal Arts are encouraged to use ENGL 202D to satisfy their English 202 requirement.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 25-26 credits

PRESCRIBED COURSES (5 credits)
ACCTG 211(4), L A 200(1) (Sem: 3-8)

ADDITIONAL COURSES (20-21 credits)
At least 6 credits in additional courses must be at the 400 level.
ECON 002 GS(3) or ECON 014 GS(3) (Sem: 3-8)
FIN 100(3) or FIN 301(3) (Sem: 3-8)
Select 2-3 credits from PHIL 119 GH(3) or B E 392 GWS(2); COMM 427(3), COMM 475(3), COMM 487(3), ENGR 407(3), RPTM 230(3) (Sem: 3-8)

Select 6 credits from the following course list:
B A 250(3), B A 321(1-3), COMM 385(3), COMM 424(3), COMM 473(3), COMM 493(3), ECON 390(3), ECON 490(3), LER 100 GS(3); MGMT 100(3) or MGMT 301(3); MGMT 425(3), MGMT 426(3); MKTG 221(3) or MKTG 301(3); MKTG 302(3), MKTG 310(3), MKTG 327(3), MKTG 330(3), MKTG 342(3), SCM 301(3), STAT 220(3), or 3 credits of appropriate internship selected in consultation with adviser.

Select 6 credits from the following course list:
AAA S 445Y US(3), AG EC 430(3), CED 450 IL(3), ANTH 451(3), ANTH 455(3), CAS 352(3), CAS 426W(3), CAS 450W(3), CAS 452(3), CAS 452W(3), CAS 471 US;IL(3), COMM 405(3), COMM 410 IL(3), COMM 419 US;IL(3), COMM 489W(3), COMM 490(3), COMM 491(3), COMM 492(3), CRIM 467(3), CRIMJ 460(3), CRIMJ 467(3), ECON 315 GS(3), ECON 333 GS(3), ECON 342 GS(3), ECON 402(3), ECON 412(3), ECON 428(3), ECON 432(3), ECON 433(3), ECON 434(3), ECON 436W US(3), ECON 443(3), ECON 444(3), ECON 445(3), ECON 447W(3), ECON 463 IL(3), ECON 471(3), ECON 472(3), ENGL 419(3), E B F 473(3), ENNEC 482(3), ENNEC 483(3), FR 407 IL(3), FR 408 IL(3), GEOG 424 US;IL(3), GEOG 439(3), GEOG 475H(3), GER 308Y IL(3), GER 408 IL(3), H P A 420(3), H P A 445(3), HD FS 424 US(3), HD FS 425 US(3), HIST 423 IL(3), HIST 425 IL(3), HIST 430 IL(3), HIST 445 US(3), HIST 446 US(3), HIST 447 US(3), HIST 451 US(3), HIST 458Y US(3), HIST 468 IL(3), HIST 475Y IL(3), HIST 481 IL(3), IST 431(3), IST 432(3), IST 445H(3), IST 452(3), JAPNS 403Y IL(3), JAPNS 404 IL(3), LER 400 IL(3), LER 401(3), LER 411(3), LER 414W(3), LER 425(3), LER 434(3), LER 437(3), LER 444(3), LER 445Y US(3), LER 458Y US(3), LER 460(3), LER 464(3), LER 465(3), LER 470(3), PHIL 406(3), PHIL 407(3), PHIL 418(3), PHIL 418W(3), PHIL 420(3), PHIL 431(3), PHIL 432(3), PL SC 412(3), PL SC 419(3), PL SC 490(3), PL SC 426(3), PL SC 440 US;IL(3), PL SC 441(3), PL SC 444(3), PL SC 445Y US(3), PL SC 474(3), PL SC 481(3), PL SC 487(3), PL SC 490(3), PSYCH 482(3), PSYCH 484(3), PSYCH 485(3), SOC 420(3), SOC 422(3), SOC 444(3), SOC 447(3), SOC 455(3), SOC 456(3), SPAN 420(3), STAT 470W(3), WMNST 426Y US;IL(3), WMNST 420 US;IL(3), WMNST 456(3), WMNST 472(3) (Sem: 3-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-05-115

Review Date: 6/9/08

UCA Revision #1: 8/3/06
UCA Revision #2: 7/26/07

Chemistry Minor

University Park, Eberly College of Science (CHEM)

The Chemistry minor specifies a series of courses that together provide a broad introduction to the main thrusts of modern chemistry: general, organic, and physical. The Chemistry minor includes substantial laboratory work including general chemistry and either organic or physical chemistry. In addition, several advanced courses chosen by the student from a list of options are required.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 27-29 credits

PRESCRIBED COURSES: (17 credits)
CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), CHEM 210(3), CHEM 212(3) (Sem: 1-4)
CHEM 452(3) (Sem: 5-8)

ADDITIONAL COURSES: (10-12 credits)
CHEM 457 and CHEM 466 can only be used to satisfy the requirements of one category below.
Select 2 credits from CHEM 213(2) or CHEM 457(2) (Sem: 3-8)
Select 3 credits from CHEM 450(3) or CHEM 466(3) (Sem: 5-8)
Select 5-7 credits from CHEM 402(3), CHEM 406(3), CHEM 408(3), CHEM 410(3), CHEM 412(3), CHEM 423W(3), CHEM 425(3), CHEM 427W(4), CHEM 430(3), CHEM 431W(3), CHEM 448(3), CHEM 457(2), CHEM 460(3), CHEM 462(3), CHEM 464(3), CHEM 466(3), or CHEM 476(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-087

Review Date: 2/26/08

UCA Revision #1: 9/20/06

SC

Chemistry Minor

Altoona College
Penn State Erie, The Behrend College (CHMBD)

The minor in Chemistry (CHMBD) complements degrees in other areas of physical science and introduces students to fundamental principles of chemistry through general chemistry, organic chemistry, analytical chemistry, and selected 400-level courses of their choice.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-20 credits

PRESCRIBED COURSES: (12 credits)
CHEM 210(3), CHEM 212(3), CHEM 213(2) (Sem: 3-6)
CHEM 221(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS: (6-8 credits)
Select at least 6-8 credits of 400-level CHEM, excluding CHEM 494(1-12), CHEM 495(1-18), and CHEM 496(1-18) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #1: 8/3/06

BD

Chinese Language Minor

University Park, College of the Liberal Arts (CHNS)

The Chinese Language minor is intended to provide students with a good working knowledge of the Chinese language, taught in a context that emphasizes the characteristics and diversity of Chinese culture and society. Students undertake three years of language study (or equivalent); education abroad can be included.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES: (8 credits)
CHNS 002(4), CHNS 003(4) (Sem: 1-4)

ADDITIONAL COURSES: (11 credits)
Select 4 credits from CHNS 110 IL(4) or CHNS 296(1-18), CHNS 297(1-9), CHNS 299 IL(1-12) (Sem: 1-8)
Select 4 credits from CHNS 401 IL(4) or CHNS 499 IL(1-12) (Sem: 5-8)
Select 3 credits from CHNS 452 IL(3), CHNS 453 IL(3), CHNS 496(1-18), CHNS 497(1-9) or CHNS 499 IL(1-12)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-053

Review Date: 4/14/09

LA

Civic and Community Engagement Minor

Intercollege Program (CIVCM)

Administered by a program faculty drawn from across the University, the Intercollege Minor in Civic and Community Engagement is appropriate to undergraduate students seeking to apply domains of knowledge from their majors or General Education programs to issues of consequence beyond the classroom. In the minor students integrate democratic, professional, and creative development. In particular, the minor serves to encourage, recognize, and systematize student participation in public service or problem-based fieldwork and research that:

- is substantial, sustained, and includes structured opportunities for student reflection and critical assessment; and
- is integrated with and supported by traditional, classroom-based course work.

Specifically, the minor consists of a balanced program of fieldwork experience and supporting course work that is selected with the advice and consent of a minor adviser and approved on behalf of the minor by a program faculty. Fieldwork experiences are selected from a list of eligible courses (or approved comparable alternatives), and supporting course work includes a conceptual foundations course that provides students with a critical orientation to contemporary issues and themes in public scholarship. The minor culminates with an approved capstone project, which may be a significant paper, or annotated portfolio, or other demonstration of substantial assessment and integration of the minor experience and the broader issue of application of academic theory and practice in the civic community.

The Civic and Community Engagement Minor Committee is authorized to award a minor certificate to any undergraduate who, in addition to satisfying the degree requirements of his or her baccalaureate major, satisfies the requirements for the Civic and Community Engagement Minor. The completion of the minor is reflected by a formal notation of the student's official record at the time of graduation. To enter the program, a student must submit an application to the committee. Applicants to the minor in Civic and Community Engagement:

- Must have a minimum overall GPA of 2.0.
- Must present a proposed plan of study in the application process. The plan of study should include student's contact information and GPA, a brief statement of student's learning objectives in connection with the major or other proposed curricular concentration, such as minor or general education, proposed supporting courses (include description of course and syllabus if available), proposed fieldwork courses (include information about fieldwork, supervision, and reflection and assessment), and minor adviser endorsement of the plan. Minor proposals must be approved by the student's minor adviser and the committee.
- May apply no more than 9 credits toward the minor that also count toward the major. Students with multiple majors may have some additional flexibility. Past fieldwork experiences and completed courses may be retroactively included in the plan of study, but must be approved by the minor adviser and the committee.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
AYFCE 211 GS(3) (Sem: 5)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
at least 6 credits must be taken at the 400 level
Select 6-9 credits from Program List of public scholarship courses, of which at least 3 credits involve supervised field experience and of which 3-6 credits are public issues and democracy courses, or equivalents chosen in consultation with minor adviser (Sem: 5-8)
Select 3-6 credits in related areas in consultation with minor adviser (Sem: 5-8)
Select 3 credits of public scholarship capstone work at the 400 level in consultation with minor adviser (Sem: 7-8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-233

Review Date: 1/16/07

UE

Classics and Ancient Mediterranean Studies Minor

University Park, College of the Liberal Arts (CAMS)

The CAMS minor recognizes the completion of a broadly interdisciplinary study of the cultures of the ancient Mediterranean world through 18 credits of course work, including 6 credits at the 400-level. The courses offered are concerned with the cultures of the ancient Near East, Egypt, and Mesopotamia, Greece, and Rome in such fields as civilization, archaeology, history, philosophy, religion, and mythologies. Students who complete the Penn State Athens Education Abroad Program and its prerequisite course may apply to receive the minor. Students in the minor may also receive credit for participating in approved archaeological fieldwork in the Mediterranean region. While the study of language is not required, students are encouraged to study the appropriate ancient languages. The minor is especially suitable for students in such fields as history, medieval studies, anthropology, literature, philosophy, and education.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits from CAMS courses (Sem: 1-8)
Select 6 credits of 400-level CAMS courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-05-036

Review Date: 11/01

LA

Climatology Minor

University Park, College of Earth and Mineral Sciences (CLIMA)

Climate is a central component of the physical environment, playing an important role in a wide range of human activities. The ability to force changes in the global climate system may be one of the more significant ways in which human society will impact Earth's physical environment in the near future. The climatology minor in the College of Earth and Mineral Sciences is an interdisciplinary program drawing from the fields of meteorology, geography, and geosciences. The minor provides an overview of the physical processes that control present-day climate. It also provides an introduction to the history of climate change through geologic time, and presents some of the causes and consequences of potential future climate change and variability.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits from:
EARTH 103 GN(3) (Sem: 1-8)
GEOG 438W(3), GEOG 412W(3), GEOG 310W(3), GEOG 417(3), GEOSC 320(3), METEO 300(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-05-015

Review Date: 8/5/03

EM

Communication Arts and Sciences Minor

Abington College (CASAB)
Berks College (CASBL)
University College (CASCC): *Penn State Brandywine, Penn State York*
University Park, College of the Liberal Arts (CAS)

This minor provides understanding and practice in the ways humans achieve their personal and career goals by means of communication. Students may choose any of the department's pathways of specialization, such as Interpersonal, Family, Intercultural, Organizational, Legal, Political Communication and Presentation Skills, Communication and Technology, or Rhetoric. For example, Legal Communication focuses on communication within the legal system, and provides students with the theory and skills to understand the uses, evaluation, and structure of public policy and legal disputes. Students learn how perception, meaning, and conflict function in human communication if they choose to specialize in Interpersonal Communication, while Organizational Communication critically examines leadership, decision-making, interviewing, and teamwork in formal organizations. In coordination with an adviser, a student of any major may tailor this minor to complement his or her educational and career goals by pursuing a particular pathway.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (6 credits)
Select 3 credits from CAS 203(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-6)
Select 3 credits from CAS 200(3), CAS 201 GH(3), or CAS 202(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of Communication Arts and Sciences courses (Sem: 1-8)
Select 6 credits of Communication Arts and Sciences courses at the 400 level (Sem: 1-8)
Note: CAS 100 GWS(3), CAS 126(3), or CAS 195(1) may not be counted as part of the minor.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-104

Review Date: 2/25/05

LA

Communication Arts and Sciences Minor

Abington College (CASAB)
Berks College (CASBL)
University College (CASCC): Penn State Brandywine, Penn State York
University Park, College of the Liberal Arts (CAS)

This minor provides understanding and practice in the ways humans achieve their personal and career goals by means of communication. Students may choose any of the department's pathways of specialization, such as Interpersonal, Family, Intercultural, Organizational, Legal, Political Communication and Presentation Skills, Communication and Technology, or Rhetoric. For example, Legal Communication focuses on communication within the legal system, and provides students with the theory and skills to understand the uses, evaluation, and structure of public policy and legal disputes. Students learn how perception, meaning, and conflict function in human communication if they choose to specialize in Interpersonal Communication, while Organizational Communication critically examines leadership, decision-making, interviewing, and teamwork in formal organizations. In coordination with an adviser, a student of any major may tailor this minor to complement his or her educational and career goals by pursuing a particular pathway.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (6 credits)
Select 3 credits from CAS 203(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-6)
Select 3 credits from CAS 200(3), CAS 201 GH(3), or CAS 202(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of Communication Arts and Sciences courses (Sem: 1-8)
Select 6 credits of Communication Arts and Sciences courses at the 400 level (Sem: 1-8)
Note: CAS 100 GWS(3), CAS 126(3), or CAS 195(1) may not be counted as part of the minor.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-104

Review Date: 2/25/05

LA

Communication Arts and Sciences Minor

Abington College (CASAB)
Berks College (CASBL)
University College (CASCC): *Penn State Brandywine, Penn State York*
University Park, College of the Liberal Arts (CAS)

This minor provides understanding and practice in the ways humans achieve their personal and career goals by means of communication. Students may choose any of the department's pathways of specialization, such as Interpersonal, Family, Intercultural, Organizational, Legal, Political Communication and Presentation Skills, Communication and Technology, or Rhetoric. For example, Legal Communication focuses on communication within the legal system, and provides students with the theory and skills to understand the uses, evaluation, and structure of public policy and legal disputes. Students learn how perception, meaning, and conflict function in human communication if they choose to specialize in Interpersonal Communication, while Organizational Communication critically examines leadership, decision-making, interviewing, and teamwork in formal organizations. In coordination with an adviser, a student of any major may tailor this minor to complement his or her educational and career goals by pursuing a particular pathway.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (6 credits)
Select 3 credits from CAS 203(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-6)
Select 3 credits from CAS 200(3), CAS 201 GH(3), or CAS 202(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of Communication Arts and Sciences courses (Sem: 1-8)
Select 6 credits of Communication Arts and Sciences courses at the 400 level (Sem: 1-8)
Note: CAS 100 GWS(3), CAS 126(3), or CAS 195(1) may not be counted as part of the minor.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-104

Review Date: 2/25/05

LA

Communication Arts and Sciences Minor

Abington College (CASAB)
Berks College (CASBL)
University College (CASCC): *Penn State Brandywine, Penn State York*
University Park, College of the Liberal Arts (CAS)

This minor provides understanding and practice in the ways humans achieve their personal and career goals by means of communication. Students may choose any of the department's pathways of specialization, such as Interpersonal, Family, Intercultural, Organizational, Legal, Political Communication and Presentation Skills, Communication and Technology, or Rhetoric. For example, Legal Communication focuses on communication within the legal system, and provides students with the theory and skills to understand the uses, evaluation, and structure of public policy and legal disputes. Students learn how perception, meaning, and conflict function in human communication if they choose to specialize in Interpersonal Communication, while Organizational Communication critically examines leadership, decision-making, interviewing, and teamwork in formal organizations. In coordination with an adviser, a student of any major may tailor this minor to complement his or her educational and career goals by pursuing a particular pathway.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (6 credits)
Select 3 credits from CAS 203(3), CAS 205(3), CAS 211(3), CAS 213(3), CAS 214W(3), CAS 215(3), CAS 250(3), CAS 252(3), CAS 271 US;IL(3), CAS 280W(3), or CAS 283(3) (Sem: 3-6)
Select 3 credits from CAS 200(3), CAS 201 GH(3), or CAS 202(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of Communication Arts and Sciences courses (Sem: 1-8)
Select 6 credits of Communication Arts and Sciences courses at the 400 level (Sem: 1-8)
Note: CAS 100 GWS(3), CAS 126(3), or CAS 195(1) may not be counted as part of the minor.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-104

Review Date: 2/25/05

LA

Communication Minor

Penn State Erie, The Behrend College (COMMU)

This minor requires 18 credits, at least 6 at the 400 level. Students should select these 18 credits in consultation with their academic adviser and the person in charge of the minor in such a way as to complement their chosen major.

Many Business Liberal Arts and Sciences (BLASC) majors select the Communication minor as one of their three modules.

The minor in Communication serves as an excellent complement to majors in Humanities and Social Sciences such as English and Political Science, as well as those in the School of Business such as Management Information Systems and Business Management.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits from CAS and COMM courses [excluding CAS 100 GWS(3), COMM 001(1), COMM 002(2-3), COMM 003(1), COMM 100 GS(3), COMM 150 GA(3), and COMM 250 GA(3)] (Sem: 1-6)
Select 6 credits of 400-level CAS and COMM courses (Sem: 3-8)

Last Revised by the Department: Spring Semester 2003

Blue Sheet Item #: 31-01-010A

Review Date: 8/27/02

UCA Revision #2: 7/27/07

BD

Communications Minor

Altoona College (COMAL)

The Communications minor provides students an academic program of media studies that introduces them to approaches used to understand the mass media. These include aesthetic, cultural, humanistic, social-behavioral, and legal approaches. Students in the minor will have an opportunity to examine the theory and principles of communications systems and processes as well as learn in the advanced courses the research methods used for their systematic analysis. The minor emphasizes the liberal arts core of the Communications program and will equip students with well-developed language and analytical skills.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
COMM 100 GS(3), COMM 150 GA(3) (Sem: 1-2)

ADDITIONAL COURSES (12 credits)
(At least 6 credits must be at the 400 level.)
COMM 180 GS(3), COMM 205 US(3), COMM 250 GA(3), COMM 261 GH(3), COMM 320(3), COMM 370(3) (Sem: 3-4)
COMM 401(3), COMM 403(3), COMM 408(3), COMM 409(3), COMM 411(3), COMM 413W(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-022

Review Date: 1/14/03

AL

Communications Minor

Capital College (COMCL)

The Communications minor provides students with an introduction to the tool skills needed to function as a professional communicator, as well as a basic understanding of communication processes and theory. Students seeking careers in fields such as public administration, business, criminal justice, law, information technology, and the medical, social and behavioral professions will find this minor provides instruction in a valuable additional knowledge and skill area important in today's information society.

Students must apply for entrance to the minor after achieving fifth semester classification.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
COMM 251(3) (Sem: 3-6)

ADDITIONAL COURSES (3 credits)
COMM 230W(3) (Sem: 3-6)

SUPPORTING COURSES (12 credits)
Select 12 credits from approved department list. At least 6 of these credits must be at the 400-level (Sem: 2-8)

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-06-043

Review Date: 04/12/05

UCA Revision #2: 7/27/07

CL

Computer Engineering Minor

Penn State Erie, The Behrend College (CENBD)

This program of study provides graduates with a strong background in computer engineering. Upon completion of the minor, graduates will have developed an understanding of the operation and design of computers. This objective is accomplished through a combination of classroom study, computer-related projects, and laboratory experience. Analysis and design of computer hardware and software systems are stressed. The program requires completion of mandatory courses in analog and digital circuits, microprocessors, transistor logic, and computer programming. Students complete the minor by selecting technical electives in computer hardware and software engineering.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 24 credits

PRESCRIBED COURSES: (11 credits)
E E 210(4) (Sem: 1-4)
E E 310(4), E E 316(3) (Sem: 5-6)

ADDITIONAL COURSES: (13 credits)
Select 3 credits from CMPSC 201 GQ(3) or CMPSC 202 GQ(3) (Sem: 1-4)
Select 4 credits from CMPEN 271(3) and CMPEN 275(1) (Sem: 5-6)
Select 6 credits from CMPEN 352W(3), CMPEN 411(3), CMPEN 431(3), CMPEN 441(3), CMPEN 461(3), CMPSC 450(3), CMPSC 479(3), or SWENG 411(3)

Last Revised by the Department: Fall Semester 2001

Reviewed by Publications: 06/23/06

UCA Revision #2: 7/27/07

BD

Computer Science Minor

Capital College (COMP)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (12 credits)
CMPSC 122(3) (Sem: 1-3)
CMPSC 425(3), CMPSC 462(3), and MATH 315(3) (Sem:4-8)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits of 400-level CMPSC courses from approved department list. (Sem: 5-8)

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 38-03-035

Review Date: 11/17/09

UCA Revision #1: 8/3/06
UCA Revision #2: 7/27/07

CL

Computer Science Minor

Penn State Erie, The Behrend College (CSCBD)

The computer science minor at Behrend is designed to allow students in any Behrend major to establish a strong conceptual framework in computer science, so they can apply computer science methods and techniques to their primary field of study. Students begin by taking two courses in computer programming (CMPSC 121 and CMPSC 122), a course in Object-Oriented Design (CMPBD 360), and a course in discrete math for computer science (CMPSC 360). These thirteen credits are followed with an additional six credits of 400-level work in computer science at Behrend (CMPSC). (Please note that MATH 140 is a prerequisite for CMPSC 122, so students whose majors do not require MATH 140 must be sure to schedule it in place of or in addition to the math courses required by their majors.)

Computing has become a critical aspect of most disciplines. This minor provides students with the opportunity to develop computing expertise which can then be applied to their field of study, thus enhancing job placement opportunities after graduation or better preparing the student to pursue graduate work in computing intensive sub-disciplines of their major. The emphasis is on building a conceptual framework which will allow the student to continue to learn new computing techniques beyond graduation in this rapidly evolving discipline.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19-20 credits

PRESCRIBED COURSES (10 credits)
CMPBD 127(1), CMPSC 122(3) (Sem: 3-4)
CMPBD 360(3), CMPSC 360(3) (Sem: 3-6)

ADDITIONAL COURSES (3-4 credits)
Select 3-4 credits from CMPSC 102(3), CMPSC 201 GQ(3), CMPSC 202 GQ(3), or CMPSC 121 GQ(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of 400-level (below 490) CMPSC courses (Sem: 7-8)

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-05-001A

Review Date: 02/13/01

UCA Revision #2: 7/27/07

BD

Criminal Justice Minor

Altoona College (CJ)

The Criminal Justice minor provides an overview of the criminal justice system and a thorough grounding in criminological theory. Students receive an in-depth look at the three main system components: policing, courts, and corrections, as well as the opportunity to delve into two or more specialized topics relating to criminal justice. The minor is designed not only for students who have a professional interest in criminal justice, but also for those who want to be informed members of the voting citizenry. A functional understanding of crime and the criminal justice system is useful in many careers, including law, social work, education, and journalism.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (12 credits)
CRIMJ 100(3) (Sem:1-4)
CRIMJ 210(3), CRIMJ 220(3), CRIMJ 230(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits of 400-level CRIMJ courses, excluding CRIMJ 495(1-18) (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #2: 7/27/07

AL

Dance Minor

University Park, College of Arts and Architecture (DANCE)

This minor is a rigorous program designed to help students who wish to further their skills in this art form. This modern-based program focuses on technique, choreography, and performance. Students choose from a variety of options to create their own dance minor that will give them the tools and the knowledge to further their individual interest in the field. Students have the opportunity to perform in pieces created by faculty, be a member of the University Dance Company, create their own pieces for performance, and attend national conferences. Upon completion of this minor, the student will be able to pick from a variety of career opportunities such as performance, teaching, choreography, production, and studio or have it apply to their major. Twenty-one credits are required for completion of the dance minor with a minimum of 6 credits at the 400 level.

Entrance into the Dance minor will be based on an audition. The audition will consist of a Ballet Barre, Jazz combo, and Modern combo. Ability to pick up and execute technique and combinations is essential. A grade of C or better is required in all courses required in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (5 credits)
DANCE 301(2) (Sem: 2-8)
DANCE 484 US;IL(3) (Sem: 3-8)

ADDITIONAL COURSES (13 credits)
Select 3 credits from DANCE 261(1.5), DANCE 262(1.5), DANCE 361(1.5), DANCE 362(1.5), DANCE 461(1.5), DANCE 462(1.5) (Sem: 1-8)
(These courses may not double count for other dance minor requirements.)
Select 6 credits from the following courses (3 credits at the 400-level):
DANCE 231(1.5), DANCE 232(1.5), DANCE 241(1.5), DANCE 242(1.5) (Sem: 1-4)
DANCE 251(1.5), DANCE 252(1.5), DANCE 261(1.5), DANCE 262(1.5), DANCE 361(1.5), DANCE 362(1.5) (Sem: 1-4)
DANCE 431(1.5), DANCE 432(1.5), DANCE 441(1.5), DANCE 442(1.5), DANCE 451(1.5), DANCE 452(1.5), DANCE 461(1.5), DANCE 462(1.5) (Sem: 5-8)
(All dance minors are required to demonstrate proficiency at beginning level technique courses before selecting the advanced level courses.)
Select 4 credits from:
DANCE 381(2) (Sem: 3-8)
DANCE 480(2) (Sem: 5-8)
DANCE 485(1-2) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from:
DANCE 280(1), DANCE 281(1), DANCE 296(1-18), DANCE 297(1-9), DANCE 385(2) (Sem: 3-8)
THEA 100 GA;US;IL(3), THEA 102 GA(3), THEA 146(2), THEA 150(3), THEA 189 GA(1-6) (Sem: 1-6)
THEA 208 GA;US;IL(3) (Sem: 1-8)
DANCE 482(3), DANCE 496(1-18), DANCE 497(1-9), THEA 408 US(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-04-014

Review Date: 01/18/05

AA

Dance Studies Minor

Altoona College (DNCAL)

The Dance Studies Minor is designed for students interested in furthering their study and exploration of the many areas of dance--the various techniques: Ballet, Modern, Jazz, the Creative Process and Performance, and Movement Theories. It is also designed to enhance various career opportunities for those majoring in areas such as Integrative Arts, Education, Business, Psychology, and others. Optional directions include areas such as dance therapy and dance medicine with graduate study, or performance, teaching, production, studio or company management, and choreography. Twenty-one credits are required for completion of the minor with a minimum of 7 credits at the 400 level.

A grade of C or better is required in all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (11 credits)
DANCE 270 GHA(3), DANCE 301(2) (Sem: 2-6)
DANCE 482(3), DANCE 484 US;IL(3) (Sem: 4-8)

ADDITIONAL COURSES (10 credits)
DANCE 432(1.5), DANCE 442(1.5), or DANCE 462(1.5) (Sem: 4-8)
Select 6 credits from Dance Technique courses:
DANCE 231(1.5), DANCE 232(1.5), DANCE 241(1.5), DANCE 242(1.5), DANCE 261 GA(1.5), DANCE 262(1.5) (Sem: 1-4)
DANCE 331(1.5), DANCE 332(1.5), DANCE 341(1.5), DANCE 342(1.5), DANCE 361(1.5), DANCE 362(1.5) (Sem: 3-6)
DANCE 431(1.5), DANCE 441(1.5), DANCE 461(1.5) (Sem: 4-8)
(All Dance Studies minor students are required to demonstrate proficiency at beginning level technique courses before placement in the intermediate or advanced courses.)
Select 3 credits from Creative Process/Performance courses:
DANCE 280(1), DANCE 296(1-18) (Sem: 1-6)
DANCE 381(2) (Sem: 3-6)
DANCE 485(1-2) (Sem: 3-8)
DANCE 382(1), DANCE 496(1-18), DANCE 497(1-9) (Sem: 4-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-023

Review Date: 04/09/02

AL

Deafness and Hearing Studies Minor

University Park, College of Health and Human Development (DHS)

This interdisciplinary minor is designed for students who want to learn about individuals with hearing disabilities, audition, and deafness within an individual and societal context. Core courses include knowledge and skills in preventing hearing loss, basic communication skills and disabilities, history, thought and culture of individuals who are deaf, and principles of human behavior and their applications. The minor will assist students in recognizing relationships among hearing disability, deafness, cultural differences and their impact on the individual in educational, social and vocational settings. Specializations include, but are not limited to, health-related fields, communications, societal and social life, cultural impact, educational experiences, prejudice and discrimination, and rehabilitation. Students will be able to place deaf culture and hearing disabilities in the proper perspective necessary for life-long learners engaged in fostering climates which embrace individuals from diverse backgrounds, especially disabilities.

The minor is most appropriate for students interested in clinical and health-related fields (e.g., nursing, biobehavioral health, or medicine), professional fields (e.g., business, pre-law, or communications), social sciences (e.g., human development and family studies, sociology, or psychology), and education (e.g., early childhood education, special education, rehabilitation counseling), as it will provide students with exposure to the range of variation in persons with hearing disabilities and deafness across the lifespan.

Students from any major (except Communication Sciences and Disorders) can declare a minor in Deafness and Hearing Studies. A grade of C or better is required for all courses in the minor. Students seeking advising for this minor should contact the Department of Communication Sciences and Disorders.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19.5 credits

PRESCRIBED COURSES (10.5 credits)
CSD 101 GHA(1.5), CSD 146(3), CSD 269 US;IL(3), PSYCH 100 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
(Some courses in this category have prerequisites that are not required in the minor.)
(At least 6 credits must be at the 400 level.)
ACS 402(3), COMM 408(3), COMM 411(3), CSD 218(3), CSD 230(3), CSD 296(3), CSD 301(3), CSD 331(3), CSD 433(3), CSD 451(3), CSD 495B(3), CSD 496(3), EDPSY 010 GS(3), HD FS 129 GS(3), HD FS 417(3), KINES 400(3), KINES 402(3), NURS 401(3), NURS 452(3), PSYCH 253 GS(3), PSYCH 453(3), PSYCH 420(3), PSYCH 432 US(3), PSYCH 476(3), PSYCH 441(3), RPTM 277 US(3), RHS 300(3), RHS 403(3), SOC 001 GS(3), SOC 003 GS(3), SOC 429(3), SOC 430(3), SPLED 400(3), SPLED 425(3) (Sem: 1-8)

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-05-051

Review Date: 3/2/04

UCA Revision #1: 8/20/06

HH

PROGRAM CURRENTLY ON HOLD;
NOT ACCEPTING NEW STUDENTS
Begin Date of Enrollment Hold: Summer Session 2003

Digital Arts and Information Sciences and Technology Minor (ENROLLMENT HOLD)

University Park, College of Arts and Architecture (DGAIS)
University Park, College of Information Sciences and Technology

Information management skills are becoming an integral part of our lives and practices, including those who practice in the arts. The arts are becoming increasingly dependent upon electronic technologies that enable greater interactivity, rapid experimentation and dissemination, and new possibilities for creative expression through such mediums as computer modeling, digital imaging, animation and digital audio and video. The College of Arts and Architecture/IST minor provides students with a basic introduction to the core curriculum of the School of Information Sciences and Technology combined with a selection of interdisciplinary digital media courses in the arts. The Digital Arts/IST minor will focus on the creative and critical uses of the new technologies to produce digital graphic images, two and three dimensional models and rendering and moving animation and audio processing. As a result, students in both the arts and information science will be better prepared for personal and professional advancement by learning to explore digital media as fine art tools that engage them in critical and creative ways beyond the technical mastery of software and hardware.

Students must apply to the minor no later than the beginning of their 5th semester. A one-time tuition surcharge will be applied to all students enrolled in the minor. A grade of C or better is required for all courses in this minor.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

REQUIREMENT FOR THE MINOR: 25 credits

PRESCRIBED COURSES (13 credits)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem: 1-6)
LARCH 410(3) (Sem: 7-8)

ADDITIONAL COURSES (12 credits)
Select 12 credits from the following list with at least 3 credits at the 400 level (Sem: 3-8)
ART 002 GA(3), ART 003 GA(3), ART 191(3), ART 201(3), ART 270(3), ART 314(4), ART 491(4), INART 258A GA(3), PHOTO 400(4),

Last Revised by the Department: Fall Semester 2001

Blue Sheet Item: 29-06-002

Review Date: 10/06/05

Disability Studies Minor

Intercollege Program (DBLTY)

This is an intercollege minor, offered jointly by the College of Engineering and the College of the Liberal Arts, and overseen by the Science, Technology, and Society (STS) Program. It is designed for students with special interests in the social systems, environmental factors, and cultural history of disability. In addition to the requirements of the student's major department, the minor consists of 18 credits selected from several colleges and departments. For those majoring in disability-driven disciplines (e.g. nursing, speech and communication disorders, psychology, special education, rehabilitation and human services, health administration), a Disability Studies minor provides relevant interdisciplinary links that broaden the understanding of disability beyond the clinical realm. For students in the humanities (e.g. history, philosophy, political science, and literature), Disability Studies offers important new dimensions and challenges to traditional accounts of human value and political agency. For students with personal experience of disability, the minor provides an academic grounding and community for disability advocacy on personal, community, and national levels.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
RHS 100(3), S T S 202 GH;IL(3) (Sem: 1-6)

ADDITIONAL COURSES (3 credits)
Select 3 credits from S T S 494(1-12), LA 495(1-12), or an equivalent independent research course or internship approved by the faculty member in charge.

SUPPORTING COURSES AND RELATED AREAS: (9 credits)
Select at least three courses for at least 9 credits from an approved department list in consultation with adviser.

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-085

Review Date: 4/15/08

EN/LA

Dispute Management and Resolution Minor

University Park, College of the Liberal Arts (D M R)

This interdisciplinary minor, administered by the Departments of Communication Arts and Sciences, and Labor Studies and Employment Relations, provides students with the opportunity to learn about and develop skills appropriate to the management and resolution of problems created by difference in attitudes, beliefs, values, and behavioral preferences of individuals primarily in interpersonal, group, and organizational contexts, and, to a lesser extent, international contexts. The minor is supportive of, and complementary to, work emphasizing conflict and means for dealing with it in such majors as Administration of Justice, Communication Arts and Sciences, Human Development and Family Studies, Labor and Employment Relations, Political Science, Psychology, and Sociology. Students pursuing the minor must complete 9 credits of prescribed course work and 9 credits of additional course work distributed across at least two of the eight areas identified below. Of the 18 credits selected, at least 9 must be at the 400 level, 6 must be from Communication Arts and Sciences, and 6 must be from Labor and Employment Relations. A maximum of 6 credits earned in the minor, if appropriate, can be used to satisfy requirements in the Communication Arts and Sciences or Labor and Employment Relations majors. Only courses in which the student earns a grade of C or better may be counted toward fulfillment of requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
CAS 203(3), LER 100 GS(3) (Sem: 3-6)

ADDITIONAL COURSES (12 credits)
(Select 12 credits of which 9 credits must be taken at the 400 level)
Select 3 credits from LER 404(3) or SPCOM 404(3) (Sem: 5-8)
Select 9 credits from ADM J/WMNST 423 US(3), CAS 250(3), CAS 403(3), CAS 452(3), CAS 471 US;IL(3), HD FS 311(3), HD FS 414(3), LER/WMNST 136 US(3), LER 411(3), LER 414W(3), LER 434(3), PL SC 014 GS;IL(3), PL SC 418(3), PL SC 437(3), PSYCH 281 GS(3), PSYCH 423(3), PSYCH 484(3), SOC 119 GS;US(4), SOC 403(3), SOC 432(3), SOC 455(3), S T S 090(3), S T S 390(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2000

Blue Sheet Item #: 27-07-064

Review Date: 11/4/03

UCA Revision #1: 8/3/06

LA

Earth Systems Minor

University Park, College of Earth and Mineral Sciences (EASYS)

The recognition that environmental problems are global in extent, and impact on many different components of the Earth System simultaneously, requires that we adopt a large-scale and interdisciplinary approach to questions of global change and the interactions of the physical and human environments. The Earth Systems minor follows such an approach and offers undergraduates the opportunity to study the Earth as an integrated system. The Earth Systems minor is a science minor offered through the College of Earth and Mineral Sciences. It provides a wider interdisciplinary perspective for majors in the traditional Earth Science disciplines (geography, geoscience, and meteorology), and provides an introduction to Earth Sciences and a broad exposure to Earth Systems/Environmental Studies for other science and engineering majors. Students may apply up to 6 credits from courses in the major department to satisfy the minor requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENT FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
EARTH 002 GN(3) (Sem: 3-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from EARTH 103 GN(3), EM SC 470W(3-6), GEOG 430(3), GEOSC 310(4), or METEO 300(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from the Earth Systems Committee's approved list of courses (Sem: 5-8)

Last Revised by the Department: Spring Semester 2000

Blue Sheet Item #: 28-05-018

Review Date: 2/15/00

EM

Economics Minor

Penn State Erie, The Behrend College (ECNS)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits from BECON, ECNS, or ECON courses (Sem: 3-6)
Select 6 credits of 400-level BECON, ECNS, or ECON courses (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

BD

Economics Minor

University Park, College of the Liberal Arts (ECON)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (12 credits)
ECON 102 GS(3), ECON 104 GS(3) (Sem: 3-4)
ECON 302 GS(3), ECON 304 GS(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of additional ECON courses at the 400-level (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 9/2/03

LA

Education Policy Studies Minor

University Park, College of Education (E P S)

This minor is designed to introduce students to the fundamental tenets of education policy development and analysis in both the U.S. and other countries. Students pursuing the minor may choose from courses on educational policy in the areas of higher education, educational administration, educational theory and policy, Native American education leadership and comparative/international education. The minor consists of a multidisciplinary program of study in areas of education related to numerous policy issues including social sciences, history, management sciences, and/or humanities. It is anticipated that students completing the minor will find these studies can enrich any major degree program and potentially provide opportunities for employment and/or graduate studies in state departments of education, ministries of education, federal and international education agencies, academic institutions, and various professional associations.

This 18-credit minor may be combined with any undergraduate major at Penn State.

A grade of C or better is required for all courses taken in fulfillment of the minor. No prerequisites are required for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
EDTHP 115 US(3), EDPSY 014(3) (Sem: 1-4)

ADDITIONAL COURSES (12 credits)
Select 12 credits from: CI ED 470(3), EDLDR 405(3), EDLDR 409(3), EDLDR 476(3), EDLDR 480(3), EDLDR 481(3), EDLDR 485(3), EDLDR 496(1-18), EDTHP 401 IL(3), EDTHP 411 US(3), EDTHP 416 US(3), EDTHP 420(3), EDTHP 427(3), EDTHP 430(3), EDTHP 440(3), EDTHP 441(3), EDTHP 496(1-18) (Sem: 5-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-06-261

Review Date: 4/11/06

ED

Electronic and Photonic Materials Minor

University Park, College of Earth and Mineral Sciences (E P M)

Electronic and photonic materials have greatly changed modern life. Without them, computers, telecommunication systems, compact disc players, video cameras, and all the electronics with which we have become accustomed would not be possible. The study of electronic and photonic materials is a natural bridge between the fields of electrical engineering and material science. Students in electrical engineering will benefit from this minor because they will better understand the materials with which they will design electronic and photonic devices, such as transistors on a computer chip or semiconductor lasers in a compact disc player. Training in the field of electronic and photonic materials requires study of the processing and characterization of these materials to help engineers develop ways to lower cost and improve performance. This knowledge will help prepare students to enter the semiconductor industry or pursue graduate studies.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
MATSE 201(3) (Sem: 1-4)
E E 441(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 3 credits from E SC 314(3) or an approved E E course (Sem: 1-4)
Select 3 credits from MATSE 450(3) or MATSE 455(3) (Sem: 5-8)
Select 6 credits from E E 442(3), E SC 445(3), MATSE 400(3), MATSE 401(3), MATSE 402(3), MATSE 413(3), MATSE 417(3), MATSE 430(3), MATSE 435(3), MATSE 450(3), MATSE 455(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 29-07-049

Review Date: 01/15/02

UCA Revision #2: 7/27/07

EM

Energy Engineering Minor

University Park, College of Earth and Mineral Sciences (ENENG)

The minor in Energy Engineering is designed to provide students in engineering, science, and energy business and finance (EBF) with additional courses, exposure, and experiences to the principles and applications of energy engineering. Courses available to students include thermal sciences; petroleum and natural gas processing; renewable/sustainable energy; chemistry of fuels; electrochemical, chemical and nuclear energy conversion processes; physical processes in energy engineering; air pollution; and green engineering and environmental compliance. As a result, the selection of this minor can provide additional career options for students in a wide range of offerings at Penn State.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 9 credits from the following courses: EGEE 302(3), EGEE 304(3), EGEE 411(3), EGEE 420(3), EGEE 430(3), EME 301(3) (Sem: 5-6)
Select 9 credits from the following courses: EGEE 433(3), EGEE 437(3), EGEE 438(3), EGEE 441(3), EGEE 451(3), EGEE 464W(3), EGEE 470(3), F SC 431(3), F SC 432(3) (Sem: 7-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-05-074

Review Date: 3/4/09

EM

Energy, Environmental, and Mineral Economics Minor

University Park, College of Earth and Mineral Sciences (ENNEC)

This minor has a set of courses focusing on economic issues in energy, risk management, and the environment. The field helps prepare students for careers in industry, government, financial institutions, and non-profit organizations dealing with energy and resource issues. The curriculum provides a strong base for further study in business, economics, law, and social science.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (15 credits)
E B F 200 GS(3) (Sem: 1-2)
ECON 302(3), E B F 301(3) (Sem: 3-6)
E B F 473(3), E B F 484(3) (Sem: 6-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from GEOG 430(3), GEOG 431(3), GEOG 424(3) (Sem: 6-8)

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 31-04-062

Review Date: 1/14/03

EM

Engineering Entrepreneurship Minor

Berks College
University Park, College of Engineering (ESHIP)

This interdisciplinary minor supports technology entrepreneurship development for all students, especially those majoring in engineering, business, and IST (Information Sciences and Technology). All segments of the U.S. and world economy are integrated with technology. The Engineering Entrepreneurship Minor addresses this new reality. Engineering graduates should have more business finance, marketing, and intellectual property knowledge, and business and IST students interested in technology enterprises should have a working knowledge of the engineering design process, basic engineering principles, graphics, and computer-aided design. All students should have solid skills in teamwork, leadership, and innovation in order to conceive, produce and promote creative product designs and solutions. Courses in the minor use problem-based learning, including business case studies and new product concept prototyping. Core courses include business plan presentations and competitions and open-ended design problems. The minor consists of 18 semester hours.

A grade of C or better is required in all classes used to meet the requirements of the minor. For admission to the minor, students must have completed ENGR 310(3) Entrepreneurial Leadership.

Scheduling Recommendation by Semester Standing given as (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
ENGR 310(3) (Sem: 4-6)
ENGR 407(3) (Sem: 5-7)
ENTR 430(3) (Sem: 6-8)

ADDITIONAL COURSES (3 credits)
Select one course from the list below:
ENGR 411(3) for non-business students (Sem: 5-7)
QMM 492(3) for non-engineering students (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from approved department list or in consultation with the coordinator of the Engineering Entrepreneurship Minor (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-04-082

Review Date: 01/15/02

EN

Engineering Entrepreneurship Minor

Berks College
University Park, College of Engineering (ESHIP)

This interdisciplinary minor supports technology entrepreneurship development for all students, especially those majoring in engineering, business, and IST (Information Sciences and Technology). All segments of the U.S. and world economy are integrated with technology. The Engineering Entrepreneurship Minor addresses this new reality. Engineering graduates should have more business finance, marketing, and intellectual property knowledge, and business and IST students interested in technology enterprises should have a working knowledge of the engineering design process, basic engineering principles, graphics, and computer-aided design. All students should have solid skills in teamwork, leadership, and innovation in order to conceive, produce and promote creative product designs and solutions. Courses in the minor use problem-based learning, including business case studies and new product concept prototyping. Core courses include business plan presentations and competitions and open-ended design problems. The minor consists of 18 semester hours.

A grade of C or better is required in all classes used to meet the requirements of the minor. For admission to the minor, students must have completed ENGR 310(3) Entrepreneurial Leadership.

Scheduling Recommendation by Semester Standing given as (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
ENGR 310(3) (Sem: 4-6)
ENGR 407(3) (Sem: 5-7)
ENTR 430(3) (Sem: 6-8)

ADDITIONAL COURSES (3 credits)
Select one course from the list below:
ENGR 411(3) for non-business students (Sem: 5-7)
QMM 492(3) for non-engineering students (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from approved department list or in consultation with the coordinator of the Engineering Entrepreneurship Minor (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-04-082

Review Date: 01/15/02

EN

Engineering Leadership Development Minor

University Park, College of Engineering (E L D)

This interdisciplinary minor is designed to provide engineering students with critical principles and skills. Engineering graduates must demonstrate the ability to assume leadership roles in a competitive technologically complex global society. There are increasing demands for engineers to be able to deal effectively with other people, including the ability to work in teams and to interact with customers and other organizations on both national and international levels. Students will employ engineering case studies in active and collaborative classroom settings to develop these skills. The minor consists of 18 semester hours. A grade of C or better is required in all minor courses. Students in all engineering majors are eligible. For admission to the minor, students must have completed ENGR 408(2). Students should apply during their sophomore year.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
ENGR 409(3) (Sem: 5-6)
ENGR 408(2) (Sem: 5-8)
ENGR 493(1), S T S 460(3) (Sem: 7-8)

ADDITIONAL COURSE (3 credits)
B A 250(3) or ENGR 407(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with the coordinator of the Engineering Leadership Development Minor (Sem: 5-8)

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-03-100C

Review Date: 11/20/01

EN

Engineering Mechanics Minor

University Park, College of Engineering (E MCH)

The Engineering Mechanics minor helps students prepare to analyze and/or design simple structures that are efficient and safe under foreseen loading conditions.

Contemporary engineering design of mechanical components requires precise information and modern analysis techniques to determine material response to anticipated loading. Designers must have the analytical and experimental tools to accurately define deformation under load to characterize dynamic response and to prevent mechanical failure. In the event of failure the cause(s) must be ascertained to prevent future failure through redesign and/or material substitution. Thus, industry has a real need for those with a sound foundation in Engineering Mechanics, the engineering science that deals with the effects of forces and torques on rigid and deformable bodies. Engineering Mechanics consists of Statics (bodies in equilibrium), Dynamics (bodies in unsteady motion such as vibration, moving on curvilinear paths) and the Mechanics of Deformable Media. The latter topic covers the change in dimensions of bodies of various shapes under the influence of forces, torques, temperature, and dynamic motion. Further failure criteria under such loadings are introduced and utilized in examples of engineering design. Some twenty undergraduate courses covering the above topics are available at two levels, i.e. sophomore introductory and senior (400) courses.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits of E MCH courses, which may include: E MCH 211(3), E MCH 212(3), E MCH 213(3), E MCH 315(2), E MCH 316(1) (Sem: 1-4)
Select 6 credits from 400-level E MCH courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 8/29/02

EN

English Minor

Penn State Erie, The Behrend College (ELISH)

For the English minor at Penn State Erie, the student must take (beyond the basic General Education) 18 credits of courses in ENGL or ELISH; 6 of these credits must be at the 400 level. The student is encouraged to take courses from each of the areas within the major (The Canon and Its Critics, Globality and Literature, Cultural Studies), as well courses in creative writing. By doing so, students will develop skills in writing and critical thinking that will prove valuable in their later work experiences.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select at least 12 credits from ENGL or ELISH 200-289 [Students may not count courses used to satisfy General Education Writing/Speaking Skills] (Sem: 1-6)
Select at least 6 credits from ENGL or ELISH 400-493

Last Revised by the Department: Fall Semester 2001

English Minor

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Mont Alto, Penn State New Kensington, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Students may not count courses used to satisfy General Education Writing/Speaking Skills
Select 6 credits from ENGL 200-289 (Sem: 3-8)
Select 6 credits from ENGL 400-493 (Sem: 3-8)
Select 6 additional credits in English (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 6/28/05

English Minor

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Mont Alto, Penn State New Kensington, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Students may not count courses used to satisfy General Education Writing/Speaking Skills
Select 6 credits from ENGL 200-289 (Sem: 3-8)
Select 6 credits from ENGL 400-493 (Sem: 3-8)
Select 6 additional credits in English (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 6/28/05

English Minor

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Mont Alto, Penn State New Kensington, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Students may not count courses used to satisfy General Education Writing/Speaking Skills
Select 6 credits from ENGL 200-289 (Sem: 3-8)
Select 6 credits from ENGL 400-493 (Sem: 3-8)
Select 6 additional credits in English (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 6/28/05

English Minor

Abington College (ENGAB)
Altoona College (ENGAL)
University College (ENGCC): Penn State Brandywine, Penn State Fayette, Penn State Greater Allegheny, Penn State Mont Alto, Penn State New Kensington, Penn State Wilkes-Barre, Penn State York
University Park, College of the Liberal Arts (ENGL)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Students may not count courses used to satisfy General Education Writing/Speaking Skills
Select 6 credits from ENGL 200-289 (Sem: 3-8)
Select 6 credits from ENGL 400-493 (Sem: 3-8)
Select 6 additional credits in English (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 6/28/05

Entomology Minor

College of Agriculture Sciences (ENT)

Through the Department of Entomology, the minor in Entomology is primarily designed for (but not restricted to) students in the Agroecology major seeking additional studies in the entomological sciences. Successful completion of this minor area of study will help prepare students for graduate studies in entomology and related fields.

A minor in Entomology requires 18 credits in approved courses in addition to the major requirements of the student's choice. Appropriate course substitutions may be considered with minor adviser approval.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (5 credits)
ENT 313(2), ENT 457(3) (Sem: 2-4)

ADDITIONAL COURSES (13 credits)
Select 1 credit from ENT 314(1) or ENT 316(1) (Sem: 2-4)
Select 3 credits from AGECO 201(3), BIOL 222(3), BIOL 427(3), PPATH 405(3) (Sem: 3-8)
Select 6 credits from ENT 410(3), ENT 412(3), ENT 420(3) (Sem: 4-8)
Select 3 credits of ENT 496(1-18) (Sem: 4-8)

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-06-003

Review Date: 4/15/08

AG

Entrepreneurship Minor

Altoona College (ENTRP)

Entrepreneurship plays a crucial role in the way new ideas, opportunities, inventions, and technologies are created and introduced into the global marketplace. Students in this minor first develop an understanding of financial forces that affect business ventures. The minor then provides them with a core of courses that enhance their major field of study and that provide a background sufficient for them to take advantage of many entrepreneurial opportunities.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

A grade of C or better is required for all courses in the minor.

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (13 credits)
ACCTG 211(4), ECON 002 GS(3) (Sem: 1-4)
ENTR 300(3), ENTR 320(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 3 credits at the 400-level from entrepreneurship (Sem: 7-8)
Select 3 credits of ENGL 419(3) or any 400-level Business or Economics course (Sem: 7-8)

Last Revised by the Department: Fall Semester 2000

Blue Sheet Item #: 28-06-008A

Review Date: 5/9/02

AL

Environmental and Renewable Resource Economics Minor

University Park, College of Agricultural Sciences (E RRE)

This minor introduces students to how fundamental economic principles can be used to explain and seek solutions for problems related to the degradation of the environment and unsustainable use of natural resources. This program complements majors that provide a natural science-based approach to environmental issues and provides social-science majors interested in the environment with additional tools for the analysis of social decision-making, and policy objectives. A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
CED 201(3), CED 429(3), ECON 302 GS(3) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits from CED 431W(3), ECON 428(3), CED 450 IL(3), E R M 411 (3), R SOC 327(3), 300- or 400-level internship or independent study (3 credit max.) (Sem:5-8)

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 30-04-001

Review Date: 01/15/02

AG

Environmental Engineering Minor

University Park, College of Engineering (ENV E)

This minor is designed to provide students in engineering, science, and other majors with a comprehensive study of environmental issues and the skills necessary to solve problems associated with environmental pollution.

For entrance into the minor, students must be at least fifth-semester standing and have completed CHEM 110 GN(3), MATH 141 GQ(4), and PHYS 211 GN(4).

The minor consists of 18 credits, at least 6 of which must be at the 400 level. A grade of C or better is required for all courses in the minor.

An online application is available at: http://www.engr.psu.edu/CE/env_minor.html.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits (2 credits of engineering design are included)

PRESCRIBED COURSE (3 credits)
C E 370(3) (Sem: 3-6)

ADDITIONAL COURSES (15 credits)
Select 3 credits from: BIOL 230W GN(4), C E 479(3) and MICRB 400(2), CHEM 202(3), CHEM 210(3) (Sem: 3-8)
Select 3 credits from: B E 302(3), CH E 210(3), MN PR 301(3), NUC E 406(3), or NUC E 430(3) (Sem: 5-8)
Select 3 credits from: B E 467(4), AERSP 308(3), C E 371(3), CH E 302(5), M E 320(3), METEO 454(3), or NUC E 431W(4) (Sem: 5-8)
Select 6 credits (including at least 2 credits of engineering design) from: C E 472W(3), C E 475(4), C E 476(3), E R M 411(3), E R M 412(3), E R M 413W(3), EGEE 470(3), GEOSC 452(3), M E 405(3), M E 433(3), MN PR 427(3), MNG 444(2), MNG 445(3), NUC E 405(3), NUC E 420(3), NUC E 428(3), or P N G 405(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-04-082A

Review Date: 01/15/02

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

EN

Environmental Inquiry Minor

Intercollege Program (ENV I)

This intercollege minor is designed for students across the disciplines who wish to prepare for addressing environmental issues or problems as professionals or citizens. The minor is available to all undergraduates regularly enrolled in a degree program at the University. The objectives are to allow students to gain the multiple perspectives necessary for understanding environmental issues as well as to increase skills in collaborating with those from very different disciplinary backgrounds to find acceptable solutions. Students will be challenged to move beyond the channels of thinking characteristic of their own discipline to new ways of knowing, new sensitivities, and new analytical approaches. The program will engage students actively in learning experiences outside their major course of study. This minor is intended not to replace existing minors but to be a true intercollege, interdisciplinary minor. A grade of C or better is required for all courses in the minor.

Advising for students in this minor and approval of curriculum exceptions will be available through the Environmental Inquiry Adviser designated within each participating college.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

ADDITIONAL COURSES (15-16 credits)

Introductory course: The introductory course offers a broad overview of a topic that relates to an environmental theme. It is designed as a preface to learn about the many disciplines and approaches used to study the environment.
Select one course (3-4 credits) from the following list:
AGECO 121 GN(3), ANTH 045 GS;US;IL(3), BI SC 003 GN(3), BIOL 120A GN;US;IL(3), BIOL 120B GN;US(3), BIOL 120C GN;IL(3), BIOL 110 GN(4), CED 152(3), E R M 210 GN(3), EARTH 002 GN(3), EARTH 100 GN(3), EARTH 101 GN;US(3), EARTH 111 GN;US(3), EGEE/MATSE 101 GN(3), EGEE 102 GN(3), EM SC/S T S150 GN;IL(3), ENGL 180 GH(3), ENT 202 GN(3), ENVST 100 GS(3), FD SC/S T S 105 GHA(3), GEOG 030 GS(3), GEOG 110 GN(3), GEOG 123 GS;IL(3), GEOSC 021 GN(3), GEOSC 040 GN(3), HIST/S T S 151 GS;US(3), HORT 101 GN(3), HORT 150 GN(3), INTAG 100 GS;IL(3), MATSE 081 GN;IL(3), PHIL 118 GH(3), PL SC/S T S 135 GS(3), R SOC/AGECO 134 GN(3), SOC 023 GS(3), SOILS 071 GN;IL(3), SOILS 101 GN(3), W F S 209 GN(3) (Sem: 1-4)

Cluster course selections: Select 9 credits from one of the following clusters. (Students may not use a course from their major in their chosen cluster). In all cases/clusters, students may substitute up to 3 credits of research topics, internship, or independent studies courses focused on a relevant environmental topic in consultation with an adviser. (Sem: 1-8)

A. Biodiversity and Ecosystems
This specialization prepares a student to learn about the importance of biodiversity in ecosystems. Over the last 100 years, humans have dramatically reduced the biodiversity on the earth primarily through loss of habitat. To reduce the pressure on the world's biological resources will take political will, scientific research and creativity in planning. A central focus is on developing effective understanding of land management practices that can enhance the prospects for biological diversity.

BIOL 127(3), BIOL 220W GN(4), BIOL 417(4), BIOL 435(3), BIOL 448(3), BIOL 482(3-4), BIOL 499A(3), C E 370(3), CHEM 020(3), CHEM 301(3), CHEM 402(3), ENT 202 GN(3), FOR 308(3), FOR 401(3), FORT 100(1), GEOG 110 GN(3), GEOG 111 GN(3), GEOG 123 GS;IL(3), GEOG 310W(3), GEOSC 021 GN(3), HORT 101 GN(3), INTAG 100 GS;IL(3), LARCH 341(3), METEO 451(3), PPATH 120 GN(3), S T S 201 GN(3), S T S/BIOL 424(3), SOILS 101 GN(3), SOILS 412W(3), W F S 430(3)/FOR 430(3)

B. Environment and Society
This specialization provides insights into the debates and challenges about the distribution and utilization of the world's environmental resources. All people deserve to live in a safe environment regardless of their income, skin color, religion or gender. Yet, many of the poorest people in the world live in unsafe environmental contexts. Research in many different fields of social science, as well as ethical research, is required to understand how to promote and achieve environmental justice.

AG EC/CEDEV 430(3), ANTH 456(3), CED 152(3), CED 230(3), CED 309(3), CED 410(3), E R M 411(3), CED 201(3), CED 429(3), E RRE/AG EC 431W(3), EARTH 101 GN;US(3), EM SC 101 US;IL(3), ECON 428(3), GEOG 124 GS;IL(3), GEOG 438W(3), GEOSC 109H GN(3), GEOSC 310(4), GEOSC 402Y IL(3), HIST 453(3), INTAG 100 GS;IL(3), MNG 400 IL(3), NUTR/S T S 497G(3), PHIL 132 GH(3), R SOC 011 GS;US(3), R SOC/AGECO 134 GN(3), S T S 201 GN(3), S T S 420(3), SOC 423(3), SOC 450(3), SOILS 071 GN;IL(3)

C. Environmental Explorations
This specialization scrutinizes the range of debates, practices and possibilities guiding discussions of how to achieve equitable and sustain able development. Global and national discussions are beginning to probe how we can move toward a future where resources are more effectively utilized and the environment is maintained while achieving well being for the whole world. A cross-disciplinary approach is necessary to promote an understanding of these broad discussions.
Students must take 3 credits each of social science, natural science, and arts and humanities courses:

Social Science	Natural Science	Arts and Humanities
CED 201(3)	BIOL 220W GN(4),	AM ST 050 GH(3)

CED 429(3)	BIOL 427(3) or GEOSC 427(3)	COMM 408(3) or S T S 408 (3)
AG EC 431W(3) or CED 431W(3)	BIOL 435(3), BIOL 436(3), BIOL 444(3), BIOL 446(3)	COMM 411(3), COMM 459(3)
ANTH 040(3), ANTH 146 GS;US(3)	BIOL 450W(3-5), BIOL 461(3), BIOL 499A IL(3)	CED 410(3)
ANTH 152(3), ANTH 451(3), ANTH 456(3)	CHEM 020(3), CHEM 301(3), CHEM 402(3)	EM SC 150 GN;IL(3) or S T S 150 GN;IL(3)
CED 410(3)	EM SC 121 GN(3)	ENGL 088 GH(3), ENGL 233 GH;GN(3)
ECON 428(3)	EARTH 106 GN(3)	ENGL 402(3), ENGL 404(3),
FD SC 280H GH(3) or PHIL 280H GH(3)	E R M 300(3)	ENGL 430(3)
GEOG 020 GS;US;IL(3), GEOG 333(3), GEOG 430(3)	FOR 308(3)	FD SC 280H GH(3) or PHIL 280H GH(3)
GEOSC 451(3)	GEOG 110 GN(3), GEOG 115 GN(3)	GEOG 434(3), GEOSC 310(4)
LARCH 065 GA;US;IL(3)	GEOSC 010 GN(3), GEOSC 020 GN(3), GEOSC 303(3)	HIST 428(3) or S T S 428(3)
NUTR 497G(3) or S T S 497G(3)	GEOSC 320(3), GEOSC 340(3)	HIST 453(3)
PL SC 412(3), PL SC 420(3)	METEO 004 GN(3)	LARCH 060 GA;US;IL(3)
R SOC 134 GN(3) or AGECO 134 GN(3)	MNG 400 IL(3)	PHIL 013 GH(3), PHIL 132 GH(3), PHIL 403(3)
S T S 430 IL(3) or NUTR 430 IL(3)	PPATH 120 GN(3)	R SOC 134 GN(3) or AGECO 134 GN(3)
SOC 422(3)	R SOC 134 GN(3) or AGECO 134 GN(3)	SOC 449(3)
TURF 425(3)	W F S 408(3), W F S 430(3) or FOR 430(3)	W F S 440(3)

D. Ideas About the Environment

This specialization engages the philosophical and political challenges underpinning concerns of modern environmentalism. People have always contemplated the meaning of the world around them and the ways in which their reality is shaped by the environment. The meaning and value of the "environment" therefore depends on a person's range of understandings, ideas, and representations about the physical world. To operate effectively, civil society must be based on open discussions including environmental concerns, and this requires basic levels of ecological literacy.

AG 160 GH(3), CED 450 IL(3), BIOL 419 (3), BIOL 438(3), BIOL 461(3), ECON 428(3), EM SC/S T S 150 GN;IL(3), ENGL 088 GH(3), ENGL 430(3), ENVE 460(3), FD SC/PHIL 280H GH(3), GEOG 123 GS;IL(3), GEOG 434(3), HIST 110 GH;IL(3), HIST/S T S 428 IL(3), HIST 453(3), LARCH 060 GA;US;IL(3), NUTR/S T S 497G(3), PHIL 403(3), S T S 100 GH(3), S T S 101 GH(3), SOC 449(3), SOC 450(3), SOILS 071 GN;IL(3)

E. Water Resources
This specialization emphasizes basic literacy required to understand the debates surrounding water as a resource and offers insights into what people can do to protect and maintain its integrity on a worldwide basis. Water and water resources are central to human life, and yet modern industrialization and human settlement patterns are creating untenable competition for water between humans, and other flora and fauna. Basic science is required to ascertain problems of supply. Social science understanding is required to understand challenges facing water supply and utilization and the search for wise utilization of the world's water resources.

A S M 217(3), A S M 327(3), B E 307(3), BIOL 220W GN(4), BIOL 435(3), C E 370(3), C E 371(3), C E 461(3), C E 475(4), E R M/W F S 450(3), EARTH 111 GN;US(3), EM SC 440(3), ENVE 411(3), ENVE 415(3), FOR 470(3), GEOG 431(3), GEOSC 040(3), GEOSC 440(3), GEOSC 445(4), GEOSC 452(3), METEO 451(3), W F S 422(3), W F S 424(2), W F S/E R M 435(3)

F. Human Settlements
This specialization examines human settlement patterns and their interaction with the environment. Particular emphasis is placed on patterns of development, human movement and migration patterns, as well as environmental impacts. As population increases worldwide, land is increasingly taxed beyond proper capacity. Zoning regulations, suburban sprawl, and uneven settlement that replaces fertile agricultural land have all become major issues within the policy spectrum that must be dealt with to ensure a positive future for the entire world population.

CED 431W(3), AM ST 050 GH(3), ANTH 045 GS;US;IL(3), ANTH 285 GS;IL(3), ANTH 451(3), ARCH 316 GA(3), BIOL 120A GN;US;IL(3), BIOL 120B GN;US(3), BIOL 120C GN;IL(3), COMM/S T S 408(3), COMM 411(3), CED 230(3), CED 309(3), CED 409(3), EARTH 101 GN;US(3), EARTH 106 GN(3), ENGL 088(3), ENGL 402 GH(3), FD SC/PHIL 280H GH(3), GEOG 020 GS;US;IL(3), GEOG 333(3), GEOG 436(3), GEOSC 109H GN(3), LARCH 060 GA;US;IL(3), LARCH 065 GA;US;IL(3), METEO 004 GN(3), MNG 400 IL(3), NUTR/S T S 497G(3), SOC 449(3), SOILS 071 GN;IL(3), W F S/E R M 450(3), TURF 425(3)

G. Energy Resources
This specializatio0n offers a glimpse into the emerging technology that exists in the energy sector. As the worldwide supply of fossil fuels diminishes, and the demand for those fuels increases, new energy technology must be developed to power our planet. In recent years, energy sustainability and the use of infinite resources have been considered serious options for the first time. Thus, this cluster option employs an interdisciplinary strategy with the goal of educating individuals on a broad-range of emerging technologies in relation to energy resources.

CED 450 IL(3), AG EC/E RRE 201(3), CED 429(3), CED 431W(3), EGEE/MATSE 101 GN(3), EGEE 102 GN(3), EGEE 401(3), EGEE 464W(3), EM SC 101 US;IL(3), EM SC/S T S 150 GN;IL(3), GEOSC 451(3), MATSE 081 GN;IL(3)

Final course: This is the capstone course of the minor which allows students to explore more deeply and recap their study within the minor's curriculum. (Sem: 5-8)
Select one course (3 credits) from the following list:
BIOL 419(3), BIOL 461(3), CED 410(3), E R M 430(3), GEOG 412W(3), GEOG 430(3), GEOG 436(3), GEOSC 451(3), MNG 400 IL(3), NUTR/S T S 497G(3), SOC 422(3), S T S 420(3), SOILS 415(3), SOILS 422(3), W F S/FOR 430(3)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select one 400-level course (3 credits) from a cluster option other than the one you have chosen. Field experience courses are encouraged. (Sem: 1-8)

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-01-043

Review Date: 8/26/08

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

UE

Environmental Resource Management Minor

University Park, College of Agricultural Sciences (E R M)

The Environmental Resource Management (E R M) minor is designed to provide nonmajors with an overview of the principles and practices of managing resources prudently and economically.

The minor was developed to permit students of other majors to have their environmental interests and training formally documented on their academic records. Because so many of society's activities have an impact on environmental quality, the minor should appeal to students with majors from a wide variety of disciplines, including journalism and education majors who want to write and teach in the environmental field.

The E R M minor includes an introduction to modern resource systems analysis and environmental impact assessment. Students may also elect to take courses in environmental law and resource allocation and economics. Individual programs are determined jointly by the student and the E R M Program Coordinator.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (10 credits)
E R M 151(1) (Sem: 1-2)
E R M 300(3), E R M 412(3), E R M 413W(3) (Sem:5-8)

ADDITIONAL COURSES (8 credits)
Select 8 credits from A S M 327(3), SOILS 101 GN(3), or any E R M course (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 1/20/04

AG

Environmental Soil Science Minor

University Park, College of Agricultural Sciences (ESOIL)

The Environmental Soil Science minor enables students to acquire scientific and field-related skills in preparation for environmental careers. Students learn to understand and apply soils and land use information in a wide variety of professional settings. The Environmental Soil Science minor will prepare students for jobs as professional soil scientists or for graduate studies in Soil Science and other interdisciplinary environmental sciences.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
SOILS 101 GN(3) (Sem: 1-5)

ADDITIONAL COURSES (15 credits)
Select 15 credits from SOILS courses in consultation with an Environmental Soil Science adviser, including at least 6 credits at the 400 level. (Sem: 2-8)

Last Revised by the Department: Spring Semester 2004

Blue Sheet Item #: 32-01-001

Review Date: 9/2/03

AG

Environmental Studies Minor

Altoona College (ENVST)

The interdisciplinary minor in Environmental Studies gives students a broad-based introduction to the natural environment and human interactions with it. Students gain awareness and understanding of environmental issues from the perspectives of several disciplines in relevant natural sciences (ecology, biology, geology, and/or environmental chemistry, for instance), the social sciences (environmental economics and/or public policy), and the arts and humanities (environmental history, ethics, and/or literature). Core courses in environmental studies, emphasizing applied and experiential learning, serve to integrate and synthesize knowledge from the natural sciences, social sciences, and arts and humanities. The goal of the program is "ecological literacy." Students completing the minor gain sufficient awareness and understanding of environmental issues to put environmental problems in a variety of contexts and to apply pertinent skills and knowledge (from studies in both their major and the minor) in addressing those problems. The minor helps prepare students for employment in the private sector or with government agencies and environmental advocacy groups, or for postgraduate study in environmental science, public policy, the humanities, or law.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (3 credits)
ENVST 100(3) (Sem: 1-2)

ADDITIONAL COURSES: (6 credits)
Select 3 credits from ENVST 200(3) or ENVST 400W(3) (Sem: 3-8)
Select 3 credits from BIOL 110 GN(4), BIOL 220W GN(4), ENGL 180 GH(3), GEOSC 020 GN(3), CHEM 020(3), CHEM 021(1), GEOG 115 GN(3), STAT 250 GQ(3), ECON 429(3), HIST 453(3), GEOG 407(3), PHIL 403(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS: (9 credits)
Select 9 credits (3 in each area listed below) in consultation with an academic adviser. At least six credits must be at the 400-level.
a. Natural Sciences: BIOL 240W(4), BIOL 417(3), BIOL 427(3), BIOL 435(3), BIOL 446(3) BIOL 450W(3-5), ENVST 497(3), FOR 308(3), FOR 430/WFS 430(3), GEOSC 303(3), GEOSC 340(3), GEOSC 462(3), MICRB 400(3), WFS 408(3) (Sem: 3-8).
b. Social Sciences: ANTH 040(3), ANTH 146 GS;US(3), ANTH 152(3), ANTH 456(3), ANTH/BIO 464(3), ENVST 497(3), GEOG 401(3), GEOG 430(3), PL SC 444(3), PL SC 490(3), S T S 047(3) (Sem: 3-8)
c. Arts and Humanities: ENGL 404(3), ENGL 412(3), ENGL 415(3), ENGL 416(3), ENGL 421(3), ENGL 430(3), ENVST 497(3), HIST/S T S 151(3), HIST 428/S T S(3); When topic appropriate and with program approval: ENGL 400(3), ENGL 401(3), ENGL 483(3), HIST 200 US(3), HIST 497(3) (Sem: 3-8)
Other courses may be substituted with program approval.

Last Revised by the Department: Fall Semester 2001

Review Date: 4/9/02

UCA Revision #1: 8/4/06
UCA Revision #2: 7/27/07

AL

Equine Science Minor

University Park, College of Agricultural Sciences (EQ SC)

The Equine Science minor is designed for students who wish to supplement their academic major with studies in equine science. Students are required to complete a minimum of 20 credits. The core prescribed courses develop a foundation in the basic disciplines of animal science and equine science. Additional courses may be selected by the student to allow further specialization and expertise in exercise physiology and training principles, selection and judging, business/farm management, animal genetics and breeding, nutrition, and physiology. With completion of this minor, students will have a foundation of theoretical and practical knowledge along with learning skills for adapting to changes in equine industry. Courses that make up the minor are appropriate for students with and without prior academic or practical experience with horses. The University Horse Farms and the Agricultural Arena are used extensively for supplementing classroom work with hands-on laboratories. Completion of this minor will enhance a student's ability to work directly in horse production and management and allied industries, or continue academic studies in graduate or professional school.

A grade of C or better must be obtained in each course in order to complete the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20-22 credits
(At least 8 credits must be at the 400 level.)

PRESCRIBED COURSES (14 credits)
AN SC 037(2), AN SC 201(4), AN SC 217(2) (Sem: 1-4)
AN SC 327(3) (Sem: 5-8)
AN SC 407(3) (Sem: 7-8)

ADDITIONAL COURSES (6-8 credits)
Select 3-4 credits from: AN SC 300 GN(3), AN SC 301(3), AN SC 317(3), AN SC 322(3), B A 250(3), KINES 180(3), KINES 202(4), or VB SC 303(3) (Sem: 5-8)
Select 3-4 credits from: AGRO 423(3), AN SC 419W(3), AN SC 420(4), AN SC 423(3), AN SC 431W(4), AN SC 437(3), AN SC 447(3), AN SC 457(3) or AN SC 467(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-04-001

Review Date: 01/12/2010

AG

Ethics Minor

University Park, College of the Liberal Arts (ETHCS)

This interdisciplinary minor, housed in the Department of Philosophy, is designed to provide students with training in ethical frameworks and methods, as well as offer the opportunity to work in various fields of applied ethics. In addition to the requirements for the student's major department the minor consists of 18 credits selected from a wide range of disciplines (including philosophy, communication, engineering, law, psychology, sociology, anthropology, public policy, international studies, and environmental studies). Courses deal with ethics from various perspectives including research ethics, media ethics, environmental ethics, bioethics, and business ethics.

Students in the minor will begin with two core courses. The first will cover basic ethical approaches and the application of ethical analysis. The second will provide a grounding in ethical leadership. The core courses will be followed by a choice of other relevant ethics courses. The minor will be suitable for students in almost any major, especially students going on to further academic work or careers in medicine, communication, business, law, the health or life sciences, health administration, informatics or engineering.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
PHIL 103 GH(3), PHIL 119 GH(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits from an approved list in consultation with the undergraduate adviser for the ethics minor. At least 6 credits must be at the 400 level. Courses must be selected from at least two different departments. (Sem: 5-8)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-023

Review Date: 1/13/09

LA

Film Studies Minor

University Park: College of Communications and College of the Liberal Arts (FLMST)

The joint minor in Film Studies sponsored by the College of Communications and the College of the Liberal Arts offers students in a variety of disciplines outside of the College of Communications an opportunity to learn more about a visual medium that relates in many ways to other fields such as theatre, literature, history, and art. The focus of this minor is on critical, aesthetic, and historical studies of film, not on the art of filmmaking. The minor enables students to see how the medium influences--and is influenced by--disciplines outside their specialization. Courses listed for the minor give students a deeper appreciation of the historical development of film during the 20th century. Offerings on cinema from a variety of countries allow students to frame the medium in a global context.

The minor is housed in and administered by the College of Communications but is jointly managed by the Film/Video and Media Studies Department and the French Department. The heads of these units or their designated representatives will chair on a rotating basis the Interdepartmental Film Studies Committee that will make decisions concerning requirements for the minor, including prescribed and supporting courses. The minor is not available to students enrolled in any of the majors in the College of Communications.

Students will choose an adviser from a list of committee members drawn from all participating areas--French, English, German, Italian, Comparative Literature, and Film/Video and Media Studies. In addition to two basic required courses (6 credits), students enrolled in the minor will take an additional 12 credits from a list approved by the Interdepartmental Film Studies Committee. Six of those credits must be at the 400 level. All required and most supporting courses are taught in English. Courses taught in a foreign language are indicated with a footnote.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
COMM 150 GA(3), COMM 250 GA(3) (Sem: 1-6)

SUPPORTING COURSES (12 credits)
Select 12 credits from an approved department list in consultation with an adviser (6 credits must be at the 400 level) (Sem: 5-8)

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-05-044

Review Date: 3/2/04

CM/LA

Finance Minor

Penn State Erie, The Behrend College (FNC)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
FIN 301(3) and FIN 420(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS: (12 credits)
Select 12 credits in consultation with an adviser from ACCTG 426 or 300- or 400-level FIN courses. (At least 6 credits must be at the 400 level.) (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #2: 7/27/07

BD

Forest Science Minor

University Park, College of Agricultural Sciences (FORSC)

The Forest Science minor is offered for students who wish to achieve a basic competency in forestry without qualifying as professional foresters. This minor is particularly compatible with the Wildlife and Fisheries Science and Wood Products majors.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

PRESCRIBED COURSES: (13 credits)
FOR 203(3), FOR 308(3), FOR 366(4), and FOR 421(3) (Sem: 3-4)

ADDITIONAL COURSES: (5-6 credits)
Select 0-3 credits from FOR 320(2), FOR 339(2), or FOR 350(3) (Sem: 3-4)
Select 3-5 credits from FOR 401(3), FOR 409(2), FOR 410(3), FOR 416(3), FOR 418(3), FOR 430(3), FOR 440(3), FOR 455(3), FOR 466W(3), FOR 470(3), FOR 471(3), FOR 475(3), FOR 480(3), FOR 485(3), FOR 488Y(3), W P 203(1) (Sem: 5-8)
Other FOR courses may be used in lieu of these additional courses by petitioning the Forest Science faculty --at least 3 credits must be taken at the 400-level

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-000

Review Date: 02/23/2010

AG

French and Francophone Studies Minor

University Park, College of the Liberal Arts (FR)

The French and Francophone Studies minor is designed to give students the opportunity to improve their knowledge of French language and culture (literature, civilization, film). Courses taken for the minor may also be counted for Basic Degree and major requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
FR 201 IL(3), FR 202 IL(3) (Sem: 1-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from a and b, or b and c, or a and c:
a) FR 316(3) (Sem: 1-6)
b) FR 331 IL(3) or FR 332(3) (Sem: 1-6)
c) FR 351 IL(3) or FR 352 IL(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of 400-level French courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-319

Review Date: 4/11/06

LA

Geographic Information Science Minor

University Park, College of Earth and Mineral Sciences (G I S)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
GEOG 160 GS(3) (Sem: 3-6)

ADDITIONAL COURSES (15 credits)
Select 6 credits from GEOG 361(3), GEOG 362(3), or GEOG 363(3) (Sem: 3-6)
Select 9 credits (at least 6 credits at the 400-level) from GEOG 323(3), GEOG 485(3), GEOG 461W(3), GEOG 467(3), GEOG 417(3), GEOG 459(3), GEOG 463(3), or GEOG 468(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2006

Blue Sheet Item #: 34-06-195

Review Date: 4/11/06

EM

Geography Minor

University Park, College of Earth and Mineral Sciences (GEOG)

The Geography minor can complement most majors in the social sciences, physical sciences, biological sciences, and technical disciplines. The geography minor is flexible so that students can tailor their course choices to accommodate individual interests. A broadly based approach to selecting minor courses can be appropriate for students whose majors are highly specialized or narrowly focused. Alternatively, students may choose to fulfill geography minor requirements with a particular content emphasis, such as an interest in environmental issues or urban and regional planning. Looking through course choices and talking with geography staff can make earning the geography minor an important enhancement to one's academic program.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
In consultation with a geography adviser:

- Select 3 credits in physical geography (Sem: 3-6)
- Select 3 credits in human geography (Sem: 3-6)
- Select 6 credits of additional geography courses (Sem: 3-6)
- Select 6 credits of 400-level geography courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-04-090

Review Date: 11/01

EM

Geosciences Minor

University Park, College of Earth and Mineral Sciences (GEOSC)

PROFESSOR DAVID M. BICE, *Associate Head for Undergraduate Programs*

The Geosciences minor provides a foundation in the physical and material aspects of the solid Earth, as well as an introduction to field techniques and technical writing. Advanced course work should reflect the students' individual interests. Areas of focus include, but are not limited to: earth materials, evolution of the Earth and life, hydrogeology, environmental geology, natural hazards, plate tectonics, geophysics, climate change. The minor consists of 18 credits of course work, some of which are filled through specific courses as indicated below.

A grade of C or better is required in each course in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (7 credits)
GEOSC 021 GN(3) (Sem: 1-6)
GEOSC 201(4) (Sem: 3-8)

ADDITIONAL COURSES (6 credits)
Select 3 credits from GEOSC 001(3), GEOSC 020 GN(3), or GEOSC 071(3) (Sem: 1-6)
Select 3 credits from GEOSC 470W(3), EM SC 470W(3-6) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (5 credits)
Select 5 credits from a number of courses covering a variety of disciplines and fields of interest. Consult with your adviser. At least 3 credits in this category must be taken at the 400 level; the remaining 2 credits may be at the 200 level or above. (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-07-082

Review Date: 4/9/02

Department Head Changed: 4/12/05

EM

German Minor

University Park, College of the Liberal Arts (GER)

The German minor is designed for students who want to study the language, literature, and culture of German-speaking countries in order to broaden their horizons and meet an increasing demand for people with foreign language skills and international expertise. German is one of the most important languages in Western Europe, being the mother tongue of approximately 100 million Europeans, and in the countries of Eastern Europe it is the most important foreign language of business and commerce.

The Department of Germanic and Slavic Languages and Literatures offers a wide array of courses in German language, literature and culture as well as in professional and business German, allowing students great independence in shaping their own academic program. Students are encouraged to take advantage of Penn State's study abroad opportunities, which include semester and year programs in Freiburg, Berlin, and Vienna plus summer and year programs in Marburg.

The German minor opens employment opportunities for its graduates in fields and professions where proficiency in one or more foreign languages is desirable or required, i.e., secondary and higher education, government, business, the media, and public relations.

All courses in the minor must be taught in German and the students must receive a grade of C or better.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES: (3 credits)
GER 301 IL(3) (Sem: 3-5)

ADDITIONAL COURSES: (10 credits)
GER 201 IL(4) or GER 208Y IL(4) (Sem: 3-5)
Select 6 credits from GER 308Y IL(3), GER 310 IL(3) and GER 344 IL(3) (Sem: 4-6)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits of 400-level GER courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-03-029

Review Date: 11/22/05

LA

Gerontology Minor

Intercollege Program (GERON)
University College: Penn State Brandywine, Penn State DuBois, Penn State Shenango

The intercollege minor in Gerontology is designed for students to gain an in-depth understanding of the aging process and old age. With the growth of the number of older people in the population, increased need has arisen for people with knowledge of the aging process in a variety of professional and occupational roles. In conjunction with the student's major, the minor prepares students for entry-level human service positions working with the elderly, or for graduate or professional school programs including communication disorders, counseling, health planning and administration, medicine, psychology, recreation and park management, and social work where knowledge of the aging process and problems of older people is relevant. Eighteen credits are required for the minor, including at least 6 credits at the 400 level. Advising is available through Pamela D. Evock, 211 South Henderson, University Park, PA 16802 (814-863-8000, pde1@psu.edu).

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
HD FS 249 GS(3) (Sem: 3-8)

ADDITIONAL COURSES (15 credits)
BIOL 155 GN(3) or BIOL 409(3) (Sem: 1-7)
SOC 435 (HD FS 434)(3) or HD FS 445 (PSYCH 416)(3) (Sem: 5-8)
Select 9 credits, at least 6 at the 400 level, from ADTED 460(3), ANTH 473(3), BB H 302 US(3), BB H 316(3), BB H 410(3), BB H 440 US;IL(3), CN ED 415(3), H P A 101(3), H P A 440 US;IL(3), H P A 442(3), HD FS 413(3), HD FS 445 (PSYCH 416)(3), HD FS 446(3), HD FS 447(3), KINES 481W(3), NURS 464(3), NUTR 451(3), NUTR 456(2), R P M 462(3), R SOC 422(3), R SOC 497(3), SOC 023 GS(3), SOC 174(3), SOC 423(3), SOC 435(3) (Sem: 3-8)

Note: Students may enroll in special topics courses (297, 497) that focus on aging or old age, with faculty permission. With faculty approval, students may also enroll for independent studies in their major department to write a senior thesis focused on an issue of aging.

Last Revised by the Department: Summer Session 1998

Blue Sheet Item #: 26-03-068

Review Date: 6/14/07

UCA Revision #1: 8/16/06

UE

Global Business Strategies for the Earth, Energy, and Material Industries Minor

University Park: College of Earth and Mineral Sciences and The Smeal College of Business (G B S)

The minor in Global Business Strategies for the Earth, Energy, and Materials Industries is a joint offering of the College of Earth and Mineral Sciences and the Smeal College of Business. The minor introduces students to financial, investment, and management concepts applied to private sector organizations whose operation emphasizes the Earth and its environment, the energy and mineral industries, or the development of new and enhanced materials. The minor focuses on the leadership and information strategies characteristic of enterprises that are succeeding in a rapidly integrating global economy.

The minor provides science and engineering students an introduction to basic entrepreneurial and business concepts to help prepare them for success in a changing professional environment. It provides students in the Smeal College an opportunity to focus on business strategies in the Earth resources, environmental, and materials industries. A minimum of 18 credits is required for the minor. A student enrolled in this minor must receive a grade C or better in all courses in the minor. Advising is available through the EMS Student Center (25 Deike Building).

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
E B F 200 GS(3) (Sem: 3-4)
E B F 401(3) (Sem: 5-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from category a or b:
a. B A 301(2) and B A 302(2) and B A 304(2) (Sem: 3-8)
b. FIN 100(3) or E B F 301(3); and MGMT 100(3) or E B F 304W(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits from the approved list of EMS courses. Approved courses are: EM SC 420(3), E B F 473(3), E B F 484(3), GEOG 424 US:IL(3), GEOG 430(3), GEOG 431(3), GEOG 444(3), GEOG 493(3), GEOSC 402Y IL(3), GEOSC 454(3), and METEO 473(3), and P N G 489(3) (Sem: 5-8).

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-04-219

Review Date: 1/16/07

EM/BA

Global Health Minor (GLBHL)

The Global Health Minor (GLBHL) is designed to provide undergraduate students with a multidisciplinary exposure to the theoretical and practical issues affecting the health of populations in various countries and regions of the world. This minor is appropriate for students whose career goals incorporate public health interventions, education, policy or research related to global health. Course work and supervised field work will draw on the diversity and abundance of the Penn State faculty's international resources and networks. The minor consists of 18 credits, of which 9 credits are prescribed courses including a supervised fieldwork experience and 9 additional credits from the list of approved courses.

Students desiring to enter the minor must submit an application to the Coordinator. Applicants to the Global Health Minor:

- must have declared a major field of study
- must include with the application a proposed plan of study. This plan should include the student's contact information and GPA, a brief statement about the relationship of this minor to the student's major plan of study and career goals, a list of proposed supporting courses, and a proposed supervised fieldwork experience. The student's application to the minor must be signed by the student's academic/faculty adviser.
- previously completed coursework and/or supervised fieldwork experience may be retroactively included in the plan of study if approved by the Coordinator of the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1 - 2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
BB H 305 IL(3), BB H 390 (3), and BB H/H P A 440 US;IL(3) (Sem: 4-6)

SUPPORTING COURSES (9 credits)
Select 9 credits from the list of approved supporting courses in consultation with the Coordinator, with at least 3 credits at the 400 level. (Sem 5-8)

SUPERVISED FIELDWORK EXPERIENCE
An approved, supervised fieldwork experience dealing with a global health issue is a requirement of this minor, BB H 390 "Global health fieldwork experience." This course is scheduled in the Spring semester and includes an imbedded, supervised fieldwork experience that takes place during the subsequent summer. (Sem: 6)

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-05-058

Review Date: 02/23/2010

Global Security Minor

University Park, College of Information Sciences and Technology
University Park, College of the Liberal Arts (GLBSC)

The Global Security Minor will be jointly offered by the College of Information Sciences and Technology and the College of the Liberal Arts and overseen by the Department of Political Science. This joint minor is intended to provide students with a background of the theoretical frameworks and skill sets needed to understand the concepts essential to security and related analyses; the challenges and problems faced when dealing with threats to security (e.g., technology, policies, and regulations); and the strengths and weaknesses of various methods of analyzing and responding to challenges to security. The minor includes a grounding in social, historical, and cultural factors that underlie both conflict between states and conflicts between state and nonstate actors, as well as the legal, ethical, and regulatory issues related to security. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-33 credits**[1]**

PRESCRIBED COURSES: (9 credits)
SRA 111 GS(3), SRA 211(3), PL SC 007 GS(3) (Sem: 1-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from PL SC 410(3), PL SC 415(3), PL SC 416(3), PL SC 418(3), PL SC 437(3), PL SC 438(3), PL SC 439(3), PL SC 442(3) (Sem: 4-8)

SUPPORTING COURSES AND RELATED AREAS (3-18 credits)
Select 0-13 credits: 12th-credit-level proficiency in one foreign language demonstrated by course work or examination.

Select 3 credits from COMM 490(3), COMM 491(3), COMM 492(3), GEOG 424 US;IL(3), GEOG 428 US(3), GEOG 463(3), GEOG 464(3), HIST 420 IL(3), HIST 434 IL(3), HIST 452 US;IL(3), HIST 467 US;IL(3), HIST 473 IL(3), HIST 475Y IL(3), HIST 479 IL(3), HIST 486 IL(3), or 3 credits of appropriate internship work in consultation with adviser (Sem: 4-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-459

Review Date: 4/10/07

LA

Global Studies Minor

Berks College (GLBST)

The minor in Global Studies is intended to prepare students from all degree programs within the Berks College (with the exception of the major in Global Studies) to gain a global perspective, which would be useful in a variety of workplace and academic settings. HIST 320W, PL SC 014, and CAS 271 provide the necessary background to help students understand and appreciate broad issues of international concern. A combination of more specific option courses will deepen students' experience of the world and enhance analytical and interpersonal skills. Eighteen credits are required for the minor in Global Studies. All students taking this minor will be required to show a 12-credit-level proficiency in a foreign language.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-30 credits

ADDITIONAL COURSES (18-30 credits)
Select 6 credits from CAS 271 US;IL(3), HIST 320W(3), PL SC 014 GS(3) (Sem: 1-6)
Select 12 credits from the following list; at least 6 credits must be at the 400 level:
FR 139 GH;IL(3), GER 100 GH;IL(3), RUS 100 GH;IL(3), SPAN 100(3), SPAN 130 GH;IL(3), SPAN 131 GH;IL(3) or SPAN 131W GH;US;IL(3), SPAN 132 IL(3), UKR 100 GH;IL(3) (Sem: 1-4)
HIST 179 GH;IL(3), HIST 181 GH;IL(3), HIST 192 GH;IL(3), HIST 467(3), HIST 468(3) (Sem: 1-6)
ENGL 403(3), HIST 488(3), PL SC 412(3) (Sem: 3-6)
HIST 120 GS(3), HIST 175 GH;IL(3), PL SC 413(3), PL SC 454 IL(3) (Sem: 3-8)
HIST 435(3), PL SC 424(3), PL SC 487(3), SPAN 200(3), SPAN 220(3), SPAN 253(3), SPAN 300(3), SPAN 420(3), SPAN 476(3) (Sem: 5-8)
Foreign Language Requirement: Proficiency in a single foreign language must be demonstrated by either examination or coursework equivalent to completion of 12 credits of coursework. See the ADMISSION section of the General Information in this Bulletin for the Placement Policy for Penn State Foreign Language Courses (under Opportunities for Credit by Acquisition) (0-12) (Sem: 1-8)

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-05-011

Review Date: 10/11/04

UCA Revision #2: 7/27/07

BK

Greek Minor

University Park, College of the Liberal Arts (GREEK)

The Greek minor focuses on establishing proficiency in reading and interpreting classical Greek literature. After completing an introductory course sequence (elementary classical Greek) that teaches students the vocabulary, morphology and syntax of classical Greek, students complete at least six credits in Greek language and literature at the 400-level for a total of 18 credits for the minor. In advanced courses in Greek language and literature, students gain analytical and interpretive skills by reading a wide range of classical Greek literature, including Greek drama, history, and philosophy, as well as the Greek New Testament. Students minoring in Greek will find their studies mesh well with a number of majors and graduate fields, including anthropology, archaeology, history, English, comparative literature, philosophy, and law.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits of GREEK courses (Sem: 1-8)
Select 6 credits of 400-level GREEK courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-05-036

Review Date: 11/01

LA

Health Policy and Administration Minor

Altoona College (HPAAL)
University Park, College of Health and Human Development (H P A)

The minor in Health Policy and Administration (H PA) is designed to allow students to learn more about the health care system, health policy, and health administration. The minor is most appropriate for students interested in clinical and health-related fields (e.g., nursing, nutrition, biobehavioral health, or medicine), professional fields (e.g. business administration or law), or the social sciences (e.g., economics, sociology, political science, psychology), giving these students an understanding of the health care industry and the impact of business and government on that industry. Students must take 6 credits of prescribed courses including H P A 101(3), which introduces the organization of the health care system, and H P A 057 GHA(3), which considers the role of the health care consumer in the health care system. Students then focus their study on either health policy or health administration, choosing among courses at the 300 and 400 level. Students select 3-6 credits from H P A 301(3), H P A 310(3), and H P A 332(3) and 6-9 credits from 400-level H P A courses.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
H P A 057 GHA(3) and H P A 101(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3-6 credits from H P A 301W(3), H P A 310(3), H P A 332(3) (Sem: 3-6)
Select 6-9 credits from 400-level H P A courses (Sem: 5-8)

Note: Some courses have additional prerequisites that must be met.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-092A

Review Date: 01/21/05

HH

Health Policy and Administration Minor

Altoona College (HPAAL)
University Park, College of Health and Human Development (H P A)

The minor in Health Policy and Administration (H PA) is designed to allow students to learn more about the health care system, health policy, and health administration. The minor is most appropriate for students interested in clinical and health-related fields (e.g., nursing, nutrition, biobehavioral health, or medicine), professional fields (e.g. business administration or law), or the social sciences (e.g., economics, sociology, political science, psychology), giving these students an understanding of the health care industry and the impact of business and government on that industry. Students must take 6 credits of prescribed courses including H P A 101(3), which introduces the organization of the health care system, and H P A 057 GHA(3), which considers the role of the health care consumer in the health care system. Students then focus their study on either health policy or health administration, choosing among courses at the 300 and 400 level. Students select 3-6 credits from H P A 301(3), H P A 310(3), and H P A 332(3) and 6-9 credits from 400-level H P A courses.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
H P A 057 GHA(3) and H P A 101(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3-6 credits from H P A 301W(3), H P A 310(3), H P A 332(3) (Sem: 3-6)
Select 6-9 credits from 400-level H P A courses (Sem: 5-8)

Note: Some courses have additional prerequisites that must be met.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-092A

Review Date: 01/21/05

HH

Hebrew Minor

University Park, College of the Liberal Arts (HEBR)

The minor in Hebrew is intended to provide students with a good working knowledge of the Hebrew language, taught in a context that emphasizes the characteristics of Jewish tradition and Israeli culture and society. Students undertake three years of language study (or equivalent); education abroad can be included.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (12 credits)
HEBR 001(4), HEBR 002(4), HEBR 003(4) (Sem:1-4)

ADDITIONAL COURSES (9 credits)
Select 3 credits from HEBR 110(3), HEBR 111(3), HEBR 199 IL(1-12) HEBR 296(1-18), HEBR 297(1-9), HEBR 399 IL (1-12) (Sem: 1-8)
Select 6 credits from HEBR 401(3-6), HEBR 402(3-6), HEBR 496(1-18), HEBR 497(1-9), HEBR 499 IL(1-12) (Sem: 5-8)

Last Revised by the Department: Spring Semester 1994

Blue Sheet Item #: 21-04-014

Review Date: 11/01

LA

History Minor

Abington College (HSTAB)
Altoona College (HSTAL)
University Park, College of the Liberal Arts (HIST)

The minor in history is designed to complement a wide range of social studies and humanities majors by affording students the opportunity to examine change and development in human societies over time. Students are free to select courses in the topics (military history, social history, cultural history, etc.), geographical areas (the United States, Latin America, Europe, Asia, and Africa), and time periods that most suit their needs and interests. The requirements for entering the minor are fifth semester standing (eligible courses taken previously will count toward the minor) and having already declared a major.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits of HIST courses (Sem: 1-8)
Select 6 credits of 400-level HIST courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Department head updated by Publications: 10/08/08

History Minor

Abington College (HSTAB)
Altoona College (HSTAL)
University Park, College of the Liberal Arts (HIST)

The minor in history is designed to complement a wide range of social studies and humanities majors by affording students the opportunity to examine change and development in human societies over time. Students are free to select courses in the topics (military history, social history, cultural history, etc.), geographical areas (the United States, Latin America, Europe, Asia, and Africa), and time periods that most suit their needs and interests. The requirements for entering the minor are fifth semester standing (eligible courses taken previously will count toward the minor) and having already declared a major.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits of HIST courses (Sem: 1-8)
Select 6 credits of 400-level HIST courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Department head updated by Publications: 10/08/08

History Minor

Abington College (HSTAB)
Altoona College (HSTAL)
University Park, College of the Liberal Arts (HIST)

The minor in history is designed to complement a wide range of social studies and humanities majors by affording students the opportunity to examine change and development in human societies over time. Students are free to select courses in the topics (military history, social history, cultural history, etc.), geographical areas (the United States, Latin America, Europe, Asia, and Africa), and time periods that most suit their needs and interests. The requirements for entering the minor are fifth semester standing (eligible courses taken previously will count toward the minor) and having already declared a major.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS: (18 credits)
Select 12 credits of HIST courses (Sem: 1-8)
Select 6 credits of 400-level HIST courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Department head updated by Publications: 10/08/08

History Minor

Penn State Erie, The Behrend College (HSTRY)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 12 credits of HIST or HSTRY courses (Sem: 1-8)
Select 6 credits of 400-level HIST or HSTRY courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Updated director, 8/23/04, sah

BD

Horticulture Minor

University Park, College of Agricultural Sciences (HORT)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

PRESCRIBED COURSES (9 credits)
HORT 101(3), HORT 202(3), and HORT 315(3) (Sem: 1-6)

ADDITIONAL COURSES (9-10 credits)
Select 3 credits in systematics from HORT 131(3), HORT 137(3), HORT 138(3), or HORT 232(3) (Sem: 3-4)
Select 6-7 credits in foundation and production courses from HORT 402W(3), HORT 407(3), HORT 412W(3), HORT 420(3), HORT 430W(3), HORT 431(3), HORT 432(3), HORT 433(3), HORT 444(4), HORT 450(3), HORT 453(3), HORT 455(3), or HORT 469(3) (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

AG

Human Development and Family Studies Minor

Altoona College (HFSAL)
College of Health and Human Development (HD FS)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
HD FS 129 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 9 credits of HD FS courses (Sem: 1-6)
Select 6 credits of 400-level HD FS courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Human Development and Family Studies Minor

Altoona College (HFSAL)
College of Health and Human Development (HD FS)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
HD FS 129 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 9 credits of HD FS courses (Sem: 1-6)
Select 6 credits of 400-level HD FS courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Industrial Health and Safety Minor

University Park, College of Earth and Mineral Sciences (I H S)

The minor in Industrial Health and Safety offers a specialized program for students in many other broad-based majors, such as in engineering or science, who wish to pursue a career in the areas of occupational safety and health or public health. It offers an array of courses, which provide insight into these and other similar professions. It is recommended that students complete CHEM 110 GN(3), MATH 140 GQ(4), and MATH 141 GQ(4) if they wish to pursue this minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
I H S 400(3), I H S 430(3), and I H S 445(3) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits from I H S 410(3), I H S 420(3), I H S 447(4), I H S 440(3), I H S 450(3), or I H S 470(3) (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

Blue Sheet Item #: 30-02-003

Review Date: 4/8/03

UCA Revision #1: 8/8/06

EM

Information Sciences and Technology for Accounting Minor

Capital College (ISACC): Penn State Harrisburg

Accounting remains a vital organizational function which, in today's business environment, impacts the strategic direction of the firm. Technology has changed the manner in which business organizations are supported by accounting. Thus, accounting professionals with technology skills and technology professionals with accounting skills are extremely valuable in today's modern organization. This new minor will provide students with this integration of knowledge in these two fields.

Students must apply for entrance to the minor no later than the beginning of their sixth semester. A one-time tuition surcharge of $750 will be applied when students formally enroll in the Information Sciences and Technology for Accounting Minor.

A grade of C or better is required for all courses in the minor.

REQUIREMENTS FOR THE MINOR: 22 credits

PRESCRIBED COURSES (19 credits)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem. 1-8)
ACCTG 311(3), ACCTG 432(3), ACCTG 471(3) (Sem. 5-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from ACCTG 340(3), ACCTG 403(3), ACCTG 472(3) (Sem. 6-8)

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 31-04-027

Review Date: 10/06/05

UCA Revision #2: 7/27/07

CL

Information Sciences and Technology for Aerospace Engineering Minor

University Park, College of Engineering
University Park, College of Information Sciences and Technology (ISASP)

The role of Information Sciences and Technology in the practice of Aerospace Engineering is very important. Aerospace systems rely heavily on computers, software, and digital information; for control, sensors, and other onboard systems. The Boeing 777 has more than 1000 processors and roughly 20 million lines of software onboard, and F-16 and F-117As cannot fly without their onboard computers. In addition, many future aerospace vehicles will be unmanned, and the software challenges will be even greater. The onboard memory has also increased exponentially, the F-106 had 20 KBytes of memory and the new Joint Strike Fighter might have 2 GBytes of memory. The hardware and software must be carefully designed and thoroughly tested, since most aerospace systems are mission- or safety-critical systems. Computers and software are heavily used in the design, development, and manufacturing of aerospace systems. Large supercomputers are often used in the design process. The IST minor will enrich their educational achievements and increase their chances in obtaining employment or entering graduate school. The NSF and the DOD are encouraging universities to enhance their educational programs so that we have well-qualified engineers for future systems, and our IPAC members have stressed the importance of IT for our students.

Student must apply for entrance to the minor no later than their 7th semester. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (13 credits)
CMPSC 201C(3), IST 110 GS(3) (Sem: 1-4)
IST 210(4), IST 220(3) (Sem: 5-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from: AERSP 423(3), AERSP 424(3), AERSP 440(3), or AERSP 460(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2008

Blue Sheet Item #: 36-01-038

Review Date: 8/28/07

UCA Revision #2: 7/26/07

Comments

EN

Information Sciences and Technology for Communication Arts and Sciences Minor

University Park: College of Information Sciences and Technology and College of the Liberal Arts (ISCAS)

The Internet and other technologies are emerging as important communication channels. People establish personal relations online, develop language skills, conduct business, and make arguments online. Web sites have become important sites of public discourse and are playing an encompassing role in political campaigns. Students who pursue careers as communication consultants, in management or human resources, as political speech writers, and as independent business operators need information management skills. As a result, it is essential for Communication Arts and Sciences students to be fully versed in information sciences and technology for both personal and professional advancement. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in this minor.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (10 credits)
IST 110 GS(3) (Sem: 1-2)
IST 210(4) (Sem: 3-4)
IST 220(3) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits of CAS courses from a department-approved list with at least 6 credits at the 400 level. (Sem: 5-8)

Last Revised by the Department: Spring Semester 2007

Blue Sheet Item #: 35-01-183

Review Date: 8/29/06

IST/LA

Information Sciences and Technology for Earth and Mineral Sciences Minor

University Park, College of Earth and Mineral Sciences
University Park, College of Information Sciences and Technology (ISEMS)

Information Systems are a core component of any research, educational or industrial enterprise in the Earth and Materials Sciences. In addition, the science and engineering disciplines represented in the College have a particular focus on numerical modeling and simulation systems, and on the analysis and management of very large data sets. The EMS - IST minor provides students a basic introduction to information sciences and information technology through courses in the core curriculum of the School of Information Sciences and Technology. Students then select from a group of interdisciplinary EMS courses that focus on the particular interests of the College.

Students must apply for entrance to the minor no later than the beginning of their seventh semester. A one-time tuition surcharge will be applied to all students enrolled in the minor. A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (13 credits)
IST 110 GS(3) (Sem: 1-2)
IST 210(4) (Sem: 3-4)
IST 220(3), GEOG 463(3) (Sem: 5-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from P N G 430(3), EM SC 468(3), ECEEM 425(3), or METEO 473(3) (Sem:5-8)

Last Revised by the Department: Fall Semester 2000

Blue Sheet Item #: 28-07-048

Review Date: 10/06/05

Information Sciences and Technology for HR&IM Minor

University Park, College of Health and Human Development (ISHRM)
University Park, College of Information Sciences and Technology

The Internet and associated technologies have become vital communication channels for hospitality professionals. Historically, hospitality facilities such as hotels and restaurants used telephone, printed ads, and face-to-face contact to interact with customers. Now, technology is allowing Web sites, kiosks, e-mail, cell phones, personal digital assistants, and interactive television. Within the hospitality industry, corporate communications and training for employees can be handled electronically. Clearly, it is critical for HR&IM students to be cognizant about information science and technology if they are to succeed in hospitality management. Specifically, the learning outcomes for the IST-HR&IM minor are that students will attain the knowledge base necessary to direct the planning, design, and analysis of information technology systems for hospitality corporations and to integrate these systems for strategic, tactic, and operational use.

A one-time tuition surcharge will be applied to all students enrolled in the minor. A grade of C or better is required for all courses in the minor.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (19 credits)
IST 110 GS(3) (Sem: 1-2)
IST 210(4) (Sem: 3-4)
IST 220(3), HRIM 350(3) (Sem: 5-6)
HRIM 470(3), HRIM 471(3) (Sem7-8)

Last Revised by the Department: Fall Semester 2001

Blue Sheet Item #: 29-07-062

Review Date: 10/06/05

HH

Information Sciences and Technology for Industrial Engineering Minor

University Park, College of Engineering
University Park, College of Information Sciences and Technology (ISTIE)

Collection and processing of information have increased in all sectors for solving engineering problems, including manufacturing and service related problems. Efficient and timely analysis of data is critical for the survival of companies. There is a need for industrial engineers with a strong background in information technology and systems. The minor in Information Sciences and Technology for Industrial Engineering will augment the skills of students in the Department of Industrial and Manufacturing Engineering in the information systems area. All students pursuing a baccalaureate degree in Industrial Engineering are eligible for this minor.

A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22 credits

PRESCRIBED COURSES (13 credits)
IST 110 GS(3) (Sem: 1-4)
I E 330(3), IST 210(4), IST 220(3) (Sem: 5-6)

ADDITIONAL COURSES: (9 credits)
Select 6-9 credits from I E 418(3), I E 462(3) and I E 433(3) (Sem: 7-8)
Select 0-3 credits from MATH 451(3), MATH 455(3), MATH 456(3), IST 441(3) (Sem: 7-8)

Last Revised by the Department: Spring Semester 2006

Blue Sheet Item #: 34-02-092

Review Date: 3/28/06

EN/IS

Information Sciences and Technology for Labor Studies and Employment Relations Minor

University Park, College of the Liberal Arts
University Park, College of Information Sciences and Technology (ISLER)

The joint minor in Information Sciences and Technology for Labor and Employment Relations (ISLER) is designed to provide students with the opportunity to develop working knowledge of information technology, labor and employment relations, and their interdisciplinary synergies. The joint minor is designed to prepare students for professional careers in human resource management, labor relations, information systems, software development, consulting, and government. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits**[1]**

PRESCRIBED COURSES: (13 credits)
LER 100 GS(3) (Sem: 1-6)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem: 1-7)

ADDITIONAL COURSES: (6 credits)
Select 6 credits from: LER 400 IL(3), LER 401(3), LER 404(3), LER 411(3), LER 424(3), LER 434(3), LER 435(3), LER 437(3), LER 444(3), LER 460(3), LER 464(3), LER 465(3), LER 470(3), LER 497(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-460

Review Date: 4/10/07

IS/LA

Information Sciences and Technology for Mathematics Minor

University Park, Eberly College of Science (ISMTH)
University Park, College of Information Sciences and Technology

The interaction between Information Sciences and Mathematics will continue developing in remarkable new directions. Mathematical scientists enormously benefit from information technology in the performance of research, in communicating and disseminating scientific information and results, as well as in career environments involving data analysis and management. Mathematicians also contribute to making inroads toward the development of new information technologies. Information sciences and technology are already playing a very important role in mathematical education, at all levels, and will experience an overwhelming increase in the near future. Giving undergraduate mathematics students the opportunity to minor in IST will not only enrich their educational achievements but it will also help them succeed in the employment searches.

Students must apply for entrance to the minor no later than the beginning of their senior year. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required in all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (10 credits)
IST 110 GS(3) (Sem: 1-2)
IST 210(4) Sem: 3-4)
IST 220(3) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits from the following 400-level mathematics courses: MATH 451(3), MATH 457(3), MATH 459(3), MATH 465(3), MATH 467(3), MATH 468(3), MATH 469(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Blue Sheet Item #: 29-01-084

Review Date: 10/06/05

SC

PIC updated by Publications: 3/26/09

Information Sciences and Technology for Telecommunications Minor

University Park, College of Communications
University Park, College of Information Sciences and Technology (ISTLC)

This minor offers students an opportunity to examine the opportunities and challenges presented by convergence of telecommunications and information processing. Internet-mediated services have the potential of fundamentally changing how we communicate and engage in commerce. This convergence offers faster, better, cheaper, smarter, and more convenient services, but also raises a variety of legal, regulatory, political, social, economic, and technology management issues. The IST/Telecommunications minor offers students enrolled in majors outside the College of Communications and the College of Information Sciences and Technology an opportunity to examine how telecommunications and information processing technologies and services will impact society as well as their individual circumstances.

The Telecommunications requirements of this minor constitute three courses (nine credit hours). Students can fulfill this requirement by completing COMM 180 offered by the Telecommunications Department in the College of Communications and by completing two additional courses from the following list: COMM 479(3), COMM 484(3), COMM 490(3), COMM 491(3) and COMM 492(3). Three IST courses (ten credit hours) constitute the other part of this minor. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (13 credits)
IST 110 GS(3) (Sem: 1-2)
IST 210(4) (Sem: 3-4)
IST 220(3), COMM 180(3) (Sem: 5-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following: COMM 479(3), COMM 484(3), COMM 490(3), COMM 491(3) and COMM 492(3) (Sem: 7-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-01-099

Review Date: 10/06/05

CM, IS

Publications 10/06/05

Information Sciences and Technology in Health Policy and Administration Minor

University Park, College of Health and Human Development (ISHPA)
University Park, College of Information Sciences and Technology

The learning objectives of the minor in Information Sciences and Technology in Health Policy and Administration (ISHPA) are to equip students with the skills and knowledge to meet the critical need for persons with expertise in health care information technology. Specialists in this field assist health care organizations develop and apply the information technologies needed to develop Web-based systems for patient education, physician-patient interaction and physician-physician consultation, securely transmit sensitive medical information electronically, and even pioneer efforts for advanced technologies like remote robotic surgery. The ISHPA minor provides students with a solid base in the information sciences and technology through courses in IST's core curriculum. This core is then supported by selections from a group of HPA courses studying the application of information technology in health planning, financing, or marketing. Students must apply for entrance to the minor no later than the beginning of their seventh semesters. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in this minor.

Scheduling Recommendations by Semester Standing given like (Sem: 1-2)

REQUIREMENT FOR THE MINOR: 19 credits

PRESCRIBED COURSES (13 credits)
IST 110 GS(3) (Sem: 1-2)
IST 210(4) (Sem: 3-4)
IST 220(3) (Sem: 5-6)
H P A 470(3) (Sem: 7-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from H P A 431(3), H P A/BB H 440 US;IL(3), H P A 447(3), or H P A 455(3) (Sem: 5-8)

Note: The H P A courses have additional prerequisites that must be met.

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-92B

Review Date: 10/06/05

HH

Information Sciences and Technology Minor

Abington College
Berks College
Capital College
University College: Penn State Beaver, Penn State Brandywine, Penn State Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State New Kensington, Penn State Schuylkill, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of Information Sciences and Technology (IST)

This minor is structured to provide students with the theoretical frameworks and skill sets necessary to compete and be productive in the information technology-intensive global context that defines the new "Information Age." Specifically, the minor will be focused on a program that will build an understanding of core information technologies and related areas of study; will prepare students for the practical application of various information sciences and related technologies; and engage students in sharpening their abilities to think critically and to work in teams. All this will be done with the intent to expose students to the cognitive, social, institutional, and global environments of Information Sciences and Technology and to then apply that knowledge as a supplement to their major. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in this minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (10 credits)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from IST 250(3), IST 301(3), or IST 302(3) (Sem 5-8)
Select 6 credits from IST 402(3), IST 431(3), or IST 432(3) (Sem 5-8)

Last Revised by the Department: Spring Semester 2004

Blue Sheet Item #: 32-01-075

Review Date: 10/6/05

IS

Information Sciences and Technology Minor

Abington College
Berks College
Capital College
University College: Penn State Beaver, Penn State Brandywine, Penn State Greater Allegheny, Penn State Hazleton, Penn State Lehigh Valley, Penn State New Kensington, Penn State Schuylkill, Penn State Wilkes-Barre, Penn State Worthington Scranton, Penn State York
University Park, College of Information Sciences and Technology (IST)

This minor is structured to provide students with the theoretical frameworks and skill sets necessary to compete and be productive in the information technology-intensive global context that defines the new "Information Age." Specifically, the minor will be focused on a program that will build an understanding of core information technologies and related areas of study; will prepare students for the practical application of various information sciences and related technologies; and engage students in sharpening their abilities to think critically and to work in teams. All this will be done with the intent to expose students to the cognitive, social, institutional, and global environments of Information Sciences and Technology and to then apply that knowledge as a supplement to their major. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in this minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (10 credits)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem 1-6)

ADDITIONAL COURSES (9 credits)
Select 3 credits from IST 250(3), IST 301(3), or IST 302(3) (Sem 5-8)
Select 6 credits from IST 402(3), IST 431(3), or IST 432(3) (Sem 5-8)

Last Revised by the Department: Spring Semester 2004

Blue Sheet Item #: 32-01-075

Review Date: 10/6/05

IS

Information Sciences and Technology/Finance Minor

Capital College (ISFIN)

PROFESSOR ORANEE TAWATNUNTACHAI
PROFESSOR GAYLE J. YAVERBAUM

The Information Sciences and Technology/Finance Minor is to enhance skills of students in the information sciences and finance. More organizations are integrating technology as part of their business operations, including finance. Finance is a key function of every business organization. Therefore, technology professionals with finance skills, and finance professionals with technology skills are highly valuable in any organization.

Students must apply for entrance to the minor no later than the beginning of their seventh semester. A one-time, non-refundable tuition surcharge of $750 will be applied when students formally enroll in the IST/FIN Minor.

A grade of C or better is required for all courses to successfully complete the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22 credits

PRESCRIBED COURSES (19 credits)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem: 1-8)
ECON 351(3), FIN 301(3), FIN 420(3) (Semester 5-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from FIN 302(3), FIN 406(3), FIN 407 IL(3), FIN 408(3), FIN 409(3), FIN 427(3), FIN 456 IL(3), FIN 496(3), FIN 497(3) (Semester 6-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-02-004

Review Date: 10/06/05

UCA Revision #2: 7/27/07

CL

Information Systems and Statistical Analysis Minor

University Park, College of the Liberal Arts (ISSA)

This minor focuses on the use of information systems and statistical methods for solution of human problems. This minor is applicable to any major throughout the University and enhances the student's preparedness for graduate, research, and career opportunities. A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (10 credits)
CAS 283(3), STAT 200 GQ(4) (Sem: 3-4)
CAS 483(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Students must select 9 credits in consultation with the adviser from courses focusing on information systems or computer science with at least 3 credits at the 400 level. No more than 6 credits may be selected in computer science. (Contact person in charge of the minor for list of appropriate courses.) (Sem: 1-8)

Last Revised by the Department: Fall Semester 1996

Blue Sheet Item #: 24-06-048

Review Date: 10/4/02

LA

Information Systems Management Minor

University Park, Smeal College of Business (ISM)

This interdisciplinary minor is designed for students in every curriculum at the University. The Information Systems Management courses combined with other functional areas of study will enable students to gain understanding of the strategies, issues, and best practices for aligning information technology planning and use with business strategy in the global digital economy.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22 credits

PRESCRIBED COURSES (15 credits)
MIS 204(3) (Sem: 1-4)
MGMT 301(3), MIS 390(3), SCM 301(3) (Sem: 5-6)
MIS 446(3) (Sem: 5-8)

ADDITIONAL COURSES (7 credits)
SCM 200(4) or STAT 200(4) (Sem: 1-4)
MIS 479(3) or MIS 479W(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-041

Review Date: 04/13/2010

UCA Revision #1: 8/9/06

BA

Insurance Minor

University Park, Smeal College of Business (INS)

The Insurance minor prepares students for careers in risk management and insurance as well as familiarizes those students in related areas with the important aspects of risk management in the business environment. Students with a minor in insurance study the management of insurable risks within the firm, the legal, regulatory and financial aspects of insurance, as well as personal financial and estate planning. They take courses in the principles of risk, and insurance, property-liability insurance, corporate risk management, life insurance, estate planning and real estate. When coupled with a related major, students are prepared for careers in insurance underwriting, risk management, claims management, sales or personal financial planning.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (15 credits)
INS 301(3), INS 320(3), INS 400(3), INS 405(3), R EST 301(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from INS 305(3) or INS 310W(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 1995

Blue Sheet Item #: 23-05-047

Review Date: 11/01

BA

International Agriculture Minor

University Park, College of Agricultural Sciences (INTAG)

This minor is an interdisciplinary program of study designed to enable students to (1) gain an awareness and appreciation for the interrelationship and interdependency of the nations of the world for their food and fiber; (2) gain an awareness of the resources available to solve problems in international agriculture; and (3) recognize systems of learning transfer and understand the impact of technological transfer across cultures.

This minor may be combined with any undergraduate major in the University. It requires 18 credits in addition to the baccalaureate degree and departmental major requirements of the student's choice. Some courses require prerequisites not included in the minor. Foreign language competence is highly recommended. A grade of C or better is required for all courses in the minor.

Students may apply for admission to the minor by completing and submitting an application for admission to a minor to 323 Agriculture Administration Building, University Park Campus. Approval from the student's major program adviser also is required. For more information, contact Dr. Thomas H. Bruening, 323 Agriculture Administration Building, (814) 863-7420.

A grade of C or better is required for all courses in the minor. Students must have six credits of 400 level course work for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-21 credits

Option 1: Students are given the option of participating in a semester study abroad program that would be discussed and approved by the INTAG coordinator and the student's academic advisor. Minimum requirement is 18 credits. The semester study abroad program needs to focus on courses within the food, agriculture or natural resources areas.

Option 2: Students may elect to take 18 course credits from the following list:

PRESCRIBED COURSES (6 credits)
INTAG 100 GS;IL(3), INTAG 481(3) or AEE 400(3) (with the travel component) (Sem: 3-4,7-8)

ADDITIONAL COURSES (9-12 credits)
Select courses from three of the four categories:
Category 1: Economics & Social Systems
CED 450 IL(3), GEOG 123 GS;IL(3), NUTR/S T S 430 IL(3), R SOC 327(3), R SOC/WMNST/CED 420 US;IL(3) (Sem: 1-8)
Category 2: Education, Communication, & Language
AEE 400(3), AEE 440(3), AEE 450(3), AYFCE 455(3), Any University language skill development course (Sem: 1-8)
Category 3: Animal & Plant Systems
AGECO 134 GN(3), AGRO 028(3), AN SC 201(4), SOILS 101 GN(3) (Sem: 1-8)
Category 4: Natural Resources and Environment
B E 300(3), FOR 418 US;IL(3), FOR 488W(3) (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
INTAG 296(1-18), INTAG 297(1-9), INTAG 298(1-9), INTAG 397(1-9), INTAG 398(1-9), INTAG 399, INTAG 495(1-13), INTAG 496(1-18), INTAG 497(1-9), INTAG 498(1-9), INTAG 499 IL(1-12) (Sem: 1-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-01-006

Review Date: 8/30/05

UCA Revision #2: 7/27/07

AG

International Arts Minor

University Park, College of Arts and Architecture (IARTS)

This interdisciplinary minor is designed for students in any major of the University who wish to supplement their knowledge of the arts of a country or countries other than the United States.

Students enrolled in the minor shall begin by taking the International Arts course and complete the minor with a project pertaining to topics studied for the minor.

Credits applied toward the minor shall represent at least two disciplines and should consist of a coherent selection of courses relating to a geographic, chronological, or thematic concentration.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19-33 credits

PRESCRIBED COURSES (4-6 credits)
A&A 100 GA;IL(3) (Sem: 3-6)
A&A 401(1-3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (15-27 credits)
Select 0-12 credits: 12th-credit-level proficiency in one foreign language demonstrated by course work or examination (Sem: 1-4)
Select 15 credits of international arts courses (Only 9 credits in a single discipline may apply toward the minor. A minimum of 9 credits must be taken in the College of Arts and Architecture. At least 6 credits must be at the 400 level. At least 3 of these 15 credits must be in a study abroad experience of at least 4 weeks in duration approved by the person in charge of the minor; any arts courses taken while abroad may count toward the minor.) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-06-014

Review Date: 4/13/04

AA

International Business Minor

University Park, Smeal College of Business (I B)

The International Business minor provides students with knowledge, skills, and experiences that prepare them for a business career that might include international responsibilities. Mastery of fundamental business concepts, coursework in international business or economics, foreign language skills, and an approved study abroad experience each contribute to build perspectives about the challenges and opportunities of commercial activity in a global business environment.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 30 credits

PRESCRIBED COURSES (12 credits)
ACCTG 211(4) (Sem: 1-4)
B A 301(2), B A 302(2), B A 303(2), B A 304(2) (Sem: 5-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following with at least 3 credits at the 400 level: ECON 333(3), I B 303(3), I B 403(3), or I B 404(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3 credits of foreign language. (Sem: 1-4)
Select 6 credits from an education abroad program with prior approval by the Smeal College International Programs Office. (Sem: 4-7)
Select 3 credits of 400-level International Business related coursework. See Program List. (Sem: 6-8)

Last Revised by the Department: Fall Semester 2003

Blue Sheet Item #: 31-06-008

Review Date: 3/11/03

UCA Revision #1: 8/8/06

BA

International Business Minor

Capital College (INTLB)

This minor provides undergraduate students in all business administration majors with further studies in such areas as international accounting, finance, information systems, comparative management, international marketing, or economics. The objective of the minor is to provide students who are interested in careers in international business with an understanding of problems and problem-solving methods that transcend national boundaries. Proficiency in a foreign language and study abroad provide an understanding of the social, political, and cultural context of the global marketplace. Except for Professional Accountancy, the minor can be included in the major with no additional courses being required. Professional Accountancy students may have to take 12 additional credits.

Students must receive a grade of C or better in all courses required for the minor.

Scheduling Recommendation by Semester Standing given like (1-2)

REQUIREMENTS FOR THE MINOR: 21 credits
(A minimum of 3 credits in the minor must be taken in an approved study abroad program.)

PRESCRIBED COURSES (3 credits)
B A 364Y US;IL(3) (Sem. 7-8)

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 9 credits in a single foreign language (Sem. 1-6)
Select 9 credits from ACCTG 461 IL(3), ECON 333(3), FIN 407(3), MGMT 461(3), MIS 446(3), MKTG 445(3) (Sem. 5-8)

Last Reviewed by the Department: Spring Semester 1996

Blue Sheet Item #: 23-06-257

Review Date: 1/14/03

UCA Revision #1: 8/8/06
UCA Revision #2: 7/27/07

CL

International Studies Minor

Abington College (INTAB)
University College (INTCC): Penn State Brandywine, Penn State Worthington Scranton
University Park, College of the Liberal Arts (INSTD)

The International Studies minor is intended to recognize, for undergraduate students in any major, the completion of an education abroad program, foreign language competency, and related advanced course work. Ideally, the language, international, and advanced study should be integrated around some thematic or geographical focus.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-30 credits

SUPPORTING COURSES AND RELATED AREAS (18-30 credits)
12th-credit-level proficiency in one foreign language demonstrated by course work or examination (Sem: 1-4)

Students must complete 12 credits as participants in an approved Penn State Education Abroad Program, no more than 6 credits of which may be foreign language study beyond the 12-credit level (Sem: 5-6)

Select 6 credits (400 level) related to the education abroad experience, or the student's major, or to complete a thematic concentration. Courses must be selected from the approved list of courses with international focus or in consultation with the International Studies Minor adviser (Sem: 5-8)

Last Revised by the Department: Fall Semester 1994

Blue Sheet Item #: 22-06-021

Review Date: 1/30/00

International Studies Minor

Abington College (INTAB)
University College (INTCC): Penn State Brandywine, Penn State Worthington Scranton
University Park, College of the Liberal Arts (INSTD)

The International Studies minor is intended to recognize, for undergraduate students in any major, the completion of an education abroad program, foreign language competency, and related advanced course work. Ideally, the language, international, and advanced study should be integrated around some thematic or geographical focus.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-30 credits

SUPPORTING COURSES AND RELATED AREAS (18-30 credits)
12th-credit-level proficiency in one foreign language demonstrated by course work or examination (Sem: 1-4)

Students must complete 12 credits as participants in an approved Penn State Education Abroad Program, no more than 6 credits of which may be foreign language study beyond the 12-credit level (Sem: 5-6)

Select 6 credits (400 level) related to the education abroad experience, or the student's major, or to complete a thematic concentration. Courses must be selected from the approved list of courses with international focus or in consultation with the International Studies Minor adviser (Sem: 5-8)

Last Revised by the Department: Fall Semester 1994

Blue Sheet Item #: 22-06-021

Review Date: 1/30/00

International Studies Minor

Abington College (INTAB)
University College (INTCC): Penn State Brandywine, Penn State Worthington Scranton
University Park, College of the Liberal Arts (INSTD)

The International Studies minor is intended to recognize, for undergraduate students in any major, the completion of an education abroad program, foreign language competency, and related advanced course work. Ideally, the language, international, and advanced study should be integrated around some thematic or geographical focus.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-30 credits

SUPPORTING COURSES AND RELATED AREAS (18-30 credits)
12th-credit-level proficiency in one foreign language demonstrated by course work or examination (Sem: 1-4)

Students must complete 12 credits as participants in an approved Penn State Education Abroad Program, no more than 6 credits of which may be foreign language study beyond the 12-credit level (Sem: 5-6)

Select 6 credits (400 level) related to the education abroad experience, or the student's major, or to complete a thematic concentration. Courses must be selected from the approved list of courses with international focus or in consultation with the International Studies Minor adviser (Sem: 5-8)

Last Revised by the Department: Fall Semester 1994

Blue Sheet Item #: 22-06-021

Review Date: 1/30/00

International Studies Minor

Penn State Erie, The Behrend College (INTST)

INTERNATIONAL STUDIES COMMITTEE, *in charge*

This interdisciplinary minor is designed for students who wish to supplement their major field of study with international understanding and study. It introduces students to global concerns and multicultural issues and broadens students' understanding of the critical forces molding their nation and their lives at the end of the twentieth century and the start of the twenty-first. The International Studies Minor is proposed for students planning international careers in their professional fields, careers in organizations engaged in international activity, and those with a general interest in global studies. The minor consists of 18 to 30 credits, at least 6 of which must be at the 400 level. Twelve credits or evidence of third-semester proficiency of a foreign language is required. The program of study is to be developed by the student in conjunction with an International Studies adviser. A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

PRESCRIBED COURSES (18 credits)
INTST 100 GS;IL(3) (Sem: 1-4)
Select 12 credits of a foreign language or evidence of third-semester proficiency (Sem: 1-4)
INTST 400 IL(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Students may select 12 credits of internationally oriented courses in consultation with the International Studies adviser. A list of recommended courses is maintained by Penn State-Behrend's International Studies Committee. At least 3 credits must be at the 400 level (outside the student's major). Credits earned through approved academic study abroad may be counted in this category. (Sem: 1-8)

Last Revised by the Department: Spring Semester 2000

Blue Sheet Item #:

Review Date: 1/30/00

BD

Italian Minor

University Park, College of the Liberal Arts (IT)

The Italian minor offers training in the skills required for fluency in Italian and knowledge in Italian culture, civilization, and literature. Its aim is to open to the student both the traditions of one of the major formative components of the Western world and the continuing vitality of modern Italian and Italian-American life.

As one of the humanistic programs of the College of the Liberal Arts, the Italian minor is not designed to be directly vocational. Nevertheless, rigorous training in this minor can prepare students for rewarding and unique careers in business, travel, ministry, banking, and education. In addition, the federal government employs liberal arts graduates with foreign-language skills in organizations including the National Security Agency, the Central Intelligence Agency, the U.S. Information Agency, and the Department of Labor. The Italian minor can be preparatory for the major and for study abroad, as well as graduate work directed to the Ph.D. degree required for teaching and research in colleges and universities. Students with backgrounds in the humanities are particularly successful applicants to professional schools, such as law and medicine.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 12 credits of Italian courses (Sem: 3-6)
Select 6 credits of 400-level Italian courses (Sem: 5-8)

Note: Elementary Italian Language courses (IT 001, 002, and 010) and lower-division Culture and Civilization (IT 130 and 131) or lower division Literature in Translation (IT 230) courses may not be credited toward the minor.

Last Revised by the Department: Spring Semester 2009

Blue Sheet Item #: 37-03-028

Review Date: 11/18/08

LA

Japanese Language Minor

University Park, College of the Liberal Arts (JAPNS)

The minor in Japanese is intended to provide students with a good working knowledge of the Japanese language, culture, and society in order to broaden their horizons and sharpen their awareness in internationalism and globalization. Students undertake three years of language and culture/film/literature study (or equivalent); education abroad can be included.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (8 credits)
JAPNS 002(4), JAPNS 003(4) (Sem: 1-4)

ADDITIONAL COURSES* (11 credits)
Select 4 credits from JAPNS 110 IL(4), JAPNS 296(1-9), JAPNS 297(1-9), or JAPNS 299 IL(1-12) (Sem: 1-8)
Select 7 credits from JAPNS 401 IL(4), JAPNS 402 IL(4), JAPNS 452 IL(3), JAPNS 453 IL(3-6), JAPNS 454 IL(3-6), JAPNS 496(1-18), JAPNS 497(1-9), or JAPNS 499 IL(1-15) (Sem: 5-8)

* Special topics courses in English or other courses in English do not satisfy this requirement.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-056

Review Date: 4/14/09

LA

Jewish Studies Minor

University Park, College of the Liberal Arts (J ST)

This is an interdisciplinary minor for students interested in the study of Jewish history, thought, and culture. Time periods and geographical areas covered range from ancient Israel and its environs to much of the modern world. Specializations include, but are not limited to, archaeology and history, Biblical studies, history of religions and intellectual history, anti-Semitism, Zionism and modern Israel, and Hebrew language and modern literature.

For the Jewish Studies minor, a minimum of 18 credits is required, with at least 6 credits at the 400 level. Up to 9 credits of study abroad may be substituted for supporting course requirements.

All required course work must be completed with a grade of C or higher.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
J ST 010 GH;IL(3)/HEBR 010 GH;IL(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in Jewish Studies from approved department list; 6 credits must be at the 400 level (Sem: 5-8)
(Up to 9 credits of education abroad courses selected in consultation with the adviser may be applied to the requirements for the minor.)

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-06-180

Review Date: 4/13/04

LA

Kinesiology Minor

University Park, College of Health and Human Development (KINES)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

ADDITIONAL COURSES (6-7 credits)
Select 6-7 credits from KINES 141 US;IL(3), KINES 180(3), and KINES 202(4) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of 100-level or higher Kinesiology courses (Sem: 3-6)
Select 6 credits of 400-level Kinesiology courses (Sem: 7-8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-114

Review Date: 3/6/07

HH

Labor Studies and Employment Relations Minor

University Park, College of the Liberal Arts (LER)

This interdisciplinary minor is designed for students in any major of the University who wish to supplement their knowledge in the areas of labor studies and industrial relations. The minor consists of 18 credits, at least 6 of which must be at the 400 level. A certificate is awarded to students who complete the requirements of the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits
(at least 6 credits at the 400 level)

PRESCRIBED COURSES (3 credits)
LER 100 GS(3) (Sem: 1-6)

ADDITIONAL COURSES (3 credits)
LER 201 GS(3) or LER 401(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 3-6 credits in Labor and Industrial Relations (Sem: 5-8)
Students may select, in consultation with their Labor Studies and Employment Relations adviser, 6-9 credits from courses in business administration, economics, management, political science, psychology, and sociology (Sem: 1-8)

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-465

Review Date: 4/10/07

LA

Latin American Studies Minor

University Park, College of the Liberal Arts (LATAM)

This interdisciplinary minor is designed for students in any college or program of the University who want to supplement their knowledge and skills with the study of Latin America. A certificate is awarded to students who complete the requirements of the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

PRESCRIBED COURSES (3 credits)
PL SC 456(3) (Sem: 1-4)

ADDITIONAL COURSES (6-7 credits)
HIST 178 GH;IL(3) or HIST 179 GH;IL(3) (Sem: 1-4)
PORT 001(4) or SPAN 100(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits (at least 3 credits at the 400 level) from an approved list in consultation with the adviser. (Sem: 1-4)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-057

Review Date: 4/14/09

LA

Latin Minor

University Park, College of the Liberal Arts (LATIN)

The Latin minor emphasizes the development of skills in the linguistic and literary aspects of the Latin language. Through 18 credits of course work, including 6 at the 400-level, students develop mastery of the grammatical structures essential to the ability to read Latin; a vocabulary adequate to the sight recognition of a large number of Latin vocabulary items; and a thorough understanding of the formal system of word inflection and derivation which forms the grammatical core of the language. Once students have completed the basic 12 credits in LATIN 001, LATIN 002 and LATIN 003, they have the opportunity to pursue their studies in a wide variety of 400-level courses, which include prose authors such as historians, poets who wrote in epic and elegiac styles, playwrights, and other literary stylists who round out the vast body of Latin literature. In addition, 400-level courses are available on such topics as Latin prose composition, in which students learn to write Latin, and Latin linguistic history. The minor is appropriate for a wide number of majors, including history, medieval studies, archaeology, medicine, philosophy, and law.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 12 credits of LATIN courses (Sem: 1-8)
Select 6 credits of 400-level LATIN courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-05-036

Review Date: 11/01

LA

Latina and Latino Studies Minor

University Park, College of the Liberal Arts (LTNST)

This minor in Latina and Latino Studies offers students across the University an opportunity to learn about the diverse histories, cultures, politics, migration patterns, and other aspects of Latina/o populations in the United States. Classes will be offered on Latino history; the artistic achievements of Latinas/os in popular culture, literature, theatre, film, and television; the migratory flows of Latina/o populations; education; other issues related to language and identity; and family issues. These courses demonstrate that studying Latina/o social formations is a critical component of understanding the social fabric of the U.S. as well as the U.S. presence in Latin America and the complex phenomenon of globalization. Although the emphasis of Latina/o Studies is on the U.S., the role of Latina/o immigration within wider shifts related to globalization requires an understanding of Mexico, Central and South America, and the Spanish-speaking Caribbean.

The minor consists of 18 credits, at least 6 of which must be at the 400 level.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
LTNST 100 GH;US(3) (Sem: 1-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits from LTNST 226(3) or ENGL 226 GH;US;IL(3), LTNST 300 US(3) or WMNST 300 US(3), LTNST 315 GH;US(3) or SPAN 315 GH;US(3), LTNST 326 GH;US(3) or SPAN 326 GH;US(3), LTNST 403(3) or CMLIT 403(3), LTNST 426(3) or ENGL 426 US(3), and 3 credits of SPAN 003(4) or above. (Sem: 1-8)

SUPPORTING COURSES AND RELATED AREAS: (6 credits)
Select 6 credits from approved list in consultation with an academic adviser.

Last Revised by the Department: Falll Semester 2006

Blue Sheet Item #: 34-06-321

Review Date: 4/11/06

EN

Law and Liberal Arts Minor

University College (LAWCC): Penn State Brandywine
University Park, College of the Liberal Arts (LAW)

This minor is intended for all students who are interested in attending law school after graduation, or who are interested in preparing for careers related to the judicial system and the law. The minor consists of 18 credits that are designed to focus on the acquisition of skills and substantive knowledge in five areas: (1) American public law and judicial process; (2) critical thinking; (3) advanced writing; (4) public speaking; and (5) formal logic. (To complete the minor, students must receive a grade of C or higher in a minimum of 18 credits.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
PHIL 012 GQ(3) (Sem: 3-4)

ADDITIONAL COURSES (15 credits)
Select 3 credits from CAS 450W(3), ENGL 421(3), ENGL 471(3), PL SC 470W(3) (Sem: 5-8)
Select 2-3 credits from CAS 213(3), CAS 216(2), CAS 250(3), CAS 321(3) (Sem: 5-8)
Select 3 credits from COMM 403(3), L ST 370(3), PL SC 403(3), PL SC 471(3), PL SC 472(3) (Sem: 5-8)
Select 3 credits from HIST 449 US(3), HIST 450 US(3), PL SC 474(3) (Sem: 5-8)
Select 3-4 credits from SOC 405(3) (Sem: 1-8), PHIL 105(3), PHIL 108 GH(3), PHIL 408(3), PHIL 408W(3), PL SC 431(3), PL SC 432(3) (Sem: 5-8)

Notice: Students majoring in Political Science, International Politics, or Pre Law may not apply for the Law and Liberal Arts Minor.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-01-067

Review Date: 11/19/02

UCA Revision #2: 7/27/07

Law and Liberal Arts Minor

University College (LAWCC): Penn State Brandywine
University Park, College of the Liberal Arts (LAW)

This minor is intended for all students who are interested in attending law school after graduation, or who are interested in preparing for careers related to the judicial system and the law. The minor consists of 18 credits that are designed to focus on the acquisition of skills and substantive knowledge in five areas: (1) American public law and judicial process; (2) critical thinking; (3) advanced writing; (4) public speaking; and (5) formal logic. (To complete the minor, students must receive a grade of C or higher in a minimum of 18 credits.)

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
PHIL 012 GQ(3) (Sem: 3-4)

ADDITIONAL COURSES (15 credits)
Select 3 credits from CAS 450W(3), ENGL 421(3), ENGL 471(3), PL SC 470W(3) (Sem: 5-8)
Select 2-3 credits from CAS 213(3), CAS 216(2), CAS 250(3), CAS 321(3) (Sem: 5-8)
Select 3 credits from COMM 403(3), L ST 370(3), PL SC 403(3), PL SC 471(3), PL SC 472(3) (Sem: 5-8)
Select 3 credits from HIST 449 US(3), HIST 450 US(3), PL SC 474(3) (Sem: 5-8)
Select 3-4 credits from SOC 405(3) (Sem: 1-8), PHIL 105(3), PHIL 108 GH(3), PHIL 408(3), PHIL 408W(3), PL SC 431(3), PL SC 432(3) (Sem: 5-8)

Notice: Students majoring in Political Science, International Politics, or Pre Law may not apply for the Law and Liberal Arts Minor.

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-01-067

Review Date: 11/19/02

UCA Revision #2: 7/27/07

Leadership Development Minor

University Park, College of Agricultural Sciences (L DEV)

This minor is designed for students in any major of the University wanting to supplement their program with studies in leadership development. The minor consists of 18 credits, at least 3 of which are an internship experience. This minor provides students with a fundamental concept of leadership development and expands in three related dimensions. A grade of C or better is required in all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (12 credits)
AEE 311(3), AEE 360(3) (Sem: 5-6)
AEE 460(3), AEE 495(3) (Sem: 7-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with an adviser from courses on the Department approved list that focus in one of three support areas: leadership styles, ethical and moral dimensions of leadership, or global leadership (Sem: 1-8)

Last Revised by the Department: Fall Semester 2000

Blue Sheet Item #: 28-03-005

Review Date: 1/11/00

AG

Legal Environment of Business Minor

University Park, Smeal College of Business (LEBUS)

This minor presents students with a structured study of the statutory and common law governing the business environment. Students in this program have the opportunity to learn advanced legal subject matter, including business organization structures, employment law, property law, commercial transactions, intellectual property, environmental law, and government regulation. A certificate is awarded to students upon completion of the 20-22 credits required for the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20-22 credits
(At least 6 credits must be at the 400 level)

PRESCRIBED COURSES (9 credits)
ECON 002 GS(3), ECON 004 GS(3) (Sem: 1-4)
B LAW 346(3) (Sem: 6-8)

ADDITIONAL COURSES (11-13 credits)
B A 241(2) and B A 242(2) or B A 243(4) or B LAW 243(3) (Sem: 1-4)
B A 301(2) or FIN 100(3) (Sem: 1-6)
Select 6 credits from the following (a student may not count both B LAW 445 and IST 432 toward the 6-credit requirement):
B LAW 424(3)/R EST 424(3), B LAW 425(3), B LAW 444(3), B LAW 445(3), LER 401(3), COMM 403(3), IST 432(3) (Sem: 6-8)

Last Revised by Department: Summer Session 2004

Blue Sheet Item #: 32-06-049

Review Date: 4/13/04

BA

Linguistics Minor

University Park, College of the Liberal Arts (LING)

This minor is designed for students in any major of the University who wish to supplement their knowledge in the area of linguistics. The minor consists of 18 credits. A certificate is awarded to students who complete the requirements of the minor.

For more information on the Linguistics Program, visit our Web site: http://linguistics.psu.edu/welcome.htm.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
LING 402(3), LING 404(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
LING 001 GS(3) or LING 100 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits from LING offerings (Sem: 5-8)

Last Revised by the Department: Summer Session 2001

Blue Sheet Item #: 29-03-060

Review Date: 11/21/00

LA

Management Information Systems Minor

Penn State Erie, The Behrend College (MISBD)

The Management Information Systems minor can open new career options for the student, increase the student's market value, and improve the student's chances for advancement.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (9 credits)
MIS 204(3) (Sem: 3-4)
MIS 336(3), MIS 430(3) (Sem: 5-7)

SUPPORTING COURSES AND RELATED: (9 credits)
Select 6 credits from CMPSC or MIS courses (Sem: 5-6)
Select 3 credits from 400-level CMPSC or MIS (Sem: 7-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-010

Review Date: 1/15/08

UCA Revision #1: 8/9/06

BD

Management Minor

Penn State Erie, The Behrend College (MANGT)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
MGMT 301(3), SCM 310(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of MGMT courses (Sem: 5-6)
Select 6 credits of 400-level MGMT courses (Sem: 7-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #1: 8/9/06
UCA Revision #2: 7/27/07

BD

Marine Sciences Minor

This program provides an excellent opportunity for undergraduates to pursue their interests in the study of the oceans and make more informed decisions about future graduate studies in marine sciences. Although Penn State does not award degrees in this field, a number of faculty pursue research interests in the marine sciences, and a varied selection of undergraduate courses in the marine sciences is available. The student can either complete the requirements for the minor at University Park (UP) or participate in an intensive semester-long oceanography experience at the Southampton, UK, Oceanography Centre (SOC) through education abroad:

The latter option may be of particular interest to students from non-UP locations. SOC has designed a program for PSU students that provides abundant opportunity to participate in shipboard oceanographic research, including a week of day-cruises in the spring and a 2-week series of cruises in June. Students who elect to pursue that minor at UP have the opportunity to receive training as scientific scuba divers through Penn State's Science Diving Program and participate in a number of other field experiences in the marine sciences.

MARINE SCIENCES MINOR: The Marine Sciences Committee is authorized to award a minor certificate to any undergraduate student regularly enrolled in a degree program at the University who, in addition to satisfying the degree requirements of his or her baccalaureate major, satisfies the requirements for the Marine Sciences minor. The completion of the minor is reflected by a formal notation on the student's official record at the time of graduation.

To enter the program, a student must have attained at least fourth-semester standing, completed CHEM 112, MATH 111 or MATH 141, and BIOL 110 or their equivalents, and have earned a cumulative grade-point average of at least 2.50. To ensure adequate advising and record keeping, the student must apply for the minor in the Marine Sciences program office and must then complete the requirements shown below.

Courses offered by other institutions may be substituted for any of the required courses listed below, if accepted for transfer by the student's major department and approved by the Marine Sciences Committee. This includes up to 16 transfer credits from SOC. Upon completion of the requirements and no later than the tenth week of the semester in which the student is to graduate, he or she must verify in the Marine Sciences program office that the requirements have been met.

In addition to the entrance requirements shown above, there are prerequisite credits required for courses listed under Supporting Courses and Related Areas.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (3 credits)
GEOSC 040 GN(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (16 credits)
At least 6 credits of field studies from the following list: EARTH 240(3), EM SC 440(3), BIOL 499A IL(3), BIOL 450W(3-5) or BIOL 496(1-6), ERM 496(1-6), GEOSC 496(1-6), METEO 496(1-6) with consent of instructor and Marine Science Minor (Sem: 5-8)
Students may also wish to transfer 6 credits of field-oriented course work from another institution with prior approval of the chair of the Marine Sciences minor.
Select 10 credits from the following list: BIOL 417(4), GEOSC 410(3), GEOSC 419(3), GEOSC 440(3), METEO 022(2), METEO 451(3), W F S 435/E R M 435(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-06-151

Review Date: 04/12/05

UCA Revision #1: 8/9/06
UCA Revision #1: 7/27/07

Marketing Minor

Penn State Erie, The Behrend College (MRKTG)

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
MKTG 301(3), MKTG 330(3), and MKTG 342(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 9 credits of MKTG courses (at least 6 credits at the 400 level) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #2: 7/30/07

BD

Mathematics Applications Minor

Altoona College (MAPAL)

The minor in mathematics and its applications is designed to provide students with an interest in applied mathematics, and an opportunity to use mathematical tools and ways of thinking in their own major or area of concentration. The minor requires students to complete 26-28 credits in Mathematics with 6 credits from the 400-level MATH courses and 6 credits from the 400-level Mathematics Applications courses. The latter are selected in consultation with the coordinator of the minor and are from areas that directly incorporate or support the use of mathematics. Typical selections include computer science, engineering, physics, and statistics.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 26-28 credits

PRESCRIBED COURSES (8 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)

ADDITIONAL COURSES (6-8 credits)
Select 6-8 credits from MATH 220 GQ(2-3), MATH 230(4), MATH 231(2), MATH 232(2), MATH 250(3), MATH 251(4), MATH 310(3), MATH 311W(3-4), or MATH 312(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 6 credits of 400-level MATH courses (Sem: 5-8)
Select 6 credits from 400-level Mathematics Applications* courses (Sem: 5-8)

*Mathematics Applications Courses: Through consultation with the coordinator of the minor, courses from areas that directly incorporate or support the use of mathematics will be selected. Typical areas include computer science, engineering, physics, and statistics. See divisional list of acceptable courses.

Last Revised by the Department: Spring Semester 2005

Blue Sheet Item #: 33-02-000

Review Date: 11/23/04

UCA Revision #1: 8/9/06

AA

Mathematics Minor

Altoona College (MTHAL)
University Park, Eberly College of Science (MATH)

The minor is designed to provide students with an interest in mathematics an opportunity to study a broad range of mathematical topics. The requirements allow students a great deal of flexibility in choosing courses of interest.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 26-28 credits

PRESCRIBED COURSES (8 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)

ADDITIONAL COURSES (6-8 credits)
Select 6-8 credits from MATH 220 GQ(2-3), MATH 230(4), MATH 231(2), MATH 232(2), MATH 250(3), MATH 251(4), MATH 310(3), MATH 311W(3-4), or MATH 312(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits of 400-level MATH courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 5/10/04

UCA Revision #1: 8/9/06

Mathematics Minor

Altoona College (MTHAL)
University Park, Eberly College of Science (MATH)

The minor is designed to provide students with an interest in mathematics an opportunity to study a broad range of mathematical topics. The requirements allow students a great deal of flexibility in choosing courses of interest.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 26-28 credits

PRESCRIBED COURSES (8 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-4)

ADDITIONAL COURSES (6-8 credits)
Select 6-8 credits from MATH 220 GQ(2-3), MATH 230(4), MATH 231(2), MATH 232(2), MATH 250(3), MATH 251(4), MATH 310(3), MATH 311W(3-4), or MATH 312(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits of 400-level MATH courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 5/10/04

UCA Revision #1: 8/9/06

Mathematics Minor

Penn State Erie, The Behrend College (MTHBD)

The minor in mathematics (MTHBD) shows students how to use mathematical tools and ways of thinking in many fields. The choice of several upper-level courses allows students to focus on specific areas of interest. Business majors might choose linear programming and operations research. Engineering students could enroll in numerical methods. Chemistry students might choose numerical methods and linear programming, while biology majors could enroll in mathematical modeling and differential equations. A solid mathematical background can be a strong asset in fields of education, neurobiology and behavior, plant biology and agriculture, immune system studies and pathology, medical sciences, marketing and management science, engineering, national security, ecology, and ecosystems.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (4 credits)
MATH 311W(4) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (14 credits)
Select 8 credits of MATH courses at the level of MATH 140 GQ(4) or above (Sem: 1-6)
Select 6 credits of 400-level MATH courses (Sem: 7-8)
(No more than three credits from MATH 495 courses can be used to satisfy this requirement.)

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-07-003

Review Date: 6/17/08

UCA Revision #1: 8/9/06

BD

Media Studies Minor

University Park, College of Communications (MEDIA)

The Media Studies minor is designed for students who want to develop their knowledge of the mass media from a variety of approaches, including aesthetic, humanistic, social-behavioral, and legal-policy. This minor is a theory-based rather than a professional program. In fact, students in the minor may not take professional skills communications courses as part of this program. The minor consists of 18 credits, at least 6 of which must be at the 400 level. The minor is not available to students enrolled in any of the majors in the College of Communications.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
COMM 100 GS(3) (Sem: 1-2)

ADDITIONAL COURSES (15 credits)
Select 3 credits from COMM 110 GH(3), COMM 150 GA(3), COMM 118 GS(3) or COMM 180 GS(3) (Sem: 3-6)
Select 12 credits from COMM 205 US(3), COMM 250 GA(3), COMM 261 GH(3), COMM 304(3), COMM 381(3), COMM 401(3), COMM 403(3), COMM 405(3), COMM 408(3), COMM 409(3), COMM 410 IL(3), COMM 411(3), COMM 413W(3), COMM 418(3), COMM 419 US;IL(3), COMM 450(3), COMM 451(3), COMM 452(3), COMM 453 IL(3), COMM 454(3), COMM 455(3), COMM 484(3), COMM 485(3), COMM 496(3), or COMM 499(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-022

Review Date: 2/26/08

Department head updated by Publications: 1/16/07

CM

Publications: 02/17/05

Meteorology Minor

University Park, College of Earth and Mineral Sciences (METEO)

Students pursuing the 20-credit Meteorology minor seek to broaden their education by specializing in an applied science. As for Meteorology majors, students minoring in Meteorology must have a strong background in Mathematics and Physics. Eleven of the 20 credits come from the three required courses of METEO 300, METEO 421, and METEO 431. The remaining nine credits come from 100-, 200-, 300-, or 400-level METEO courses, at least one of which must be at the 400 level. Completion of the three required courses ensures that students will have the foundational atmospheric science material that they need to register for the remaining nine Meteorology credits. In consultation with a Meteorology adviser, students may choose these elective courses from a variety of sub-specialties, including Air Quality Studies, Atmospheric Dynamics, Atmospheric Physics, Climatology, Computer Applications, and Weather Analysis and Forecasting.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20 credits

PRESCRIBED COURSES (11 credits)
METEO 300(4), METEO 421(4), METEO 431(3) (Sem. 5-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits of 100-, 200-, 300-, or 400-level Meteorology; at least 3 credits must be at the 400 level. (Sem. 5-8)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-04-006A

Review Date: 1/13/09

EM

Microbiology Minor

University Park, Eberly College of Science (MICRB)

The minor in Microbiology is a collection of required and elective courses that (1) provides a limited but sound foundation in the discipline, (2) requires students to develop reasonable expertise in handling and characterizing microorganisms, and (3) permits students to emphasize some subdiscipline of microbiology in which they may have a particular interest. The minor specifies the introductory lecture and laboratory courses in microbiology and one course each in immunology and cell biology. A minimum of two laboratory courses exposes students to basic and experimental/applied techniques. Sufficient room exists within the minor for selection of two or three elective courses at the advanced level that may emphasize a specialty area of the discipline such as virology or microbial genetics. Students who complete the minor have a sufficient background to pursue positions in industry that require an appreciable expertise in microbiology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (11 credits)
MICRB 201(3), MICRB 202(2), MICRB 251(3) (Sem: 3-4)
MICRB 410(3) (Sem: 5-6)

ADDITIONAL COURSES (2-3 credits)
Select 2-3 credits from MICRB 421W(3) or MICRB 422(2) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (4-5 credits)
Select 4-5 credits of 400-level MICRB courses (Sem: 5-8)

Note: B M B/MICRB 442(3), MICRB 400(2), MICRB 408(1-2), MICRB 496(1-18) and MICRB 497(1-9) may not be used to fulfill the requirements for the minor.

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-03-101

Review Date: 11/17/09

SC

Middle East Studies Minor

University Park, College of the Liberal Arts (MESTU)

This interdisciplinary program is designed for students having special interest in the geographical area that includes Afghanistan, Iran, Turkey, and the Arabic-speaking countries of southwestern Asia and northern Africa. In addition to the requirements for the minor, students may select other courses dealing with the Middle East, subject to the approval of the Middle East Studies Committee. A certificate is awarded to students who complete the requirements of the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits
(Some courses in this minor have prerequisites that are not required by the minor.)

ADDITIONAL COURSES (3 credits)
Select 3 credits from HIST 165(3) HIST 181 GH;IL(3), HIST 471W(3), HIST 472 IL(3), HIST 473 IL(3), RL ST 107 GH;US;IL(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits, at least 6 at the 400-level, from approved program list in consultation with the professor in charge of the minor. (Sem: 5-8)

Last Revised by the Department: Summer Session 2004

Blue Sheet Item #: 32-01-080

Review Date: 9/2/03

LA

Military Studies Minor (MLTRY)

CHAIR, MILITARY STUDIES INTERDISCIPLINARY COMMITTEE, *in charge*

This interdisciplinary minor is designed for all students with special interests in military and national security affairs. Military emphasis is provided in one of three areas--Aerospace Studies, Military Science, or Naval Science. American military forces have played an important role in our domestic and international history and will continue to have significant involvement in policy arenas relating to national security and international relations. Students elect one military service branch for their prescribed courses and select two additional courses from appropriate history and political science courses emphasizing national security policy. At least 6 credits must be taken at the 400 level.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 19-26 credits

PRESCRIBED COURSES (Choose one service branch--13-20 credits)

AIR FORCE (20 credits)
AIR 151(2), AIR 152(2), AIR 251(2), AIR 252(2), AIR 351(3), AIR 352(3), AIR 451(3), AIR 452(3) (Sem: 1-4)

ARMY (20 credits)
ARMY 101(2), ARMY 102(2), ARMY 203(2), ARMY 204(2), ARMY 301(3), ARMY 302(3), ARMY 401(3), ARMY 402(3) (Sem: 1-7)

MARINES (13 credits)
NAVSC 101(2), NAVSC 204(2), NAVSC 205(3), NAVSC 311(2), NAVSC 313(2), NAVSC 411(2) (Sem: 1-7)

NAVY (18 credits)
NAVSC 101(2), NAVSC 204(2), NAVSC 205(3), NAVSC 322(3), NAVSC 323(3), NAVSC 401(3), NAVSC 402(2) (Sem: 1-7)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following courses:
HIST 108 GH;IL(3), HIST 120 GS;IL(3), HIST 130 GH;US(3), HIST 142 GS;IL(3), HIST 143 GH;IL(3), HIST 144 US;IL(3), HIST 151 GS;US(3), HIST 160 US(3), HIST 161 US(3), HIST 165 IL(3), HIST 173 GH;IL(3), HIST 175 GH;IL(3), HIST 178 GH;IL(3), HIST 181 GH;IL(3), HIST 192 GH;IL(3), HIST 420 IL(3), HIST 430 IL(3), HIST 434 IL(3), HIST 441 US(3), HIST 444 US(3), HIST 452 US;IL(3), HIST 454 US(3), HIST 473 IL(3) (Sem: 1-2, 7-8)
PL SC 003 GS;IL(3), PL SC 014 GS;IL(3), PL SC 020 GS;IL(3), PL SC 022 GH;IL(3), PL SC 137(3), PL SC 150(3), PL SC 413(3), PL SC 415(3), PL SC 416(3), PL SC 437(3), PL SC 438(3), PL SC 439(3), PL SC 442(3), PL SC 452(3), PL SC 453 IL(3), PL SC 454 IL(3), PL SC 455(3), PL SC 456(3), PL SC 457(3-6), PL SC 458(3-6), PL SC 467(3) (Sem: 1-2, 7-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-05-081

Review Date: 2/26/08

UCA Revision #2: 7/30/07

Mining Engineering Minor

University Park, College of Earth and Mineral Sciences (MNG E)

The minor in Mining Engineering offers a specialized program for students in many other broad-based, technical majors, such as those in engineering or science. The demand for professionals with the training and skills for a career in the minerals- and energy-recovery profession far exceeds the supply. Mineral exploration and evaluation, mine development, marketing, health and safety, environmental protection, and mine management are all areas of industry employment. It is recommended that students wishing to pursue this minor come from an engineering or science major. As a result, the selection of this minor can provide additional career options for students in a wide range of offerings at Penn State.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (18 credits)
MNG 030(3), MNG 404(2), MNG 410(2), MNG 412(3), MNG 422(3), MNG 431(3), and MNG 441(3) (Sem: 3-8)

Review Date: Fall Semester 1997

EM

Mushroom Science and Technology Minor

University Park, College of Agricultural Sciences (M S T)

This interdisciplinary minor is designed to prepare students for a career in the mushroom industry. The minor offers practical work experience at the University's Mushroom Research Center and Mushroom Test Demonstration Facility.

Students are required to complete a minimum of 18 credits. The core of prescribed courses provides a foundation in the basic fundamentals of mushroom science and technology. Independent study courses may be selected by the student to emphasize various aspects of *Agarics* or specialty mushroom production. A period of internship or a field experience is required.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-19 credits

PRESCRIBED COURSES (13 credits)
AG 495(4), PPATH 405(3), PPATH 425(4), PPATH 496(2)**[7]** (Sem: 5-8)

ADDITIONAL COURSES (2-3 credits)
Select 2-3 credits from AG 200A(2), AG 200B(2), MGMT 100(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits at the 400 level from department list (Sem: 5-8)

[7] Students must select, in consultation with the Mushroom Science and Technology adviser, at least 2 credits of independent study courses with the University's Mushroom Research Center or Mushroom Test Demonstration Facility.

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-02-001

Review Date: 10/11/05

AG

Music Minor

University Park, College of Arts and Architecture (MUSIC)

The minor in music serves a wide variety of needs among the students who elect it. Those who have studied voice or an instrument through their high school years may pursue that study at a more advanced level. Participants in bands, orchestras, and choirs want to continue that activity at a higher level. Some find the minor an important adjunct to other studies such as speech pathology and audiology, speech communication, or broadcasting. Those in very demanding majors build music into their lives as a balancing influence. Other students relate music studies to their major; a recent Schreyer Honors College History major did her thesis on song during the Civil War. Admission to the minor depends upon a successful performance audition. Minors enroll for the same sequence of performance levels as do the B.A. and B.S. Music majors. Each student registers for core courses in music theory, history, and performance. Students usually opt to focus on one of the three areas in their upper-level courses.

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 28 credits

PRESCRIBED COURSES (12 credits)
MUSIC 121(1), MUSIC 122(1), MUSIC 131(2), MUSIC 132(2) (Sem: 1-2)
MUSIC 261(3), MUSIC 262(3) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (16 credits)
Select 8 credits in applied music through Level IV: Primary (Sem: 1-8)
Select 8 credits (at least 6 at 400 level) in MUSIC [or Brass, or Keyboard, Percussion, Strings, Voice, or Woodwinds] (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

AA

Music Technology Minor

University Park, College of Arts and Architecture (MUTEC)

Administered by faculty from the College of Arts & Architecture's School of Music, School of Theatre, and Department of Integrative Arts, the minor in Music Technology is appropriate for undergraduate students seeking to apply domains of knowledge from their majors or General Education programs to issues of audio production and digital technology in music.

The program consists of prescribed foundation courses in musical acoustics, digital audio, sound design and audio recording. Supporting course work allows students to focus in advanced topics such as music software programming, multi-media, or entertainment systems.

The Music Technology Minor Committee is authorized to award a minor certificate to any undergraduate who, in addition to satisfying the degree requirements of his or her baccalaureate major, satisfies the requirements for the Music Technology minor. The completion of the minor is reflected by a formal notation in the student's official record at the time of graduation.

Students who have earned at least a grade of C in INART 050 and INART 258 may apply for admission to the program by submitting an application to the Committee.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (15 credits)
INART 050 GN(3), INART 258A GA(3), MUSIC 008 GA(3) (Sem: 1-4)
THEA 285(3), THEA 484(3) (Sem: 4-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with the minor advisor with at least 3 credits at the 400 level. (Sem: 5-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-05-002

Review Date: 2/28/06

AA

Nanotechnology Minor

University Park, College of Engineering (NANO)

The Nanotechnology minor is designed to help prepare students from diverse disciplines for careers in a broad range of industries innovating with nanotechnology. The minor builds on the singular strengths of Penn State's nanofabrication facilities including its class 1 and class 10 clean rooms, its faculty, and existing academic programs. The minor provides students with fundamental knowledge and skills in simulation, design, modeling, syntheses, characterization, properties, processing, manufacturing, and applications at the nano scale.

As nanotechnology increasingly bridges across disciplines, a basic understanding of mathematics, physics, biology, and chemistry is recommended. To complete the 18 credit nanotechnology minor, students will take two prescribed courses (6 credits) in nanoscience fundamentals, and then select four additional courses (12 credits) from a growing list of courses that address the areas described in the previous paragraph. A grade of C or better is required for all courses in the minor.

In addition to nanotechnology career opportunities in microelectronics, information storage, optoelectronics, bioelectronics, pharmaceuticals, agriculture, medicine, life sciences and the sciences, the minor prepares undergraduate students to support major new nanotechnology research programs as graduate students. Interested 3rd and 4th year students from related fields in engineering, the chemical, physical, and the biological sciences, medicine, life, and agricultural sciences are encouraged to enroll.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
E SC 312(3), E SC 313(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS: (12 credits)
Select 12 credits from an approved list, at least 6 credits must be at the 400 level. (Sem: 5-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-04-029

Review Date: 1/17/06

EN

Natural Resources Minor

University College, Penn State DuBois (NAT R)

The natural resources minor can complement majors in the earth sciences and life sciences, and provides an introduction to field techniques and technical writing. Areas of specialized study can include, but are not limited to, environmental assessment, forest and wetland evaluation and management, and wildlife management. Professional opportunities include work in environmental monitoring, such as endangered species and wetland delineation, restoration of disturbed land, and management of forested lands and wildlife areas.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
In consultation with a natural resources adviser:
Select 3 credits in 100-level forest technology (Sem: 1-2)
Select 3 credits in 100-level wildlife technology (Sem: 1-2)
Select 6 credits of 200-level forest technology or wildlife technology (Sem: 3-4)
Select 6 credits of 400-level geography or geosciences courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-04-068

Review Date: 1/17/06

UC

Natural Science Minor

Altoona College (NTSAL)
Berks College (NTSBL):
University Park, Eberly College of Science (NATSC)

This interdepartmental minor in Natural Science is designed for nonscience students who wish to gain a better appreciation for science and the scientific method. The courses required in the minor include 3 to 4 credits of general education science designed for nonscience students, 3 to 4 credits of mathematical science, 8 to 9 credits of life or physical science, including some laboratory work, and 6 credits of 400-level science courses. Certain combinations of courses are disallowed (as listed in the curriculum description), and higher-level courses are generally accepted as substitutes for lower-level courses if both are offered by the same department. Any substitutes for laboratory courses must also be laboratory courses. Advising for students in this minor will be available through the Eberly College of Science Academic Advising Center and approval of curriculum exceptions will be through the faculty committee and professor in charge of the program.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20-23 credits

PRESCRIBED COURSE (1 credit)
SC 400(1) (Sem: 5-8)

ADDITIONAL COURSES (14-17 credits)**[62]**
Select 3-4 credits from ASTRO 001 GN(3), ASTRO 010 GN(2) and ASTRO 011 GN(1), B M B 001 GN(3), BI SC 001 GN(3), BI SC 002 GN(3), BI SC 003 GN(3), BI SC 004 GN(4), CHEM 001 GN(3), CHEM 003 GN(3), MICRB 106 GN(3) and MICRB 107 GN(1), PHYS 001 GN(3) (Sem: 1-4)
Select 3-4 credits from CMPSC 101 GQ(3), CMPSC 121 GQ(3), CMPSC 201 GQ(3) or CMPSC 202 GQ(3), CMPSC 203 GQ(4), MATH 110 GQ(4), MATH 140 GQ(4), STAT 200 GQ(4), STAT 250 GQ(3) (Sem: 3-6)
Select 8-9 credits from BIOL 011 GN(3) and BIOL 012 GN(1), BIOL 110 GN(4), CHEM 110 GN(3) and CHEM 111 GN(1), CHEM 112 GN(3) and CHEM 113 GN(1), MICRB 201(3) and MICRB 202(2), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (5 credits)
Select 0-2 credits of 496 (independent studies) courses from the Eberly College of Science course offerings (Sem: 5-8)
Select 3-5 credits of 400-level courses (other than independent studies) from the Eberly College of Science course offerings (Sem: 5-8)

[62] A student may not use credit for BI SC 001 GN(3) or BI SC 002 GN(3) along with credit for BIOL 011 GN(3) and BIOL 012 GN(1), or BIOL 110 GN(4); CHEM 001 GN(3) or CHEM 003 GN(3) along with credit for CHEM 110 GN(3) and CHEM 111 GN(1) or CHEM 112 GN(3) and CHEM 113 GN(1); PHYS 001 GN(3) along with credit for PHYS 250 GN(4) or PHYS 251 GN(4); MICRB 106 GN(3) and MICRB 107 GN(1) along with credit for MICRB 201(3) and MICRB 202(2).

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-04-042

Review Date: 9/13/02

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Natural Science Minor

Altoona College (NTSAL)
Berks College (NTSBL):
University Park, Eberly College of Science (NATSC)

This interdepartmental minor in Natural Science is designed for nonscience students who wish to gain a better appreciation for science and the scientific method. The courses required in the minor include 3 to 4 credits of general education science designed for nonscience students, 3 to 4 credits of mathematical science, 8 to 9 credits of life or physical science, including some laboratory work, and 6 credits of 400-level science courses. Certain combinations of courses are disallowed (as listed in the curriculum description), and higher-level courses are generally accepted as substitutes for lower-level courses if both are offered by the same department. Any substitutes for laboratory courses must also be laboratory courses. Advising for students in this minor will be available through the Eberly College of Science Academic Advising Center and approval of curriculum exceptions will be through the faculty committee and professor in charge of the program.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20-23 credits

PRESCRIBED COURSE (1 credit)
SC 400(1) (Sem: 5-8)

ADDITIONAL COURSES (14-17 credits)**[62]**
Select 3-4 credits from ASTRO 001 GN(3), ASTRO 010 GN(2) and ASTRO 011 GN(1), B M B 001 GN(3), BI SC 001 GN(3), BI SC 002 GN(3), BI SC 003 GN(3), BI SC 004 GN(4), CHEM 001 GN(3), CHEM 003 GN(3), MICRB 106 GN(3) and MICRB 107 GN(1), PHYS 001 GN(3) (Sem: 1-4)
Select 3-4 credits from CMPSC 101 GQ(3), CMPSC 121 GQ(3), CMPSC 201 GQ(3) or CMPSC 202 GQ(3), CMPSC 203 GQ(4), MATH 110 GQ(4), MATH 140 GQ(4), STAT 200 GQ(4), STAT 250 GQ(3) (Sem: 3-6)
Select 8-9 credits from BIOL 011 GN(3) and BIOL 012 GN(1), BIOL 110 GN(4), CHEM 110 GN(3) and CHEM 111 GN(1), CHEM 112 GN(3) and CHEM 113 GN(1), MICRB 201(3) and MICRB 202(2), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (5 credits)
Select 0-2 credits of 496 (independent studies) courses from the Eberly College of Science course offerings (Sem: 5-8)
Select 3-5 credits of 400-level courses (other than independent studies) from the Eberly College of Science course offerings (Sem: 5-8)

[62] A student may not use credit for BI SC 001 GN(3) or BI SC 002 GN(3) along with credit for BIOL 011 GN(3) and BIOL 012 GN(1), or BIOL 110 GN(4); CHEM 001 GN(3) or CHEM 003 GN(3) along with credit for CHEM 110 GN(3) and CHEM 111 GN(1) or CHEM 112 GN(3) and CHEM 113 GN(1); PHYS 001 GN(3) along with credit for PHYS 250 GN(4) or PHYS 251 GN(4); MICRB 106 GN(3) and MICRB 107 GN(1) along with credit for MICRB 201(3) and MICRB 202(2).

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-04-042

Review Date: 9/13/02

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Natural Science Minor

Altoona College (NTSAL)
Berks College (NTSBL):
University Park, Eberly College of Science (NATSC)

This interdepartmental minor in Natural Science is designed for nonscience students who wish to gain a better appreciation for science and the scientific method. The courses required in the minor include 3 to 4 credits of general education science designed for nonscience students, 3 to 4 credits of mathematical science, 8 to 9 credits of life or physical science, including some laboratory work, and 6 credits of 400-level science courses. Certain combinations of courses are disallowed (as listed in the curriculum description), and higher-level courses are generally accepted as substitutes for lower-level courses if both are offered by the same department. Any substitutes for laboratory courses must also be laboratory courses. Advising for students in this minor will be available through the Eberly College of Science Academic Advising Center and approval of curriculum exceptions will be through the faculty committee and professor in charge of the program.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20-23 credits

PRESCRIBED COURSE (1 credit)
SC 400(1) (Sem: 5-8)

ADDITIONAL COURSES (14-17 credits)**[62]**
Select 3-4 credits from ASTRO 001 GN(3), ASTRO 010 GN(2) and ASTRO 011 GN(1), B M B 001 GN(3), BI SC 001 GN(3), BI SC 002 GN(3), BI SC 003 GN(3), BI SC 004 GN(4), CHEM 001 GN(3), CHEM 003 GN(3), MICRB 106 GN(3) and MICRB 107 GN(1), PHYS 001 GN(3) (Sem: 1-4)
Select 3-4 credits from CMPSC 101 GQ(3), CMPSC 121 GQ(3), CMPSC 201 GQ(3) or CMPSC 202 GQ(3), CMPSC 203 GQ(4), MATH 110 GQ(4), MATH 140 GQ(4), STAT 200 GQ(4), STAT 250 GQ(3) (Sem: 3-6)
Select 8-9 credits from BIOL 011 GN(3) and BIOL 012 GN(1), BIOL 110 GN(4), CHEM 110 GN(3) and CHEM 111 GN(1), CHEM 112 GN(3) and CHEM 113 GN(1), MICRB 201(3) and MICRB 202(2), PHYS 250 GN(4), PHYS 251 GN(4) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (5 credits)
Select 0-2 credits of 496 (independent studies) courses from the Eberly College of Science course offerings (Sem: 5-8)
Select 3-5 credits of 400-level courses (other than independent studies) from the Eberly College of Science course offerings (Sem: 5-8)

[62] A student may not use credit for BI SC 001 GN(3) or BI SC 002 GN(3) along with credit for BIOL 011 GN(3) and BIOL 012 GN(1), or BIOL 110 GN(4); CHEM 001 GN(3) or CHEM 003 GN(3) along with credit for CHEM 110 GN(3) and CHEM 111 GN(1) or CHEM 112 GN(3) and CHEM 113 GN(1); PHYS 001 GN(3) along with credit for PHYS 250 GN(4) or PHYS 251 GN(4); MICRB 106 GN(3) and MICRB 107 GN(1) along with credit for MICRB 201(3) and MICRB 202(2).

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-04-042

Review Date: 9/13/02

UCA Revision #1: 8/9/06
UCA Revision #2: 7/30/07

Neuroscience Minor

Intercollege Program (NEURO)

The intercollege minor in neuroscience is designed for the student desiring an in-depth knowledge about the basic and functional aspects of the nervous system. Students in several disciplines ranging from nutrition to psychology to molecular biology could benefit from comprehensive study of the neurosciences in preparation for technical, professional, or research careers. The neurosciences as envisioned here are broadly based, and instruction available spans the levels of investigation from molecular to behavioral and cognitive. Majors complemented by this minor would include, but not be limited to, psychology, biology, biochemistry, nutrition, human development and family studies, genetics, biobehavioral health, kinesiology, animal and poultry science, and veterinary science.

Only courses in which the student earns a grade of C or better may be counted toward fulfillment of the requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (9 credits)
PSYCH 260(3) (Sem: 3-4)
BIOL 469(3), BIOL 470(3) (Sem: 5-6)

ADDITIONAL COURSES (9 credits)
Select 9 credits from BB H 410(3), BB H 432(3), BB H 451(3), BB H 497(1-9) (lab), BIOL 471(3), BIOL 472(3), BIOL 473(2), BIOI 479(3), KINES 451(3), KINES 483(3), KINES 484(3), PSYCH 453(3), PSYCH 462(3), PSYCH 475(3), PSYCH 478(3), PTYSC 455(2) (Sem: 5-8)

Last Revised by the Department: Fall Semester 1997

Blue Sheet Item #: 26-01-082

Review Date: 1/30/00

UCA Revision #1: 11/6/06

Nutritional Sciences Minor

University Park, College of Health and Human Development (NUTR)

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (11 credits)
NUTR 251 GHA(3) (Sem: 1-4)
NUTR 358(2) (Sem: 3-6)
NUTR 445(3), NUTR 446(3) (Sem: 5-6)

SUPPORTING COURSES AND RELATED AREAS (7 credits)
Select 7 credits from NUTR courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2002

Blue Sheet Item #: 30-07-094

Review Date: 4/8/03

HH

Off-Road Equipment Minor

University Park, College of Agricultural Sciences (OFFRD)

This interdisciplinary minor complements several engineering, agricultural, and mining degrees, helping students understand some specific technological aspects of mobile equipment (from lawn tractors to large excavators). The minor would strengthen the program for students with machinery interests by exposing them to several of the technical aspects of off-road equipment such as electronics, power generation, power transmission, traction, ergonomics, and safety.

The minor in Off-Road Equipment requires 18-21 credits from the approved courses. Courses in the minor have prerequisites including calculus, physics, and, depending on the student's major, at least one engineering or engineering technology type course (e.g., A S M 221). These courses should be completed prior to entering the minor.

A grade of C or better is required for all courses taken to satisfy the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18-21 credits

PRESCRIBED COURSES (3 credits)
A S M 420(3) (Sem: 6-8)

ADDITIONAL COURSES (15-18 credits)
Select 3 credits from A S M 320(3) or M E 431(3) (Sem: 5-8)
Select 3-4 credits from B E 303(3) and B E 306(3), or A S M 310(3) or M E 360(3) (Sem: 5-8)
Select 3-4 credits from B E 305(3), A S M 428(3), or M E 345(4) (Sem: 5-8)
Select 3-4 credits from A S M 424(3), AGRO 425(3), HORT 408(4), or TURF 425(3) (Sem: 5-8)
Select 3 credits from B E 461(3) or A S M 426(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-01-002

Review Date: 8/25/09

UCA Revision #2: 7/30/07

AG

Operations & Supply Chain Management Minor

Penn State Erie, The Behrend College (OPSCM)

This minor is designed primarily for students enrolled in non-business majors, especially those in engineering and engineering technology, who wish to augment their majors with further studies in operations. The objective of the minor is to acquaint these students with the issues and methods associated with managing operations within manufacturing or service industries. Relevant studies include principles of management, operations management, logistics systems, procurement, planning and control, enterprise resource planning (ERP), and project management.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES: (6 credits)
MGMT 301(3), SCM 310(3) (Sem: 5)

ADDITIONAL COURSES: (13 credits)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 5)
Select 9 credits from the following list:
- SCM 465(3) (Sem: 6)
- SCM 455(3) or SCM 460(3) (Sem: 7)
- SCM 445(3), MGMT 409(3) (Sem: 8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 34-06-082

Review Date: 2/26/07

BD

PROGRAM CURRENTLY ON HOLD;
NOT ACCEPTING NEW STUDENTS
Begin Date of Enrollment Hold: January 12, 2010

Peace and Conflict Studies Minor

University Park, College of Engineering (PEACE)

This minor may be pursued by students in any major. It is designed to help students take a coherent set of courses organized around the study of the sources of international conflict, peace movements, and peace building. The minor requires 18 credits, of which at least 9 must be upper division, including 6 credits at the 400 level. Students will be required to take two prescribed courses in Science, Technology, and Society, one introductory and one capstone. They also will take 6 credits of additional courses with an international focus and 6 credits from a list of supporting courses, which includes the study of conflict in race relations, family, community, and the development of personal peace as a precursor to peace building. The full requirements with the lists of additional and supporting courses are available in the Science, Technology, and Society program office, 133 Willard Building, University Park Campus. Substitutions for requirements, such as that necessary for Political Science majors taking an alternative to PL SC 014 GS;IL(3), require the permission of the Peace and Conflict Studies minor adviser or the director of the Science, Technology, and Society program.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
S T S 090(3) (Sem: 1-4)
S T S 490(3) (Sem: 7-8)

ADDITIONAL COURSES (3 credits)
INT U 200 GS(3) or PL SC 014 GS;IL(3) (Sem: 3-8)
(INT U 200 GS(3) and PL SC 014 GS;IL(3) cannot both be taken for credit)

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits from the additional course list in the S T S program office (Sem: 3-8)
Select 6 credits from the supporting course list in the S T S program office (Sem: 3-8)

Last Revised by the Department: Spring Semester 1995

Blue Sheet Item #: 22-06-013

Review Date: 1/30/00

EN

Pennsylvania Studies Minor

University Park, College of the Liberal Arts (PASTU)

This minor is for students who want to emphasize the history, culture, politics, and other important features of Pennsylvania in their academic programs. The minor consists of 18 credits, at least 6 of which must be at the 400 level. A certificate is awarded to students who complete the requirements of the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
HIST 012 GH;US(3) (Sem: 1-4)

ADDITIONAL COURSES (6-9 credits)
Select 6-9 credits from GER 157 GH;US(3), HIST 150 US(3), HIST 200 US(3), AM ST 050 GH(3), or PL SC 125(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (6-9 credits)
Students may select, in consultation with their Pennsylvania Studies adviser, 6-9 credits from among courses that focus substantially on Pennsylvania. At least 6 credits must be at the 400 level. A partial list of such courses includes LER 100 GS(3), LER 433(3), L A 496(1-18), PL SC 130 GS;US(3), PL SC 426(3), SOC 454(3). With the approval of the Pennsylvania Studies adviser, students may count up to 3 credits for internships in Pennsylvania. Students may enroll in the College of the Liberal Arts internship program or a departmental internship program. (Sem: 3-8)

Last Revised by the Department: Summer Session 1988

Review Date: 3/12/02

LA

Philosophy Minor

Abington College (PHLAB)
University College (PHLCC): Penn State Fayette
University Park, College of the Liberal Arts (PHIL)

Many students find that their studies in their major field can be profitably supplemented by pursuing their studies in philosophy. The Philosophy minor is designed for students who desire a significant background in philosophy while majoring in a different field. Students from many disciplines pursue the Philosophy minor, including English, History, Physics, Mathematics, Management Studies, and so on. Declaring a minor in Philosophy will allow you to continue your philosophy studies throughout your degree, and you will receive a certificate in Philosophy when you graduate.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
In consultation with a faculty adviser:
Select 6 credits of Philosophy courses (Sem: 1-6)
Select 6 credits of Philosophy courses at the 200 level (Sem: 3-6)
Select 6 credits of Philosophy courses at the 400 level (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Philosophy Minor

Abington College (PHLAB)
University College (PHLCC): Penn State Fayette
University Park, College of the Liberal Arts (PHIL)

Many students find that their studies in their major field can be profitably supplemented by pursuing their studies in philosophy. The Philosophy minor is designed for students who desire a significant background in philosophy while majoring in a different field. Students from many disciplines pursue the Philosophy minor, including English, History, Physics, Mathematics, Management Studies, and so on. Declaring a minor in Philosophy will allow you to continue your philosophy studies throughout your degree, and you will receive a certificate in Philosophy when you graduate.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
In consultation with a faculty adviser:
Select 6 credits of Philosophy courses (Sem: 1-6)
Select 6 credits of Philosophy courses at the 200 level (Sem: 3-6)
Select 6 credits of Philosophy courses at the 400 level (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Philosophy Minor

Abington College (PHLAB)
University College (PHLCC): Penn State Fayette
University Park, College of the Liberal Arts (PHIL)

Many students find that their studies in their major field can be profitably supplemented by pursuing their studies in philosophy. The Philosophy minor is designed for students who desire a significant background in philosophy while majoring in a different field. Students from many disciplines pursue the Philosophy minor, including English, History, Physics, Mathematics, Management Studies, and so on. Declaring a minor in Philosophy will allow you to continue your philosophy studies throughout your degree, and you will receive a certificate in Philosophy when you graduate.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
In consultation with a faculty adviser:
Select 6 credits of Philosophy courses (Sem: 1-6)
Select 6 credits of Philosophy courses at the 200 level (Sem: 3-6)
Select 6 credits of Philosophy courses at the 400 level (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Physics Minor

Penn State Erie, The Behrend College (PHYBD)

Physics is the fundamental science from which many fields of engineering and science developed. With the increasing pace of technological change, solid understanding of basic physics can make the student adaptable and competitive in a rapidly changing workforce. The minor in physics (PHYBD) can be valuable to students seeking careers in engineering, chemistry, medicine, teaching, or computing. Many science or engineering majors can earn a physics minor with as few as ten additional credits. The minor can be tailored to specific interests with courses such as optics, quantum mechanics, solid-state physics, or electronics.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 22 credits

PRESCRIBED COURSES (15 credits)
PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), PHYS 237(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (7 credits)
Select 7 credits from 400-level PHYS courses, excluding PHYS 494, PHYS 495, PHYS 496, and PHYS 497 courses (Sem: 5-8)

Lasted Revised by the Department: Fall Semester 2001

UCA Revision #1: 8/9/06

BD

Physics Minor

University Park, Eberly College of Science (PHYS)

The Department of Physics offers a minor for students who wish to expand upon their study in this fundamental discipline, beyond the introductory courses (PHYS 211, PHYS 212, PHYS 213, PHYS 214). In addition to an additional course in modern physics (which includes introductions to relativity and quantum theory, as well as applications), students are required to take the 'core' of the junior-senior level Physics curriculum, with classes in advanced classical mechanics, electricity and magnetism, and quantum mechanics. The Physics minor is useful for students in many science (especially astronomy/astrophysics and chemistry) and engineering disciplines who wish to extend their studies in this fundamental field, as a background for graduate study or work in a variety of technical fields.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 24-26 credits

PRESCRIBED COURSES (21-22 credits)
PHYS 211 GN(4), PHYS 212 GN(4), PHYS 213 GN(2), PHYS 214 GN(2), PHYS 237(3) (Sem: 1-4)
PHYS 410(3-4), PHYS 419(3) (Sem: 5-8)

ADDITIONAL COURSES (3-4 credits)
PHYS 400(3) or E E 330(4) (Sem: 5-8)

Last Revised by the Department: Summer Session 2006

Blue Sheet Item #: 34-06-351

Review Date: 4/11/06

UCA Revision #1: 8/31/06

SC

Plant Pathology Minor

University Park, College of Agricultural Sciences (PPATH)

This interdisciplinary minor in Plant Pathology is designed to aid student preparation for employment in agricultural and horticultural sciences requiring knowledge of plant health and to prepare students for graduate studies in fields of plant biology. This minor may be designed to supplement majors in any field of the biological sciences.

Plant Pathology is a science concerned with understanding the causes of plant diseases and the utilization of this knowledge for the development of ecologically sound and sustainable control strategies. Students completing this minor will gain knowledge of microbe-plant interactions, molecular mechanisms of pathogenesis and genetic resistance, abiotic stresses, and environmental factors influencing control of plant disease.

The minor in Plant Pathology requires 19 credits in approved courses in addition to the major requirements of the student's choice.

Students must receive a grade of C or better in all courses required for the minor. For admission to the minor, contact the Department of Plant Pathology.

Scheduling Recommendation by Semester Standing given like (Sem:1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (3 credits)
PPATH 405(3) (Sem: 5-6)

ADDITIONAL COURSES (13 credits)
Select a minimum of 10 credits from the following:
BIOL 230W GN(4) (Sem: 3-4)
PPATH 318(4) (Sem: 3-8)
E R M 430(3), PPATH 416(2 or 4), PPATH 417(3), PPATH 419(2) (Sem: 5-8)
Select a minimum of 3 credits from PPATH 400(2) or PPATH 496(1-3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from department list, with approval of Minor Adviser (Sem: 5-8)

Last Revised by the Department: Summer Session 1998

Blue Sheet Item #: 26-04-002

Review Date: 3/31/00

AG

Political Science Minor

Altoona College (PLSAL)
Capital College (PLSCA)
University College (PLSCC): Penn State Fayette
University Park, College of the Liberal Arts (PL SC)

The Political Science minor consists of 18 credits with at least one course in each of the following Political Science areas: American, theory/methodology, comparative, and international relations. Six (6) of these 18 credits must be at the 400 level.

When electing this minor, the student should have junior (fifth-semester) standing. Special attention should be given to the fact that courses used to satisfy general education, degree requirements, electives, and major requirements may also be used to satisfy minor requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits in Political Science (at least 6 credits at the 400 level) (Sem: 3-8)
Include at least one course in each of the following areas: American, Comparative, International Relations, and Theory

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/10/03

LA

Political Science Minor

Altoona College (PLSAL)
Capital College (PLSCA)
University College (PLSCC): Penn State Fayette
University Park, College of the Liberal Arts (PL SC)

The Political Science minor consists of 18 credits with at least one course in each of the following Political Science areas: American, theory/methodology, comparative, and international relations. Six (6) of these 18 credits must be at the 400 level.

When electing this minor, the student should have junior (fifth-semester) standing. Special attention should be given to the fact that courses used to satisfy general education, degree requirements, electives, and major requirements may also be used to satisfy minor requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits in Political Science (at least 6 credits at the 400 level) (Sem: 3-8)
Include at least one course in each of the following areas: American, Comparative, International Relations, and Theory

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/10/03

LA

Political Science Minor

Altoona College (PLSAL)
Capital College (PLSCA)
University College (PLSCC): Penn State Fayette
University Park, College of the Liberal Arts (PL SC)

The Political Science minor consists of 18 credits with at least one course in each of the following Political Science areas: American, theory/methodology, comparative, and international relations. Six (6) of these 18 credits must be at the 400 level.

When electing this minor, the student should have junior (fifth-semester) standing. Special attention should be given to the fact that courses used to satisfy general education, degree requirements, electives, and major requirements may also be used to satisfy minor requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits in Political Science (at least 6 credits at the 400 level) (Sem: 3-8)
Include at least one course in each of the following areas: American, Comparative, International Relations, and Theory

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/10/03

LA

Political Science Minor

Altoona College (PLSAL)
Capital College (PLSCA)
University College (PLSCC): Penn State Fayette
University Park, College of the Liberal Arts (PL SC)

The Political Science minor consists of 18 credits with at least one course in each of the following Political Science areas: American, theory/methodology, comparative, and international relations. Six (6) of these 18 credits must be at the 400 level.

When electing this minor, the student should have junior (fifth-semester) standing. Special attention should be given to the fact that courses used to satisfy general education, degree requirements, electives, and major requirements may also be used to satisfy minor requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits in Political Science (at least 6 credits at the 400 level) (Sem: 3-8)
Include at least one course in each of the following areas: American, Comparative, International Relations, and Theory

Last Revised by the Department: Fall Semester 1999

Blue Sheet Item #: 28-01-056

Review Date: 11/10/03

LA

Political Science Minor

Penn State Erie, The Behrend College (POLSC)

The study of politics consists of several related subfields, such as American Government, public policy and administration, comparative politics or the study of foreign governments, international relations, and political theory. Students who pursue this minor are expected to develop research and writing skills, in addition to critical analytical skills. Because the policy making process and the processes of globalization affect us in virtually all areas of our lives, the minor is appropriate for supporting the study of any of the majors offered at the College. Similarly, the minor provides an invaluable understanding of the political world that is useful in any career that has an impact on or is affected by public life. Students who study politics at Behrend also often pursue graduate professional studies in law or in other fields in graduate schools.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
PL SC 001 GS(3), PL SC 003 GS;IL(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits (at least 6 credits at the 400 level) from PL SC or POLSC courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

BD

Polymer Science Minor

University Park, College of Earth and Mineral Sciences (PLMSC)

The goal of the polymer science minor is to produce graduates who have a first-hand knowledge of the relationships between the synthesis, structure, properties and processing of polymer materials. Students are required to take MATSE 443 (3 credits), which provides a broad overview of the subject, then select 15 credits chosen from a suite of courses that deal with polymer synthesis, microstructure and morphology, properties and processing.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
MATSE 443(3) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)
Select 12 credits from MATSE 441(3), MATSE 442(3), MATSE 444(3), MATSE 445(3), and MATSE 446(3) (Sem: 5-8)
Select 3 credits from B M B 474(3), CH E 441(3), E MCH 446(3), MATSE 473(1), MATSE 474(1), MATSE 447(3), MATSE 494W(3), or MATSE 496(1-3) (Sem: 5-8)

Lasted Revised by the Department: Spring Semester 2002

UCA Revision #1: 9/1/06

EM

Poultry and Avian Science Minor

University Park: College of Agricultural Sciences (P A S)

The Poultry and Avian Science minor is designed for students who wish to supplement their academic major with studies focused on the biology, and management, of avian species, with an emphasis on domestic fowl. In recognition of the diverse career opportunities in the modern poultry and game bird industries, the minor is designed to also accommodate students with primary interests in agribusiness management, food science, and wildlife science. Students are required to complete a minimum of 19 credits (9 credits at the 400 level). The three prescribed courses provide a foundation of knowledge pertaining to both avian sciences and the commercial poultry industry, while additional courses selected by the student will allow for further specialization in the foundation animal science disciplines, agribusiness management, food science, and wildlife and fisheries science. In addition, credits from poultry or avian internship experiences and/or independent study projects may also be applied towards meeting the requirements of the minor.

The University's Poultry Education and Research Center is used extensively for supplementing classroom work with hands-on laboratories. The flexibility of the minor permits program planning commensurate with an individual's interests and professional goals, and should enhance the student's ability to compete for related positions in industry, government, or academia (graduate or professional school).

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (10 credits)
AN SC 211(3) (Sem: 1-4)
AN SC 311(4) (Sem: 5-7)
AN SC 425(3) (Sem: 6-8)

ADDITIONAL COURSES (9 credits)
Select 3 credits from: AG BM 302(3), AG BM 338(3), AN SC 207(2), AN SC 208(1) (Sem: 3-6)
AN SC 300 GN(3), AN SC 301(3), AN SC 322(3), AN SC 395(1-3)**[*]**, W F S 300(2), W F S 301(2) (Sem: 5-8)
Select 6 credits from: AG BM 407(3), AG BM 408(3), AG BM 420(3), AG BM 460(3), AN SC 400(1), AN SC 418(3), AN SC 420(4), AN SC 421(2), AN SC 423(3), AN SC 496(3**[*]**, FD SC 408(2), FD SC 409W(3), FD SC 411(2), FD SC 415(3), VB SC 420(3), W F S 406(1), W F S 407(3), W F S 447W(3) (Sem: 7-8)

[*] AN SC 395 and AN SC 496 must have a poultry or avian biology emphasis.

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-05-003

Review Date: 2/24/09

AG

Product Realization Minor

University Park, College of Engineering (PRODR)

This 21-credit interdisciplinary minor is designed for any engineering student who is interested in state-of-the-art practice in integrated product/process design and manufacturing. The program culminates with a one-semester project involving the design and manufacture of a new product.

The purpose of the minor is to offer students state-of-the-art practice in integrated product/process design and manufacturing. Students completing the minor should:

- understand the interaction of design and manufacturing through practical examples;
- be familiar with the entrepreneurial skills needed to transfer a new product from initial idea to market;
- understand the technical and management aspects of concurrent engineering and total quality management; and
- have hands-on experience in designing and manufacturing a product, organizing and managing the effort, and interacting with the customer.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (9 credits)
M E 240(3) (Sem: 1-4)
ENGR 407(3) (Sem: 5-6)
I E 466(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 9 credits in Product Design, Quality Engineering, and Manufacturing Processes courses approved by the professor in charge of the minor (Dr. Simpson). Example courses include: E E 310, E E 441, I E 305, I E 306, I E 310, I E 311, I E 312, I E 424, I E 428, I E 464, M E 340, M E 445 (Sem: 5-8)
Select a 3-credit senior project: team-based design or industrial projects course, as approved by the coordinator (Sem: 7-8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-01-138

Review Date: 8/29/06

UCA Revision #2: 7/30/07

EN

Professional Writing Minor

Berks College (PWRIT)
University College, Penn State Hazleton

The minor in Professional Writing is intended to prepare students from all degree programs within the Berks College (with the exception of the major in Professional Writing) to write effectively in a variety of workplace and academic settings. Theory courses provide the necessary background to help students understand and appreciate the larger issues surrounding the writing and reading of texts. At the same time, practice-oriented courses draw upon the strategies and techniques of practicing writers outside and inside of the University, including workshops, peer conferencing, collaborative writing, portfolio preparation, and internships.

Students may not count courses used to satisfy General Education Writing/Speaking Skills.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
ENGL 210(3) (Sem: 3-6)

ADDITIONAL COURSES (15 credits)
Select 15 credits from the following:
CAS 214W(3), COMM 260W(3), ENGL 110(2-6), ENGL 215(3), ENGL 250(3), ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 420(3), ENGL 421(3) (Sem: 3-8)
ENGL 471(3) (Sem: 5-6)
ENGL 418(3), ENGL 419(3), ENGL 472(3), ENGL 473(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-05-013

Review Date: 4/16/09

BK

Psychology Minor

Penn State Abington (PSYAB)
Penn State Altoona (PSYAL)
Penn State Harrisburg (PSYCA)
University College (PSYCC): Penn State Beaver, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill
University Park, College of the Liberal Arts (PSY)

The Psychology minor is designed to provide undergraduate students with a broad overview of topics and domains within psychology, knowledge and skills related to research methods in psychology, and deeper knowledge of research, theory, and application in one or two specific content domains. Students completing this minor will find a flexible selection of coursework in psychology. The content domains from which students may select courses include biological, clinical, cognitive, developmental, industrial-organizational, and social psychology. Students may choose courses that emphasize theory or application of psychological principles. A number of these courses examine the application of psychological research to societal issues.

The required research methods course, PSYCH 301W, carries a statistics prerequisite that can be met by either PSYCH 200 or STAT 200. STAT 200 does not count toward the minimum 18 credits required for the minor. Students minoring in Psychology at University Park are encouraged to consult the Psychology Advising Center early in the process of planning their minor.

The Psychology minor may be appropriate for students pursuing graduate training or professional careers in fields such as health, business, education, and human services, as well as in psychology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3), PSYCH 301W(4) (Sem: 1-4)

ADDITIONAL COURSES (11 credits)
Select 11 credits (at least 6 credits at the 400 level) in PSYCH (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 12/20/02

UCA Revision #1: 8/14/06

Psychology Minor

Penn State Abington (PSYAB)
Penn State Altoona (PSYAL)
Penn State Harrisburg (PSYCA)
University College (PSYCC): Penn State Beaver, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill
University Park, College of the Liberal Arts (PSY)

The Psychology minor is designed to provide undergraduate students with a broad overview of topics and domains within psychology, knowledge and skills related to research methods in psychology, and deeper knowledge of research, theory, and application in one or two specific content domains. Students completing this minor will find a flexible selection of coursework in psychology. The content domains from which students may select courses include biological, clinical, cognitive, developmental, industrial-organizational, and social psychology. Students may choose courses that emphasize theory or application of psychological principles. A number of these courses examine the application of psychological research to societal issues.

The required research methods course, PSYCH 301W, carries a statistics prerequisite that can be met by either PSYCH 200 or STAT 200. STAT 200 does not count toward the minimum 18 credits required for the minor. Students minoring in Psychology at University Park are encouraged to consult the Psychology Advising Center early in the process of planning their minor.

The Psychology minor may be appropriate for students pursuing graduate training or professional careers in fields such as health, business, education, and human services, as well as in psychology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3), PSYCH 301W(4) (Sem: 1-4)

ADDITIONAL COURSES (11 credits)
Select 11 credits (at least 6 credits at the 400 level) in PSYCH (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 12/20/02

UCA Revision #1: 8/14/06

Psychology Minor

Penn State Abington (PSYAB)
Penn State Altoona (PSYAL)
Penn State Harrisburg (PSYCA)
University College (PSYCC): Penn State Beaver, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill
University Park, College of the Liberal Arts (PSY)

The Psychology minor is designed to provide undergraduate students with a broad overview of topics and domains within psychology, knowledge and skills related to research methods in psychology, and deeper knowledge of research, theory, and application in one or two specific content domains. Students completing this minor will find a flexible selection of coursework in psychology. The content domains from which students may select courses include biological, clinical, cognitive, developmental, industrial-organizational, and social psychology. Students may choose courses that emphasize theory or application of psychological principles. A number of these courses examine the application of psychological research to societal issues.

The required research methods course, PSYCH 301W, carries a statistics prerequisite that can be met by either PSYCH 200 or STAT 200. STAT 200 does not count toward the minimum 18 credits required for the minor. Students minoring in Psychology at University Park are encouraged to consult the Psychology Advising Center early in the process of planning their minor.

The Psychology minor may be appropriate for students pursuing graduate training or professional careers in fields such as health, business, education, and human services, as well as in psychology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3), PSYCH 301W(4) (Sem: 1-4)

ADDITIONAL COURSES (11 credits)
Select 11 credits (at least 6 credits at the 400 level) in PSYCH (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 12/20/02

UCA Revision #1: 8/14/06

Psychology Minor

Penn State Abington (PSYAB)
Penn State Altoona (PSYAL)
Penn State Harrisburg (PSYCA)
University College (PSYCC): Penn State Beaver, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill
University Park, College of the Liberal Arts (PSY)

The Psychology minor is designed to provide undergraduate students with a broad overview of topics and domains within psychology, knowledge and skills related to research methods in psychology, and deeper knowledge of research, theory, and application in one or two specific content domains. Students completing this minor will find a flexible selection of coursework in psychology. The content domains from which students may select courses include biological, clinical, cognitive, developmental, industrial-organizational, and social psychology. Students may choose courses that emphasize theory or application of psychological principles. A number of these courses examine the application of psychological research to societal issues.

The required research methods course, PSYCH 301W, carries a statistics prerequisite that can be met by either PSYCH 200 or STAT 200. STAT 200 does not count toward the minimum 18 credits required for the minor. Students minoring in Psychology at University Park are encouraged to consult the Psychology Advising Center early in the process of planning their minor.

The Psychology minor may be appropriate for students pursuing graduate training or professional careers in fields such as health, business, education, and human services, as well as in psychology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3), PSYCH 301W(4) (Sem: 1-4)

ADDITIONAL COURSES (11 credits)
Select 11 credits (at least 6 credits at the 400 level) in PSYCH (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 12/20/02

UCA Revision #1: 8/14/06

Psychology Minor

Penn State Abington (PSYAB)
Penn State Altoona (PSYAL)
Penn State Harrisburg (PSYCA)
University College (PSYCC): Penn State Beaver, Penn State Fayette, Penn State Greater Allegheny, Penn State New Kensington, Penn State Schuylkill
University Park, College of the Liberal Arts (PSY)

The Psychology minor is designed to provide undergraduate students with a broad overview of topics and domains within psychology, knowledge and skills related to research methods in psychology, and deeper knowledge of research, theory, and application in one or two specific content domains. Students completing this minor will find a flexible selection of coursework in psychology. The content domains from which students may select courses include biological, clinical, cognitive, developmental, industrial-organizational, and social psychology. Students may choose courses that emphasize theory or application of psychological principles. A number of these courses examine the application of psychological research to societal issues.

The required research methods course, PSYCH 301W, carries a statistics prerequisite that can be met by either PSYCH 200 or STAT 200. STAT 200 does not count toward the minimum 18 credits required for the minor. Students minoring in Psychology at University Park are encouraged to consult the Psychology Advising Center early in the process of planning their minor.

The Psychology minor may be appropriate for students pursuing graduate training or professional careers in fields such as health, business, education, and human services, as well as in psychology.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (7 credits)
PSYCH 100 GS(3), PSYCH 301W(4) (Sem: 1-4)

ADDITIONAL COURSES (11 credits)
Select 11 credits (at least 6 credits at the 400 level) in PSYCH (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 12/20/02

UCA Revision #1: 8/14/06

Psychology Minor

Penn State Erie, The Behrend College (PSYCH)

A grade of C or better is required for all courses in the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
PSYCH 100 GS(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits (at least 6 credits at the 400-level) from PSYCH courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2001

UCA Revision #1: 8/14/06

BD

Real Estate Minor

University Park, Smeal College of Business (R EST)

Real Estate is a minor designed to prepare students for a career in a number of related areas including brokerage, appraisal, development, investment counseling, and mortgage lending. The minor is designed to supplement for such majors in any field of business administration, most often finance or insurance.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (15 credits)
INS 301(3), R EST 301(3), R EST 306(3), R EST 325(3), R EST 409(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
Select 3 credits from R EST 425(3), R EST 440(3), or R EST 450W(3) (Sem: 5-8)

Last Revised by the Department: Fall Semester 1995

Blue Sheet Item #: 23-05-049

Review Date: 11/01

Publications updated department head: 4/14/08

BA

Recreation, Park, and Tourism Management Minor

University Park, College of Health and Human Development (RPTM)

The minor in Recreation, Park, and Tourism Management provides an introduction to recreation/leisure services, and emphasizes professional skills essential for successful delivery of these services. Examples of settings offering recreation/leisure services include resorts, theme parks, convention centers, sports and fitness facilities, private corporations, nonprofit agencies, governmental agencies (municipal, state, and federal levels), armed services, colleges and universities, correctional facilities, camps, public parks, nature centers, hospitals and other health care agencies.

Students who minor in Recreation, Park, and Tourism Management gain knowledge and competencies in recreation leadership, program development and implementation, and administration of recreation services. In addition, students explore the relevance of recreation and leisure in their own lives. Support courses enable the student to focus on specialized services, such as commercial recreation and tourism, community recreation, park management, environmental interpretation, or therapeutic recreation.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 20 credits

PRESCRIBED COURSES (14 credits)
RPTM 101(2), RPTM 120 GS(3) (Sem: 1-4)
RPTM 236(3), RPTM 356(3), RPTM 410(3) (Sem: 3-6)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits three of which must be from 400-level RPTM courses (Sem: 5-8)

Last Revised by the Department: Fall Semester 2004

Blue Sheet Item #: 32-06-123A

Review Date: 02/25/05

HH

Religious Studies Minor

University Park, College of the Liberal Arts (RL ST)

The minor in Religious Studies requires 18 hours of course work in RL ST. It (1) acquaints the student with the methods for studying religion (how one studies a religion), (2) provides an elementary introduction to the world's main religious traditions (names, dates, ideas, similarities and differences), and (3) offers the opportunity to investigate a particular topic or religion in greater detail. Students are required to take one survey course (either RL ST 001, RL ST 003, or RL ST 004), which provides a broad historical overview of several religions, from their foundation to the present day.

The interaction between religions and their cultural contexts is emphasized, as is the evolution of an individual religion. After this introduction, the student is free to choose from a broad array of courses on the psychological, sociological, historical, and textual aspects of religions, both living and dead, both familiar and foreign. For example, a student may study Hinduism, Islam, Christianity, Norse religion, Greco-Roman religion, or the sociological aspects of religions. Reading skills and critical thinking skills are important and will be further developed in the courses.

The minor is excellent preparation for a career in the professions (law, medicine), and many students use this classical humanities topic to augment a major in the pure sciences.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (3 credits)
Select 3 credits from RL ST 001 GH;US;IL(3), RL ST 003 GH;US;IL(3), or RL ST 004 GH;US;IL(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits (at least 6 credits at the 400-level) in Religious Studies (Sem: 3-8)

Last Revised by the Department: Summer Session 1995

Blue Sheet Item #: 23-06-147

Review Date: 3/11/03

LA

Rhetoric Minor

University Park, College of the Liberal Arts (RHET)

The Rhetoric Minor provides undergraduate students an opportunity to acquire special competence in the history, theory, and criticism of civic discourse and cultural practices. It brings together courses from both the Department of English and the Department of Communication Arts and Sciences, from which students may learn about the nature and function of rhetoric in politics, the professions, the classroom, and the media. The list of course offerings is designed to feature applied as well as theoretical approaches, and allows students to explore the subject in breadth as well as depth. Students completing the minor will command a greater knowledge of an appreciation for the significance of rhetoric as a central component of civic life.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits
A minimum of 6 credits at the 400 level; maximum of 6 credits may be double-counted.

PRESCRIBED COURSES (6 credits)
CAS 201(3), ENGL 471(3) (Sem: 3-8)

ADDITIONAL COURSES (9 credits)
Select 9 credits from the following course list:
CAS 175 GH(3), CAS 311(3), CAS 321(3), CAS 375(3), CAS 411(3), CAS 415(3), CAS 420(3), CAS 426W(3), CAS 475(3), CAS 478(3), ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 420(3), ENGL 472(3), ENGL 473(3), ENGL 474(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits from the following course list in consultation with adviser.
CAS 499 IL(3) or ENGL 499 IL(3), L A 495(3), CAS 494H(3) or ENGL 310H(3), ENGL 487W(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-05-117

Review Date: 3/6/07

LA

Russian Area Studies Minor

University Park, College of the Liberal Arts (RUSSA)

The Russian Area Studies minor is an interdisciplinary program supervised by the Center for Russian and East European Studies and the Department of Slavic and East European Languages designed to combine a regional specialization with an academic disciplinary major. The minor may be combined with any undergraduate major in the University. It requires 15 credits in approved Area Studies courses (6 must be at the 400 level or above), 12 credits in beginning Russian language or the equivalent, and 6 credits of Russian language at the 200 level or above, as well as the baccalaureate degree and departmental major requirements of the student's choice.

The minor helps prepare students for further academic work in the Russian area at the graduate level or to pursue careers as area specialists in commerce, industry, journalism, education, and various governmental and international agencies.

Only courses in which the student earns a grade of C or better may be counted toward fulfillment of the requirements of the minor. The Center for Russian and East European Studies awards a certificate in Russian Area Studies to students successfully completing all the requirements of the program.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21-33 credits

ADDITIONAL COURSES (15-27 credits)
RUS 001(4), RUS 002(4), RUS 003(4) or RUS 011(6), RUS 012(6) (Sem: 1-6)
Select 6-9 credits in humanities from HIST 142 GS;IL(3), HIST 433 IL(3), HIST 434 IL(3), RUS 141W IL(3), or RUS 142Y IL(3) (Sem: 1-8)
Select 6-9 credits in the social sciences from ECON 472 GS(3), PL SC 413(3), or PL SC 452(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of RUS 200-level courses or above (Sem: 3-8)

Last Revised by the Department: Fall Semester 1993

Blue Sheet Item #: 21-05-022

Review Date: 10/11/04

UCA Revision #2: 7/30/07

LA

Russian Minor

University Park, College of the Liberal Arts (RUS)

The Russian minor is designed for students who want to study the language, literature, and culture of Russia in order to broaden their horizons and meet an increasing demand for people with foreign language skills and international expertise. Russian is a major world language with a rich cultural and scientific heritage. It is spoken throughout the former Soviet Union and widely understood in the countries of Eastern Europe.

The Department of Germanic and Slavic Languages and Literatures offers an array of courses in Russian language, literature, and culture. Study abroad in Russia at St. Petersburg University under the University's study abroad program is available. For the Russian minor, students must select courses (at least 6 credits at the 400 level) in Russian to account for 18 credits.

The Russian minor opens employment opportunities for its graduates in fields and professions where proficiency in one or more foreign languages is desirable or required. Graduates of this program have found employment with businesses having contact with the former Soviet Union, with various agencies of the U.S. government, in the educational and publishing fields, and in the travel industry.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

SUPPORTING COURSES AND RELATED AREAS (18 credits)
Select 12 credits of Russian courses (Sem: 3-6)
Select 6 credits of 400-level Russian courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-01-035

Review Date: 08/28/01

LA

Russian Translation Minor

University Park, College of the Liberal Arts (RUS T)

The Russian Translation minor is designed to offer, within the context of a liberal education, specialized skills in technical translation from the Russian language. The curriculum is career-oriented and requires competence in a technical field or fields in addition to the language skill. The student will select such a field or fields in accordance with his or her special interests and in consultation both with an adviser and with persons directly involved with the field chosen.

The Department of Germanic and Slavic Languages and Literatures offers an array of courses in Russian language, literature, and culture. Study abroad in Russia at St. Petersburg University under the University's study abroad program is available. For the Russian Translation minor, students must take RUS 400, RUS 412, and an additional 12 credits of Russian, 3 at the 400 level and 9 at the 200 level or higher, for a total of 18 credits.

The Russian Translation minor opens employment opportunities for its graduates in fields and professions where proficiency in one or more foreign languages is desirable or required.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
RUS 400 IL(3), RUS 412 IL(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 9 credits of Russian courses at the 200 level or higher (Sem: 5-8)
Select 3 credits of 400-level Russian courses (Sem: 5-8)

Last Revised by the Department: Summer Session 2002

Blue Sheet Item #: 30-01-037

Review Date: 08/28/01

LA

Science, Society and the Environment of Africa Minor

University Park: College of Earth and Mineral Sciences (SSEA)

The continent of Africa has the greatest accumulation of natural resource wealth of any region of the world, yet its people and societies are among the poorest and least integrated with the global economy. This interdisciplinary minor enables students to integrate fundamental aspects of the social, physical, and technical sciences that have contributed to this paradox. It provides a complement to elective and required coursework in both the humanities and the sciences, including degree programs in Political Sciences, Earth Sciences, Environmental Resource Management, Engineering, and/or African and African-American Studies. Students in this program will learn to apply fundamental concepts from diverse disciplines towards an integrated understanding of African resource management. This minor provides excellent preparation for students planning careers in development, law, international relations, international business, resource management, engineering and the physical sciences. Learning objectives for the minor include excellence in written and oral expression, the ability to collect and interpret data from a diversity of dynamic natural systems, and rigor in scientific thought.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 6 credits of Introductory Coursework: AAA S 105 GN;IL(3), AAA S 110 GS;IL(3), AAA S 192 GH;IL(3), EARTH 105 GN;IL(3), E B F 200 GS(3), GEOG 030 GS(3), GEOG 126 GS(3), GEOG 123 GS(3), GEOG 120 GS(3) (Sem: 1-4)
Select 6 credits of Advanced Topical Coursework I: AAA S 403(3), AAA S 440 USI(3), AAA S 443 IL(3), AAA S 454 IL(3), PL SC 454 IL(3) (Sem: 5-8)
Select 6 credits of Advanced Topical Coursework II: EM SC 470W(3-6), F SC 401(3), GEOG 438W(3), GEOG 420W(3), GEOG 444(3), GEOG 424(3) (Sem 5-8)

Last Revised by the Department: Summer Session 2005

Blue Sheet Item #: 33-02-009

Review Date: 10/12/04

EM

Science, Technology, and Society Minor

Intercollege Program (S T S)

This interdisciplinary minor, administered jointly by the College of Engineering and the College of the Liberal Arts, is designed for students in every curriculum at the University. The S T S courses help students integrate their other courses within the framework of the relationships of science, technology, and society. This minor enables students to examine critically the impact of scientific investigation and technological development on society's values, priorities, and institutions, and alternatively the influence human needs have upon scientific and technological activities.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSE (3-6 credits)
S T S 496(3-6) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (15-18 credits)
Select 9-12 credits from S T S courses (at least 6 credits must be at the 400 level) (Sem: 1-8)
Select 6 credits in consultation with an adviser. These courses may be courses that are also used to fulfill either major or college requirements. (Sem: 1-8)

Last Revised by the Department: Summer Session 1986

Review Date: 6/20/07

EN/LA

Security and Risk Analysis Minor

Penn State Berks
University College: Penn State Beaver, Penn State New Kensington, Penn State Worthington Scranton
University Park, College of Information Sciences and Technology (SRA)

The minor in Security and Risk Analysis (SRA) is intended to familiarize students with the general frameworks and multidisciplinary theories that define security and related risk analysis. Course work will engage students in the challenges and problems of assuring information confidentiality and integrity (e.g., social, economic, technology, and policy issues) as well as the strengths and weaknesses of various methods for assessing and mitigating associated risk in the students' major field.

The minor provides a grounding in analysis and modeling used in information search, visualization and creative problem solving. This knowledge is set in the context of legal, ethical and regulatory issues of security including analysis of privacy and security law, internal control standards, regulatory policies and basic investigative processes and principles. Such understanding overviews the information technology that plays a critical role in identifying, preventing and responding to security-related events in the student's major field. A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits**[1]**
(At least 6 credits must be at the 400 level.)

PRESCRIBED COURSES (15 credits)
IST 110 GS(3), SRA 111 GS(3), SRA 211(3), SRA 221(3) (Sem: 1-6)
IST 452(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits in consultation with the SRA Minor adviser from the following areas: Risk Management, Network Security, or Cyber Forensics. At least 3 credits must be at the 400 level. (Sem: 5-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Fall Semester 2007

Blue Sheet Item #: 35-06-457

Review Date: 4/10/07

IS

Sexuality and Gender Studies Minor

University Park, College of the Liberal Arts (SGS)

The minor in Sexuality and Gender Studies addresses human sexuality and gender as they have been conceptualized and investigated by diverse disciplines: humanities (including history and cultural studies), behavioral and social sciences, biological sciences, and visual and performance arts. Courses in the minor require students to explore scholarship and research on sexuality, sexual orientation, and gender across the lifespan, across cultures, and throughout history. Developing students' critical skills in a variety of disciplines, courses in the minor cover theories of sexuality and gender; sexual orientation; lesbian, gay, bisexual, and transgender movements; the history of sexual norms; queer theory; gender identity; and impact of gender identities and erotic orientations on the arts; etc.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
ENGL 245 GH;US(3) and HD FS/WMNST 250 US(3) (Sem: 1-4)

ADDITIONAL COURSES (12 credits)

In order to fulfill the interdisciplinary nature of the minor, students must study both in arts and humanities and in sciences. Students are required to complete a total of at least 12 credits from the two categories below: a minimum of 3 credits from humanities and the arts and a minimum of 3 credits from the sciences. Completion of the minor also requires at least 6 credits at the 400 level in either humanities and the arts or in the sciences (Sem: 1-8). With the permission of the person in charge of the minor, "Special Topics" courses may be substituted for courses listed below.

A. Sexuality studies in humanities and the arts:

HIST/WMNST 116 GS;US;IL(3), ENGL 225 GA;GH(3), ENGL 227 GH;US(3), HIST/WMNST 466 US;IL(3), PHIL 014 GH;US(3), WMNST 301(3), WMNST 400 US;IL(3) (Sem: 1-8)

B. Sexuality studies in the sciences:

AAA S/SOC/WMNST 103 US(3), AAA S/WMNST 364 GS;US(3), AAA S/HIST 415 US;IL(3), AAA S/S T S 416 US;IL(3), ANTH 216 GN;GS(3), ANTH 474(3), ANTH/WMNST 476W(3), BB H 146 GHA(3), BB H 251 US(3), BB H 315(3), BB H 446(3), BIOL 177 GN(3), CRIM/CRIMJ/WMNST 423 US(3), CRIM/CRIMJ/WMNST 453 US(3), GEOG/WMNST 426Y US;IL(3), HD FS 405 US(3), LER/WMNST 136 US(3), PSYCH 231 GS;US(3), PSYCH 422(3), PSYCH 479/WMNST 471 US(3), OR SOC/WMNST 110 GS;US(3) (Sem: 1-8)

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-07-012

Review Date: 6/16/2009

LA

Sexuality and Gender Studies Minor

University Park, College of the Liberal Arts (SGS)

The minor in Sexuality and Gender Studies addresses human sexuality and gender as they have been conceptualized and investigated by diverse disciplines: humanities (including history and cultural studies), behavioral and social sciences, biological sciences, and visual and performance arts. Courses in the minor require students to explore scholarship and research on sexuality, sexual orientation, and gender across the lifespan, across cultures, and throughout history. Developing students' critical skills in a variety of disciplines, courses in the minor cover theories of sexuality and gender; sexual orientation; lesbian, gay, bisexual, and transgender movements; the history of sexual norms; queer theory; gender identity; and impact of gender identities and erotic orientations on the arts; etc.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
ENGL 245 GH;US(3) and HD FS/WMNST 250 US(3) (Sem: 1-4)

ADDITIONAL COURSES (12 credits)

In order to fulfill the interdisciplinary nature of the minor, students must study both in arts and humanities and in sciences. Students are required to complete a total of at least 12 credits from the two categories below: a minimum of 3 credits from humanities and the arts and a minimum of 3 credits from the sciences. Completion of the minor also requires at least 6 credits at the 400 level in either humanities and the arts or in the sciences (Sem: 1-8). With the permission of the person in charge of the minor, "Special Topics" courses may be substituted for courses listed below.

A. Sexuality studies in humanities and the arts:

HIST/WMNST 116 GS;US;IL(3), ENGL 225 GA;GH(3), ENGL 227 GH;US(3), HIST/WMNST 466 US;IL(3), PHIL 014 GH;US(3), WMNST 301(3), WMNST 400 US;IL(3) (Sem: 1-8)

B. Sexuality studies in the sciences:

AAA S/SOC/WMNST 103 US(3), AAA S/WMNST 364 GS;US(3), AAA S/HIST 415 US;IL(3), AAA S/S T S 416 US;IL(3), ANTH 216 GN;GS(3), ANTH 474(3), ANTH/WMNST 476W(3), BB H 146 GHA(3), BB H 251 US(3), BB H 315(3), BB H 446(3), BIOL 177 GN(3), CRIM/CRIMJ/WMNST 423 US(3), CRIM/CRIMJ/WMNST 453 US(3), GEOG/WMNST 426Y US;IL(3), HD FS 405 US(3), LER/WMNST 136 US(3), PSYCH 231 GS;US(3), PSYCH 422(3), PSYCH 479/WMNST 471 US(3), OR SOC/WMNST 110 GS;US(3) (Sem: 1-8)

Last Revised by the Department: Fall Semester 2009

Blue Sheet Item #: 37-07-012

Review Date: 6/16/2009

LA

Six Sigma Minor

University Park, College of Engineering (SIGMA)

Six Sigma has been increasingly internalized by companies involved in manufacturing, health care, and service industries. The Six Sigma process has also been used to address environmental concerns such as water quality and energy conservation. Thus, this minor is designed for students who are interested in the Six Sigma statistical methodology for increasing productivity and enhancing quality. The minor will provide students with an understanding of how business models are changing in response to globalization and how the Six Sigma process and product improvement methodology is thus a vehicle for industry prosperity in this climate. Students completing the minor will develop their analytical and statistical skills, and gain a competitive advantage in the work place.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (18 credits)
I E 305 (3), I E 322 (3), I E 323 (3) (Sem: 5-6)
I E 433 (3), I E 434 (3), I E 436 (3) (Sem: 7-8)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-042

Review Date: 4/14/09

EN

Sociology Minor

Penn State Abington (SOCAB)
Penn State Altoona (SOCAL)
Penn State Harrisburg (SOCCA)
University College (SOCCC): Penn State Fayette, Penn State Schuylkill
University Park, College of the Liberal Arts (SOC)

The sociology minor allows students to explore the wide range of topics, social groups, and social interactions studied by sociologists. From social inequalities and social problems to the familiar institutions of family, school, religion, and government, the diversity of courses available allows sociology minors to explore courses relevant to their interests. The courses also provide multiple viewpoints, studying the intimate interactions of families and small groups and the complex interactions of global economies and political alliances. Requiring a minimum of 18 credits in sociology, including Introductory Sociology (SOC 001) and two courses at the 400 level, students have flexibility in choosing a set of courses for their sociology minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
SOC 001 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in sociology; at least 6 of those credits must be at the 400 level (Sem: 1-8)

Last Revised by the Department: Fall Semester 2001

Editorial 3/23/07

Department head updated: 11/30/07

Sociology Minor

Penn State Abington (SOCAB)
Penn State Altoona (SOCAL)
Penn State Harrisburg (SOCCA)
University College (SOCCC): Penn State Fayette, Penn State Schuylkill
University Park, College of the Liberal Arts (SOC)

The sociology minor allows students to explore the wide range of topics, social groups, and social interactions studied by sociologists. From social inequalities and social problems to the familiar institutions of family, school, religion, and government, the diversity of courses available allows sociology minors to explore courses relevant to their interests. The courses also provide multiple viewpoints, studying the intimate interactions of families and small groups and the complex interactions of global economies and political alliances. Requiring a minimum of 18 credits in sociology, including Introductory Sociology (SOC 001) and two courses at the 400 level, students have flexibility in choosing a set of courses for their sociology minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
SOC 001 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in sociology; at least 6 of those credits must be at the 400 level (Sem: 1-8)

Last Revised by the Department: Fall Semester 2001

Editorial 3/23/07

Department head updated: 11/30/07

Sociology Minor

Penn State Abington (SOCAB)
Penn State Altoona (SOCAL)
Penn State Harrisburg (SOCCA)
University College (SOCCC): Penn State Fayette, Penn State Schuylkill
University Park, College of the Liberal Arts (SOC)

The sociology minor allows students to explore the wide range of topics, social groups, and social interactions studied by sociologists. From social inequalities and social problems to the familiar institutions of family, school, religion, and government, the diversity of courses available allows sociology minors to explore courses relevant to their interests. The courses also provide multiple viewpoints, studying the intimate interactions of families and small groups and the complex interactions of global economies and political alliances. Requiring a minimum of 18 credits in sociology, including Introductory Sociology (SOC 001) and two courses at the 400 level, students have flexibility in choosing a set of courses for their sociology minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
SOC 001 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in sociology; at least 6 of those credits must be at the 400 level (Sem: 1-8)

Last Revised by the Department: Fall Semester 2001

Editorial 3/23/07

Department head updated: 11/30/07

Sociology Minor

Penn State Abington (SOCAB)
Penn State Altoona (SOCAL)
Penn State Harrisburg (SOCCA)
University College (SOCCC): Penn State Fayette, Penn State Schuylkill
University Park, College of the Liberal Arts (SOC)

The sociology minor allows students to explore the wide range of topics, social groups, and social interactions studied by sociologists. From social inequalities and social problems to the familiar institutions of family, school, religion, and government, the diversity of courses available allows sociology minors to explore courses relevant to their interests. The courses also provide multiple viewpoints, studying the intimate interactions of families and small groups and the complex interactions of global economies and political alliances. Requiring a minimum of 18 credits in sociology, including Introductory Sociology (SOC 001) and two courses at the 400 level, students have flexibility in choosing a set of courses for their sociology minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
SOC 001 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in sociology; at least 6 of those credits must be at the 400 level (Sem: 1-8)

Last Revised by the Department: Fall Semester 2001

Editorial 3/23/07

Department head updated: 11/30/07

Sociology Minor

Penn State Abington (SOCAB)
Penn State Altoona (SOCAL)
Penn State Harrisburg (SOCCA)
University College (SOCCC): Penn State Fayette, Penn State Schuylkill
University Park, College of the Liberal Arts (SOC)

The sociology minor allows students to explore the wide range of topics, social groups, and social interactions studied by sociologists. From social inequalities and social problems to the familiar institutions of family, school, religion, and government, the diversity of courses available allows sociology minors to explore courses relevant to their interests. The courses also provide multiple viewpoints, studying the intimate interactions of families and small groups and the complex interactions of global economies and political alliances. Requiring a minimum of 18 credits in sociology, including Introductory Sociology (SOC 001) and two courses at the 400 level, students have flexibility in choosing a set of courses for their sociology minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
SOC 001 GS(3) (Sem: 1-6)

SUPPORTING COURSES AND RELATED AREAS (15 credits)
Select 15 credits in sociology; at least 6 of those credits must be at the 400 level (Sem: 1-8)

Last Revised by the Department: Fall Semester 2001

Editorial 3/23/07

Department head updated: 11/30/07

Spanish Minor

Altoona College (SPNAL)
Berks College (SPNBL)
University Park, College of the Liberal Arts (SPAN)

A grade of C or better is required for all courses in the minor. Courses that do not require knowledge of Spanish may not be counted toward the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
SPAN 100(3)*, SPAN 110(3)* (Sem: 2-8)

ADDITIONAL COURSES (3 credits)
SPAN 215(3) or SPAN 253W(3) (Sem: 2-8)

NOTE: SPAN 100 and SPAN 110 may be taken concurrently, but both must be taken before either SPAN 215 or SPAN 253W.

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits of Spanish courses (Sem: 2-8)
Select 6 credits of 400-level Spanish courses (Sem: 5-8)

* Heritage speakers (students with Spanish language in family background) should take SPAN 100A and SPAN 301 instead of SPAN 100 and SPAN 110 respectively.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-467

Review Date: 4/10/07

LA

Spanish Minor

Altoona College (SPNAL)
Berks College (SPNBL)
University Park, College of the Liberal Arts (SPAN)

A grade of C or better is required for all courses in the minor. Courses that do not require knowledge of Spanish may not be counted toward the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
SPAN 100(3)*, SPAN 110(3)* (Sem: 2-8)

ADDITIONAL COURSES (3 credits)
SPAN 215(3) or SPAN 253W(3) (Sem: 2-8)

NOTE: SPAN 100 and SPAN 110 may be taken concurrently, but both must be taken before either SPAN 215 or SPAN 253W.

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits of Spanish courses (Sem: 2-8)
Select 6 credits of 400-level Spanish courses (Sem: 5-8)

* Heritage speakers (students with Spanish language in family background) should take SPAN 100A and SPAN 301 instead of SPAN 100 and SPAN 110 respectively.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-467

Review Date: 4/10/07

LA

Spanish Minor

Altoona College (SPNAL)
Berks College (SPNBL)
University Park, College of the Liberal Arts (SPAN)

A grade of C or better is required for all courses in the minor. Courses that do not require knowledge of Spanish may not be counted toward the minor.

Scheduling recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: (6 credits)
SPAN 100(3)*, SPAN 110(3)* (Sem: 2-8)

ADDITIONAL COURSES (3 credits)
SPAN 215(3) or SPAN 253W(3) (Sem: 2-8)

NOTE: SPAN 100 and SPAN 110 may be taken concurrently, but both must be taken before either SPAN 215 or SPAN 253W.

SUPPORTING COURSES AND RELATED AREAS (9 credits)
Select 3 credits of Spanish courses (Sem: 2-8)
Select 6 credits of 400-level Spanish courses (Sem: 5-8)

* Heritage speakers (students with Spanish language in family background) should take SPAN 100A and SPAN 301 instead of SPAN 100 and SPAN 110 respectively.

Last Revised by the Department: Summer Session 2007

Blue Sheet Item #: 35-06-467

Review Date: 4/10/07

LA

Special Education Minor

University Park, College of Education (SPLED)

This minor provides undergraduate students with the opportunity for concentrated work in instructional practices to support the achievement of students with special education needs in general education classrooms. Students will observe effective teachers at work, and learn strategies for creating a positive classroom environment that will promote student growth and achievement, effective instructional practices for students with special education needs, and techniques for assessing the academic progress of students. The targeted instructional practices have been demonstrated to be effective both with students with and those without special education needs.

The minor in Special Education responds to the growing need to provide appropriate instructional services to students with special education needs in general education classrooms. The Special Education minor is open to students in any major who meet the pre-requisite requirements.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (11 credits)
SPLED 400(4), SPLED 430(1), SPLED 431(2), SPLED 432(2), SPLED 433(2) (Sem: 5-8)

ADDITIONAL COURSES (8 credits)
SPLED 434A(2) or SPLED 434B(2) (Sem: 5-8)
Select 6 credits from CSD 146 US;IL(3), CSD 218(3), CSD 269 US;IL(3), CSD 300 US;IL(3), RHS 100 GS(3), RHS 402(3), or RPTM 277 US(3)

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-01-023

Review Date: 8/25/09

ED

Statistics Minor

Penn State Erie, The Behrend College (STABD)

PROFESSOR ROGER F. KNACKE, *in charge*

The minor in Statistics (STABD) provides students with a strong statistical background for careers in biology, actuarial science, engineering, mathematics; or for graduate studies in many fields. The minor is designed to make students proficient in the collection, interpretation and analysis of data.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 28-30 credits

PRESCRIBED COURSES (20 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
STAT 301 GQ(3), STAT 401(3), STAT 461(3), STAT 462(3) (Sem: 3-8)

ADDITIONAL COURSES (2-4 credits)
Select 2-4 credits from MATH 230(4) or MATH 231(2) (Sem: 3-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of 400-level STAT or related MATH courses (Sem: 5-8)
(No more than three credits from 495 courses can be used to satisfy this requirement.)

Last Revised by the Department: Fall Semester 2008

Blue Sheet Item #: 36-07-004

Review Date: 6/17/08

UCA Revision #2: 7/30/07

BD

Statistics Minor

University Park, Eberly College of Science (STAT)

The Statistics minor introduces students to the quantitative aspects of research. Understanding statistics is useful for research in many areas including agriculture, business, education, social science and sciences as well as many jobs in industry and government.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (9 credits)
MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)
STAT 480(1) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)
Select 6 credits from STAT 318(3) and STAT 319(3) or STAT 414(3) and STAT 415(3) (Sem: 3-8)
Select 6 credits from STAT 416(3), STAT 440(3), STAT 460(3), STAT 462(3), STAT 463(3) or STAT 464(3) (Sem: 5-8)

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-01-055

Review Date: 8/25/09

SC

Supply Chain and Information Sciences and Technology Minor

University Park: Smeal College of Business and College of Information Sciences and Technology (SCIST)

The minor in SCIST is structured to provide students not majoring in Supply Chain & Information Systems (SC&IS) or Management Information Systems (M I S) with the opportunity to develop working knowledge of information technology, supply chain management, and their interdisciplinary synergies. The joint minor is designed for professional careers in business, information systems, software development, consulting, and government. The successful minor must, at a minimum, possess basic knowledge of quantitative techniques, computer applications, and microeconomics.

A one-time tuition surcharge will be applied to all students enrolled in the minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits

PRESCRIBED COURSES (13 credits)
IST 110 GS(3), IST 210(4), IST 220(3) (Sem 1-7)
SCM 301(3) (Sem: 5-6)

ADDITIONAL COURSES (6 credits)
Select 6 credits from SCM 404(3), SCM 405(3), SCM 406(3) (Sem: 6-8)

Last Revised by the Department: Spring Semester 2010

Blue Sheet Item #: 38-06-045

Review Date: 04/13/2010

UCA Revision #1: 8/14/06

BA/IS

Teaching English to Speakers of Other Languages Minor

University Park, College of the Liberal Arts (TESOL)

The minor in Teaching English to Speakers of Other Languages (TESOL) provides students, regardless of academic major, with basic professional knowledge and skills in the teaching of English as a second language (ESL) in adult programs in the United States and English-as-a-foreign-language (EFL) in settings abroad. It is also excellent preparation for graduate work in TESOL and Applied Linguistics.

The program of study includes an introduction to the study of language use, culture, and social interaction from a variety of perspectives, to the role of English in globalization processes and to how globalization changes the structure, norms, and usage of English. It also provides students with an overview of current theories and practices in the teaching of English language and culture, and practical experiences in and basic tools for planning, delivering, and evaluating instruction.

Individuals who obtain a minor in TESOL may participate in one of the teaching exchanges sponsored by the Department of Applied Linguistics upon graduation. They may also find teaching positions in private language institutes or as private language tutors in the United States and abroad and well as through organizations such as the Peace Corps and the Fulbright Exchange.

This minor does not duplicate other undergraduate degree programs within the department, college or university. It may be pursued concurrently with any undergraduate major.

The minor consists of 18 credit hours. All students are required to take four three-credit courses, for a total of 12 credits in the study of language use, culture and interaction, English as a global language, functional grammar and teaching methods.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (12 credits)
APLNG 200 GH;IL(3), APLNG 210(3), APLNG 484(3), APLNG 493 IL(3) (Sem: 2-8)

ADDITIONAL COURSES (6 credits)
Select 6 credits from the following:
APLNG 083S GS;US;IL(3), APLNG 410(3), APLNG 412(3), APLNG 482Y IL(3), APLNG 491 (3) (Sem 1-8)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-03-029

Review Date: 11/18/08

LA

Technical Sales Minor

Penn State Erie, The Behrend College (TCHSL)

This minor is designed to accommodate undergraduates enrolled in engineering and engineering technology who wish to augment their majors with further studies in industrial or technical sales. This minor is designed for non-business majors. The objective of the minor is to acquaint the technical students of these majors with the issues and methods associated with industrial or technical sales. Relevant studies include principles of management, operations management, supply chain management, marketing, logistics systems, procurement, personal selling or business-to-business marketing, and project management. Students who complete the minor will be positioned for career opportunities as direct sales engineers who play a key role in selection, purchase, installation and maintenance of technical products by selling technology and engineering solutions, or as manufacturing representatives who independently form contracts in exclusive marketing territories for multiple small manufacturers of compatible but not competing technical products.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 19 credits
Students are required to have a technically-oriented major (i.e. engineering, engineering technology, physical sciences, or other major as approved).

PRESCRIBED COURSES: (9 credits)
MGMT 301(3) (Sem: 5)
MKTG 301(3), SCM 310(3) (Sem: 6)

ADDITIONAL COURSES: (10 credits)
SCM 200 GQ(4) or STAT 200 GQ(4) (Sem: 5)
MKTG 410(3) or marketing elective as approved (Sem: 7-8)
Select 3 credits from the following list: MGMT 409(3), MGMT 410(3), SCM 455(3), SCM 460(3) (Sem: 7-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-013

Review Date: 1/15/08

UCA Revision #2: 7/30/07

BD

Technical Writing Minor

University College (TEWCC): Penn State New Kensington
University Park, College of the Liberal Arts (TEHWR)

The Department of English offers an 18-credit minor leading to a Technical Writing certificate to all students, regardless of major or college, who want to do concentrated work in technical writing.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
ENGL 418(3) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
(Some courses in this category may have prerequisites that are not required in the minor.)
Select 3-6 credits from CAS 452(3), ENGL 470(3), ENGL 471(3), ENGL 472(3), ENGL 473(3), ENGL 474(3), S T S 407(3) (Sem: 3-8)
Select 6-9 credits from ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 421(3), ENGL 495(3) (Sem: 3-8)
Select 3-6 credits from ART 270 GA(3), GD 201(3), INSYS 412(3), INSYS 413(3), INSYS 441(3), PSYCH 444(3), PSYCH 456(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (0-3 credits)
(Some courses in this category may have prerequisites that are not required in the minor.)

Last Revised by the Department: Fall Semester 1996

Blue Sheet Item #: 25-01-033

Review Date: 4/9/02

UCA Revision #1: 9/1/06

LA

Technical Writing Minor

University College (TEWCC): Penn State New Kensington
University Park, College of the Liberal Arts (TEHWR)

The Department of English offers an 18-credit minor leading to a Technical Writing certificate to all students, regardless of major or college, who want to do concentrated work in technical writing.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
ENGL 418(3) (Sem: 5-8)

ADDITIONAL COURSES (12-15 credits)
(Some courses in this category may have prerequisites that are not required in the minor.)
Select 3-6 credits from CAS 452(3), ENGL 470(3), ENGL 471(3), ENGL 472(3), ENGL 473(3), ENGL 474(3), S T S 407(3) (Sem: 3-8)
Select 6-9 credits from ENGL 415(3), ENGL 416(3), ENGL 417(3), ENGL 421(3), ENGL 495(3) (Sem: 3-8)
Select 3-6 credits from ART 270 GA(3), GD 201(3), INSYS 412(3), INSYS 413(3), INSYS 441(3), PSYCH 444(3), PSYCH 456(3) (Sem: 3-8)

SUPPORTING COURSES AND RELATED AREAS (0-3 credits)
(Some courses in this category may have prerequisites that are not required in the minor.)

Last Revised by the Department: Fall Semester 1996

Blue Sheet Item #: 25-01-033

Review Date: 4/9/02

UCA Revision #1: 9/1/06

LA

Technology Integration Minor for Pre-Service Teachers

University Park, College of Education (T I)

This minor consists of a program of study designed to enable teacher education students to: (1) develop skills and competencies in the integration of technology into teaching, learning, and curricula; (2) develop further expertise in teaching and learning through use of technology as thinking tools; (3) identify and solve everyday teaching and learning problems through applications of technology; and (4) generate powerful innovations to potentially redefine teaching and learning practices.

This 21-credit minor may be combined with any teacher education major at Penn State.

Students may apply for admission to this minor by completing and submitting an Application for Admission to a Minor to the Instructional Systems Program, 314 Keller Building, University Park Campus, 16802. For more information, contact Dr. Susan Land, SML11@psu.edu, 310-D Keller Building, (814)863-5990.

Only courses in which the student earns a grade of C or better may be counted toward the fulfillment of the requirements for the minor.

Scheduling Recommendation by Semester Standing given like (Sem. 1-2)

REQUIREMENTS FOR THE MINOR: 21 credits

PRESCRIBED COURSES (9 credits)
EDPSY 014(3), INSYS 200(3) (Sem. 1-4)
EDTEC 400(3) (Sem. 5-8)

ADDITIONAL COURSES (12 credits)
(Some courses in this category include prerequisites not required in the minor.)
Select 12 credits from INSYS 441(3), INSYS 446(3), INSYS 447(3), EDTEC 448(3), EDTEC 449(3), LL ED 480 DF(3), MTHED 427(3) (Sem. 5-8)

Last Revised by the Department: Fall Semester 1998

Blue Sheet Item #: 26-05-016

Review Date: 03/11/05

ED

Theatre Minor

University College, Penn State Schuylkill, Penn State York
University Park, College of Arts and Architecture (THEA)

The Theatre minor is designed to be an enhancement to a major area of study and/or personal enrichment. The minor should be particularly attractive to students in the humanities (English), communication (Film, Journalism), and the arts (Music, Architecture). The minor may also be attractive to students who need to demonstrate a wide range of interests.

The Theatre minor requirements total 18 credits. Theatre 100 GA;US;IL, a required course in the minor, is an experiential survey of all aspects of the living theatre, as presented by a resident company of theatre artists. Theatre 410, an advanced script analysis course, is also required. Students choose one course from the approved list of theatre history courses and one course from the approved list of design/technical courses. These supporting courses place the literature and aesthetic in historical, social, and political perspective. Students elect 6 theatre credits as additional courses. Typical supporting courses include: Theatre 102 GA, fundamentals of acting; THEA 208 GA;US;IL, Workshop: Theatre in Diverse Cultures; and advanced design or theatre history classes.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
THEA 410(3) (Sem: 5-8)

ADDITIONAL COURSES (9 credits)
THEA 100 GA;US;IL(3) or THEA 105 GA(3) (Sem: 1-2)
Select 3 credits from THEA 130(3), THEA 131(3), or THEA 150(3) (Sem: 1-4)
Select 3 credits from THEA 401W IL(3), THEA 405 US(3),THEA 408 US(3), THEA 412 US(3), THEA 454(3), THEA 464(3), or THEA 465(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (6 credits)
Select 6 credits of THEA courses (Sem: 3-8)

Last Revised by the Department: Fall Semester 2005

Blue Sheet Item #: 33-04-018

Review Date: 5/2/07

AA

Watersheds & Water Resources Minor

University Park, College of Earth and Mineral Sciences (W W R)

Watersheds are important landscape features that control the biogeochemistry of natural waters. This interdisciplinary minor enables students to learn the fundamental processes governing the transport and chemical evolution of surface and subsurface waters. It provides a complement to elective and required coursework in earth sciences, resource management, wastewater treatment, and/or environmental planning. Students in this program will learn to apply fundamental concepts of chemistry, biology, geoscience, and landscape evolution to processes operating at the watershed scale. Learning objectives for the minor include excellence in written and oral expression, the ability to collect and interpret data from dynamic natural systems, and rigor in scientific thought.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

ADDITIONAL COURSES (18 credits)
Select 18 credits from the WWR committee's approved list of courses, which includes but is not limited to courses listed below (at least 6 credits must be taken at the 400 level):
B E 307(3), B E 467(4), A S M 217(3), A S M 327(3), C E 370(3), C E 371(3), C E 461(3), C E 473(3), C E 475(4), CHEM 202(3), CHEM 402(3), E R M 411(3), E R M 435(3), E R M 450(3), ENVE 411(3), ENVE 415(3), FOR 470(3), FOR 471(1), GEOEE 408(3), GEOG 431(3), GEOSC 201(4), GEOSC 340(3), GEOSC 412(3), GEOSC 413W(3), GEOSC 419(3), GEOSC 445(4), GEOSC 452(3), METEO 417(3), METEO 448(3), SOILS 405(3), SOILS 415(3), SOILS 418(3), W F S 410(3), W F S 422(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2008

Blue Sheet Item #: 36-04-027

Review Date: 1/15/08

UCA Revision #1: 8/14/06

EM

Wildlife and Fisheries Science Minor

University Park, College of Agricultural Sciences (W F S)

The Wildlife and Fisheries Science minor provides non-majors with an introduction to the principles and practices of wildlife and fisheries conservation, research, and management. Although the minor includes both wildlife and fisheries course offerings, courses may be selected to provide a focus in one area or the other.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
W F S 209(3), W F S 430(3) (Sem: 5-6)

ADDITIONAL COURSES (12 credits)
Select 12 credits from W F S 300(2), W F S 407(3), W F S 408(3), W F S 410(3), W F S 422(3), W F S/E R M 435(3), W F S 440(3), W F S 447W(3), W F S 450(3), W F S 452(2), W F S 460(3), W F S 462(3), W F S 463W(3) (Sem: 5-8)

Last Revised by the Department: Summer Session 2009

Blue Sheet Item #: 37-06-003

Review Date: 4/14/09

AG

Women's Studies Minor

Abington College (WMNAB)
Altoona College (WMNAL)
Penn State Erie, The Behrend College (WMNBC)
University College (WMNCC): Penn State Brandywine, Penn State DuBois, Penn State Mont Alto
University Park, College of the Liberal Arts (WMNST)

This interdisciplinary minor is designed to develop a broad understanding of the study of women and women's perspectives in all areas of academic scholarship. The primary focus is on feminist analyses of women's lives, women's social, cultural, and scientific contributions, and the structure of sex/gender systems. The interdisciplinary and inclusive nature of the field is reflected in a curriculum that includes courses cross-listed with a wide variety of departments, courses that deal with aspects of women's lives throughout history, and courses that recognize the diversities of culture, race, religion, ethnicity, age, disability, and sexual orientation. The Women's Studies minor emphasizes the development of critical and analytical skills, creative approaches to problem solving, and the ability to articulate productive alternatives.

Women's Studies minors have a definite career advantage, and can be successful in a wide variety of career paths. Some of these include legal advocacy, counseling, journalism, public relations, management, nonprofit administration, teaching, medicine, politics, or art. In addition, many alumnae/i are currently studying in professional, law, or graduate schools.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
WMNST 301(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in Women's Studies or from the program-approved list; at least 6 credits must be at the 400-level --3 credits from each of the following categories: (Sem: 1-8)

a. arts or humanities
b. natural or social sciences
c. focusing on non-Western women or on women of color in the United States

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008A

Review Date: 6/29/05

Women's Studies Minor

Abington College (WMNAB)
Altoona College (WMNAL)
Penn State Erie, The Behrend College (WMNBC)
University College (WMNCC): Penn State Brandywine, Penn State DuBois, Penn State Mont Alto
University Park, College of the Liberal Arts (WMNST)

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A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
WMNST 301(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in Women's Studies or from the program-approved list; at least 6 credits must be at the 400-level --3 credits from each of the following categories: (Sem: 1-8)

a. arts or humanities
b. natural or social sciences
c. focusing on non-Western women or on women of color in the United States

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008A

Review Date: 6/29/05

Women's Studies Minor

Abington College (WMNAB)
Altoona College (WMNAL)
Penn State Erie, The Behrend College (WMNBC)
University College (WMNCC): Penn State Brandywine, Penn State DuBois, Penn State Mont Alto
University Park, College of the Liberal Arts (WMNST)

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A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
WMNST 301(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in Women's Studies or from the program-approved list; at least 6 credits must be at the 400-level --3 credits from each of the following categories: (Sem: 1-8)

a. arts or humanities
b. natural or social sciences
c. focusing on non-Western women or on women of color in the United States

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008A

Review Date: 6/29/05

Women's Studies Minor

Abington College (WMNAB)
Altoona College (WMNAL)
Penn State Erie, The Behrend College (WMNBC)
University College (WMNCC): Penn State Brandywine, Penn State DuBois, Penn State Mont Alto
University Park, College of the Liberal Arts (WMNST)

This interdisciplinary minor is designed to develop a broad understanding of the study of women and women's perspectives in all areas of academic scholarship. The primary focus is on feminist analyses of women's lives, women's social, cultural, and scientific contributions, and the structure of sex/gender systems. The interdisciplinary and inclusive nature of the field is reflected in a curriculum that includes courses cross-listed with a wide variety of departments, courses that deal with aspects of women's lives throughout history, and courses that recognize the diversities of culture, race, religion, ethnicity, age, disability, and sexual orientation. The Women's Studies minor emphasizes the development of critical and analytical skills, creative approaches to problem solving, and the ability to articulate productive alternatives.

Women's Studies minors have a definite career advantage, and can be successful in a wide variety of career paths. Some of these include legal advocacy, counseling, journalism, public relations, management, nonprofit administration, teaching, medicine, politics, or art. In addition, many alumnae/i are currently studying in professional, law, or graduate schools.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
WMNST 301(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in Women's Studies or from the program-approved list; at least 6 credits must be at the 400-level --3 credits from each of the following categories: (Sem: 1-8)

a. arts or humanities
b. natural or social sciences
c. focusing on non-Western women or on women of color in the United States

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008A

Review Date: 6/29/05

Women's Studies Minor

Abington College (WMNAB)
Altoona College (WMNAL)
Penn State Erie, The Behrend College (WMNBC)
University College (WMNCC): Penn State Brandywine, Penn State DuBois, Penn State Mont Alto
University Park, College of the Liberal Arts (WMNST)

This interdisciplinary minor is designed to develop a broad understanding of the study of women and women's perspectives in all areas of academic scholarship. The primary focus is on feminist analyses of women's lives, women's social, cultural, and scientific contributions, and the structure of sex/gender systems. The interdisciplinary and inclusive nature of the field is reflected in a curriculum that includes courses cross-listed with a wide variety of departments, courses that deal with aspects of women's lives throughout history, and courses that recognize the diversities of culture, race, religion, ethnicity, age, disability, and sexual orientation. The Women's Studies minor emphasizes the development of critical and analytical skills, creative approaches to problem solving, and the ability to articulate productive alternatives.

Women's Studies minors have a definite career advantage, and can be successful in a wide variety of career paths. Some of these include legal advocacy, counseling, journalism, public relations, management, nonprofit administration, teaching, medicine, politics, or art. In addition, many alumnae/i are currently studying in professional, law, or graduate schools.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
WMNST 301(3) (Sem: 1-4)

ADDITIONAL COURSES (3 credits)
WMNST 001 GS;US;IL(3) or WMNST 003 GS;US;IL (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in Women's Studies or from the program-approved list; at least 6 credits must be at the 400-level --3 credits from each of the following categories: (Sem: 1-8)

a. arts or humanities
b. natural or social sciences
c. focusing on non-Western women or on women of color in the United States

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-02-008A

Review Date: 6/29/05

Women's Studies Minor

Capital College (WOMST)

This interdisciplinary minor provides students with an opportunity to develop a broad understanding of women's perspectives and gender issues and to integrate that understanding into major areas of academic study. A total of 18 credits must be taken as part of the student's program; at least 9 of these credits must be taken at Penn State Harrisburg and 6 must be at the 400 level. Students must receive a grade of C or better in all courses in the minor.

A student seeking admission to the Women's Studies minor must first be admitted to a Division/School major at Penn State Harrisburg. A Program of Study must be completed in consultation with the student's major adviser and submitted to the Women's Studies Coordinating Committee, which will select a Women's Studies adviser for the student. Decisions regarding the appropriateness of courses for the minor will be made by the Women's Studies program. (The major adviser may also serve as adviser to the minor.)

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (6 credits)
WOMST 315(3)**[76]** (Sem: 1-4)
WOMST 415(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 9 credits of Behavioral Sciences and Education, Humanities or Public Affairs. (Sem: 1-8)
Select 3 credits from approved department list of 400-level courses. (Sem: 5-8)

[76] Students who have passed WMNST 001 or equivalent with a grade of C or better may, with the permission of the Women's Studies program, take another Women's Studies course on a more specialized topic instead of WOMST 315.

Last Revised by the Department: Spring Semester 1995

Blue Sheet Item #: 23-06-258

Review Date: 04/14/95

CL

Wood Products Marketing Minor

University Park, College of Agricultural Sciences (WPMKT)

The Wood Products Marketing minor offers students in other majors, especially those oriented toward business, science, or engineering, an opportunity to develop a basic competency in wood products marketing and processing. Students will obtain knowledge and skills particularly helpful for those who wish to seek employment in sales, as a specifier of wood-based materials for construction and design, or in other related fields in the wood products industries.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (15 credits)
W P 411(4), W P 417(4), W P 435(3), W P 437W(4) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
Select 3 credits of W P courses (Sem: 3-8)

Last Revised by the Department: Fall Semester 2001

Review Date: 4/24/03

AG

World Literature Minor

University Park, College of the Liberal Arts (W LIT)

The minor in World Literature enables students to create a package of literature courses tailored to their interests. It offers an international approach to the study of literatures and cultures around the globe. A Senior Seminar is the culminating course. Education abroad can be included in this minor.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (3 credits)
CMLIT 400Y IL(3) (Sem: 5-8)

ADDITIONAL COURSES (3 credits)
CMLIT 010 GH;IL(3) or CMLIT 100 GH;IL(3) (Sem: 1-4)

SUPPORTING COURSES AND RELATED AREAS (12 credits)
Select 12 credits in Comparative Literature (at least 3 of these credits at the 400 level), unified by topic, theme, period, or a similar principle, subject to approval of a faculty adviser (Sem:1-8)

Last Revised by the Department: Summer Session 2010

Blue Sheet Item #: 38-04-043

Review Date: 01/12/2010

LA

Writing Minor

Capital College (WRTNG): Penn State Harrisburg

Writing is valued as a mode of learning, as a means of expression, and as a skill highly desirable in the workplace. Personal development, interpersonal communication, and professional marketability may all be enhanced by the further study and practice of writing. For these reasons, the Writing minor offers students from virtually every discipline across the University an opportunity to learn more about a wide variety of writing: informative/persuasive, professional, and creative, while improving their own writing skills through hands-on writing experiences. In addition to offering students opportunities to study and practice different types of writing, the minor affords students the opportunity to write for/in different media, producing both print and electronic texts.

For the Writing minor, a total of 18 credits is required. Students may not count courses used to satisfy General Education Writing/Speaking Skills.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES: 6 credits
ENGL 210(3) (Sem: 3-8)
ENGL 420(3) (Sem: 5-8)

ADDITIONAL COURSES: 6-12 credits
At least 3 credits of Additional/Supporting courses must be taken at the 400 level.
Select 6-12 credits from ENGL 212(3), ENGL 213(3), ENGL 215(3), ENGL 411(3), ENGL 412(3), ENGL 413(3), ENGL 414(3), ENGL 416(3), ENGL 417(3), ENGL 418(3), ENGL 419(3), ENGL 421(3), ENGL 422(3), ENGL 423(3), ENGL 425(3), ENGL 470(3), ENGL 471(3), ENGL 474(3) (Sem: 3-8)

SUPPORTING COURSES: 0-6 credits
Select 0-6 credits from a department-approved list (Sem: 5-8)

Last Revised by the Department: Spring Semester 2002

Blue Sheet Item #: 30-01-018

Review Date: 08/28/01

Program coordinator updated by Publications: 9/29/06

CL

Youth and Family Education Minor

University Park, College of Agricultural Sciences (YFE)

The Youth and Family Education minor is an interdisciplinary program of study designed to prepare students for work in the Penn State Cooperative Extension or other nonformal education programs.

The minor offers course work from several disciplines and addresses student needs in areas such as nonformal education methods, adult education, leadership, youth programs, and communication methods and media. A period of internship or field experience is required. To complete a bachelor's degree with a minor in Youth and Family Education, a student is required to complete 18 credits from a list of recommended courses. The core program consists of 15 credits. Students are expected to strengthen their expertise by taking at least 3 additional credits from the courses recommended.

A grade of C or better is required for all courses in the minor.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

REQUIREMENTS FOR THE MINOR: 18 credits

PRESCRIBED COURSES (15 credits)
AEE 450(3), AYFCE 455(3), AYFCE 495(6), R SOC 305W(3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)
ADTED 460(3), AEE 440(3), AYFCE 295(1-2), AYFCE 496(1-3), or AYFCE 497(1-9) (Course selection may be influenced by experience and educational background of the student. Individual programs are set jointly by the student and the program committee chair.) (Sem: 1-8)

Last Revised by the Department: Summer Session 1999

Blue Sheet Item #: 27-05-001A

Review Date: 1/30/00

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